CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

A Compilation of
WATER QUALITY GOALS

August 2000

State of California

California Environmental Protection Agency

REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

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Gary M. Carlton, Executive Officer

3443 Routier Road, Suite A
Sacramento, California 95827-3003

Phone: (916) 255-3000
CalNet: 8-494-3000

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This publication is a technical report by staff of the California Regional Water Quality Control Board, Central Valley Region. No policy or regulation is either expressed or intended.

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REPORT PREPARED BY:

JON B. MARSHACK, D. ENV.
Senior Environmental Specialist
Environmental/Technical Support Unit

PREFACE TO THE AUGUST 2000 EDITION

This edition of the Regional Water Board staff report, *A Compilation of Water Quality Goals*, supersedes all earlier editions and updates. These and earlier editions and updates should be discarded, as they contain outdated information. The new edition contains information that is current as of late August 2000.

Many significant changes have been incorporated into this edition of *Water Quality Goals*. Numerical water quality limits are newly added from the following sources:

- The California Toxics Rule -- *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California* – promulgated by the U. S. Environmental Protection Agency (USEPA) on 18 May 2000; and
- Hazard Assessments and Water Quality Criteria for pesticides, from the California Department of Fish and Game.

Updated numerical water quality limits are included from the following sources:

- California Public Health Goals for drinking water from the California Environmental Protection Agency (Cal/EPA), Office of Environmental Health Hazard Assessment (OEHHA);
- California Maximum Contaminant Levels and Action Levels for drinking water from the California Department of Health Services;
- Drinking Water Regulations and Health Advisories from USEPA;
- Reference doses and cancer potency factors from the Integrated Risk Information System (IRIS) database, maintained by USEPA;
- National Recommended Ambient Water Quality Criteria for protection of human health and aquatic life, published by USEPA; and
- Cancer risk estimates from the Cal/EPA Toxicity Criteria Database, maintained by OEHHA.

In addition, Chemical Abstracts Service (CAS) Registry Numbers have been added to help clarify the identity of most listed chemicals.

The narrative *Selecting Water Quality Goals* has been updated to better assist the user in proper selection of numerical limits from the tables to ascertain compliance with California's water quality standards. **To use this report correctly, it is necessary to read the enclosed narrative *Selecting Water Quality Goals* carefully before selecting numerical water quality limits from the tables.** That narrative includes an example of water quality goal selection.

A Compilation of Water Quality Goals is a technical report by staff of the California Regional Water Quality Control Board, Central Valley Region. It is intended to assist in the appropriate interpretation of narrative water quality objectives. **This report does not, nor is it intended to, establish policy or regulation.**

The August 2000 edition of *A Compilation of Water Quality Goals* is available on the Central Valley Regional Water Board's internet web site at:

www.swrcb.ca.gov/rwqcb5

Additional hard copies of *Water Quality Goals* are available in person or by mail from the Reception Desk at the Sacramento Office of the California Regional Water Quality Control Board, Central Valley Region, 3443 Routier Road, Suite A, Sacramento, CA 95827-3003. Public agencies may receive copies free of charge, with the allowable number of copies per agency based on current supply and budgetary constraints. Private entities may receive the report for $38.00 per copy. This charge covers the cost of reproduction, shipping and handling. Payment, if applicable, must accompany all requests. Checks are to be made payable to the Central Valley Regional Water Quality Control Board.

This staff report is not copyrighted. Persons are free to make copies of all or portions of this report. However, the author cautions that copies of the tables of numerical water quality limits without the accompanying narrative *Selecting Water Quality Goals* could result in misuse of the information.

If you have questions regarding this edition of the *Water Quality Goals* staff report, please contact me by telephone at (916) 255-3123 or CalNet 8-494-3123 or by E-mail at marshaj@rb5s.swrcb.ca.gov.

—*Jon B. Marshack*

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USING THIS REPORT

The remainder of this report is divided into six sections:

- Selecting Water Quality Goals
- Cross Reference of Chemical Names
- Water Quality Goals for Inorganic Constituents
- Water Quality Goals for Organic Constituents
- Footnotes
- References

Selecting Water Quality Goals — This section describes the process by which numerical limits for water quality parameters and constituents may be selected to protect beneficial uses of groundwater and surface waters. A glossary of commonly used terms is included at the end of this section.

Cross Reference of Chemical Names — This section provides an alphabetical listing of synonyms for the chemical constituents and parameters covered by this report. Many chemical constituents and parameters are commonly referred to by more than one name. **Look here first to find your chemical constituent or parameter of interest.** This section indicates whether the constituent or parameter is listed under *Organic Constituents* or *Inorganic Constituents*. It also shows under which name the constituent or parameter is listed in the tables of *Water Quality Goals*. Chemical Abstracts Service (CAS) Registry Numbers are also provided to help clarify the identity of most constituents.

Water Quality Goals — These two sections contain tables of numerical water quality limits divided into: ***Organic Constituents*** (those chemicals whose chemistry is dominated by the chemistry of the carbon atom) and ***Inorganic Constituents*** (all other chemicals and parameters). Within these sections, numerical water quality limits for a single constituent or parameter are presented on groups of five consecutive pages. This makes comparison of limits easier for a single chemical. It takes this many pages to present the wide range of water quality numerical limits covered by this report. Therefore, for any constituent or parameter of interest, **be sure to review all five pages containing listings for that constituent or parameter before selecting numerical limits.** The sixth page of each group lists CAS Numbers, common synonyms and abbreviations for the chemicals.

To avoid incorrect use of the numerical water quality limits contained in this report, the author strongly recommends that the section **Selecting Water Quality Goals** ***be carefully reviewed.***

The numerical value of some water quality limits varies with the hardness, temperature, pH, or other characteristics of the waters to which they are applied. The variable limits for the protection of aquatic life from ammonia, heavy metals, and pentachlorophenol are presented in special tables and graphs at the end of the two *Water Quality Goals* sections. Where a numerical limit varies in this manner, the number of the page which presents the variable limit is cited in the tables.

Footnotes — Many listings in the tables contain footnotes within parentheses. These footnotes, listed near the end of this report, explain limitations on how the numerical water quality limits apply and provide other useful information.

References — Literature sources, from which the numerical water quality limits were obtained, are provided at the end of this report.

SELECTING WATER QUALITY GOALS

California is significantly limited in the quantity and quality of its water resources. Recurring periods of drought have clearly demonstrated the magnitude and severity of these limits. At the same time, improper waste management practices and contaminated sites pose significant threats to the quality of California's usable groundwater and surface water resources. The state population is expected to increase by fifty percent over the next quarter century, while the population of the Central Valley is expected to double over the next twenty years. At the same time, there is a growing realization that additional water is also needed for in-stream fisheries management. Therefore, it is imperative that California restore and maintain the quality of its water resources so as to be available to serve the growing needs of agriculture, cities, and industries without impairing in-stream beneficial uses.

The purpose of this staff report of the California Regional Water Quality Control Board, Central Valley Region is to introduce California's water quality standards and to outline a system for selecting numerical water quality limits, consistent with these standards. The resulting numerical limits may be used to assess impacts from waste management activities and constituent releases on the quality of waters of the state and the beneficial uses of these waters.

To determine whether a particular waste management activity or constituent release has caused or threatens to cause adverse water quality impacts, it is necessary to apply California's water quality standards. These standards are found in the *Water Quality Control Plans*. At concentrations equal to or greater than these standards, constituents are considered to have unreasonably impaired the beneficial uses of the state's waters; that is, pollution has occurred. In many cases, water quality standards include narrative, as opposed to numerical, water quality objectives. In such cases, numerical water quality limits from the literature may be used to ascertain compliance with these standards.

CALIFORNIA'S WATER QUALITY CONTROL SYSTEM

Because of its water limitations, California possesses a unique system for the protection and control of the quality of its most valuable resource. Our present system of water quality control was established in 1969, with the adoption, by the state legislature, of the Porter-Cologne Water Quality Control Act. Found in Division 7 of the California Water Code, the Porter-Cologne Act (http://www.swrcb.ca.gov/water_laws) provides for ten water quality control agencies, the State Water Resources Control Board and nine Regional Water Quality Control Boards. The Act instructs the boards to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

The State Water Board carries out its water quality protection authority through the adoption of specific *Water Quality Control Plans*. These plans establish water quality standards for particular bodies of water. California water quality standards are composed of three parts: the designation of beneficial uses of water, water quality objectives to protect those uses, and implementation programs designed to achieve and maintain compliance with the water quality objectives. *Water Quality Control Plans* adopted by the State Water Resources Control Board include:

- The Ocean Plan
- The Thermal Plan (temperature control in coastal and interstate waters and enclosed bays and estuaries)
- The Delta Plan (Sacramento-San Joaquin Delta and Suisun Marsh)
- The Lake Tahoe Basin Water Quality Plan

The State Water Board recently adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California.* This policy provides implementation measures for numerical criteria contained in the *California Toxics Rule*, promulgated in May 2000 by the U.S. Environmental Protection Agency (USEPA). When combined with the beneficial use designations in the *Water Quality Control Plans* adopted by the Regional Water Boards (*Basin Plans*; see below), these documents establish state-wide water quality standards for toxic constituents in surface waters that are not covered by the *Ocean Plan*. This combined Water Board/USEPA action is the first phase in the development of new

Water Quality Control Plans for California's inland surface waters and enclosed bays and estuaries.

The State Water Board also adopts regulations and other policies for water quality control, which have the enforceability of regulation, to protect water quality from discharges of waste to water or to land where water quality could be adversely affected.

To account for the great diversity in California's waterscape, the Porter-Cologne Act separates the state, along major drainage divides, into nine Water Quality Control Regions (see the map on the inside back cover of this report). Nine Regional Water Quality Control Boards act to protect water quality within these regions through the adoption of region-specific *Water Quality Control Plans*, also called *Basin Plans*. The *Basin Plans* contain water quality standards that are specific to surface waters and groundwaters within a particular region or a portion thereof. As with the State Water Board's *Water Quality Control Plans*, the *Basin Plans* contain beneficial use designations, water quality objectives, and implementation programs.

Through the issuance of waste discharge requirements (permits), water quality monitoring and reporting programs, and other enforceable orders, the State and Regional Water Boards implement the statewide and regional *Water Quality Control Plans*, policies for water quality control, and water quality regulations. The State and Regional Water Boards also administer most of the federal clean water laws in California.

The focus of State and Regional Water Boards' water quality control programs are to prevent and correct conditions of pollution of water and nuisance. The Porter-Cologne Act defines "pollution" as "an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects:

1) such waters for beneficial uses, or
2) facilities which serve such beneficial uses."

"Nuisance" is defined as "anything which:

1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property so as to interfere with the comfortable enjoyment of life or property, and
2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal, and
3) occurs during or as the result of the treatment or disposal of wastes."

Water Quality Standards

The term "water quality standards" is defined in regulations that implement the federal Clean Water Act. That definition reads:

"Water quality standards are provisions of state or federal law which consist of a designated use or uses for the waters of the United States and water quality criteria for such waters based upon such uses. Water quality standards are to protect the public health or welfare, enhance the quality of water and serve the purposes of the Act." [40 Code of Federal Regulations (CFR) Section 130.2(c) and 131.3(I)]

So, federal water quality standards must contain at least two critical components:

1) the designation of beneficial uses of water, and
2) the establishment of water quality criteria designed to protect those uses.

In California, the *Water Quality Control Plans* designate the beneficial uses of waters of the state and water quality objectives (the "criteria" under the Clean Water Act) to protect those uses. The *Water Quality Control Plans* are adopted by the State and Regional Water Boards through a formal administrative rulemaking process and, thereby, have the force of regulation. As mentioned above, the California Toxics Rule criteria, adopted by USEPA, when combined with existing beneficial use designations in the *Water Quality Control Plans*, are also water quality standards. One critical difference between the state and federal programs is that while the Clean Water Act focuses on surface water resources, the term "waters of the state" under the Porter-Cologne Act includes both surface waters and groundwaters. Therefore, California has water quality standards applicable to groundwaters as well as to surface waters. Another difference is that California's *Water Quality Control Plans* include implementation programs to achieve and maintain compliance with water quality objectives.

California's water quality standards are enforceable by the State and Regional Water Boards. They apply throughout the bodies of surface water and groundwater for which they were established.

Beneficial Uses

Section 13050(f) of the Porter-Cologne Act defines beneficial uses as follows:

"'Beneficial uses' of waters of the state that may be protected against quality degradation include, but are not necessarily limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves."

The State and Regional Water Boards' *Water Quality Control Plans* list the specific beneficial uses established for each of California's surface water and groundwater bodies. For example, the Central Valley Region's *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins* lists the following beneficial uses of surface waters and groundwaters:

- Municipal and Domestic Supply
- Agricultural Supply
- Industrial Supply (both Service and Process)
- Groundwater Recharge
- Freshwater Replenishment
- Navigation
- Hydropower Generation
- Recreation (both Water Contact and Non-Water Contact)
- Commercial & Sport Fishing
- Aquaculture
- Freshwater Habitat (both Warm and Cold)
- Estuarine Habitat
- Wildlife Habitat
- Preservation of Biological Habitats of Special Significance
- Preservation of Rare, Threatened, or Endangered Species
- Migration of Aquatic Organisms
- Spawning, Reproduction, and/or Early Development
- Shellfish Harvesting

The *Water Quality Control Plans* specify which beneficial uses apply to each body of water within each region of the state. Under the Porter-Cologne Act, the discharge of waste is not a right, but a privilege, subject to specific permit conditions. The discharge of waste is also not a beneficial use of water. The Water Boards' mission is to protect water quality from discharges of waste that could cause impairment of designated beneficial uses.

Sources of Drinking Water Policy

Also included within California's system of water quality standards are the "policies for water quality control" adopted by the State Water Board and incorporated into each of the Basin Plans. One such policy is critical to the designation of beneficial uses.

In 1988, the State Water Board adopted Resolution No. 88-63, the "Sources of Drinking Water" policy. This policy specifies that, except under specifically defined circumstances, all surface water and groundwater of the state are to be protected as existing or potential sources of municipal and domestic supply, unless this beneficial use is explicitly de-designated in a *Water Quality Control Plan*. The policy lists specific circumstances under which waters may be excluded from this beneficial use, including:

- waters with existing high total dissolved solids concentrations (greater than 3000 mg/l);
- waters having low sustainable yield (less than 200 gallons per day for a single well);
- water with contamination, unrelated to a specific pollution incident, that cannot reasonably be treated for domestic use;
- waters within particular wastewater conveyance and holding facilities; and
- regulated geothermal groundwaters.

These exemptions to the general municipal and domestic supply beneficial use designation are applied to specific water bodies through formal Basin Plan amendments by the appropriate Regional Water Board.

Water Quality Objectives

The second component of California's water quality standards is water quality objectives. The Porter-Cologne Act defines "water quality objectives" as "the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area." Since pollution is defined as an alteration of water quality to a degree which unreasonably affects beneficial uses, pollution occurs whenever water quality objectives are exceeded.

Water quality objectives designed to protect beneficial uses and prevent nuisance are also found in the

Water Quality Control Plans. As with beneficial uses, water quality objectives are established either for specific bodies of water, such as the Sacramento River between Shasta Dam and the Colusa Basin Drain, or for protection of particular beneficial uses of surface waters or groundwaters throughout a specific basin or region. In addition, the water quality criteria for toxic pollutants in the *California Toxics Rule* apply to nearly all of the state's surface waters which are not covered by the *Ocean Plan*, i.e., to inland surface waters, enclosed bays and estuaries. These limits are called "criteria" (rather than "objectives") because they were promulgated by USEPA pursuant to the federal Clean Water Act.

Water quality objectives may be stated in either numerical or narrative form. Where numerical objectives are listed in the *Water Quality Control Plans*, their values are applicable numerical water quality limits for the indicated constituent(s) or parameter(s). If not exceeded, they will provide reasonable protection for beneficial uses of the specified body of water. However in many cases, water quality objectives are stated in narrative form. Narrative objectives describe a requirement or a prohibition. Examples of narrative objectives, established in the Central Valley Region's *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins*, include:

- Chemical Constituents —
  "Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.
  "At a minimum, water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in ... Title 22 of the California Code of Regulations [California's drinking water standards] ...
  "To protect all beneficial uses, the Regional Water Board may apply limits more stringent than MCLs."
- Tastes and Odors —
  "Water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses."
- Toxicity —
  "... waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial use(s). This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effects of multiple substances."

The Central Valley Region's Basin Plans also contain water quality objectives for the following constituents and parameters:

- Bacteria
- Biostimulatory Substances
- Color
- Dissolved Oxygen
- Floating Material
- Oil and Grease
- Pesticides
- pH
- Radioactivity
- Salinity
- Sediment
- Settleable Material
- Suspended Material
- Temperature
- Turbidity

Some are expressed as numerical objectives, while others are in narrative form. Narrative water quality objectives must be interpreted through the selection of numerical limits, as further described below.

ANTIDEGRADATION POLICY

Water is a multiple-use resource. That is, the same water may be used many times between where it falls as rain or snow in the mountains and where it eventually flows into the ocean. Each use of water causes some change or degradation in its quality. Water quality can also be degraded by discharges of waste and other human activities. Multiple water uses and waste discharges and the combined effect on water quality must be considered. If the Board allows a single use or discharge to degrade water quality to a level just sufficient to protect beneficial uses, then no capacity exists for further degradation by other water uses or other human activities. The ability to beneficially use the water has been impaired.

In addition, our understanding of the health and

environmental effects of chemicals and combinations of chemicals is constantly evolving. What is considered safe at 10 ug/L today may be found to be harmful at 1 ug/L tomorrow. For these reasons, it is often desirable to minimize the degradation of water quality and to preserve a higher water quality than that which will just support beneficial uses, that is, better than applicable water quality objectives.

Realizing this need, the State Water Resources Control Board in 1968 adopted Resolution No. 68-16, *Statement of Policy With Respect to Maintaining High Quality of Waters in California.* This established an *Antidegradation Policy* for the protection of water quality in California. Under this policy, whenever the existing quality of water is better than that needed to protect all present and probable future beneficial uses, such existing high quality is to be maintained until or unless it has been demonstrated to the state that any change in water quality:

- will be consistent with the maximum benefit to the people of the state;
- will not unreasonably affect present or probable future beneficial uses of such water; and
- will not result in water quality less than prescribed in state policies.

Unless these three conditions are met, background water quality—the concentrations of substances in natural waters that are unaffected by waste management practices or contamination incidents—is to be maintained.

If the State or Regional Water Board determines that some water quality degradation is in the best interest of the people of California, some incremental increase in constituent concentrations above background levels may be permitted under the Policy. However, in no case may such degradation cause unreasonable impairment of beneficial uses that have been designated for a water of the state.

The effect of this policy is to define a range of water quality—between natural background levels and the water quality objectives—that must be maintained. Within this range, the Water Boards must balance the need to protect existing high quality water with the benefit to California as a whole of allowing some degradation to occur from the discharge of waste.

The policy also specifies that discharges of waste to existing high quality waters are required to use "best practicable treatment or control," thereby imposing a technology-based limit on such discharges.

In more recent actions, the State Water Board further delineated implementation of the Antidegradation Policy. These include the adoption of monitoring and corrective action regulations and a cleanup policy.

CHAPTER 15, ARTICLE 5 REGULATIONS

In July 1991, the State Water Board adopted revised regulations for water quality monitoring and corrective action for waste management units—facilities where wastes are discharged to land for treatment, storage or disposal. These regulations, contained in Title 23 of the California Code of Regulations, Division 3, Chapter 15, Article 5, contain the only interpretation of the state's Antidegradation Policy that has been promulgated in regulations. Article 5 requires the Regional Water Board to establish water quality protection standards for all waste management units. Water quality protection standards include concentration limits for constituents of concern, which must be met in groundwater and surface water that could be affected by a release from the waste management unit.

Section 2550.4 of these regulations requires that, in most cases, concentration limits be established at background levels. However, in a corrective action program for a leaking waste management unit where the discharger of waste has demonstrated that it is technologically or economically infeasible to achieve background levels, the Regional Water Board may adopt concentration limits greater than background (CLGBs). These limits must be set:

- at the lowest concentrations for the individual constituents which are technologically and economically achievable;
- so as not to exceed the maximum concentrations allowable under applicable statutes and regulations for individual constituents [including water quality objectives];
- so as not to result in excessive exposure to a sensitive biological receptor [as shown, for example, through health and ecological risk assessments]; and
- so that theoretical risks from chemicals associated with the release shall be considered additive across all media of exposure and shall be considered additive for those constituents that cause similar toxicologic effects or have carcinogenic effects.

Cleanup Policy

In June 1992, the State Water Board adopted Resolution No. 92-49, *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304*. This policy for water quality control, which was modified in April 1994 and October 1996, states that the *Antidegradation Policy* of Resolution No. 68-16 is applicable to the cleanup of contaminated sites, and that criteria in Section 2550.4 of the Chapter 15 regulations are to be used to set cleanup levels for such sites. [For cleanup of leaking underground tank sites, Section 2550.4 criteria are to be considered in setting cleanup levels under Chapter 16 of Title 23, Division 3 of the California Code of Regulations.] In determining cleanup levels for water and for contaminated soils which threaten water quality, background constituent concentrations in water are the initial goal. If attainment of background concentrations is not achievable, cleanup levels must be set as close to background as technologically and economically feasible. They must, at a minimum, restore and protect all applicable beneficial uses of waters of the state, as measured by the water quality objectives, and must not present significant health or environmental risks.

Numerical Water Quality Limits

To determine whether a particular waste management activity or constituent release has caused or threatens to cause pollution—a degradation in water quality severe enough to impair present or probable future beneficial uses—one must refer to California's water quality standards. As described earlier, the standards consist of a beneficial use or uses of water and water quality objectives to protect those uses. Any narrative objective must be interpreted and a numerical limit selected which meets the narrative objective. Once all beneficial uses, water quality objectives and numerical limits have been identified, those water quality limits that protect all beneficial uses are selected for comparison with measured or projected constituent concentrations in the water body of interest.

The first step in selecting beneficial use protective water quality limits is to identify the bodies of groundwater and/or surface water that have been or have the potential to be affected by the particular waste management activity or constituent release. Under California's *Antidegradation Policy*, water quality limits are initially set equal to true background levels in the body of water. Constituent concentrations in excess of background levels in the water body, caused or threatened to be caused by a discharge of waste, indicate that water quality *degradation* has occurred or is threatened.

If degradation has already occurred, water quality limits should also be selected to determine whether *pollution* has occurred or is threatened. In that case, water quality limits are selected so as to ascertain compliance with all applicable water quality objectives for the protection of the beneficial uses which have been designated for the water body in question. Designated beneficial uses and applicable water quality objectives to protect those uses are contained in the appropriate *Water Quality Control Plan(s)*. The process of selecting beneficial use protective water quality limits to interpret these standards is shown in Figure 1.

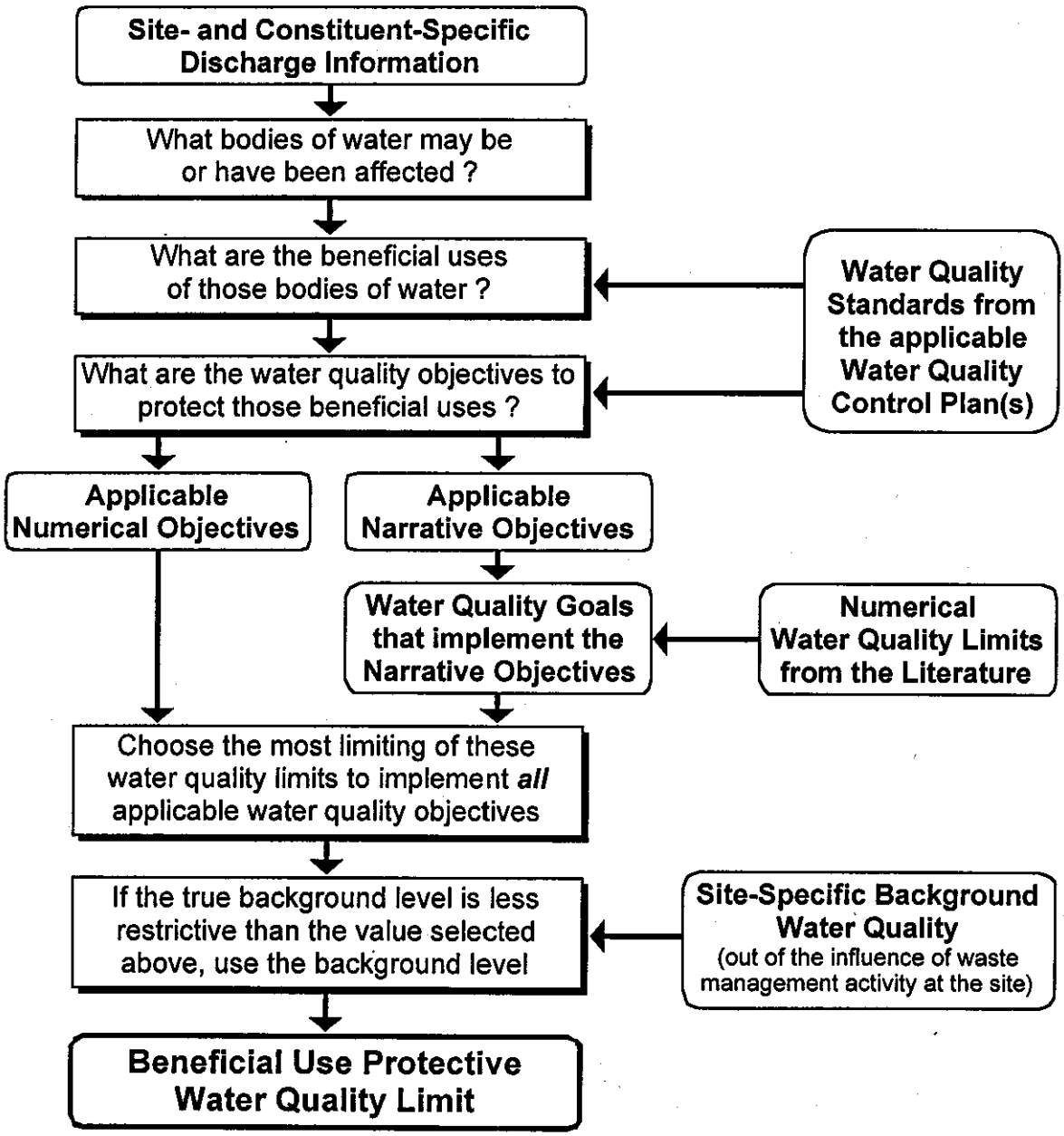
Some water quality objectives are numerical. These numerical objectives are a subset of the applicable beneficial use protective water quality limits. If narrative water quality objectives also apply to the constituent or parameter of interest in the water body, compliance with those objectives may be determined through measurement (e.g., toxicity testing) or other direct evidence of beneficial use impacts. Alternatively, relevant numerical water quality limits may be selected from the literature and used to interpret the narrative objectives. Water quality limits from the literature, called *water quality goals* in this report, include drinking water standards, ambient water quality criteria, cancer risk estimates, health advisories, and other numerical values that represent concentrations of chemicals that would limit specific uses of water. An example of a water quality goal is the taste and odor threshold for ethylbenzene of 29 ug/L, published by USEPA. This water quality goal could be used to interpret compliance with the narrative water quality objective for tastes and odors, discussed above.

For each constituent, all applicable numerical objectives along with water quality goals selected to interpret each applicable narrative objectives are collected and the most limiting (most stringent) of these values is selected. Below this most limiting value, compliance with all applicable water quality objectives is assured and the most sensitive beneficial use should be protected. This most limiting value be-

comes the beneficial use protective water quality limit for the constituent of interest in the water body. If the concentration of the constituent exceeds the beneficial use protective water quality limit, one or more water quality objectives have been violated and pollution has occurred.

The one exception to this is where the site-specific natural background condition in water is a higher concentration than the beneficial use protective water quality limit. The State and Regional Water Boards authority for protection of water quality from waste discharges is limited to the regulation of "controllable water quality factors"—those actions, conditions, or circumstances resulting from human activities that may influence the quality of waters of the state and that may be reasonably controlled. Where the natural

FIGURE 1. SELECTING BENEFICIAL USE PROTECTIVE NUMERICAL LIMITS IN WATER



background level is higher than the beneficial use protective water quality limit, the natural background level is considered to comply with the water quality objective. In such cases, other controllable factors are not allowed to cause any further degradation of water quality.

Types of Water Quality Goals

The literature contains many useful water quality limits designed to protect specific beneficial uses of water. These water quality goals can be used to interpret narrative water quality objectives. The following is a summary of available types of water quality goals that are presented in this document. The Reference section at the end of this report lists the sources of these limits, including internet addresses where available.

Maximum Contaminant Levels (MCLs)

MCLs are part of the drinking water standards adopted by the California Department of Health Services (DHS) pursuant to the California Safe Drinking Water Act. California MCLs may be found in Title 22 of the California Code of Regulations (CCR), Division 4, Chapter 15, *Domestic Water Quality and Monitoring*. USEPA also adopts MCLs under the federal Safe Drinking Water Act. DHS's drinking water standards are required to be at least as stringent as those adopted by the USEPA. Some California MCLs are more stringent than USEPA MCLs.

Primary MCLs are derived from health-based criteria (by USEPA from MCL Goals; by DHS from Publich Health Goals or from one-in-a-million [10^{-6}] incremental cancer risk estimates for carcinogens and threshold toxicity levels for non-carcinogens). MCLs also include technologic and economic considerations relating to the feasibility of achieving and monitoring for these concentrations in drinking water supply systems and at the tap. It should be noted that the balancing of health effects with technologic and economic considerations in the derivation of MCLs may not be appropriate for protection of the quality of a raw surface water or groundwater resource, as will be discussed below. Secondary MCLs are derived from human welfare considerations (e.g., taste, odor, laundry staining) in the same manner as Primary MCLs.

Drinking water MCLs are directly applicable to and enforceable by DHS and local health departments on water supply systems and at the tap. MCLs, both Primary and Secondary, are directly applicable to groundwater and surface water resources when they are specifically referenced as water quality objectives in the pertinent *Water Quality Control Plan*. Where fully health protective, MCLs may also be used to interpret narrative objectives prohibiting toxicity to humans in water designated as a source of drinking water (municipal and domestic supply) in the *Water Quality Control Plan*.

Maximum Contaminant Level Goals (MCL Goals or MCLGs)

MCLGs are promulgated by USEPA as part of the National Primary Drinking Water Regulations. MCLGs represent the first step in establishing Primary MCLs and are required by federal statute to be set at levels that represent no adverse health risks. They are set at "zero" for known and probable human carcinogens, since theoretically a single molecule of such a chemical could present some degree of cancer risk. Threshold levels posing no risk of health effects (other than cancer) are used for non-carcinogens and for possible human carcinogens. Because they are purely health-based, non-zero MCLGs may be useful in interpreting narrative water quality objectives which prohibit toxicity to human consumers.

Public Health Goals (PHGs)

The California Safe Drinking Water Act of 1996 requires the Office of Environmental Health Hazard Assessment (OEHHA) to perform risk assessments and adopt Public Health Goals for contaminants in drinking water based exclusively on public health considerations. PHGs represent levels of contaminants in drinking water that would pose no significant health risk to individuals consuming the water on a daily basis over a lifetime. They are based on a 10^{-6} incremental cancer risk estimate for carcinogens and a threshold toxicity limit for other contaminants, with a margin of safety. OEHHA and DHS consider the 10^{-6} risk level to represent a *de minimis* level of cancer risk from involuntary exposures.

PHGs adopted by OEHHA are for use by the DHS in establishing primary drinking water MCLs. Where PHGs are to be based solely on scientific and public health considerations without regard to economic considerations, drinking water MCLs are to consider eco-

nomic factors and technical feasibility. Each MCL adopted by DHS is to be set at a level that is as close as feasible to the corresponding PHG, placing emphasis on the protection of public health. Being purely health-based, PHGs are also appropriate to use in interpreting narrative toxicity objectives with respect to human exposures from constituents in waters that have been designated as existing or potential sources of municipal and domestic supply. In addition, where water quality objectives require compliance with drinking water MCLs, the PHGs may provide an indication as to whether MCLs are likely to be revised upward or downward in the future. This information is important because the State and Regional Water Boards must ensure the usability of water for the foreseeable future.

State Action Levels

Action levels, published by DHS, are based mainly on health effects. An incremental cancer risk estimate of 10^{-6} is used for carcinogens and a threshold toxicity limit is used for other constituents. As with MCLs, the ability to quantify the amount of the constituent in a water sample using readily available analytical methods may cause action levels to be set at somewhat higher concentrations than purely health-based values. Organoleptic (taste- and odor-based) values are also included as action levels for some chemicals. Action levels are advisory to water suppliers. If exceeded, DHS urges the supplier to correct the problem or to find an alternative raw water source. When they are purely health-based, action levels may also be used to interpret narrative objectives that prohibit toxicity to humans that may drink the water.

Cal/EPA Cancer Potency Factors

The Office of Environmental Health Hazard Assessment has lead responsibility within Cal/EPA for the assessment of human health risks associated with exposures to toxic substances in environmental media. OEHHA also performs health risk assessments for California state agencies outside Cal/EPA, such as the development of PHGs for the Department of Health Services. OEHHA maintains a database of health risk information for chemicals called the Toxicity Criteria Database. The health based criteria presented in this database have been used as a basis for California state regulatory actions. The majority has undergone peer review and in many cases rigorous regulatory review. The database includes cancer potency factors for inhalation and oral exposures to many chemicals. These Cal/EPA cancer potency factors may be used to calculate concentrations in drinking water associated with specific cancer risk levels, using standard exposure assumptions (see *Threshold Risk Characterization*, below.).

Integrated Risk Information System (IRIS)

The USEPA Office of Research and Development, National Center for Environmental Assessment maintain a chemical database called the Integrated Risk Information System. IRIS contains USEPA's most current information on human health effects that may result from exposure to various substances found in the environment. Two types of criteria are presented in IRIS. Reference doses (RfDs) are calculated as safe exposure levels with respect to non-cancer health effects. They are presented in units of milligrams of chemical per kilogram body weight per day of exposure (mg/kg-day). RfDs may be converted into concentrations in drinking water (mg/L or ug/L) using standard exposure assumptions (see *Threshold Risk Characterization*, below.). IRIS also presents concentrations of chemicals in drinking water that would be associated with specific levels of cancer risk.

Drinking Water Health Advisories and Water Quality Advisories

Health Advisories are published by USEPA for short-term (1-day exposure or less or 10-day exposure or less), long-term (7-year exposure or less), and lifetime human exposures through drinking water. Health advisories for non-carcinogens and for possible human carcinogens are calculated for chemicals where sufficient toxicologic data exist. Incremental cancer risk estimates for known and probable human carcinogens are also presented.

Water Quality Advisories contain human health related criteria that assume exposure through both drinking water and consumption of contaminated fish and shellfish from the same water. Some Water Quality Advisories also contain criteria that are intended to be protective of aquatic life.

Suggested No-Adverse-Response Levels (SNARLs)

These human health-based criteria were published by the National Academy of Sciences (NAS) in the nine volumes of *Drinking Water and Health* (1977 to 1989). USEPA's health advisories were also formerly published as "SNARLs." SNARLs do not reflect the cancer risk that may be posed by these chemicals. Incremental cancer risk estimates for carcinogens are presented separately in these NAS and USEPA documents. NAS criteria from *Drinking Water and Health* may not contain the most recent toxicologic information. They should only be used to interpret narrative water quality objectives where more recent health-based criteria are absent.

Proposition 65 Regulatory Levels

Proposition 65 levels are established under the California Safe Drinking Water and Toxic Enforcement Act of 1986 for known human carcinogens and reproductive toxins. Proposition 65, an initiative statute, made it illegal to expose persons to significant amounts of these chemicals without prior notification or to discharge significant amounts of these chemicals to sources of drinking water. These "significant amounts" are adopted by OEHHA in regulations contained in Title 22 of CCR, Division 2, Chapter 3.

For carcinogens, no-significant-risk levels (NSRLs) are set at concentrations associated with a one-in-100,000 (10^{-5}) incremental risk of cancer. These are the only California health based limits derived from risk levels greater than 10^{-6}. As such, they are not as protective of human health as many other published criteria (see *Which Cancer Risk Level?*, below). $^{1}/_{1000}$ of the no-observable-effect level (NOEL) is adopted for reproductive toxicants.

Proposition 65 levels are doses, expressed in units of micrograms per day of exposure (ug/d). These levels may be converted into concentrations in water by assuming 2 liters per day water consumption and 100 percent exposure to the chemical through drinking water, under regulations contained in Title 22 of CCR, Sections 12721 and 12821.

National Ambient Water Quality Criteria

These criteria, also called the National Recommended Water Quality Criteria, are developed by USEPA under Section 304(a) of the Clean Water Act to provide guidance to the states in adopting water quality standards under Section 304(c) of the Act and to interpret narrative toxicity standards (water quality objectives in California). These criteria are designed to protect human health and welfare and aquatic life from pollutants in freshwater and marine surface waters.

The human health protective criteria differ significantly from those discussed above. They assume two different exposure scenarios. For waters that are sources of drinking water, exposure is assumed both from drinking the water and consuming aquatic organisms (fish and shellfish) that live in the water. For waters that are not sources of drinking water, exposure is assumed to be from the consumption of aquatic organisms only. Aquatic organisms are known to bioaccumulate certain toxic pollutants in their tissues, so as to magnify human exposures. Because these human health based criteria assume exposure through fish and shellfish consumption, they should not be used to interpret water quality objectives for groundwater where human exposure will only occur from municipal or domestic supply uses. The criteria also include threshold health protective criteria for non-carcinogens. Incremental cancer risk estimates for carcinogens are presented at a variety of risk levels. Organoleptic (taste- and odor-based) levels are also provided for some chemicals to protect human welfare.

National Ambient Water Quality Criteria also include criteria that are intended to protect freshwater and/or saltwater aquatic life. Normally, two types of limits are presented. Criteria Maximum Concentrations (CMCs) protect aquatic organisms from acute exposures (expressed as 1-hour average or instantaneous maximum concentrations) to pollutants. Criteria Continuous Concentrations (CCCs) protect aquatic organisms from chronic exposures (expressed as 4-day or 24-hour average concentrations). To be able to derive these criteria, the USEPA method requires toxicity data for species representing a minimum of eight families of organisms, including coverage of both vertebrate and invertebrate species. Important aquatic plant species are also considered. Fundamental to the method is protection of all species, even at sensitive life stages, for which there are reliable measurements in the data set. Criteria derived by this method are also intended to protect species for which those in the data set serve as surrogates. Toxicity information, in the

form of lowest observed effect levels, is often presented in the USEPA criteria documents where there is insufficient toxicologic information with which to develop recommended criteria.

The National Ambient Water Quality Criteria are found in a number of USEPA documents:

- *Quality Criteria for Water, 1986*, with updates in 1986 and 1987, also known as the "Gold Book";
- the *Ambient Water Quality Criteria* volumes on specific pollutants or classes of pollutants (1980, 1984, 1985, 1986, 1987, 1988, 1989, 1991, 1993, and 1995);
- *Quality Criteria for Water* (1976), also known as the "Red Book";
- *Water Quality Criteria, 1972*, also known as the "Blue Book."

In December 1992, USEPA promulgated the *National Toxics Rule*, which updated many of these criteria and made them directly applicable standards for surface waters in many states, including some California waters. These regulations, found in 40 CFR Section 131.36, specify that "[t]he human health criteria shall be applied at the State-adopted 10^{-6} risk level" for California. To ascertain compliance with the aquatic life protective criteria for metallic constituents, water quality samples were to be analyzed for "total recoverable" concentrations. In May 1995, USEPA amended these regulations to convert most of these aquatic life criteria to dissolved concentrations. In April 1999, USEPA published the most recent summary of *National Recommended Water Quality Criteria.*

California Toxics Rule (CTR) Criteria

The federal Clean Water Act requires all states to have enforceable numerical water quality criteria applicable to priority toxic pollutants in surface waters. California lacked many of these standards, in part due to the State Water Board's repeal of the *Inland Surface Waters Plan* and *Enclosed Bays and Estuaries Plan*, resulting from a legal challenge. In May 2000, USEPA promulgated water quality criteria for priority toxic pollutants for California's inland surface waters and enclosed bays and estuaries. Included are both human health and aquatic life protective criteria, similar to those published in the *National Recommended Water Quality Criteria.*

The CTR criteria, along with the beneficial use designations in the *Basin Plans*, are directly applicable water quality standards for these toxic pollutants in these waters. Implementation provisions for these standards have been provided in the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SWRCB Resolution No. 2000-015), adopted by the State Water Board in March of this year. The policy includes time schedules for compliance, provisions for mixing zones, analytical methods and reporting levels.

Other Numerical Limits

Other sources of numerical water quality limits include:

- *Water Quality for Agriculture*, published by the Food and Agriculture Organization of the United Nations in 1985, which contains criteria protective of agricultural uses of water.
- *Hazard Assessments* and *Water Quality Criteria*, published by the California Department of Fish and Game, which contain criteria that are protective of aquatic life from exposure to several pesticides. USEPA methods are used to derive these criteria.
- *Water Quality Criteria, Second Edition*, written by McKee and Wolf and published by the State Water Resources Control Board in 1963 and 1978, which contains criteria for human health and welfare, aquatic life, agricultural use, industrial use, and various other beneficial uses of water. This document is available from the National Technical Information Service (NTIS) as Publication No. PB 8218824.
- Taste and odor thresholds are published in several documents, including USEPA Drinking Water Contaminant Fact Sheets and an extensive collection by J.E. Amoore and E. Hautala in their paper, *Odor as an Aid to Chemical Safety: Odor Thresholds Compared with Threshold Limit Values and Volatilities for 214 Industrial Chemicals in Air and Water Dilution*, published in Journal of Applied Toxicology (1983).

The numerical water quality limits discussed above as well as the numerical water quality objectives from the State Water Board's *Water Quality Control Plan for Ocean Waters of California* (the Ocean Plan) are summarized in the tables and graphs that make up the remainder of this report.

Risk Characterization Methods for Drinking Water

The methods by which the USEPA and other agencies establish lifetime health advisories and concentration-based cancer risk estimates for constituents in drinking water may be used to calculate water quality goals from other published toxicologic criteria. These methods are based on the following toxicologic principles.

Threshold Toxins vs. Non-Threshold Toxins

The toxic effects of chemicals may be roughly divided into two categories, threshold and non-threshold. It is important to recognize that it is not the chemical itself, but the dose (the concentration of the chemical multiplied by the duration of exposure), which is responsible for the toxic effect. Below a particular threshold dose, many chemicals cause no toxicity. These chemicals are called threshold toxins. Cyanide, mercury, and the pesticide malathion fall into this category. Some threshold chemicals, like Vitamin A, are beneficial to human health at low doses, but toxic at high doses.

On the other hand, some chemicals have no toxicity threshold; they may pose a quantifiable health risk at any concentration. Most carcinogens are thought to fall into this non-threshold category. Essentially, one molecule is considered to have the potential to cause some finite risk of getting cancer. Health risks for non-threshold toxins are characterized by probabilities. The higher the dose, the higher the probability of experiencing the toxic effect. For example, according to Cal/EPA, OEHHA, 0.35 microgram of benzene per liter of drinking water is associated with the probability of causing one additional cancer case in a million persons who are exposed at a 2 liters of water per day over their lifetimes. The value of 0.35 ug/L is the estimated drinking water concentration associated with a 1-in-a-million (10^{-6}) cancer risk, also known as the 10^{-6} cancer risk estimate for benzene. Because cancer risk is a probabilistic event, the cancer risk level is directly proportional to the dose, or the concentration in water if all other factors are held constant. Therefore, the 10^{-5} cancer risk level (1 extra case of cancer in 100,000 exposed persons) for benzene would be 3.5 ug/L.

Chemicals are currently assigned by USEPA into five categories, by considering the weight of cancer risk evidence that exists in the toxicologic record:

Class A chemicals are known human carcinogens (sufficient human exposure data exists);

Class B chemicals are probable human carcinogens (limited human data, but sufficient animal exposure data exist);

Class C chemicals are possible human carcinogens (no human data and limited animal data exist);

Class D chemicals have insufficient cancer risk data to assign them to another category; and

Class E chemicals have sufficient evidence to indicate that they are not carcinogens.

USEPA does not publish threshold health advisories for lifetime exposure for Class A or Class B chemicals. USEPA publishes cancer risk estimates for Class A, Class B, and sometimes for Class C chemicals.

Because of the different ways in which chemicals are believed to cause adverse health impacts, the characterization of health risks for non-threshold toxins is different from that for threshold toxins.

Non-Threshold Risk Characterization

For non-threshold constituents, the *risk* of a toxic effect is considered to be proportional to the amount or *dose* of the chemical to which a population is exposed. For each carcinogen, risk and dose are related by a cancer potency factor (often abbreviated q_1^*) which is equal to the risk of getting cancer per unit dose of the chemical. The factor is expressed in units of inverse milligrams of chemical per kilogram body weight per day of exposure $(mg/kg/day)^{-1}$. The cancer risk level, dose, and cancer potency factor are related by equation [1] in Figure 2. Potency factors for carcinogens are calculated by extrapolation from dose-response relationships developed in laboratory animal exposure studies. They may be found in the Cal/EPA Toxicity Criteria Database, the USEPA Integrated Risk Information System (IRIS) database and USEPA health advisory documents.

If we assume a drinking water consumption rate of 2 liters per day and an average human body weight of 70 kg, dose and concentration in drinking water may be related by equation [2]. These are standard assumptions used by federal and state drinking water regulatory and advisory programs and by OEHHA in regulations that implement Proposition 65. By combining equations [1] and [2] and rearranging, we obtain equation [3]. This equation allows calculation of a

concentration in drinking water associated with a given cancer risk level, if the potency factor is known. For example, the Cal/EPA cancer potency factor for the pesticide 1,2-dibromo-3-chloropropane or DBCP is 7 $(mg/kg/day)^{-1}$. Using equation [3], the concentration in drinking water associated with a 1-in-a-million (10^{-6}) lifetime cancer risk level may be calculated as 0.000005 mg/l or 0.005 ug/L. This 10^{-6} cancer risk estimate along with other similarly calculated cancer risk estimates may be found in the tables of this report.

FIGURE 2. CALCULATION OF HEALTH BASED LIMITS

[1] Risk Level = Dose × Potency Factor

[2] Dose (mg/kg/day) = Concentration (mg/l) × 2 liters/day ÷ 70 kg

[3] $$\text{Concentration (mg/l)} = \frac{\text{Risk Level} \times 70\ \text{kg}}{\text{Potency Factor} \times 2\ \text{liters/day}}$$

[4] $$\text{RfD} = \frac{\text{NOAEL}}{\text{Uncertainty Factor}}$$

[5] $$\text{DWEL} = \frac{\text{RfD} \times 70\ \text{kg}}{2\ \text{liters/day}}$$

[6] $$\text{Lifetime Health Advisory (mg/l)} = \frac{\text{DWEL} \times 20\%\ \text{RSC}}{\text{Additional Uncertainty Factor}}$$

Which Cancer Risk Level?

There is often confusion as to which cancer risk level should be used in selecting human health-based criteria to interpret the narrative water quality objectives. The one-in-a-million (10^{-6}) cancer risk level has historically formed the basis of human health protective numerical water quality limits in California. It is generally recognized by California and federal agencies as the *de minimis* level of risk associated with involuntary exposure to toxic chemicals in environmental media. Therefore the 10^{-6} risk level should govern the selection of human health-based criteria to interpret narrative toxicity objectives.

Regulations implementing Proposition 65 cite the one-in-a-hundred-thousand (10^{-5}) risk level for carcinogens. However, the intent of this initiative statute is public notice prior to exposure to certain chemicals and the prohibition of specific discharges of these chemicals. It is not the intent of Proposition 65 to establish levels of involuntary environmental exposure that are considered "safe." Therefore, Proposition 65 does not provide a relevant precedent for determining the level of cancer risk for compliance with the narrative toxicity objectives.

The 10^{-6} risk level has long formed the basis of water-related health-protective regulatory decision-making in California. The following are some of the more significant instances:

- DHS *Statement of Reasons* documents that justify Primary MCLs for carcinogenic substances all use the 10^{-6} risk level for lifetime exposure as the basis from which the MCLs were derived. In these documents DHS describes the 10^{-6} risk level as "the *de minimis* excess cancer risk value" which is "typically assumed by federal and state regulatory agencies for involuntary exposures to environmental pollutants." MCLs for carcinogens deviate from the 10^{-6} risk level only where technologic or economic factors prevent the use of this level.
- DHS action levels for drinking water are also set at the 10^{-6} risk level unless technologic or economic factors prevent using that level, as with the Primary MCLs.
- The *Preliminary Endangerment Assessment Guidance Manual* published by the Department of Toxic Substances Control (DTSC) [page 2-26] states that "[i]n general, a risk estimation greater that [sic] 10^{-6} or a hazard index greater than 1 indicate the presence of contamination which may pose a significant threat to human health."
- USEPA National Ambient Water Quality Criteria, recommended to protect human health from carcinogenic chemicals in surface waters, historically have presented 10^{-5}, 10^{-6}, and 10^{-7} risk estimates (with a geometric mean of 10^{-6}) in water.

- Clean Water Act water quality criteria promulgated on California waters by USEPA in the National Toxics Rule and the California Toxics Rule state that "[t]he human health criteria shall be applied at the State-adopted 10^{-6} risk level." These criteria are water quality standards for surface waters in California.
- *Functional Equivalent Documents* adopted by the State Water Board that provide background and justification for the *California Ocean Plan* and the former *California Inland Surface Waters* and *Enclosed Bays and Estuaries Plans* all cite the 10^{-6} risk level as the basis of human health protective water quality objectives for carcinogens.
- Public Health Goals for drinking water, adopted by OEHHA, are based on the 10^{-6} risk level for carcinogens, "a level that has been considered negligible or *de minimis*," and a 70 year exposure period.
- Recent enforcement decisions regarding an off-site chlorinated solvent plume from Mather Air Force Base, the Central Valley Regional Water Quality Control Board required that replacement water supply be provided when the level of carcinogenic chemicals is detected and confirmed at or above concentrations that represent 10^{-6} lifetime cancer risk levels in individual wells. This decision implements the narrative toxicity objective for groundwater from the *Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins.*
- Cleanup and Abatement Order No. 92-707 adopted by the Central Valley Regional Water Quality Control Board established cleanup levels for groundwater at the Southern Pacific Transportation Company, Tracy Yard, San Joaquin County at the 10^{-6} lifetime cancer risk levels for carcinogens, based on the narrative toxicity objective for groundwater from the *Basin Plan for the Sacramento River and San Joaquin River Basins.*

Threshold Risk Characterization

To determine the concentration of a threshold toxin that is safe for humans to consume in drinking water, toxic and safe dose information is first derived from animal studies. In these studies, laboratory animals are exposed to a chemical at specific dose levels. USEPA and other agencies choose one of two dose level results from these studies from which to calculate safe levels in drinking water. The no observed adverse effect level (NOAEL) is the highest dose that caused no toxic effect to animals in the study. The lowest observed adverse effect level (LOAEL) is the lowest dose that did cause a measurable toxic effect in the study. The LOAEL is a higher dose than the NOAEL. Because the toxic dose of a chemical is usually related to the body weight of the animal studied, doses are often reported in units of milligrams of chemical per kilogram of body weight per day of exposure (mg/kg-day). Both NOAELs and LOAELs are expressed in these units.

USEPA and other agencies use the NOAEL or LOAEL to calculate a reference dose or RfD for a toxic chemical, using equation [4] in Figure 2. The uncertainty factor in the equation accounts for unknowns in the derivation of human risk levels from animal data. The minimum uncertainty factor is 10, which accounts for the fact that some people (e.g., children and the elderly) are more sensitive to toxic chemical exposures than is the average person. The minimum uncertainty factor is normally multiplied by additional factors of 10 for each of the following conditions, if they apply:

- Extrapolation from animal toxicity studies to human toxicity (not used with human exposure data);
- Using a LOAEL in place of a NOAEL in equation [4], above;
- Using a dose (NOAEL or LOAEL) from a study which examined a less appropriate route of exposure to the chemical (the route of exposure most relevant to drinking water is ingestion);
- Using a dose from a study which exposed test animals for a period of time which is not a significant fraction of the animals' lifetime (subchronic exposure);
- Potential synergism among chemicals (the toxicity of two or more chemicals is greater than additive —the sum of their individual toxicities); and
- Any other toxicologic data gaps.

RfDs have the same units as the NOAELs and LOAELs from which they are derived, mg/kg/day. The USEPA IRIS database contains reference doses for many threshold toxins.

The next step, equation [5], is the calculation of a drinking water equivalent level (DWEL) from the reference dose. This step is derived from equation [2] by

assuming an average human body weight of 70 kilograms and an average drinking water consumption rate of two liters per day. As with the calculation of cancer risk criteria in water, these are standard assumptions used by federal and state drinking water regulatory and advisory programs.

One last step, equation [6] in Figure 2, is required to turn the DWEL into the equivalent of a lifetime health advisory concentration. Two additional factors are used. The first is the relative source contribution or RSC. It accounts for the fact that we are usually exposed to chemicals from sources other than drinking water (e.g., in foods and in the air we breathe). The combined exposure from all sources forms the overall dose that may cause toxicity. The relative source contribution normally used by USEPA in deriving lifetime health advisories for threshold constituents is 20%. This means that 20% of the exposure is assumed to come from drinking water and 80% from all other sources combined. The second factor is an additional uncertainty factor, used to provide an extra margin of safety for those chemicals for which limited evidence of cancer risk exists (Class C carcinogens). This uncertainty factor is equal to 10 for Class C carcinogens, and 1 for chemicals in Classes D and E. As stated above, lifetime health advisories are usually not calculated for chemicals in cancer Classes A and B.

With equations [5] and [6], one can calculate health protective water quality goals for threshold toxins from RfD values published in the IRIS database and elsewhere in the literature. For example, acetone is a Class D chemical (no evidence of cancer risk) and has an RfD of 0.10 mg/kg/day. From equation [5], a DWEL of 3.5 mg/l may be calculated. By equation [6], this DWEL may be converted into an expected lifetime-exposure safe limit in drinking water of 0.7 mg/l or 700 ug/L. This and other similarly calculated limits are presented in the tables of this report.

Selecting a Water Quality Goal From Among Available Numerical Limits

To protect all applicable beneficial uses, the most protective (lowest), appropriate (per the beneficial use designations and water quality objectives in the *Water Quality Control Plans*) numerical water quality limit should be selected as the beneficial use protective water quality limit for a particular water body and constituent. Due to the rapid evolution of data on the health and environmental effects of chemicals, caution should be observed in selecting from among the various water quality goals to be sure that the most current limits are used. The original literature should be consulted whenever possible to determine the appropriateness and limitations of the water quality limits being considered. Other government agencies, such as the California Department of Health Services, the California Department of Fish and Game, the Office of Environmental Health Hazard Assessment, and the U.S. Environmental Protection Agency may be consulted for up-to-date information.

In some cases, multiple human health-protective numerical limits are available for a particular chemical. A decision must be made as to which of these limits is the most appropriate. In May of 1994, representatives of the State and Regional Water Boards met with toxicologists and other representatives of the DTSC and OEHHA to discuss the use of toxicologic criteria in contaminated site assessment and cleanup. The group agreed to use guidance parallel to that given on page 2-20 of DTSC's *Preliminary Endangerment Assessment Guidance Manual* (January 1994). When selecting numerical limits from the literature to interpret health based narrative water quality objectives or when selecting criteria for use in health risk assessments, limits should be used in the following hierarchy:

1) Cancer potency slope factors and reference doses promulgated into California regulations.
2) Cancer potency slope factors and reference doses used to develop environmental criteria promulgated into California regulations. The entirely health-based dose criteria should be used, and not necessarily the resulting risk management environmental concentration criteria (e.g., the RfD rather than the MCL).
3) Cancer potency slope factors and reference doses from USEPA's Integrated Risk Information System (IRIS).
4) Cancer potency slope factors or reference doses from USEPA's Health Effects Assessment Summary Tables (Health Advisories), the most current edition.

Criteria in the first two categories may be found in the Cal/EPA Toxicity Criteria Database maintained by OEHHA.

It has been common practice to rely on Primary

MCLs as "enforceable standards" for human health protection from chemicals in water. However, MCLs are designed to apply to water within a drinking water distribution system and at the tap. Care should be taken when relying on Primary MCLs to protect sources of drinking water (groundwater or surface water resources).

A common example of incorrect MCL application is the use of the total trihalomethane (THM) MCL for the protection of groundwater quality from chloroform, bromoform, bromodichloromethane and dibromochloromethane, the four chemicals covered by the term "trihalomethanes." These probable and possible human carcinogens are formed in drinking water by the action of chlorine, used for disinfection, on organic matter present in the raw source water. The total THM Primary MCL of 100 ug/L is 17 to 370 times higher than the one-in-a-million incremental cancer risk estimates for the individual chemicals published by OEHHA and USEPA. USEPA has stated that the MCL for total THMs was based mainly on technologic and economic considerations. Therefore, this drinking water standard is not fully health protective, and does not clearly protect the beneficial use of municipal and domestic supply.

The MCL for total THMs was derived by balancing the benefit provided by the chlorination process—elimination of pathogens in drinking water—with the health threat posed by the trihalomethane byproducts of this process and the cost associated with conversion to non-chlorine disinfection methods. In the case of groundwater protection, this type of cost/benefit balancing—accepting some cancer risk from chloroform and other THMs in order to eliminate the health risk from pathogens and avoid disinfection process conversion costs—is not germane. This water has not been and may not need to be chlorinated for domestic consumption. Therefore, the total THM MCL is not sufficiently protective of the ambient quality of domestic water supply sources.

To ensure that compliance can be ascertained, MCLs are required to be set at or above commonly achievable analytical quantitation limits. In several cases, DHS and USEPA have established MCLs at concentrations higher than health protective levels, where the health-based levels are below readily available analytical quantitation limits. It is clear from the *Statement of Reasons* documents that the intent of DHS was to adopt one-in-a-milion cancer risk values for several chlorinated solvents as MCLs if analytical quantitation limits had been lower. Since the adoption of these MCLs, analytical quantitation limits have improved, such that their respective health-based levels can be reliably measured at reasonable cost. The technologic constraint posed by analytical quantitation limits is no longer germane. Therefore, it is no longer reasonable to rely on outdated analytical quantitation limits as substitutes for truly health-based criteria when interpreting the narrative water quality objective for toxicity.

In several cases, Public Health Goals adopted by OEHHA are more stringent than existing Primary MCLs. The intent of the legislation that mandated the adoption of PHGs is to inform DHS when their MCLs are less than fully health-protective. DHS must periodically review their MCLs and revise them to be as close to PHG values as is technologically and economically achievable. Compliance with health-based PHGs, which indicate the probable levels of future MCLs, may be appropriate for protection of water resources for municipal and domestic supply uses.

MCLs are only a subset of the water quality objectives applicable to sources of municipal and domestic supply under most *Basin Plans*. Narrative objectives related to toxicity and general beneficial use protection from chemical constituents are also applicable to these waters under most *Basin Plans*. Due to the constraints discussed above, MCLs that are not fully health protective are not appropriate water quality goals to interpret these objectives. Published health-based limits, such as one-in-a-million incremental cancer risk estimates, are appropriate to interpret these narrative objectives. They are more accurate measures of potential impairment by toxic chemicals of the beneficial use of groundwater and surface water for municipal and domestic supply.

Virtually all Primary MCLs are derived by balancing health effects information with the technologic and economic considerations that are directly related to providing that water to customers through conventional drinking water supply systems. Thus, Primary MCLs are not always reliable indicators of the protection of beneficial uses of ambient groundwaters or surface waters. They may not be appropriate water quality goals to interpret narrative water quality objectives that prevent human toxicity or generally protect bene-

ficial uses from chemical constituents.

There are additional instances where water quality limits more stringent than MCLs are applied to protect all of the beneficial uses of a water resource. For example, the Regional Water Boards require surface waters to comply with aquatic life protective criteria for metals where these criteria are more stringent than MCLs. Agricultural use protective limits for several constituents, including chloride, are more stringent than MCLs, indicating that agricultural use may be impaired at lower concentrations. Several chemicals cause water to taste or smell bad at concentrations far lower than MCLs. The following are taste and odor thresholds and MCLs (in ug/L) for three common gasoline constituents:

	Taste & Odor Threshold	***Primary MCL***
Ethylbenzene	29	700
Toluene	42	150
Xylene(s)	17	1750

Water will be rendered unpalatable and beneficial uses will be impaired at concentrations that are significantly below MCLs.

Again, even though the MCL may be an applicable water quality objective for these waters, it may not be the most relevant numerical water quality limit with which to ascertain compliance with all applicable water quality objectives. As such, MCLs may not be sufficiently protective of the most sensitive beneficial use.

As discussed above, the state's Antidegradation Policy requires water quality limits to be set below beneficial use protective concentrations, toward or equal to background levels, when feasible.

An Example of Beneficial Use Protective Water Quality Limit Selection

Suppose that you are investigating a site where a waste oil tank has leaked into the surrounding soils. Groundwater sampling results indicate that zinc, trichloroethylene (TCE), benzene, and xylene have entered groundwater. You wish to know whether the levels of constituents detected in water samples are of significant concern.

The first step would be to look at the *Water Quality Control Plan* (Basin Plan) for the particular Region in which your site is located. Upon examination of that document, you determine that the beneficial uses designated for groundwater beneath this site are municipal and domestic supply and agricultural supply. No numerical groundwater quality objectives are listed in the Basin Plan for the constituents of concern. However, there are three narrative objectives that appear to be applicable:

- *Chemical Constituents*
  Groundwaters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.
  At a minimum, groundwaters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in Title 22 of the California Code of Regulations.
- *Tastes and Odors*
  Groundwaters shall not contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.
- *Toxicity*
  Groundwaters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial use(s). This objective applies regardless of whether the toxicity is caused by a singled substance or the interactive effect of multiple substances.

Together, these beneficial uses and water quality objectives constitute the *water quality standards* for the chemical constituents in groundwater at the site of your investigation. The next step is to select water quality goals to interpret these narrative objectives. The tables of this *Water Quality Goals* staff report contain an extensive list of such numerical limits.

The chemical constituents objective from the *Basin Plan*, stated above, incorporates by reference California's maximum contaminant levels (MCLs). The Basin Plans do not differentiate between Primary and Secondary MCLs, so both types of limits are applicable. These drinking water standards are:

Zinc	5000 ug/L
TCE	5 ug/L
Benzene	1 ug/L
Xylene	1750 ug/L

[Note that federal MCLs for benzene (5 ug/L) and xylene (10,000 ug/L) are less stringent than California MCLs.]

This objective also prohibits chemical constituents in concentrations that adversely affect beneficial uses. One of the constituents of concern for our site could adversely affect the use of groundwater for agricultural supply. A numerical limit to protect agricultural water use from zinc is 2000 ug/L. Agricultural use protective numerical limits are not available for the organic solvents. Note that this zinc limit is more stringent than the MCL. Agricultural use of water is not necessarily protected by compliance with MCLs alone.

The second water quality objective stated above requires that water not contain substances that could impart objectionable tastes or odors. Taste- and odor-based (organoleptic) levels include:

- California and federal Secondary MCLs;
- California State Action Levels based on taste and odor;
- USEPA National Ambient Water Quality Criteria based on taste & odor or welfare; and
- Other taste and odor thresholds from the scientific and regulatory literature.

For the constituents of concern, taste- and odor- based numerical limits are:

Zinc	5000 ug/L
TCE	310 ug/L
Benzene	170 ug/L
Xylene	17 ug/L

Note that xylene can make water taste or smell bad at a concentration that is over 100-fold lower than the health-based MCL. [The proposed USEPA Secondary MCL for xylene, at 20 ug/L, was rounded from and is slightly higher than the taste and odor threshold. However, it is only a proposed value.]

The toxicity objective, stated above, prohibits toxic chemicals in water in toxic amounts. Human health-based limits that are derived for drinking water exposures are relevant to the waste oil tank leak situation because humans could experience toxic effects if the chemicals of concern were present in groundwater used for municipal and domestic supply. Health-based National Ambient Water Quality Criteria from USEPA are not relevant, because those limits assume that exposure also occurs through ingestion of contaminated fish and shellfish, not present in groundwater.

Relevant health-based limits for zinc include:

USEPA IRIS Reference Dose	2100 ug/L
USEPA Health Advisory	2000 ug/L

IRIS values are usually preferred over health advisories, because they are intended to reflect USEPA's most recent health risk information. In this case, the health advisory was derived from the IRIS reference dose by rounding to one significant figure.

Health-based limits for TCE include:

Primary MCL	5	ug/L
California Public Health Goal	0.8	ug/L
Cal/EPA Cancer Potency Factor	2.3	ug/L
USEPA Health Advisory - cancer	3	ug/L
NAS cancer risk level	1.5	ug/L
Proposition 65 regulatory level	25	ug/L

The MCL is not purely health protective because it was based on quantitation limits using older analytical methods. The Proposition 65 regulatory level is based on the less-appropriate 10^{-5} cancer risk level. All of the remaining limits are based on a 10^{-6} cancer risk level. According to the hierarchy of health-based criteria agreed upon by staff of the Water Boards, DTSC and OEHHA, discussed above, the California-derived limits (the PHG and the Cal/EPA cancer potency factor) are preferred over federal limits for use in California. Both California limits assume exposure through inhalation caused by in-home water use in addition to direct ingestion of water. Both of these limits are from OEHHA, but the PHG is a more recent criterion. If the two California limits were not available, the NAS criterion, from *Drinking Water and Health*, is far older than the USEPA Health Advisory, and was "based on limited evidence" (as indicated in the footnote in the *Water Quality Goals* tables).

Relevant health-based values for benzene include:

California Primary MCL	1	ug/L
USEPA Primary MCL	5	ug/L
Draft Calif. Public Health Goal	0.14	ug/L
10-day USEPA Health Advisory	200	ug/L
Cal/EPA Cancer Potency Factor	0.35	ug/L
IRIS Cancer Potency Factor	1	ug/L
USEPA Health Advisory – cancer	1	ug/L
Proposition 65 regulatory level	3.5	ug/L

The USEPA MCL is not purely health protective because it was based on quantitation limits using older

analytical methods. The Proposition 65 regulatory level is based on the less-appropriate 10^{-5} cancer risk level. The 10-day health advisory does not protect against cancer and other health effects associated with potential long-term water use and is, therefore, not relevant to protecting a groundwater resource for existing and future beneficial use. The California MCL may not be purely health protective by comparison to the remaining health-based limits. Of the remaining limits, the PHG is the most recent California-derived value; however, it has not yet been adopted in final form. The Cal/EPA cancer potency factor is the only other California agency derived limit that is based entirely on health effects.

Health-based limits for xylene include:

California Primary MCL	1750 ug/L
USEPA Primary MCL	10,000 ug/L
USEPA MCL Goal	10,000 ug/L
California Public Health Goal	1800 ug/L
USEPA IRIS Reference Dose	14,000 ug/L
USEPA Health Advisory	10,000 ug/L

The California derived limits (MCL and PHG) are virtually identical and are significantly more stringent than any of the USEPA criteria. It is plausible that the reference dose was rounded to one significant figure to derive the remaining USEPA limits.

In summary, appropriate health-based numerical water quality limits for use in interpreting the toxicity objective for the constituents of concern at our site are:

Zinc	2100	ug/L	USEPA IRIS RfD
TCE	0.8	ug/L	Calif. Public Health Goal
Benzene	0.35	ug/L	Cal/EPA Cancer Potency
Xylene	1750	ug/L	California Primary MCL

So far, we have selected water quality goals to interpret each of the applicable narrative water quality objectives for each constituent of concern (in ug/L).

CoC	*Water Quality Objective*	*Goal*
Zinc	Chemical Constituents (MCL)	5000
	Chemical Constituents (Ag use)	2000
	Taste and Odor	5000
	Toxicity	2100
TCE	Chemical Constituents (MCL)	5
	Taste and Odor	310
	Toxicity	0.8
Benzene	Chemical Constituents (MCL)	1
	Taste and Odor	170
	Toxicity	0.35
Xylene	Chemical Constituents (MCL)	1750
	Taste and Odor	17
	Toxicity	1750

The most limiting of these goals for each constituent would ensure compliance with all water quality objectives and should protect all beneficial uses. Therefore, the beneficial use protective water quality limits for the constituents of concern at our leaking waste oil tank site are:

Zinc	2000	ug/L	Agricultural Use Limit
TCE	0.8	ug/L	Calif. Public Health Goal
Benzene	0.35	ug/L	Cal/EPA Cancer Potency
Xylene(s)	17	ug/L	Taste & Odor Threshold

Measured concentrations in groundwater which exceed these limits would be considered to violate applicable water quality standards.

The reader is cautioned that these values would apply to groundwater at the hypothetical site in this example, and not necessarily to water bodies in other locations. Water resources at other sites may have different beneficial use designations and water quality objectives.

In the above example, the solvents are not normally found in groundwater. So aquifer-specific background levels are not relevant to beneficial use protection. Where background concentrations (out of the influence of waste management activities at the site) are higher than the limits selected to ascertain compliance with all applicable water quality objectives, the Regional Water Board would not normally require the site owner or operator to improve upon such background conditions. In such cases, the background concentrations are considered to comply with the applicable water quality numerical limits.

In addition, strict application of California's Antidegradation Policy would require that background levels of chemicals in groundwater ("zero" for anthropogenic substances, such as solvents, at most sites) be selected as appropriate water quality limits if some water quality degradation is not found to be consistent with the requirements of that policy, as discussed above. Cleanup of groundwater to meet background levels would be required unless attaining such levels is

determined to be infeasible. If cleanup levels higher than background are selected, those levels may not exceed applicable water quality standards, i.e., they should not exceed the beneficial use protective water quality limits, as selected above.

Additive Toxicity Criterion for Multiple Constituents

When multiple constituents have been found in groundwater or surface waters, their combined toxicity should be evaluated. In the absence of scientifically valid data to the contrary, Section 2550.4(g) of the Chapter 15, Article 5 regulations, which is referenced in the State Water Board's *Site Investigation and Cleanup Policy*, requires that theoretical risks from chemicals found together in a water body "shall be considered additive for all chemicals having similar toxicologic effects or having carcinogenic effects." Some *Water Quality Control Plans* also require that combined toxicological effects be considered in this manner. This requirement is also found in the California hazardous waste management regulations [Title 22 of CCR, Section 66264.94(f)], and in the USEPA Risk Assessment Guidance for Superfund (RAGS).

The commonly used toxicologic formula for assessing additive risk is:

$$\sum_{i=1}^{n} \frac{[\text{Concentration of Constituent}]_i}{[\text{Toxicologic Limit in Water}]_i} < 1.0$$

The concentration of each constituent is divided by its toxicologic limit. The resulting ratios are added for constituents having similar toxicologic effects and, separately, for carcinogens. If such a sum of ratios is less than one, no additive toxicity problem is assumed to exist. If the summation is equal to or greater than one, the combination of chemicals is assumed to present an unacceptable level of health risk.

For our leaking waste oil tank example discussed above, monitoring shows that groundwater quality beneath the site has been degraded by four constituents of concern in the following concentrations:

Zinc	1300	ug/L
TCE	0.6	ug/L
Benzene	0.3	ug/L
Xylene	9	ug/L

None of these concentrations exceeds beneficial use protective water quality limits.

However, two of these constituents, TCE and benzene, are associated with cancer risk. The Public Health Goal for TCE was established at the one-in-a-million incremental cancer risk level. A one-in-a-million incremental cancer risk level may also be calculated from the Cal/EPA cancer potency factor. These cancer-based health limits are:

TCE	0.8	ug/L
Benzene	0.35	ug/L

Individually, no chemical exceeds its toxicologic limit. However, an additive cancer risk calculation shows:

$$\frac{0.6}{0.8} + \frac{0.3}{0.35} = 1.6$$

The sum of the ratios is greater than unity (>1.0); therefore, the additive toxicity criterion has been violated. The chemicals together present an unacceptable level of toxicity—in this case, cancer risk.

Cleanup Levels in Water

If contaminants are found to impair or threaten the beneficial uses of groundwater or surface water resources, cleanup levels in water must be chosen. To satisfy State Water Board Resolution No. 92-49, *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304*, the *Antidegradation Policy*, and Section 2550.4 of Title 23 of CCR, cleanup levels for constituents in water are to be chosen at or below applicable water quality standards. Water quality numerical limits, selected using the procedures discussed above, may be used to determine that remaining constituents do not exceed these standards. In addition, such cleanup levels must also:

- not result in excessive exposure to sensitive biological receptors;
- not pose a substantial present or potential hazard to human health or the environment;
- not exceed the maximum concentration allowable under applicable statutes or regulations; and
- be the lowest concentration for each individual constituent that is technologically and economically achievable, toward background levels.

Conventional health and ecological risk assessment procedures can be used to satisfy the first and second

of these additional requirements. Feasibility studies provide information that can be used to satisfy the last requirement.

Conclusion and Status

This staff report has been developed to provide a uniform method and a convenient source of numerical limits for consistently determining compliance with California's water quality standards. It is referenced for this use in both *Water Quality Control Plans* for the Central Valley Region.

This report has been used by the State Water Board and the other Regional Water Boards as a reference for selecting numerical water quality limits. This report has also been referenced in the *Water Quality Control Plan* for the San Francisco Bay Region.

A Compilation of Water Quality Goals will be updated and expanded to account for newly developed numerical water quality information, as needed and as Regional Board staff resources are made available for that effort.

Glossary

Beneficial Use Protective Water Quality Limit — The most limiting relevant numerical water quality limit for a constituent or parameter of concern in a specific body of groundwater or surface water at a specific site. This limit is chosen to determine compliance with all applicable water quality objectives for the protection of designated beneficial uses. The beneficial use protective water quality limit is selected from among applicable numerical water quality objectives and water quality goals used to interpret narrative water quality objectives. In no case is this limit more stringent than the true background concentration of the constituent of concern.

Beneficial Uses — Uses of surface water and groundwater that must be protected against water quality degradation. Beneficial uses are established in the *Water Quality Control Plans*. See *Water Quality Standards*.

Water Quality Criteria — Numerical or narrative limits for constituents or characteristics of water designed to protect specific designated uses of the water under the authority of the federal Clean Water Act. California's water quality criteria are called "water quality objectives." See *Water Quality Standards*.

Water Quality Goal — A numerical water quality limit from the literature used to interpret an applicable narrative water quality objective from a *Water Quality Control Plan*.

Water Quality Objectives — Numerical or narrative limits for constituents or characteristics of water designed to protect specific designated uses of the water under the authority of the California Porter-Cologne Water Quality Control Act. Water quality objectives are established by the State Water Resources Control Board and the nine Regional Water Quality Control Boards in *Water Quality Control Plans*. See *Water Quality Standards*.

Water Quality Standards — Pursuant to the federal Clean Water Act, a combination of the designated beneficial uses of water and criteria (or water quality objectives) to protect those uses. In California, beneficial uses and water quality objectives are adopted by the State Water Resources Control Board and nine Regional Water Quality Control Boards in *Water Quality Control Plans*. *Water Quality Control Plans* adopted by the Regional Water Boards are also called *Basin Plans*. These Plans establish enforceable limits for bodies of surface water and groundwater.

Cross Reference of Chemical Names

CROSS REFERENCE OF CHEMICAL NAMES

CONSTITUENT	Category	See Listing(s) Under:	CAS No.
A 2-AAF	Organic	2-Acetylaminofluorene	53-96-3
A-alpha-C	Organic	A-alpha-C	26148-68-5
Aatrex	Organic	Atrazine	1912-24-9
Abamectin	Organic	Avermectin B1	65195-55-3
Acenaphthene	Organic	Acenaphthene	83-32-9
Acenaphthylene	Organic	Acenaphthylene	208-96-8
Acephate	Organic	Acephate	30560-19-1
Acetaldehyde	Organic	Acetaldehyde	75-07-0
Acetaldehyde methylformylhydrazone	Organic	Gyromitrin	16568-02-8
Acetamide	Organic	Acetamide	60-35-5
2-Acetaminofluorene	Organic	2-Acetylaminofluorene	53-96-3
Acetic acid	Organic	Acetic acid	64-19-7
Acetic acid amide	Organic	Acetamide	60-35-5
Acetochlor	Organic	Acetochlor	34256-82-1
Acetone	Organic	Acetone	67-64-1
Acetonitrile	Organic	Acetonitrile	75-05-8
Acetophenone	Organic	Acetophenone	98-86-2
2-Acetylaminofluorene	Organic	2-Acetylaminofluorene	53-96-3
Acetylene	Organic	Acetylene	74-86-2
Acifluorfen	Organic	Acifluorfen	62476-59-9
Acrolein	Organic	Acrolein	107-02-8
Acrylamide	Organic	Acrylamide	79-06-1
Acrylic acid	Organic	Acrylic acid	79-10-7
Acrylonitrile	Organic	Acrylonitrile	107-13-1
Actinomycin D	Organic	Actinomycin D	50-76-0
Advantage	Organic	Carbosulfan	55285-14-8
AF-2	Organic	AF-2	3688-53-7
Aflatoxins	Organic	Aflatoxins	1402-68-2
Ag	Inorganic	Silver	7440-22-4
Al	Inorganic	Aluminum	7429-90-5
Alachlor	Organic	Alachlor	15972-60-8
Alanex	Organic	Alachlor	15972-60-8
Alanine nitrogen mustard	Organic	Melphalan	148-82-3
Alar	Organic	Daminozide	1596-84-5
Aldicarb	Organic	Aldicarb	116-06-3
Aldicarb sulfone	Organic	Aldicarb sulfone	1646-88-4
Aldicarb sulfoxide	Organic	Aldicarb sulfoxide	
Aldrin	Organic	Aldrin	309-00-2
Aldrosol	Organic	Aldrin	309-00-2
Aliette	Organic	Fosetyl-al	39148-24-8
Alkalinity	Inorganic	Alkalinity	
Alkeran	Organic	Melphalan	148-82-3
Ally	Organic	Ally	74223-64-6
Allyl alcohol	Organic	Allyl alcohol	107-18-6
Allyl chloride	Organic	3-Chloropropene	107-05-1
4-Allyl-1,2-methylenedioxybenzene	Organic	Safrole	94-59-7
Allyl trichloride	Organic	1,2,3-Trichloropropane	96-18-4
Alochlor	Organic	Alachlor	15972-60-8
Altrad	Organic	Estradiol 17B	50-28-2
Aluminum	Inorganic	Aluminum	7429-90-5
Aluminum phosphide	Inorganic	Aluminum phosphide	20859-73-8
Amber	Organic	Triasulfuron	82097-50-5
Amdro	Organic	Amdro	67485-29-4
Ametrex	Organic	Ametryn	834-12-8
Ametryn	Organic	Ametryn	834-12-8
Ametycine	Organic	Mitomycin C	50-07-7
Amiben	Organic	Chloramben	133-90-4
o-Aminoanisole hydrochloride	Organic	o-Anisidine hydrochloride	134-29-2
o-Amino-anisole	Organic	o-Anisidine	90-04-0
2-Aminoanthraquinone	Organic	2-Aminoanthraquinone	117-79-3
o-Aminoazotoluene	Organic	o-Aminoazotoluene	97-56-3
Aminobenzene	Organic	Aniline	62-53-3
4-Aminobiphenyl	Organic	4-Aminobiphenyl	92-67-1
1-Aminobutane	Organic	n-Butylamine	109-73-9
2-Amino-alpha-carboline	Organic	A-alpha-C	26148-68-5
1-Amino-4-chlorobenzene	Organic	p-Chloroaniline	106-47-8
Aminocyclohexane	Organic	Cyclohexylamine	108-91-8
4'-Amino-2,3-dimethylazobenzene	Organic	o-Aminoazotoluene	97-56-3
Amino-2,4-dimethylbenzene	Organic	2,4-Xylidine	1300-73-8
Amino-2,6-dimethylbenzene	Organic	2,6-Xylidine	87-62-7
4-Aminodiphenyl	Organic	4-Aminobiphenyl	92-67-1
Aminoethane	Organic	Ethylamine	75-04-7
2-Aminoethanol	Organic	Ethanolamine	141-43-5
3-Amino-9-ethylcarbazole hydrochloride	Organic	3-Amino-9-ethylcarbazole hydrochloride	6109-97-3
Aminomethane	Organic	Methylamine	74-89-5
1-Amino-2-methylanthraquinone	Organic	1-Amino-2-methylanthraquinone	82-28-0
2-Amino-6-methyldipyrido[1,2-a:3',2'-d]-imidazole	Organic	Glu-P-1	67730-11-4
2-Amino-3-methylimidazo[4,5-f]quinoline	Organic	IQ	76180-96-6
2-Amino-3-methyl-9H-pyrido-[2,3-b]indole	Organic	Me-A-alpha-C	68006-83-7
2-Aminonaphthalene	Organic	2-Methyl-1-nitroanthraquinone	129-15-7
2-Amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole	Organic	2-Amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole	712-68-5

CROSS REFERENCE OF CHEMICAL NAMES

	CONSTITUENT	Category	See Listing(s) Under:	CAS No.
A	2-Aminopropane	Organic	Isopropylamine	75-31-0
	2-Aminopyrido[1,2-a:3',2'-d]-imidazole	Organic	Glu-P-2	67730-10-3
	2-Amino-9H-pyrido(2,3-b)indole	Organic	A-alpha-C	26148-68-5
	2-Aminotoluene	Organic	o-Toluidine	95-53-4
	2-Aminotoluene hydrochloride	Organic	o-Toluidine hydrochloride	636-21-5
	3-Amino-1,2,4-triazole	Organic	Amitrole	61-82-5
	Amitraz	Organic	Amitraz	33089-61-1
	Amitrole	Organic	Amitrole	61-82-5
	Ammonia	Inorganic	Ammonia	7664-41-7
	Ammonium (NH_4^+)	Inorganic	Ammonia	7664-41-7
	Ammonium nitroso-beta-phenylhydroxylamine	Organic	Cupferron	135-20-6
	Ammonium sulfamate	Inorganic	Ammonium sulfamate	7773-06-0
	n-Amyl acetate	Organic	n-Amyl acetate	628-63-7
	Amyl aldehyde	Organic	n-Valeraldehyde	110-62-3
	Aniline	Organic	Aniline	62-53-3
	o-Anisidine	Organic	o-Anisidine	90-04-0
	o-Anisidine hydrochloride	Organic	o-Anisidine hydrochloride	134-29-2
	Antergon	Organic	Maleic hydrazide	123-33-1
	Anthracene	Organic	Anthracene	120-12-7
	Antimony	Inorganic	Antimony	7440-36-0
	Antioxyne B	Organic	Butylated hydroxyanisole	25013-16-5
	Apollo	Organic	Apollo	74115-24-5
	Aquacide	Organic	Diquat	85-00-7
	Aracide	Organic	Aramite	140-57-8
	Aramite	Organic	Aramite	140-57-8
	Arilate	Organic	Benomyl	17804-35-2
	Arsenic	Inorganic	Arsenic	7440-38-2
	Arsine	Inorganic	Arsine	7784-42-1
	As	Inorganic	Arsenic	7440-38-2
	Asbestos	Inorganic	Asbestos	1332-21-4
	AsH_3	Inorganic	Arsine	7784-42-1
	Assure	Organic	Assure	76578-14-8
	Asulam	Organic	Asulam	3337-71-1
	Atranex	Organic	Atrazine	1912-24-9
	Atrazine	Organic	Atrazine	1912-24-9
	Auramine	Organic	Auramine	492-80-8
	Avenge	Organic	Difenzoquat	43222-48-6
	Avermectin B1	Organic	Avermectin B1	65195-55-3
	Azaserine	Organic	Azaserine	115-02-6
	Azathioprine	Organic	Azathioprine	446-86-6
	Azide, sodium	Inorganic	Sodium azide	26628-22-8
	Azimethiphos	Organic	Cyromazine	66215-27-8
	Azinone	Organic	Norflurazon	27314-13-2
	Azinphos-methyl	Organic	Azinphos-methyl	86-50-0
	Aziridine	Organic	Ethyleneimine	151-56-4
	Azoamine scarlet	Organic	5-Nitro-o-anisidine	99-59-2
	Azobenzene	Organic	Azobenzene	103-33-3
B	B	Inorganic	Boron	7440-42-8
	Ba	Inorganic	Barium	7440-39-3
	Balan	Organic	Benefin	1861-40-1
	Banner	Organic	Propiconazole	60207-90-1
	Banvel	Organic	Dicamba	1918-00-9
	BaP	Organic	Benzo(a)pyrene	50-32-8
	Baridol	Organic	Estradiol 17B	50-28-2
	Barium	Inorganic	Barium	7440-39-3
	Basagran	Organic	Bentazon	25057-89-0
	Basic lead acetate	Organic	Lead subacetate	1335-32-6
	Basic parafuchsine	Organic	C. I. Basic Red 9 monohydrochloride	569-61-9
	Basta	Organic	Glufosinate-ammonium	77182-82-2
	Basudin	Organic	Diazinon	333-41-5
	Baygon	Organic	Baygon	114-26-1
	Bayleton	Organic	Bayleton	43121-43-3
	Baythroid	Organic	Baythroid	68359-37-5
	BCEE	Organic	Bis(2-chloroethyl) ether	111-44-4
	BCIE	Organic	Bis(2-chloroisopropyl) ether	39638-32-9
	BCME	Organic	Bis(chloromethyl) ether	542-88-1
	BDCM	Organic	Bromodichloromethane	75-27-4
	Be	Inorganic	Beryllium	7440-41-7
	Benefin	Organic	Benefin	1861-40-1
	Benfluralin	Organic	Benefin	1861-40-1
	Benlate	Organic	Benomyl	17804-35-2
	Benomyl	Organic	Benomyl	17804-35-2
	Bensylyte	Organic	Phenoxybenzamine	59-96-1
	Bentazon	Organic	Bentazon	25057-89-0
	Benthiocarb	Organic	Thiobencarb	28249-77-6
	Benzaldehyde	Organic	Benzaldehyde	100-52-7
	Benzamine	Organic	Aniline	62-53-3
	Benz(a)anthracene	Organic	Benz(a)anthracene	56-55-3
	1,2-Benzanthracene	Organic	Benz(a)anthracene	56-55-3
	Benzene	Organic	Benzene	71-43-2

CROSS REFERENCE OF CHEMICAL NAMES

	CONSTITUENT	Category	See Listing(s) Under:	CAS No.
B	alpha-Benzene hexachloride	Organic	alpha-BHC	319-84-6
	beta-Benzene hexachloride	Organic	beta-BHC	319-85-7
	gamma-Benzene hexachloride	Organic	gamma-BHC (Lindane)	58-89-9
	delta-Benzene hexachloride	Organic	delta-BHC	319-86-8
	technical-Benzene hexachloride	Organic	technical-BHC	608-73-1
	Benzenes, chlorinated	Organic	Chlorinated benzenes	68411-45-0
			Chlorobenzene	108-90-7
			1,2-Dichlorobenzene	95-50-1
			1,3-Dichlorobenzene	541-73-1
			1,4-Dichlorobenzene	106-46-7
			Dichlorobenzenes	25321-22-6
			Hexachlorobenzene	118-74-1
			Pentachlorobenzene	608-93-5
			1,2,4,5-Tetrachlorobenzene	95-94-3
			1,2,4-Trichlorobenzene	120-82-1
			1,3,5-Trichlorobenzene	108-70-3
			Trichlorobenzenes	12002-48-1
	Benzenes, dichloro-	Organic	1,2-Dichlorobenzene	95-50-1
			1,3-Dichlorobenzene	541-73-1
			1,4-Dichlorobenzene	106-46-7
			Dichlorobenzenes	25321-22-6
	Benzenes, trichloro-	Organic	1,2,4-Trichlorobenzene	120-82-1
			1,3,5-Trichlorobenzene	108-70-3
			Trichlorobenzenes	12002-48-1
	Benzidine	Organic	Benzidine	92-87-5
	Benzo(a)anthracene	Organic	Benz(a)anthracene	56-55-3
	1,3-Benzodioxole	Organic	Dihydrosafrole	94-58-6
	10,11-Benzofluoranthene	Organic	Benzo(j)fluoranthene	205-82-3
	3,4-Benzofluoranthene	Organic	Benzo(b)fluoranthene	205-99-2
	8,9-Benzofluoranthene	Organic	Benzo(k)fluoranthene	207-08-9
	Benzo(b)fluoranthene	Organic	Benzo(b)fluoranthene	205-99-2
	Benzo(j)fluoranthene	Organic	Benzo(j)fluoranthene	205-82-3
	Benzo(k)fluoranthene	Organic	Benzo(k)fluoranthene	207-08-9
	Benzofuran	Organic	Benzofuran	271-89-6
	Benzoic adic	Organic	Benzoic adic	65-85-0
	Benzo(g,h,i)perylene	Organic	Benzo(g,h,i)perylene	191-24-2
	1,12-Benzoperylene	Organic	Benzo(g,h,i)perylene	191-24-2
	Benzo(a)pyrene	Organic	Benzo(a)pyrene	50-32-8
	3,4-Benzopyrene	Organic	Benzo(a)pyrene	50-32-8
	1,4-Benzoquinone	Organic	Quinone	106-51-4
	Benzotrichloride	Organic	Benzotrichloride	98-07-7
	Benzyl butyl phthalate	Organic	n-Butyl benzyl phthalate	85-68-7
	Benzyl chloride	Organic	Benzyl chloride	100-44-7
	Benzyl violet 4B	Organic	Benzyl violet 4B	1694-09-3
	Beryllium	Inorganic	Beryllium	7440-41-7
	Beryllium oxide	Inorganic	Beryllium oxide	1304-56-9
	Beryllium sulfate	Inorganic	Beryllium sulfate	13510-49-1
	Betanal	Organic	Phenmedipham	13684-63-4
	BHA	Organic	Butylated hydroxyanisole	25013-16-5
	alpha-BHC	Organic	alpha-BHC	319-84-6
	beta-BHC	Organic	beta-BHC	319-85-7
	gamma-BHC	Organic	gamma-BHC (Lindane)	58-89-9
	delta-BHC	Organic	delta-BHC	319-86-8
	technical-BHC	Organic	technical-BHC	608-73-1
	Bidrin	Organic	Bidrin	141-66-2
	Biofurcina	Organic	Nitrofurazone	59-87-0
	Biphenthrin	Organic	Biphenthrin	82657-04-3
	1,1-Biphenyl	Organic	1,1-Biphenyl	92-52-4
	4-Biphenylamine	Organic	4-Aminobiphenyl	92-67-1
	Bis(4-aminophenyl)ether	Organic	4,4'-Diaminodiphenyl ether	101-80-4
	Bis-butyl phthalate	Organic	Dibutyl phthalate	84-74-2
	Bis(2-chloroethoxy) methane	Organic	Bis(2-chloroethoxy) methane	111-91-1
	Bis(2-chloroethyl) ether	Organic	Bis(2-chloroethyl) ether	111-44-4
	Bis(2-chloroisopropyl) ether	Organic	Bis(2-chloroisopropyl) ether	39638-32-9
	Bis(chloromethyl) ether	Organic	Bis(chloromethyl) ether	542-88-1
	Bis(2-chloro-1-methylethyl) ether	Organic	Bis(2-chloroisopropyl) ether	39638-32-9
	Bisclofentezine	Organic	Apollo	74115-24-5
	bis(p-(Dimethylanino)phenyl)methane	Organic	4,4'-Methylenebis(N,N-dimethyl)aniline	101-61-1
	Bis(2-ethylhexyl) phthalate	Organic	Di(2-ethylhexyl)phthalate	117-81-7
	Bis-ethyl phthalate	Organic	Diethyl phthalate	84-66-2
	Bis(4-hydroxyphenyl)propane	Organic	Bisphenol A	80-05-7
	Bis-methyl phthalate	Organic	Dimethyl phthalate	131-11-3
	Bis-n-octyl phthalate	Organic	Di(n-octyl) phthalate	117-84-0
	Bis(pentabromophenyl) ether	Organic	Decabromodiphenyl ether	1163-19-5
	Bisphenol A	Organic	Bisphenol A	80-05-7
	Bivinyl	Organic	1,3-Butadiene	106-99-0
	BLA	Organic	Lead subacetate	1335-32-6
	Bladex	Organic	Cyanazine	21725-46-2
	Blazer	Organic	Acifluorfen	62476-59-9
	Bolero	Organic	Thiobencarb	28249-77-6
	Boron	Inorganic	Boron	7440-42-8

CROSS REFERENCE OF CHEMICAL NAMES

	CONSTITUENT	Category	See Listing(s) Under:	CAS No.
B	BPBG	Organic	Butylphthalyl butylglycolate	85-70-1
	Br	Inorganic	Bromide	
	Bravo	Organic	Chlorothalonil	1897-45-6
	Brigade	Organic	Biphenthrin	82657-04-3
	Bromacil	Organic	Bromacil	314-40-9
	Bromate	Inorganic	Bromate	15541-45-4
	Bromide	Inorganic	Bromide	
	Bromine	Inorganic	Bromine	7726-95-6
	Bromine cyanide	Inorganic	Cyanogen bromide	506-68-3
	Bromoacetic acid	Organic	Bromoacetic acid	79-08-3
	Bromobenzene	Organic	Bromobenzene	108-86-1
	Bromochloromethane	Organic	Bromochloromethane	74-97-5
	2-Bromo-2-chloro-1,1,1-trifluoroethane	Organic	Halothane	151-67-7
	Bromodichloromethane	Organic	Bromodichloromethane	75-27-4
	p-Bromodiphenyl ether	Organic	4-Bromophenyl phenyl ether	101-55-3
	Bromoethane	Organic	Ethyl bromide	74-96-4
	Bromoethene	Organic	Vinyl bromide	593-60-2
	Bromoethylene	Organic	Vinyl bromide	593-60-2
	Bromoform	Organic	Bromoform	75-25-2
	Bromomethane	Organic	Bromomethane	74-83-9
	4-Bromophenyl phenyl ether	Organic	4-Bromophenyl phenyl ether	101-55-3
	Bromoxynil	Organic	Bromoxynil	1689-84-5
	Bromoxynil octanoate	Organic	Bromoxynil octanoate	1689-99-2
	BTS 40542	Organic	Prochloraz	67747-09-5
	Butachlor	Organic	Butachlor	23184-66-9
	1,3-Butadiene	Organic	1,3-Butadiene	106-99-0
	Butane	Organic	Butane	106-97-8
	Butanedioic acid mono(2,2-dimethyl hydrazide)	Organic	Daminozide	1596-84-5
	1-Butanethiol	Organic	n-Butyl mercaptan	109-79-5
	Butanex	Organic	Butachlor	23184-66-9
	2-Butanol	Organic	sec-Butyl alcohol	78-92-2
	n-Butanol	Organic	n-Butanol	71-36-3
	sec-Butanol	Organic	sec-Butyl alcohol	78-92-2
	t-Butanol	Organic	tert-Butyl alcohol	75-65-0
	2-Butanone	Organic	Methyl ethyl ketone	78-93-3
	2-Butenal	Organic	trans-Crotonaldehyde	4170-30-3
	Butiphos	Organic	Merphos oxide	78-48-8
	n-Butylbenzene	Organic	n-Butylbenzene	104-51-8
	2-Butoxy ethanol	Organic	Ethylene glycol monobutyl ether	111-76-2
	Butter yellow	Organic	4-Dimethylaminoazobenzene	60-11-7
	n-Butyl acetate	Organic	n-Butyl acetate	123-86-4
	n-Butyl acrylate	Organic	n-Butyl acrylate	141-32-2
	n-Butyl alcohol	Organic	n-Butanol	71-36-3
	sec-Butyl alcohol	Organic	sec-Butyl alcohol	78-92-2
	t-Butyl alcohol	Organic	tert-Butyl alcohol	75-65-0
	tert-Butyl alcohol	Organic	tert-Butyl alcohol	75-65-0
	n-Butylamine	Organic	n-Butylamine	109-73-9
	Butylate	Organic	Butylate	2008-41-5
	Butylated hydroxyanisole	Organic	Butylated hydroxyanisole	25013-16-5
	n-Butyl benzyl phthalate	Organic	n-Butyl benzyl phthalate	85-68-7
	Butyl glycolyl butyl phthalate	Organic	Butylphthalyl butylglycolate	85-70-1
	n-Butyl lactate	Organic	n-Butyl lactate	138-22-7
	n-Butyl mercaptan	Organic	n-Butyl mercaptan	109-79-5
	2-P(butylphenoxy)-1-methylethyl-2-chloroethyl sulfite	Organic	Aramite	140-57-8
	Butylphthalyl butylglycolate	Organic	Butylphthalyl butylglycolate	85-70-1
	p-tert-Butyltoluene	Organic	p-tert-Butyltoluene	98-51-1
	beta-Butyrolactone	Organic	beta-Butyrolactone	96-48-0
C	Cadmium	Inorganic	Cadmium	7440-43-9
	2-Camphanone	Organic	Camphor	464-49-3
	Camphechlor	Organic	Toxaphene	8001-35-2
	Camphor	Organic	Camphor	464-49-3
	Campogran	Organic	Fumecyclox	60568-05-0
	Caprolactam	Organic	Caprolactam	105-60-2
	Captafol	Organic	Captafol	2425061
	Captan	Organic	Captan	133-06-2
	Carbaryl	Organic	Carbaryl	63-25-2
	Carbathiin	Organic	Carboxin	5234-68-4
	Carbofuran	Organic	Carbofuran	1563-66-2
	Carbon bisulfide	Inorganic	Carbon disulfide	75-15-0
	Carbon disulfide	Inorganic	Carbon disulfide	75-15-0
	Carbon tetrachloride	Organic	Carbon tetrachloride	56-23-5
	Carbophenothion	Organic	Trithion	786-19-6
	Carbosulfan	Organic	Carbosulfan	55285-14-8
	Carboxin	Organic	Carboxin	5234-68-4
	Carboxine	Organic	Carboxin	5234-68-4
	Carboxybenzene	Organic	Benzoic adic	65-85-0
	Catechol	Organic	Catechol	120-80-9
	Cd	Inorganic	Cadmium	7440-43-9
	CDEC	Organic	Sulfallate	95-06-7
	Celphos	Inorganic	Aluminum phosphide	20859-73-8

CROSS REFERENCE OF CHEMICAL NAMES

CONSTITUENT	Category	See Listing(s) Under:	CAS No.
Chemform	Organic	Maleic hydrazide	123-33-1
Chloral	Organic	Chloral	75-87-6
Chloral hydrate	Organic	Chloral hydrate	302-17-0
Chloramben	Organic	Chloramben	133-90-4
Chlorambucil	Organic	Chlorambucil	305-03-3
Chloramine	Inorganic	Chloramine	127-65-1
Chlorate	Inorganic	Chlorate	
Chlordan	Organic	Chlordane	57-74-9
Chlordane	Organic	Chlordane	57-74-9
Chlordecone	Organic	Kepone	143-50-0
Chlordimeform	Organic	Chlordimeform	6164-98-3
Chlorendic acid	Organic	Chlorendic acid	115-28-6
Chloride	Inorganic	Chloride	16887-00-6
Chlorimuron-ethyl	Organic	Chlorimuron-ethyl	90982-32-4
Chlorinated paraffins	Organic	Chlorinated paraffins	
Chlorinated benzenes	Organic	Chlorinated benzenes	68411-45-0
		Chlorobenzene	108-90-7
		1,2-Dichlorobenzene	95-50-1
		1,3-Dichlorobenzene	541-73-1
		1,4-Dichlorobenzene	106-46-7
		Dichlorobenzenes	25321-22-6
		Hexachlorobenzene	118-74-1
		Pentachlorobenzene	608-93-5
		1,2,4,5-Tetrachlorobenzene	95-94-3
		1,2,4-Trichlorobenzene	120-82-1
		1,3,5-Trichlorobenzene	108-70-3
		Trichlorobenzenes	12002-48-1
Chlorinated naphthalenes	Organic	Chlorinated naphthalenes	25586-43-0
		2-Chloronaphthalene	91587
Chlorinated paraffins	Organic	Chlorinated paraffins	
Chlorinated phenols	Organic	Chlorinated phenols	
		4-Chloro-m-cresol	59-50-7
		4-Chloro-o-cresol	1570-64-5
		6-Chloro-m-cresol	
		2-Chlorophenol	95-57-8
		3-Chlorophenol	108-43-0
		4-Chlorophenol	106-48-9
		2,3-Dichlorophenol	576-24-9
		2,4-Dichlorophenol	120-83-2
		2,5-Dichlorophenol	583-78-8
		2,6-Dichlorophenol	87-65-0
		3,4-Dichlorophenol	95-77-2
		Pentachlorophenol	87-86-5
		2,3,4,6-Tetrachlorophenol	58-90-2
		2,3,5,6-Tetrachlorophenol	935-95-5
		2,4,5-Trichlorophenol	95-95-4
		2,4,6-Trichlorophenol	88-06-2
Chlorinated waxes	Organic	Chlorinated paraffins	
Chlorine	Inorganic	Chlorine	7782-50-5
Chlorine cyanide	Inorganic	Cyanogen chloride	506-77-4
Chlorine dioxide	Inorganic	Chlorine dioxide	10049-04-4
Chlorite	Inorganic	Chlorite	7758-19-2
Chloroacetic acid	Organic	Chloroacetic acid	79-11-8
Chloroalkyl ethers	Organic	Bis(2-chloroethyl) ether	111-91-1
		Bis(2-chloroisopropyl) ether	111-44-4
		Bis(chloromethyl) ether	39638-32-9
		Chloroalkyl ethers	
		Chloromethyl methyl ether	107-30-2
2-Chloroallyl-diethyldithiocarbamate	Organic	Sulfallate	95-06-7
p-Chloroaniline	Organic	p-Chloroaniline	106-47-8
Chlorobenzene	Organic	Chlorobenzene	108-90-7
Chlorobenzilate	Organic	Ethyl-4,4'-dichlorobenzilate	510-15-6
Chlorobromomethane	Organic	Bromochloromethane	74-97-5
2-Chlorobutadiene-1,3	Organic	beta-Chloroprene	
Chlorocamphene	Organic	Toxaphene	8001-35-2
4-Chloro-m-cresol	Organic	4-Chloro-m-cresol	59-50-7
4-Chloro-o-cresol	Organic	4-Chloro-o-cresol	1570-64-5
6-Chloro-m-cresol	Organic	6-Chloro-m-cresol	
p-Chloro-m-cresol	Organic	4-Chloro-m-cresol	59-50-7
p-Chloro-o-cresol	Organic	4-Chloro-o-cresol	1570-64-5
1-Chloro-3,4-diaminobenzene	Organic	4-Chloro-o-phenylenediamine	95-83-0
Chlorodibromomethane	Organic	Dibromochloromethane	124-48-1
1-Chloro-2,3-epoxypropane	Organic	Epichlorohydrin	106-89-8
Chloroethane	Organic	Chloroethane	75-00-3
Chloroethene	Organic	Vinyl chloride	75-01-4
Chloroethylaminobenzeneacetate	Organic	Phenesterin	3546109
Chloroethylene	Organic	Vinyl chloride	75-01-4
2-Chloroethylphosphonic acid	Organic	Ethephon	16672-87-0
Chloroform	Organic	Chloroform	67-66-3
Chlorofos	Organic	Trichlorfon	52-68-6
Chloro-IPC	Organic	Chlorpropham	101-21-3

CROSS REFERENCE OF CHEMICAL NAMES

CONSTITUENT	Category	See Listing(s) Under:	CAS No.
1-Chloroisobutene	Organic	Dimethylvinylchloride	513-37-1
3-Chloroisobutylene	Organic	3-Chloro-2-methylpropene	563-47-3
Chloromethane	Organic	Chloromethane	74-87-3
Chloromethoxymethane	Organic	Chloromethyl methyl ether	107-30-2
Chloromethyl ether	Organic	Bis(chloromethyl) ether	542-88-1
Chloromethyl methyl ether	Organic	Chloromethyl methyl ether	107-30-2
4-Chloro-2-methylphenol	Organic	4-Chloro-o-cresol	1570-64-5
4-Chloro-3-methylphenol	Organic	4-Chloro-m-cresol	59-50-7
6-Chloro-3-methylphenol	Organic	6-Chloro-m-cresol	
1-Chloro-2-methylpropene	Organic	Dimethylvinylchloride	513-37-1
3-Chloro-2-methylpropene	Organic	3-Chloro-2-methylpropene	563-47-3
2-Chloronaphthalene	Organic	2-Chloronaphthalene	91587
beta-Chloronaphthalene	Organic	2-Chloronaphthalene	91587
2-Chlorophenol	Organic	2-Chlorophenol	95-57-8
3-Chlorophenol	Organic	3-Chlorophenol	108-43-0
4-Chlorophenol	Organic	4-Chlorophenol	106-48-9
m-Chlorophenol	Organic	3-Chlorophenol	108-43-0
o-Chlorophenol	Organic	2-Chlorophenol	95-57-8
p-Chlorophenol	Organic	4-Chlorophenol	106-48-9
4-Chloro-o-phenylenediamine	Organic	4-Chloro-o-phenylenediamine	95-83-0
Chlorophenylmethane	Organic	Benzyl chloride	100-44-7
Chloropicrin	Organic	Chloropicrin	76-06-2
beta-Chloroprene	Organic	beta-Chloroprene	
3-Chloropropene	Organic	3-Chloropropene	107-05-1
Chloropropylene	Organic	Epichlorohydrin	106-89-8
Chlorothalonil	Organic	Chlorothalonil	1897-45-6
2-Chlorotoluene	Organic	2-Chlorotoluene	95-49-8
4-Chlorotoluene	Organic	4-Chlorotoluene	106-43-4
alpha-Chlorotoluene	Organic	Benzyl chloride	100-44-7
o-Chlorotoluene	Organic	2-Chlorotoluene	95-49-8
p-Chlorotoluene	Organic	4-Chlorotoluene	106-43-4
p-Chloro-o-toluidine	Organic	p-Chloro-o-toluidine	95-69-2
Chlorozotocin	Organic	Chlorozotocin	54749-90-5
Chlorpropham	Organic	Chlorpropham	101-21-3
Chlorpyrifos	Organic	Chlorpyrifos	2921-88-2
Chlorsulfuron	Organic	Chlorsulfuron	64902-72-3
Chromium (III)	Inorganic	Chromium (III)	16065-83-1
Chromium (VI)	Inorganic	Chromium (VI)	7440-47-3
Chromium, hexavalent	Inorganic	Chromium (VI)	7440-47-3
Chromium (total)	Inorganic	Chromium (total)	7440-47-3
Chromium, trivalent	Inorganic	Chromium (III)	16065-83-1
Chrysanthemumic acid	Organic	Dimethrin	70-38-2
Chrysazin	Organic	Dantron	117-10-2
Chrysene	Organic	Chrysene	218-01-9
C. I. Basic Red 9 monohydrochloride	Organic	C. I. Basic Red 9 monohydrochloride	569-61-9
C.I. disperse orange 11	Organic	1-Amino-2-methylanthraquinone	82-28-0
Cinnamyl anthranilate	Organic	Cinnamyl anthranilate	87-29-6
CIPC	Organic	Chlorpropham	101-21-3
Cl^-	Inorganic	Chloride	16887-00-6
Cl_2	Inorganic	Chlorine	7782-50-5
ClO_2	Inorganic	Chlorine dioxide	10049-04-4
ClO_2^-	Inorganic	Chlorite	7758-19-2
ClO_3^-	Inorganic	Chlorate	
ClO_4^-	Inorganic	Perchlorate	
Clofentezine	Organic	Apollo	74115-24-5
CMME	Organic	Chloromethyl methyl ether	107-30-2
CN^-	Inorganic	Cyanide	57-12-5
Co	Inorganic	Cobalt	7440-48-4
Cobalt	Inorganic	Cobalt	7440-48-4
Cobra	Organic	Lactofen	77501-63-4
Color	Inorganic	Color	
Conductivity	Inorganic	Specific conductance (EC)	
Contraven	Organic	Terbufos	13071-79-9
Copper	Inorganic	Copper	7440-50-8
Copper cyanide	Inorganic	Copper cyanide	544-92-3
Corrosivity	Inorganic	Corrosivity	
Cotoron	Organic	Fluometuron	2164-17-2
Cotonex	Organic	Fluometuron	2164-17-2
Coumadin	Organic	Warfarin	81-81-2
Coumafen	Organic	Warfarin	81-81-2
Counter	Organic	Terbufos	13071-79-9
Coxistat	Organic	Nitrofurazone	59-87-0
Cr	Inorganic	Chromium (total)	7440-47-3
Cr (III)	Inorganic	Chromium (III)	16065-83-1
Cr (VI)	Inorganic	Chromium (VI)	7440-47-3
p-Cresidine	Organic	p-Cresidine	120-71-8
m-Cresol	Organic	m-Cresol	108-39-4
o-Cresol	Organic	o-Cresol	95-48-7
p-Cresol	Organic	p-Cresol	106-44-5
Crisazina	Organic	Atrazine	1912-24-9
Crisuron	Organic	Diuron	330-54-1

CROSS REFERENCE OF CHEMICAL NAMES

	CONSTITUENT	Category	See Listing(s) Under:	CAS No.
C	Crotaline	Organic	Monocrotaline	315-22-0
	trans-Crotonaldehyde	Organic	trans-Crotonaldehyde	4170-30-3
	CS_2	Inorganic	Carbon disulfide	75-15-0
	Cu	Inorganic	Copper	7440-50-8
	Cumene	Organic	Cumene	98-82-8
	Cupferron	Organic	Cupferron	135-20-6
	Cupricin	Inorganic	Copper cyanide	544-92-3
	Cuprous cyanide	Inorganic	Copper cyanide	544-92-3
	Cutlass	Organic	Flurprimidol	56425-91-3
	Cyanazine	Organic	Cyanazine	21725-46-2
	Cyanide	Inorganic	Cyanide	57-12-5
	Cyanide, copper	Inorganic	Copper cyanide	544-92-3
	Cyanide, potassium	Inorganic	Potassium cyanide	151-50-8
	Cyanide, silver	Inorganic	Silver cyanide	506-64-9
	Cyanide, sodium	Inorganic	Sodium cyanide	143-33-9
	Cyanide, zinc	Inorganic	Zinc cyanide	557-21-1
	Cyanoethylene	Organic	Acrylonitrile	107-13-1
	Cyanogen	Organic	Cyanogen	460-19-5
	Cyanogen bromide	Inorganic	Cyanogen bromide	506-68-3
	Cyanogen chloride	Inorganic	Cyanogen chloride	506-77-4
	Cyanomethane	Organic	Acetonitrile	75-05-8
	2-Cyanopropene	Organic	Methacrylonitrile	126-98-7
	Cyclohexane	Organic	Cyclohexane	110-82-7
	Cyclohexanol	Organic	Cyclohexanol	108-93-0
	Cyclohexanone	Organic	Cyclohexanone	108-94-1
	Cyclohexene	Organic	Cyclohexene	110-83-8
	Cyclohexylamine	Organic	Cyclohexylamine	108-91-8
	Cyclonite	Organic	RDX (Cyclonite)	121-82-4
	Cyclopentadiene	Organic	Cyclopentadiene	542-92-7
	Cyclophosphamide	Organic	Cyclophosphamide	50-18-0
	Cyclotetramethylene tetranitramine	Organic	HMX	2691-41-0
	Cyfluthrin	Organic	Baythroid	68359-37-5
	Cygon	Organic	Dimethoate	60-51-5
	Cyhalothrin	Organic	Cyhalothrin	68085-85-8
	Cypermethrin	Organic	Cypermethrin	52315-07-8
	Cyromazine	Organic	Cyromazine	66215-27-8
	Cythion	Organic	Malathion	121-75-5
D	2,4-D	Organic	2,4-D	94-75-7
	Dacarbazine	Organic	Dacarbazine	4342034
	Daconil	Organic	Chlorothalonil	1897-45-6
	Dacthal (DCPA)	Organic	Dacthal (DCPA)	1861-32-1
	Dactinomycin	Organic	Actinomycin D	50-76-0
	Dalapon	Organic	Dalapon	75-99-0
	Daminozide	Organic	Daminozide	1596-84-5
	Danitol	Organic	Danitol	39515-41-8
	Dantron	Organic	Dantron	117-10-2
	Dazide	Organic	Daminozide	1596-84-5
	DBCP	Organic	Dibromochloropropane (DBCP)	96-12-8
	DBDPE	Organic	Decabromodiphenyl ether	1163-19-5
	DBNA	Organic	N-Nitrosodi-n-butylamine	924-16-3
	2,4-D butyric acid	Organic	4-(2,4-Dichlorophenoxy)butyric acid	94-82-6
	1,1-DCA	Organic	1,1-Dichloroethane	75-34-3
	1,2-DCA	Organic	1,2-Dichloroethane	107-06-2
	DCB	Organic	3,3'-Dichlorobenzidine	91-94-1
	o-DCB	Organic	1,2-Dichlorobenzene	95-50-1
	p-DCB	Organic	1,4-Dichlorobenzene	106-46-7
	1,1-DCE	Organic	1,1-Dichloroethylene	75-35-4
	cis-1,2-DCE	Organic	cis-1,2-Dichloroethylene	156-59-2
	trans-1,2-DCE	Organic	trans-1,2-Dichloroethylene	156-60-5
	DCPA	Organic	Dacthal (DCPA)	1861-32-1
	D&C Red No. 5	Organic	Ponceau MC	3761-53-3
	D&C Red No. 9	Organic	D&C Red No. 9	2092-56-0
	D-D Mixture	Organic	1,2-Dichloropropane	78-87-5
			1,3-Dichloropropene	542-75-6
	DDD	Organic	DDD	72-54-8
	4,4'-DDD	Organic	DDD	72-54-8
	DDE	Organic	DDE	72-55-9
	4,4'-DDE	Organic	DDE	72-55-9
	DDT	Organic	DDT	50-29-3
	4,4'-DDT	Organic	DDT	50-29-3
	DDVP	Organic	Dichlorvos	62-73-7
	DEA	Organic	Diethanolamine	111-42-2
	Decabromodiphenyl ether	Organic	Decabromodiphenyl ether	1163-19-5
	Dechlorane	Organic	Mirex	2385-85-5
	De-Fend	Organic	Dimethoate	60-51-5
	DEHP	Organic	Di(2-ethylhexyl)phthalate	117-81-7
	Demeton	Organic	Demeton	8065-48-3
	DEN	Organic	N-Nitrosodiethylamine	55-18-5
	Dermofural	Organic	Nitrofurazone	59-87-0
	DES	Organic	Diethylstilbestrol	56-53-1

CROSS REFERENCE OF CHEMICAL NAMES

CONSTITUENT	Category	See Listing(s) Under:	CAS No.
Devrinol	Organic	Napropamide	15299-99-7
DGRE	Organic	Diglycidyl resorcinol ether	101-90-6
Diacetone alcohol	Organic	Diacetone alcohol	123-42-2
Dialon	Organic	Diuron	330-54-1
Diamine	Inorganic	Hydrazine	302-01-2
2,4-Diaminoanisole	Organic	2,4-Diaminoanisole	615-05-4
2,4-Diaminoanisole sulfate	Organic	2,4-Diaminoanisole sulfate	39156-41-7
1,3-Diaminobenzene	Organic	m-Phenylenediamine	108-45-2
4,4'-Diaminodiphenyl ether	Organic	4,4'-Diaminodiphenyl ether	101-80-4
p-Diaminodiphenyl	Organic	Benzidine	92-87-5
1,2-Diaminoethane	Organic	Ethylenediamine	107-15-3
2,6-Diamino-3-phenylazopyridine	Organic	Phenazopyridine	94-78-0
2,6-Diamino-3-phenylazopyridine hydrochloride	Organic	Phenazopyridine hydrochloride	136-40-3
2,4-Diaminotoluene	Organic	2,4-Diaminotoluene	95-80-7
o-Dianisidine dihydrochloride	Organic	3,3'-Dimethoxybenzidine hydrochloride	20325-40-0
o-Dianisidine	Organic	3,3'-Dimethoxybenzidine	119-90-4
Diazine blue	Organic	Direct Blue 6	2602-46-2
Diazinon	Organic	Diazinon	333-41-5
Diazobenzene	Organic	Azathioprine	446-86-6
Dibenz(a,h)acridine	Organic	Dibenz(a,h)acridine	226-36-8
Dibenz(a,j)acridine	Organic	Dibenz(a,j)acridine	224-42-0
1,2;5,6-Dibenzanthracene	Organic	Dibenz(a,h)anthracene	53-70-3
Dibenz(a,h)anthracene	Organic	Dibenz(a,h)anthracene	53-70-3
Dibenzo(a,h)anthracene	Organic	Dibenz(a,h)anthracene	53-70-3
7H-Dibenzo(c,g)carbazole	Organic	7H-Dibenzo(c,g)carbazole	194-59-2
Dibenzo(a,e)pyrene	Organic	Dibenzo(a,e)pyrene	192-65-4
Dibenzo(a,h)pyrene	Organic	Dibenzo(a,h)pyrene	189-64-0
Dibenzo(a,i)pyrene	Organic	Dibenzo(a,i)pyrene	189-55-9
Dibenzo(a,l)pyrene	Organic	Dibenzo(a,l)pyrene	191-30-0
Dibenzyline hydrochloride	Organic	Phenoxybenzamine hydrochloride	63-92-3
Dibrom	Organic	Naled	300-76-5
Dibromoacetic acid	Organic	Dibromoacetic acid	
Dibromoacetonitrile	Organic	Dibromoacetonitrile	3252-43-5
1,4-Dibromobenzene	Organic	1,4-Dibromobenzene	106-37-6
Dibromochloromethane	Organic	Dibromochloromethane	124-48-1
Dibromochloropropane (DBCP)	Organic	Dibromochloropropane (DBCP)	96-12-8
1,2-Dibromo-3-chloropropane	Organic	Dibromochloropropane (DBCP)	96-12-8
2,6-Dibromo-4-cyanophenol	Organic	Bromoxynil	1689-84-5
1,2-Dibromoethane	Organic	1,2-Dibromoethane	106-93-4
3,5-Dibromo-4-hydroxybenzonitrile	Organic	Bromoxynil	1689-84-5
Dibutylnitrosamine	Organic	N-Nitrosodi-n-butylamine	924-16-3
Dibutyl phthalate	Organic	Dibutyl phthalate	84-74-2
Di-n-butylphthalate	Organic	Dibutyl phthalate	84-74-2
Dicamba	Organic	Dicamba	1918-00-9
Dichloroacetic acid	Organic	Dichloroacetic acid	79-43-6
Dichloroacetonitrile	Organic	Dichloroacetonitrile	3018-12-0
1,2-Dichlorobenzene	Organic	1,2-Dichlorobenzene	95-50-1
1,3-Dichlorobenzene	Organic	1,3-Dichlorobenzene	541-73-1
1,4-Dichlorobenzene	Organic	1,4-Dichlorobenzene	106-46-7
m-Dichlorobenzene	Organic	1,3-Dichlorobenzene	541-73-1
o-Dichlorobenzene	Organic	1,2-Dichlorobenzene	95-50-1
p-Dichlorobenzene	Organic	1,4-Dichlorobenzene	106-46-7
Dichlorobenzenes	Organic	1,2-Dichlorobenzene	95-50-1
		1,3-Dichlorobenzene	541-73-1
		1,4-Dichlorobenzene	106-46-7
		Dichlorobenzenes	26321-22-6
3,3'-Dichlorobenzidine	Organic	3,3'-Dichlorobenzidine	91-94-1
Dichlorobromomethane	Organic	Bromodichloromethane	75-27-4
1,1-Dichloro-2,2-bis(p-chlorophenyl)ethane	Organic	DDD	72-54-8
2,2'-Dichlorodiethyl ether	Organic	Bis(2-chloroethyl) ether	111-44-4
Dichlorodiethyl formal	Organic	Bis(2-chloroethoxy) methane	111-91-1
Dichlorodifluoromethane	Organic	Dichlorodifluoromethane	75-71-8
Dichlorodimethyl ether	Organic	Bis(chloromethyl) ether	542-88-1
Dichlorodimethylvinylphosphate	Organic	Dichlorvos	62-73-7
Dichlorodiphenyldichloroethane	Organic	DDD	72-54-8
Dichlorodiphenyldichloroethylene	Organic	DDE	72-55-9
Dichlorodiphenyltrichloroethane	Organic	DDT	50-29-3
1,1-Dichloroethane	Organic	1,1-Dichloroethane	75-34-3
1,2-Dichloroethane	Organic	1,2-Dichloroethane	107-06-2
1,1-Dichloroethene	Organic	1,1-Dichloroethylene	75-35-4
cis-1,2-Dichloroethene	Organic	cis-1,2-Dichloroethylene	156-59-2
trans-1,2-Dichloroethene	Organic	trans-1,2-Dichloroethylene	156-60-5
Dichloroethenes	Organic	1,1-Dichloroethylene	75-35-4
		cis-1,2-Dichloroethylene	156-59-2
		trans-1,2-Dichloroethylene	156-60-5
		Dichloroethylenes	
Dichloroethyl formal	Organic	Bis(2-chloroethoxy) methane	111-91-1
1,1-Dichloroethylene	Organic	1,1-Dichloroethylene	75-35-4
cis-1,2-Dichloroethylene	Organic	cis-1,2-Dichloroethylene	156-59-2
trans-1,2-Dichloroethylene	Organic	trans-1,2-Dichloroethylene	156-60-5

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CONSTITUENT	Category	See Listing(s) Under:	CAS No.
Dichloroethylenes	Organic	1,1-Dichloroethylene	75-35-4
		cis-1,2-Dichloroethylene	156-59-2
		trans-1,2-Dichloroethylene	156-60-5
		Dichloroethylenes	
symmetical-Dichloroethyl ether	Organic	Bis(2-chloroethyl) ether	111-44-4
Dichloromethane	Organic	Dichloromethane	75-09-2
2,4-Dichloro-1-(4-nitrophenoxy)benzene	Organic	Nitrofen	1836-75-5
2,3-Dichlorophenol	Organic	2,3-Dichlorophenol	576-24-9
2,4-Dichlorophenol	Organic	2,4-Dichlorophenol	120-83-2
2,5-Dichlorophenol	Organic	2,5-Dichlorophenol	583-78-8
2,6-Dichlorophenol	Organic	2,6-Dichlorophenol	87-65-0
3,4-Dichlorophenol	Organic	3,4-Dichlorophenol	95-77-2
2,4-Dichlorophenoxyacetic acid	Organic	2,4-D	94-75-7
4-(2,4-Dichlorophenoxy)butyric acid	Organic	4-(2,4-Dichlorophenoxy)butyric acid	94-82-6
1,2-Dichloropropane	Organic	1,2-Dichloropropane	78-87-5
Dichloropropanes	Organic	1,2-Dichloropropane	78-87-5
		Dichloropropanes	26638-19-7
1,3-Dichloropropene	Organic	1,3-Dichloropropene	542-75-6
Dichloropropenes	Organic	1,3-Dichloropropene	542-75-6
		Dichloropropenes	
2,2-Dichloropropionic acid	Organic	Dalapon	75-99-0
1,3-Dichloropropylene	Organic	1,3-Dichloropropene	542-75-6
Dichlorvos	Organic	Dichlorvos	62-73-7
Dicrotophos	Organic	Bidrin	141-66-2
Dieldrin	Organic	Dieldrin	60-57-1
Diesel Oil	Organic	Diesel Oil	68476-34-6
Diethanolamine	Organic	Diethanolamine	111-42-2
Diethanolnitrosamine	Organic	N-Nitrosodiethanolamine	1116-54-7
Diethion	Organic	Ethion	563-12-2
Diethylamine	Organic	Diethylamine	109-89-7
Diethyldithiocarbamate, sodium	Organic	Sodium diethyldithiocarbamate	148-18-5
Diethylene ether	Organic	1,4-Dioxane	123-91-1
Di(2-ethylhexyl) adipate	Organic	Di(2-ethylhexyl) adipate	103-23-1
Di(2-ethylhexyl)phthalate	Organic	Di(2-ethylhexyl)phthalate	117-81-7
Diethyl ketone	Organic	Diethyl ketone	96-22-0
Diethylnitrosamine	Organic	N-Nitrosodiethylamine	55-18-5
Diethyl phthalate	Organic	Diethyl phthalate	84-66-2
Diethylstilbestrol	Organic	Diethylstilbestrol	56-53-1
Diethyl sulfate	Organic	Diethyl sulfate	64-67-5
Difenzoquat	Organic	Difenzoquat	43222-48-6
Diflubenzuron	Organic	Diflubenzuron	35367-38-5
Difluorodichloromethane	Organic	Dichlorodifluoromethane	75-71-8
Difolatan	Organic	Captafol	2425061
Difonate	Organic	Fonofos	944-22-9
Diglycidyl resorcinol ether	Organic	Diglycidyl resorcinol ether	101-90-6
1,2-Dihydroacenaphthylene	Organic	Acenaphthene	83-32-9
Dihydrosafrole	Organic	Dihydrosafrole	94-58-6
1,8-Dihydroxyanthraquinone	Organic	Dantron	117-10-2
Diisobutyl ketone	Organic	Diisobutyl ketone	108-83-8
Diisocyanatotoluene	Organic	Toluene diisocyanate	26471-62-5
Diisopropylamine	Organic	Diisopropylamine	108-18-9
Di-Isopropyl ether	Organic	Isopropyl ether	108-20-3
Diisopropyl methyl phosphonate	Organic	Diisopropyl methyl phosphonate	1445-75-6
1,4:5,8-Dimethanonaphthalene	Organic	Aldrin	309-00-2
Dimethipin	Organic	Dimethipin	55290-64-7
Dimethoate	Organic	Dimethoate	60-51-5
3,3'-Dimethoxybenzidine	Organic	3,3'-Dimethoxybenzidine	119-90-4
3,3'-Dimethoxybenzidine hydrochloride	Organic	3,3'-Dimethoxybenzidine hydrochloride	20325-40-0
Dimethrin	Organic	Dimethrin	70-38-2
Dimethylamine	Organic	Dimethylamine	124-40-3
4-Dimethylaminoazobenzene	Organic	4-Dimethylaminoazobenzene	60-11-7
4,4-Dimethylaminobenzo-phenonimide	Organic	Auramine	492-80-8
trans-2-[(Dimethylamino)methylimino]-5-[2-(5-nitro-2-furyl)vinyl]-1,3,4-oxadiazole	Organic	trans-2-[(Dimethylamino)methylimino]-5-[2-(5-nitro-2-furyl)vinyl]-1,3,4-oxadiazole	55738-54-0
2,4-Dimethylaniline	Organic	2,4-Xylidine	1300-73-8
2,6-Dimethylaniline	Organic	2,6-Xylidine	87-62-7
N,N-Dimethylaniline	Organic	N,N-Dimethylaniline	121-69-7
7,12-Dimethylbenz(a)anthracene	Organic	7,12-Dimethylbenz(a)anthracene	57-97-6
3,3'-Dimethylbenzidine	Organic	3,3'-Dimethylbenzidine	119-93-7
3,3'-Dimethylbenzidine dihydrochloride	Organic	3,3'-Dimethylbenzidine dihydrochloride	612-82-8
2,4-Dimethylbenzylester	Organic	Dimethrin	70-38-2
Dimethylcarbamoyl chloride	Organic	Dimethylcarbamoyl chloride	79-44-7
Dimethylcarbamyl chloride	Organic	Dimethylcarbamoyl chloride	79-44-7
N,N-Dimethylformamide	Organic	N,N-Dimethylformamide	68-12-2
2,6-Dimethyl-4-heptanone	Organic	Diisobutyl ketone	108-83-8
1,1-Dimethylhydrazine	Organic	1,1-Dimethylhydrazine	57-14-7
1,2-Dimethylhydrazine	Organic	1,2-Dimethylhydrazine	540-73-8
symmetrical-Dimethylhydrazine	Organic	1,2-Dimethylhydrazine	540-73-8
unsymmetrical-Dimethylhydrazine	Organic	1,1-Dimethylhydrazine	57-14-7
Dimethylketone	Organic	Acetone	67-64-1
Dimethyl methyl phosphonate	Organic	Dimethyl methyl phosphonate	
Dimethylnitrosamine	Organic	N-Nitrosodimethylamine	62-75-9

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CONSTITUENT	Category	See Listing(s) Under:	CAS No.
2,4-Dimethylphenol	Organic	2,4-Dimethylphenol	105-67-9
2,6-Dimethylphenol	Organic	2,6-Dimethylphenol	576-26-1
3,4-Dimethylphenol	Organic	3,4-Dimethylphenol	95-65-8
Dimethyl phthalate	Organic	Dimethyl phthalate	131-11-3
Dimethyl p-phthalate	Organic	Dimethyl terephthalate	120-61-6
Dimethyl sulfate	Organic	Dimethyl sulfate	77-78-1
Dimethyl terephthalate	Organic	Dimethyl terephthalate	120-61-6
Dimethylvinylchloride	Organic	Dimethylvinylchloride	513-37-1
DIMP	Organic	Diisopropyl methyl phosphonate	1445-75-6
1,3-Dinitrobenzene	Organic	1,3-Dinitrobenzene	99-65-0
m-Dinitrobenzene	Organic	1,3-Dinitrobenzene	99-65-0
4,6-Dinitro-o-cresol	Organic	4,6-Dinitro-o-cresol	534-52-1
4,6-Dinitro-o-cyclohexyl phenol	Organic	4,6-Dinitro-o-cyclohexyl phenol	131-89-5
4,6-Dinitro-2-methylphenol	Organic	4,6-Dinitro-o-cresol	534-52-1
2,4-Dinitrophenol	Organic	2,4-Dinitrophenol	51-28-5
Dinitrophenols	Organic	4,6-Dinitro-o-cresol	534-52-1
		4,6-Dinitro-o-cyclohexyl phenol	131-89-5
		2,4-Dinitrophenol	51-28-5
		Dinitrophenols	25550-58-7
1,6-Dinitropyrene	Organic	1,6-Dinitropyrene	42397-64-8
1,8-Dinitropyrene	Organic	1,8-Dinitropyrene	42397-65-9
2,4-Dinitrotoluene	Organic	2,4-Dinitrotoluene	121-14-2
2,6-Dinitrotoluene	Organic	2,6-Dinitrotoluene	606-20-2
Dinitrotoluenes	Organic	2,4-Dinitrotoluene	121-14-2
		2,6-Dinitrotoluene	606-20-2
		Dinitrotoluenes	25321-14-6
Dinoseb	Organic	Dinoseb	88-85-7
Di(n-octyl) phthalate	Organic	Di(n-octyl) phthalate	117-84-0
1,4-Dioxane	Organic	1,4-Dioxane	123-91-1
p-Dioxane	Organic	1,4-Dioxane	123-91-1
Dioxin	Organic	2,3,7,8-TCDD (Dioxin)	1746-01-6
DIPE	Organic	Isopropyl ether	108-20-3
Diphenamid(e)	Organic	Diphenamid(e)	957-51-7
Diphenamide	Organic	Diphenamid(e)	957-51-7
Diphenyl	Organic	1,1-Biphenyl	92-52-4
Diphenylamine	Organic	Diphenylamine	122-39-4
Diphenyldiazene	Organic	Azathioprine	446-86-6
Diphenyldiimide	Organic	Azathioprine	446-86-6
Diphenyldiimide	Organic	Azobenzene	103-33-3
Diphenyl ether	Organic	Phenyl ether	101-84-8
1,2-Diphenylhydrazine	Organic	1,2-Diphenylhydrazine	122-66-7
Diphenylnitrosamine	Organic	N-Nitrosodiphenylamine	86-30-6
		p-Nitrosodiphenylamine	156-10-5
Dipropylnitrosamine	Organic	N-Nitrosodipropylamine	621-64-7
Dipterex	Organic	Trichlorfon	52-68-6
Diquat	Organic	Diquat	85-00-7
Direct Black 38	Organic	Direct Black 38	1937-37-7
Direct Blue 6	Organic	Direct Blue 6	2602-46-2
Direct Brown 95	Organic	Direct Brown 95	16071-86-6
Direct Brown BR	Organic	m-Phenylenediamine	108-45-2
Direct Brown GG	Organic	m-Phenylenediamine	108-45-2
Diridone	Organic	Phenazopyridine	94-78-0
Disperse Blue 1	Organic	Disperse Blue 1	2475-45-8
Dissolved Oxygen	Inorganic	Oxygen, dissolved	7782447
Disulfoton	Organic	Disyston	298-04-4
Disyston	Organic	Disyston	298-04-4
Dithane M-22	Organic	Maneb	12427-38-2
Dithane Z-78	Organic	Zineb	12122-67-7
1,4-Dithiane	Organic	1,4-Dithiane	505-29-3
Dithiocarb	Organic	Sodium diethyldithiocarbamate	148-18-5
Diuron	Organic	Diuron	330-54-1
Divinyl	Organic	1,3-Butadiene	106-99-0
DMA	Organic	Dimethylamine	124-40-3
DMBA	Organic	7,12-Dimethylbenz(a)anthracene	57-97-6
DMF	Organic	N,N-Dimethylformamide	68-12-2
DMNA	Organic	N-Nitrosodimethylamine	62-75-9
2,4-DMP	Organic	2,4-Dimethylphenol	105-67-9
DMT	Organic	Dimethyl terephthalate	120-61-6
DNBP	Organic	Dinoseb	88-85-7
DNOHP	Organic	4,6-Dinitro-o-cyclohexyl phenol	131-89-5
DO	Inorganic	Oxygen, dissolved	7782447
Dodecylguanidine acetate	Organic	Dodine	2439103
Dodine	Organic	Dodine	2439103
Dowpon	Organic	Dalapon	75-99-0
DPNA	Organic	N-Nitrosodipropylamine	621-64-7
DPX 6376	Organic	Ally	74223-64-6
DPX-F5384	Organic	Londax	83055-99-6
DPX-H6573	Organic	NuStar	85509-19-9
DPX-M6316	Organic	Harmony	79277-27-3
DPX-Y5893	Organic	Savey	78587-05-0
Dual	Organic	Metolachlor	51218-45-2

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	CONSTITUENT	Category	See Listing(s) Under:	CAS No.
D	Dursban	Organic	Chlorpyrifos	2921-88-2
	Dyfonate	Organic	Fonofos	944-22-9
	Dyphonate	Organic	Fonofos	944-22-9
E	EAK	Organic	Ethyl n-amyl ketone	106-68-3
	EC	Inorganic	Specific conductance (EC)	
	EDB	Organic	1,2-Dibromoethane	106-93-4
	EGBE	Organic	Ethylene glycol monobutyl ether	111-76-2
	EL-107	Organic	Isoxaben	82558-50-7
	Electrical Conductivity	Inorganic	Specific conductance (EC)	
	Endosulfan	Organic	Endosulfan	115-29-7
	Endosulfan I (alpha)	Organic	Endosulfan	115-29-7
	Endosulfan II (beta)	Organic	Endosulfan	115-29-7
	Endosulfan sulfate	Organic	Endosulfan sulfate	1031-07-8
	Endothal	Organic	Endothal	145-73-3
	Endothall	Organic	Endothal	145-73-3
	Endoxan monohydrate	Organic	Cyclophosphamide	50-18-0
	Endrex	Organic	Endrin	72-20-8
	Endrin	Organic	Endrin	72-20-8
	ENU	Organic	N-Nitroso-N-ethylurea	759-73-9
	EPEG	Organic	Ethylphthalyl ethylglycolate	84-72-0
	Epic 500	Organic	Furmecyclox	60568-05-0
	Epichlorohydrin	Organic	Epichlorohydrin	106-89-8
	EPN	Organic	Ethyl p-nitrophenyl phenylphosphorothioate	2104-64-5
	Epoxyethane	Organic	Ethylene oxide (ETO)	75-21-8
	1,2-Epoxyethylbenzene	Organic	Styrene oxide	96-09-3
	Eptam	Organic	S-Ethyl dipropylthiocarbamate	759-94-4
	EPTC	Organic	S-Ethyl dipropylthiocarbamate	759-94-4
	Estradiol 17B	Organic	Estradiol 17B	50-28-2
	Ethanal	Organic	Acetaldehyde	75-07-0
	Ethanamide	Organic	Acetamide	60-35-5
	Ethane	Organic	Ethane	74-84-0
	Ethanedinitrile	Organic	Cyanogen	460-19-5
	1,2-Ethane diol	Organic	Ethylene glycol	107-21-1
	Ethanethiol	Organic	Ethyl mercaptan	75-08-1
	Ethanol	Organic	Ethanol	64-17-5
	Ethanolamine	Organic	Ethanolamine	141-43-5
	Ethephon	Organic	Ethephon	16672-87-0
	Ethers, chloroalkyl-	Organic	Bis(2-chloroethyl) ether	111-44-4
			Bis(2-chloroisopropyl) ether	39638-32-9
			Bis(chloromethyl) ether	542-88-1
			Chloroalkyl ethers	
			Chloromethyl methyl ether	107-30-2
	Ethers, halo-	Organic	Bis(2-chloroethyl) ether	111-44-4
			Bis(2-chloroisopropyl) ether	39638-32-9
			Bis(chloromethyl) ether	542-88-1
			4-Bromophenyl phenyl ether	101-55-3
			Chloroalkylethers	
			Chloromethyl methyl ether	107-30-2
			Decabromodiphenyl ether	1163-19-5
			Haloethers	
			Octabromodiphenyl ether	32536-52-0
			Pentabromodiphenyl ether	32534-81-9
	Ethion	Organic	Ethion	563-12-2
	2-Ethoxyethanol	Organic	2-Ethoxyethanol	110-80-5
	2-Ethoxyethyl acetate	Organic	2-Ethoxyethyl acetate	111-15-9
	Ethyl acetate	Organic	Ethyl acetate	141-78-6
	Ethyl acetone	Organic	Methyl n-propyl ketone	107-87-9
	Ethyl acrylate	Organic	Ethyl acrylate	140-88-5
	Ethyl alcohol	Organic	Ethanol	64-17-5
	Ethylamine	Organic	Ethylamine	75-04-7
	Ethyl n-amyl ketone	Organic	Ethyl n-amyl ketone	106-68-3
	Ethylbenzene	Organic	Ethylbenzene	100-41-4
	Ethyl bromide	Organic	Ethyl bromide	74-96-4
	Ethyl carbamate	Organic	Urethane	51-79-6
	Ethyl carbethoxymethyl phthalate	Organic	Ethylphthalyl ethylglycolate	84-72-0
	Ethyl chloride	Organic	Chloroethane	75-00-3
	Ethyl-4,4'-dichlorobenzilate	Organic	Ethyl-4,4'-dichlorobenzilate	510-15-6
	S-Ethyl dipropylthiocarbamate	Organic	S-Ethyl dipropylthiocarbamate	759-94-4
	Ethylene	Organic	Ethylene	74-85-1
	Ethylenediamine	Organic	Ethylenediamine	107-15-3
	Ethylene dibromide	Organic	1,2-Dibromoethane	106-93-4
	Ethylene dichloride	Organic	1,2-Dichloroethane	107-06-2
	Ethylene glycol	Organic	Ethylene glycol	107-21-1
	Ethylene glycol butyl ether	Organic	Ethylene glycol monobutyl ether	111-76-2
	Ethylene glycol monobutyl ether	Organic	Ethylene glycol monobutyl ether	111-76-2
	Ethylene glycol monoethyl ether	Organic	2-Ethoxyethanol	110-80-5
	Ethylene glycol monoethyl ether acetate	Organic	2-Ethoxyethyl acetate	111-15-9
	Ethyleneimine	Organic	Ethyleneimine	151-56-4
	Ethylene oxide (ETO)	Organic	Ethylene oxide (ETO)	75-21-8

CROSS REFERENCE OF CHEMICAL NAMES

	CONSTITUENT	Category	See Listing(s) Under:	CAS No.
E	Ethylenes, dichloro-	Organic	1,1-Dichloroethylene	75-35-4
			cis-1,2-Dichloroethylene	156-59-2
			trans-1,2-Dichloroethylene	156-60-5
			Dichloroethylenes	
	Ethylene thiourea (ETU)	Organic	Ethylene thiourea (ETU)	96-45-7
	Ethyl ether	Organic	Ethyl ether	60-29-7
	Ethyl formate	Organic	Ethyl formate	109-94-4
	Ethyl mercaptan	Organic	Ethyl mercaptan	75-08-1
	Ethyl nitrile	Organic	Acetonitrile	75-05-8
	Ethyl p-nitrophenyl phenylphosphorothioate	Organic	Ethyl p-nitrophenyl phenylphosphorothioate	2104-64-5
	Ethylnitrosourea	Organic	N-Nitroso-N-ethylurea	759-73-9
	Ethyl parathion	Organic	Parathion	56-38-2
	Ethylphthalyl ethylglycolate	Organic	Ethylphthalyl ethylglycolate	84-72-0
	Ethylthiodemeton	Organic	Disyston	298-04-4
	Ethyne	Organic	Acetylene	74-86-2
	ETO	Organic	Ethylene oxide (ETO)	75-21-8
	ETU	Organic	Ethylene thiourea (ETU)	96-45-7
	Express	Organic	Express	101200-48-0
F	F-	Inorganic	Fluoride	7782-41-4
	FD&C Red No. 1	Organic	Ponceau 3R	3564098
	Fe	Inorganic	Iron	7439-89-6
	Femogen	Organic	Estradiol 17B	50-28-2
	Fenamiphos	Organic	Fenamiphos	22224-92-6
	Fenpropanate	Organic	Danitol	39515-41-8
	Fenpropathrin	Organic	Danitol	39515-41-8
	Fenvalerate	Organic	Pydrin	51630-58-1
	Ferbam	Organic	Ferbam	14484-64-1
	Fermate	Organic	Ferbam	14484-64-1
	Fluometuron	Organic	Fluometuron	2164-17-2
	Fluoranthene	Organic	Fluoranthene	206-44-0
	Fluorene	Organic	Fluorene	86-73-7
	2-Fluorenylacetamide	Organic	2-Acetylaminofluorene	53-96-3
	Fluoride	Inorganic	Fluoride	7782-41-4
	Fluorine, soluble	Inorganic	Fluoride	7782-41-4
	Fluorotrichloromethane	Organic	Trichlorofluoromethane	75-69-4
	Fluridone	Organic	Fluridone	59756-60-4
	Flurprimidol	Organic	Flurprimidol	56425-91-3
	Flutolanil	Organic	Flutolanil	66332-96-5
	Fluvalinate	Organic	Fluvalinate	69409-94-5
	FNT	Organic	2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole	3570-75-0
	Foaming agents (MBAS)	Organic	Foaming agents (MBAS)	
	Folex 6EC	Organic	Merphos	150-50-5
	Folpan	Organic	Folpet	133-07-3
	Folpet	Organic	Folpet	133-07-3
	Fomesafen	Organic	Fomesafen	72178-02-0
	Fonofos	Organic	Fonofos	944-22-9
	Formaldehyde	Organic	Formaldehyde	50-00-0
	Formic acid	Organic	Formic acid	64-18-6
	2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole	Organic	2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole	3570-75-0
	Fosetyl-al	Organic	Fosetyl-al	39148-24-8
	Fosfamid	Organic	Dimethoate	60-51-5
	Freon 10	Organic	Carbon tetrachloride	56-23-5
	Freon 11	Organic	Trichlorofluoromethane	75-69-4
	Freon 12	Organic	Dichlorodifluoromethane	75-71-8
	Freon 20	Organic	Chloroform	67-66-3
	Freon 113	Organic	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1
	Freon 150	Organic	1,2-Dichloroethane	107-06-2
	Fuel oil #1	Organic	Kerosene	8008-20-6
	Fuel oil #2	Organic	Diesel Oil	68476-34-6
	Furadan	Organic	Carbofuran	1563-66-2
	Furan	Organic	Furan	110-00-9
	Furathiazole	Organic	N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide	531-82-8
	Furfural	Organic	Furfural	98-01-1
	Furfuran	Organic	Furan	110-00-9
	Furidiazine	Organic	2-Amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole	712-68-5
	Furium	Organic	N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide	531-82-8
	Furmecyclox	Organic	Furmecyclox	60568-05-0
	Furmetamide	Organic	Furmecyclox	60568-05-0
	Furylamide	Organic	AF-2	3688-53-7
	2-(2-Furyl)-3-(5-nitro-2-furyl)acrylamide	Organic	AF-2	3688-53-7
G	Gasoline	Organic	Gasoline	8006-61-9
	Genoxal	Organic	Cyclophosphamide	50-18-0
	Gesafram 50	Organic	Prometon	1610-18-0
	Glob-P-2	Organic	A-alpha-C	26148-68-5
	Glucopyranose	Organic	Chlorozotocin	54749-90-5
	Glufosinate-ammonium	Organic	Glufosinate-ammonium	77182-82-2
	Glu-P-1	Organic	Glu-P-1	67730-11-4
	Glu-P-2	Organic	Glu-P-2	67730-10-3
	Glycidaldehyde	Organic	Glycidaldehyde	765-34-4

CROSS REFERENCE OF CHEMICAL NAMES

	CONSTITUENT	Category	See Listing(s) Under:	CAS No.
G	Glycidol	Organic	Glycidol	556-52-5
	Glyphosate	Organic	Glyphosate	1071-83-6
	Glyphosate isopropylamine salt	Organic	Glyphosate	1071-83-6
	Goal	Organic	Oxyfluorfen	42874-03-3
	Graslan	Organic	Tebuthiuron	34014-18-1
	Grease	Organic	Oil & grease	
	Griseofluvin	Organic	Griseofluvin	126-07-8
	Gross Alpha radioactivity	Inorganic	Radioactivity, Gross Alpha	
	Gross Beta radioactivity	Inorganic	Radioactivity, Gross Beta	
	Guthion	Organic	Azinphos-methyl	86-50-0
	Gyromitrin	Organic	Gyromitrin	16568-02-8
H	H_2NNH_2	Inorganic	Hydrazine	302-01-2
	H_2S	Inorganic	Hydrogen sulfide	7783064
	H_2Se	Inorganic	Hydrogen selenide	7783075
	3H	Inorganic	Tritium	10028-17-8
	Haloacetic acids	Organic	Bromoacetic acid	79-08-3
			Chloroacetic acid	79-11-8
			Dibromoacetic acid	
			Dichloroacetic acid	79-43-6
			Trichloroacetic acid	76-03-9
	Haloethers	Organic	Bis(2-chloroethyl) ether	111-44-4
			Bis(2-chloroisopropyl) ether	39638-32-9
			Bis(chloromethyl) ether	542-88-1
			4-Bromophenyl phenyl ether	101-55-3
			Chloroalkylethers	
			Chloromethyl methyl ether	107-30-2
			Decabromodiphenyl ether	1163-19-5
			Haloethers	
			Octabromodiphenyl ether	32536-52-0
			Pentabromodiphenyl ether	32534-81-9
	Halomethanes	Organic	Bromochloromethane	74-97-5
			Bromodichloromethane	75-27-4
			Bromoform	75-25-2
			Bromomethane	74-83-9
			Carbon tetrachloride	56-23-5
			Chloroform	67-66-3
			Chloromethane	74-87-3
			Dibromochloromethane	124-48-1
			Dichlorodifluoromethane	75-71-8
			Dichloromethane	75-09-2
			Halomethanes	
			Iodoform	75-47-8
			Trichlorofluoromethane	75-69-4
	Halothane	Organic	Halothane	151-67-7
	Haloxyfop-methyl	Organic	Haloxyfop-methyl	69806-40-2
	Harmony	Organic	Harmony	79277-27-3
	Harvade	Organic	Dimethipin	55290-64-7
	HCB	Organic	Hexachlorobenzene	118-74-1
	HCBD	Organic	Hexachlorobutadiene	87-68-3
	HC Blue 1	Organic	HC Blue 1	2784-94-3
	HCCPD	Organic	Hexachlorocyclopentadiene	77-47-4
	HCH	Organic	alpha-BHC	319-84-6
			beta-BHC	319-85-7
			gamma-BHC (Lindane)	58-89-9
			delta-BHC	319-86-8
			technical-BHC	608-73-1
	HCN	Inorganic	Cyanide	57-12-5
	Heptachlor	Organic	Heptachlor	76-44-8
	Heptachlor epoxide	Organic	Heptachlor epoxide	1024-57-3
	Heptane	Organic	Heptane	142-82-5
	2-Heptanone	Organic	Methyl n-amyl ketone	110-43-0
	HEX	Organic	Hexachlorocyclopentadiene	77-47-4
	Hexabromobenzene	Organic	Hexabromobenzene	87-82-1
	Hexachlorobenzene	Organic	Hexachlorobenzene	118-74-1
	Hexachlorobutadiene	Organic	Hexachlorobutadiene	87-68-3
	Hexachlorocyclohexane	Organic	alpha-BHC	319-84-6
			beta-BHC	319-85-7
			gamma-BHC (Lindane)	58-89-9
			delta-BHC	319-86-8
			technical-BHC	608-73-1
	Hexachlorocyclopentadiene	Organic	Hexachlorocyclopentadiene	77-47-4
	Hexachlorodibenzo-p-dioxin	Organic	Hexachlorodibenzo-p-dioxin	19408-74-3
	Hexachloroethane	Organic	Hexachloroethane	67-72-1
	Hexachlorophene	Organic	Hexachlorophene	70-30-4
	Hexadrin	Organic	Endrin	72-20-8
	Hexahydro-1,3,5-trinitro-1,3,5-triazine	Organic	RDX (Cyclonite)	121-82-4
	Hexamethylphosphoramide	Organic	Hexamethylphosphoramide	680-31-9
	n-Hexane	Organic	n-Hexane	110-54-3
	2-Hexanone	Organic	Methyl n-butyl ketone	591-78-6
	Hexazinone	Organic	Hexazinone	51235-04-2

CROSS REFERENCE OF CHEMICAL NAMES

	CONSTITUENT	Category	See Listing(s) Under:	CAS No.
H	Hexogen	Organic	RDX (Cyclonite)	121-82-4
	1,6-Hexolactam	Organic	Caprolactam	105-60-2
	Hg	Inorganic	Mercury, inorganic	7439-97-6
	$HgCl_2$	Inorganic	Mercuric chloride	7487-94-7
	HHDN	Organic	Aldrin	309-00-2
	HMX	Organic	HMX	2691-41-0
	Hoe 39866	Organic	Glufosinate-ammonium	77182-82-2
	HxCDD	Organic	Hexachlorodibenzo-p-dioxin	19408-74-3
	Hydrazine	Inorganic	Hydrazine	302-01-2
	Hydrazine sulfate	Inorganic	Hydrazine sulfate	10034-93-2
	Hydrazobenzene	Organic	1,2-Diphenylhydrazine	122-66-7
	Hydrogen cyanide	Inorganic	Cyanide	57-12-5
	Hydrogen phosphide	Inorganic	Phosphine	7803-51-2
	Hydrogen selenide	Inorganic	Hydrogen selenide	7783075
	Hydrogen sulfide	Inorganic	Hydrogen sulfide	7783064
	3-Hydroxybutyric acid	Organic	beta-Butyrolactone	96-48-0
	4-Hydroxy-4-methyl-2-pentanone	Organic	Diacetone alcohol	123-42-2
	Hyvar X or XL	Organic	Bromacil	314-40-9
I	I-	Inorganic	Iodide	
	Imazalil	Organic	Imazalil	35554-44-0
	Imazaquin	Organic	Imazaquin	81335-37-7
	Imidamide	Organic	Amitraz	33089-61-1
	IMPA	Organic	Isopropyl methyl phosphonic acid	1832-54-8
	Indene	Organic	Indene	95-13-6
	Indeno(1,2,3-c,d)pyrene	Organic	Indeno(1,2,3-c,d)pyrene	193-39-5
	IN L5300	Organic	Express	101200-48-0
	Iodide	Inorganic	Iodide	
	Iodoform	Organic	Iodoform	75-47-8
	Iprodione	Organic	Iprodione	36734-19-7
	IQ	Organic	IQ	76180-96-6
	Iron	Inorganic	Iron	7439-89-6
	Isoamyl acetate	Organic	Isoamyl acetate	123-92-2
	Isoamyl alcohol	Organic	Isoamyl alcohol	123-51-3
	Isobutanol	Organic	Isobutyl alcohol	78-83-1
	Isobutyl acetate	Organic	Isobutyl acetate	110-19-0
	Isobutyl alcohol	Organic	Isobutyl alcohol	78-83-1
	Isobutyl carbinol	Organic	Isoamyl alcohol	123-51-3
	Isophorone	Organic	Isophorone	78-59-1
	Isopropalin	Organic	Isopropalin	33820-53-0
	Isopropanol	Organic	Isopropanol	67-63-0
	Isopropyl acetate	Organic	Isopropyl acetate	108-21-4
	Isopropyl alcohol	Organic	Isopropanol	67-63-0
	Isopropylamine	Organic	Isopropylamine	75-31-0
	Isopropyl benzene	Organic	Cumene	98-82-8
	Isopropyl-N-(3-chlorophenyl)carbamate	Organic	Chlorpropham	101-21-3
	Isopropyl ether	Organic	Isopropyl ether	108-20-3
	Isopropyl methylphosphonate	Organic	Isopropyl methylphosphonate	
	Isopropyl methyl phosphonic acid	Organic	Isopropyl methyl phosphonic acid	1832-54-8
	Isoxaben	Organic	Isoxaben	82558-50-7
K	Karate	Organic	Cyhalothrin	68085-85-8
	Kármex	Organic	Diuron	330-54-1
	Kepone	Organic	Kepone	143-50-0
	Kerb	Organic	Pronamide	23950-58-5
	Kerosene	Organic	Kerosene	8008-20-6
	Kerosine	Organic	Kerosene	8008-20-6
L	Lactofen	Organic	Lactofen	77501-63-4
	Lambast	Organic	Butachlor	23184-66-9
	Lanex	Organic	Fluometuron	2164-17-2
	Lannate	Organic	Methomyl	16752-77-5
	Lasiocarpine	Organic	Lasiocarpine	303-34-4
	Lasso	Organic	Alachlor	15972-60-8
	Lead	Inorganic	Lead	7439-92-1
	Lead acetate	Organic	Lead acetate	301-04-2
	Lead subacetate	Organic	Lead subacetate	1335-32-6
	Lead, tetraethyl-	Organic	Tetraethyl lead	78-00-2
	Lindane	Organic	gamma-BHC (Lindane)	58-89-9
	Linuron	Organic	Linuron	330-55-2
	Londax	Organic	Londax	83055-99-6
	Lorsban	Organic	Chlorpyrifos	2921-88-2
M	Malathion	Organic	Malathion	121-75-5
	Maleic anhydride	Organic	Maleic anhydride	108-31-6
	Maleic hydrazide	Organic	Maleic hydrazide	123-33-1
	Maneb	Organic	Maneb	12427-38-2
	Manganese	Inorganic	Manganese	7439-96-5
	Manzate	Organic	Maneb	12427-38-2
	Mavrik	Organic	Fluvalinate	69409-94-5
	MBAS	Organic	Foaming agents (MBAS)	

CROSS REFERENCE OF CHEMICAL NAMES

CONSTITUENT	Category	See Listing(s) Under:	CAS No.
MCPA	Organic	MCPA	94-74-6
MCPB	Organic	MCPB	94-81-5
MCPP	Organic	MCPP	93-65-2
MEA	Organic	Ethanolamine	141-43-5
Me-A-alpha-C	Organic	Me-A-alpha-C	68006-83-7
MeHg	Organic	Methyl mercury	22967-92-6
MEK	Organic	Methyl ethyl ketone	78-93-3
Melphalan	Organic	Melphalan	148-82-3
Mepiquat chloride	Organic	Mepiquat chloride	24307-26-4
Mercuric chloride	Inorganic	Mercuric chloride	7487-94-7
Mercury, inorganic	Inorganic	Mercury, inorganic	7439-97-6
Mercury, methyl	Organic	Methyl mercury	22967-92-6
Merphos	Organic	Merphos	150-50-5
Merphos oxide	Organic	Merphos oxide	78-48-8
Mesityl oxide	Organic	Mesityl oxide	141-79-7
Mesitylene	Organic	1,3,5-Trimethylbenzene	108-67-8
Metalaxyl	Organic	Metalaxyl	57837-19-1
Metasulfuron methyl ester	Organic	Ally	74223-64-6
Methacrylonitrile	Organic	Methacrylonitrile	126-98-7
Methallyl chloride	Organic	3-Amino-9-ethylcarbazole hydrochloride	6109-97-3
Methamidophos	Organic	Methamidophos	10265-92-6
Methanal	Organic	Formaldehyde	50-00-0
Methanecarboxamide	Organic	Acetamide	60-35-5
Methanes, halo-	Organic	Bromochloromethane	74-97-5
		Bromodichloromethane	75-27-4
		Bromoform	75-25-2
		Bromomethane	74-83-9
		Carbon tetrachloride	56-23-5
		Chloroform	67-66-3
		Chloromethane	74-87-3
		Dibromochloromethane	124-48-1
		Dichlorodifluoromethane	75-71-8
		Dichloromethane	75-09-2
		Halomethanes	
		Iodoform	75-47-8
		Trichlorofluoromethane	75-69-4
Methanethiol	Organic	Methyl mercaptan	74-93-1
Methanol	Organic	Methanol	67-56-1
Methidathion	Organic	Methidathion	950-37-8
Methomyl	Organic	Methomyl	16752-77-5
o-Methoxyaniline	Organic	o-Anisidine	90-04-0
4-Methoxy-1,3-benzenediamine	Organic	2,4-Diaminoanisole	615-05-4
Methoxychlor	Organic	Methoxychlor	72-43-5
Methoxyphenylenediamine	Organic	2,4-Diaminoanisole	615-05-4
Methoxypropazine	Organic	Prometon	1610-18-0
Methyl acetate	Organic	Methyl acetate	79-20-9
beta-Methyl acrolein	Organic	trans-Crotonaldehyde	4170-30-3
Methyl acrylate	Organic	Methyl acrylate	96-33-3
Methyl acrylonitrile	Organic	Methyl acrylonitrile	126-98-7
Methyl alcohol	Organic	Methanol	67-56-1
Methylamine	Organic	Methylamine	74-89-5
Methyl ((4-aminophenyl)sulfonyl)carbamate	Organic	Asulam	3337-71-1
Methylamyl alcohol	Organic	Methyl isobutyl carbinol	108-11-2
Methyl n-amyl ketone	Organic	Methyl n-amyl ketone	110-43-0
N-Methylaniline	Organic	N-Methylaniline	100-61-8
5-Methyl-o-anisidine	Organic	p-Cresidine	120-71-8
2-Methyl-1-anthraquinonylamine	Organic	1-Amino-2-methylanthraquinone	82-28-0
2-Methylaziridine	Organic	Propyleneimine	75-55-8
Methylbenzene	Organic	Toluene	108-88-3
Methyl bromide	Organic	Bromomethane	74-83-9
3-Methyl-1-butanol	Organic	Isoamyl alcohol	123-51-3
3-Methyl-2-butanone	Organic	Methyl isopropyl ketone	563-80-4
Methyl t-butyl ether (MtBE)	Organic	Methyl t-butyl ether (MtBE)	1634-04-4
Methyl n-butyl ketone	Organic	Methyl n-butyl ketone	591-78-6
Methyl chloride	Organic	Chloromethane	74-87-3
Methyl chloroform	Organic	1,1,1-Trichloroethane	71-55-6
Methylchloromethyl ether	Organic	Chloromethyl methyl ether	107-30-2
2-Methyl-4-chlorophenol	Organic	4-Chloro-o-cresol	1570-64-5
3-Methyl-4-chlorophenol	Organic	4-Chloro-m-cresol	59-50-7
3-Methyl-6-chlorophenol	Organic	6-Chloro-m-cresol	
2-Methyl-4-chlorophenoxyacetic acid	Organic	MCPA	94-74-6
4-(2-Methyl-4-chlorophenoxy)butyric acid	Organic	MCPB	94-81-5
2-(2-Methyl-4-chlorophenoxy)propionic acid	Organic	MCPP	93-65-2
3-Methylcholanthrene	Organic	3-Methylcholanthrene	56-49-5
5-Methylchrysene	Organic	5-Methylchrysene	3697-24-3
Methylcyclohexane	Organic	Methylcyclohexane	108-87-2
cis-3-Methylcyclohexanol	Organic	cis-3-Methylcyclohexanol	25639-42-3
2-Methyl-4,6-dinitrophenol	Organic	4,6-Dinitro-o-cresol	534-52-1
4,4'-Methylenebis(2-chloroaniline)	Organic	4,4'-Methylenebis(2-chloroaniline)	101-14-4
4,4'-Methylenebis(N,N-dimethyl)aniline	Organic	4,4'-Methylenebis(N,N-dimethyl)aniline	101-61-1
4,4'-Methylenebis(N,N-dimethyl)benzeneamine	Organic	4,4'-Methylenebis(N,N-dimethyl)aniline	101-61-1

CROSS REFERENCE OF CHEMICAL NAMES

	CONSTITUENT	Category	See Listing(s) Under:	CAS No.
M	4,4'-Methylenebis(2-methylaniline)	Organic	4,4'-Methylenebis(2-methylaniline)	838-88-0
	Methylenebis(ortho-toluidine)	Organic	4,4'-Methylenebis(2-methylaniline)	838-88-0
	Methylene blue active substances	Organic	Foaming agents (MBAS)	
	Methylene chloride	Organic	Dichloromethane	75-09-2
	4,4'-Methylenedianiline	Organic	4,4'-Methylenedianiline	101-77-9
	4,4'-Methylenedianiline dihydrochloride	Organic	4,4'-Methylenedianiline dihydrochloride	13552-44-8
	1,2-(Methylenedioxy)-4-propylbenzene	Organic	Dihydrosafrole	94-58-6
	Methyl ethyl ketone	Organic	Methyl ethyl ketone	78-93-3
	Methyl ethyl nitrosamine	Organic	N-Nitrosomethylethylamine	10595-95-6
	Methyl formate	Organic	Methyl formate	107-31-3
	5-Methyl-3-heptanone	Organic	Ethyl n-amyl ketone	106-68-3
	5-Methyl-2-hexanone	Organic	Methyl isoamyl ketone	110-12-3
	Methylhydrazine	Organic	Methylhydrazine	60-34-4
	Methylhydrazine sulfate	Organic	Methylhydrazine sulfate	
	Methyl isoamyl ketone	Organic	Methyl isoamyl ketone	110-12-3
	Methyl isobutenyl ketone	Organic	Mesityl oxide	141-79-7
	Methyl isobutyl carbinol	Organic	Methyl isobutyl carbinol	108-11-2
	Methyl isobutyl ketone (MIBK)	Organic	Methyl isobutyl ketone (MIBK)	108-10-1
	1-Methyl-2-(p-(isopropylcarbamoyl)benzyl)hydrazine	Organic	Procarbazine	671-16-9
	Methyl isopropyl ketone	Organic	Methyl isopropyl ketone	563-80-4
	Methyl mercaptan	Organic	Methyl mercaptan	74-93-1
	Methyl mercury	Organic	Methyl mercury	22967-92-6
	Methyl methacrylate	Organic	Methyl methacrylate	80-62-6
	Methyl methanesulfonate	Organic	Methyl methanesulfonate	66-27-3
	2-Methyl-1-nitroanthraquinone	Organic	2-Methyl-1-nitroanthraquinone	129-15-7
	m-Methylnitrobenzene	Organic	m-Nitrotoluene	1321-12-6
	N-Methyl-N'-nitro-N-nitrosoguanidine	Organic	N-Methyl-N'-nitro-N-nitrosoguanidine	70-25-7
	Methylnitrosourea	Organic	N-Nitroso-N-methylurea	684-93-5
	Methylnitrosourethane	Organic	N-Nitroso-N-methylurethane	615-53-2
	N-Methylolacrylamide	Organic	N-Methylolacrylamide	924-42-5
	Methyl parathion	Organic	Methyl parathion	298-00-0
	4-Methyl-2-pentanol	Organic	Methyl isobutyl carbinol	108-11-2
	4-Methyl-2-pentanone	Organic	Methyl isobutyl ketone (MIBK)	108-10-1
	2-Methylphenol	Organic	o-Cresol	95-48-7
	3-Methylphenol	Organic	m-Cresol	108-39-4
	4-Methylphenol	Organic	p-Cresol	106-44-5
	Methyl n-propyl ketone	Organic	Methyl n-propyl ketone	107-87-9
	Methyl styrene	Organic	Vinyl toluene	25013-15-4
	alpha-Methylstyrene	Organic	alpha-Methylstyrene	98-83-9
	1-Methyl-4-tert-butylbenzene	Organic	p-tert-Butyltoluene	98-51-1
	Methylthiofanate	Organic	Thiophanate-methyl	23564-05-8
	Methylthiouracil	Organic	Methylthiouracil	56-04-2
	Methyl vinyl nitrosamine	Organic	N-Nitrosomethylvinylamine	4549-40-0
	Methyl yellow	Organic	4-Dimethylaminoazobenzene	60-11-7
	2-Methyoxy-5-Methylaniline	Organic	p-Cresidine	120-71-8
	Metolachlor	Organic	Metolachlor	51218-45-2
	Metribuzin	Organic	Metribuzin	21087-64-9
	Metronidazole	Organic	Metronidazole	443-48-1
	MIAK	Organic	Methyl isoamyl ketone	110-12-3
	MIBC	Organic	Methyl isobutyl carbinol	108-11-2
	MIBK	Organic	Methyl isobutyl ketone (MIBK)	108-10-1
	Michler's ketone	Organic	Michler's ketone	90-94-8
	Michler's methane	Organic	4,4'-Methylenebis(N,N-dimethyl)aniline	101-61-1
	MIH	Organic	Procarbazine	671-16-9
	Milogard	Organic	Propazine	139-40-2
	Mirex	Organic	Mirex	2385-85-5
	Mitomycin C	Organic	Mitomycin C	50-07-7
	Mitoxan	Organic	Cyclophosphamide	50-18-0
	MMS	Organic	Methyl methanesulfonate	66-27-3
	Mn	Inorganic	Manganese	7439-96-5
	MNNG	Organic	N-Methyl-N'-nitro-N-nitrosoguanidine	70-25-7
	MNU	Organic	N-Nitroso-N-methylurea	684-93-5
	Mo	Inorganic	Molybdenum	7439-98-7
	Molinate	Organic	Molinate	2212-67-1
	Molybdenum	Inorganic	Molybdenum	7439-98-7
	Moncut	Organic	Flutolanil	66332-96-5
	Monitor	Organic	Methamidophos	10265-92-6
	Monochloramine	Inorganic	Chloramine	127-65-1
	Monochloroaceticacid	Organic	Chloroacetic acid	79-11-8
	Monochlorobenzene	Organic	Chlorobenzene	108-90-7
	Monocrotaline	Organic	Monocrotaline	315-22-0
	Monoethanolamine	Organic	Ethanolamine	141-43-5
	Mononitrophenols	Organic	Nitrophenol	25154-55-6
			2-Nitrophenol	25154-55-7
			4-Nitrophenol	25154-55-8
	5-(Morpholinomethyl)-3-[(5-nitrofurfurylidene)-amino]-2-oxalolidinone	Organic	5-(Morpholinomethyl)-3-[(5-nitrofurfurylidene)-amino]-2-oxalolidinone	139-91-3
	MPK	Organic	Methyl n-propyl ketone	107-87-9
	MtBE	Organic	Methyl t-butyl ether (MtBE)	1634-04-4
N	Na	Inorganic	Sodium	7440-23-5
	Naled	Organic	Naled	300-76-5

CROSS REFERENCE OF CHEMICAL NAMES

	CONSTITUENT	Category	See Listing(s) Under:	CAS No.
N	Naphthalene	Organic	Naphthalene	91-20-3
	Naphthalenes, chlorinated	Organic	Chlorinated naphthalenes	25586-43-0
			2-Chloronaphthalene	25586-43-0
	2-Naphthalenesulfonic acid	Organic	Direct Black 38	1937-37-7
	2-Naphthylamine	Organic	2-Naphthylamine	91-59-8
	beta-Naphthylamine	Organic	2-Naphthylamine	91-59-8
	Napropamide	Organic	Napropamide	15299-99-7
	NDMA	Organic	N-Nitrosodimethylamine	62-75-9
	NDPA	Organic	N-Nitrosodiphenylamine	86-30-6
	Nemacur	Organic	Fenamiphos	22224-92-6
	Neocidol	Organic	Diazinon	333-41-5
	NF 246	Organic	1-[(5-Nitrofurfurylidene)-amino]-2-imidazolidinone	555-84-0
	NFTA	Organic	N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide	531-82-8
	NH_2Cl	Inorganic	Chloramine	127-65-1
	NH_3	Inorganic	Ammonia	7664-41-7
	NH_4^+ (ammonium)	Inorganic	Ammonia	7664-41-7
	NI	Inorganic	Nickel	7440-02-0
	Nickel	Inorganic	Nickel	7440-02-0
	Nickel carbonyl	Inorganic	Nickel carbonyl	13463-39-3
	Nickel subsulfide	Inorganic	Nickel subsulfide	12035-72-2
	Nifuradene	Organic	1-[(5-Nitrofurfurylidene)-amino]-2-imidazolidinone	555-84-0
	Nifurthiazole	Organic	2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole	3570-75-0
	Nitralin	Organic	Nitralin	4726-14-1
	Nitrate	Inorganic	Nitrate	14797-55-8
	Nitrilotriacetate, trisodium monohydrate	Organic	Nitrilotriacetate, trisodium monohydrate	18662-53-8
	Nitrilotriacetic acid	Organic	Nitrilotriacetic acid	139-13-9
	Nitrite	Inorganic	Nitrite	14797-65-0
	5-Nitroacenaphthene	Organic	5-Nitroacenaphthene	602-87-9
	5-Nitro-o-anisidine	Organic	5-Nitro-o-anisidine	99-59-2
	Nitrobenzene	Organic	Nitrobenzene	98-95-3
	6-Nitrochrysene	Organic	6-Nitrochrysene	7496028
	Nitroethane	Organic	Nitroethane	79-24-3
	Nitrofen	Organic	Nitrofen	1836-75-5
	Nitrofene	Organic	Nitrofen	1836-75-5
	2-Nitrofluorene	Organic	2-Nitrofluorene	607-57-8
	Nitrofurazone	Organic	Nitrofurazone	59-87-0
	1-[(5-Nitrofurfurylidene)-amino]-2-imidazolidinone	Organic	1-[(5-Nitrofurfurylidene)-amino]-2-imidazolidinone	555-84-0
	N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide	Organic	N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide	531-82-8
	Nitroguanidine	Organic	Nitroguanidine	556-88-7
	Nitromethane	Organic	Nitromethane	75-52-5
	Nitrophenol	Organic	Nitrophenol	25154-55-6
			2-Nitrophenol	25154-55-7
			4-Nitrophenol	25154-55-8
	2-Nitrophenol	Organic	2-Nitrophenol	25154-55-7
	4-Nitrophenol	Organic	4-Nitrophenol	25154-55-8
	o-Nitrophenol	Organic	2-Nitrophenol	25154-55-7
	p-Nitrophenol	Organic	4-Nitrophenol	25154-55-8
	Nitrophenols	Organic	4,6-Dinitro-o-cresol	534-52-1
			2,4-Dinitrophenol	51-28-5
			Dinitrophenols	25550-58-7
			Nitrophenol	25154-55-6
			2-Nitrophenol	25154-55-7
			4-Nitrophenol	25154-55-8
			Nitrophenols	
			Trinitrophenol	88-89-1
	1-Nitropropane	Organic	1-Nitropropane	108-03-2
	2-Nitropropane	Organic	2-Nitropropane	79-46-9
	1-Nitropyrene	Organic	1-Nitropyrene	5522-43-0
	4-Nitropyrene	Organic	4-Nitropyrene	57835-92-4
	Nitrosamines	Organic	Nitrosamines	
			N-Nitrosodi-n-butylamine	924-16-3
			N-Nitrosodiethanolamine	1116-54-7
			N-Nitrosodiethylamine	55-18-5
			N-Nitrosodimethylamine	62-75-9
			N-Nitrosodiphenylamine	86-30-6
			p-Nitrosodiphenylamine	156-10-5
			N-Nitrosodipropylamine	621-64-7
			N-Nitrosomethylethylamine	10595-95-6
			N-Nitrosomethylvinylamine	4549-40-0
			N-Nitrosopyrrolidine	930-55-2
	N-Nitrosodi-n-butylamine	Organic	N-Nitrosodi-n-butylamine	924-16-3
	N-Nitrosodiethanolamine	Organic	N-Nitrosodiethanolamine	1116-54-7
	N-Nitrosodiethylamine	Organic	N-Nitrosodiethylamine	55-18-5
	N-Nitrosodimethylamine	Organic	N-Nitrosodimethylamine	62-75-9
	N-Nitrosodiphenylamine	Organic	N-Nitrosodiphenylamine	86-30-6
	p-Nitrosodiphenylamine	Organic	p-Nitrosodiphenylamine	156-10-5
	N-Nitrosodipropylamine	Organic	N-Nitrosodipropylamine	621-64-7
	N-Nitrosodi-n-propylamine	Organic	N-Nitrosodipropylamine	621-64-7
	N-Nitroso-N-ethylurea	Organic	N-Nitroso-N-ethylurea	759-73-9
	N-Nitrosomethylethylamine	Organic	N-Nitrosomethylethylamine	10595-95-6
	N-Nitroso-N-methylethylamine	Organic	N-Nitrosomethylethylamine	10595-95-6

CROSS REFERENCE OF CHEMICAL NAMES

	CONSTITUENT	Category	See Listing(s) Under:	CAS No.
N	N-Nitroso-N-methylurea	Organic	N-Nitroso-N-methylurea	684-93-5
	N-Nitroso-N-methylurea	Organic	N-Nitroso-N-methylurea	684-93-5
	N-Nitroso-N-methylurethane	Organic	N-Nitroso-N-methylurethane	615-53-2
	N-Nitrosomethylvinylamine	Organic	N-Nitrosomethylvinylamine	4549-40-0
	N-Nitrosomorpholine	Organic	N-Nitrosomorpholine	59-89-2
	N-Nitrosonomicotine	Organic	N-Nitrosonomicotine	16543-55-8
	N-Nitrosopiperidine	Organic	N-Nitrosopiperidine	100-75-4
	N-Nitrosopyrrolidine	Organic	N-Nitrosopyrrolidine	930-55-2
	N-Nitrososarcosine	Organic	N-Nitrososarcosine	13256-22-9
	m-Nitrotoluene	Organic	m-Nitrotoluene	1321-12-6
	NO_2^-	Inorganic	Nitrite	14797-65-0
	NO_3^-	Inorganic	Nitrate	14797-55-8
	Nonachlor	Organic	trans-Nonachlor	39765-80-5
	trans-Nonachlor	Organic	trans-Nonachlor	39765-80-5
	Nonane	Organic	Nonane	111-84-2
	Nonylphenol	Organic	Nonylphenol	104405; 136834
	Norflurazon	Organic	Norflurazon	27314-13-2
	NPN	Organic	n-Propyl nitrate	627-13-4
	NTA	Organic	Nitrilotriacetic acid	139-13-9
	NTA	Organic	Nitrilotriacetate, trisodium monohydrate	18662-53-8
	NuStar	Organic	NuStar	85509-19-9
O	O_2	Inorganic	Oxygen, dissolved	7782447
	O_3	Inorganic	Ozone	10028-15-6
	Ochratoxin A	Organic	Ochratoxin A	303-47-9
	Octabromodiphenyl ether	Organic	Octabromodiphenyl ether	32536-52-0
	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	Organic	HMX	2691-41-0
	Octane	Organic	Octane	111-65-9
	Odor	Inorganic	Odor	
	Oil	Organic	Oil & grease	
	Oil & grease	Organic	Oil & grease	
	Omite	Organic	Propargite	2312-35-8
	Ordram	Organic	Molinate	2212-67-1
	Orthocide	Organic	Captan	133-06-2
	Ortho paraquat	Organic	Paraquat	1910-42-5
	Oryzalin	Organic	Oryzalin	19044-88-3
	Osmium tetroxide	Inorganic	Osmium tetroxide	20816-12-0
	OsO_4	Inorganic	Osmium tetroxide	20816-12-0
	Oxadiazon	Organic	Oxadiazon	19666-30-9
	Oxamyl	Organic	Oxamyl	23135-22-0
	Oxirane	Organic	Ethylene oxide (ETO)	75-21-8
	2,2'-Oxybis(1-chloropropane)	Organic	Bis(2-chloroisopropyl) ether	39638-32-9
	Oxychlordane	Organic	Oxychlordane	27304-13-8
	4,4'-Oxydianiline	Organic	4,4'-Diaminodiphenyl ether	101-80-4
	Oxyfluorfen	Organic	Oxyfluorfen	42874-03-3
	Oxygen, dissolved	Inorganic	Oxygen, dissolved	7782447
	Ozone	Inorganic	Ozone	10028-15-6
P	P	Inorganic	Phosphorus	7723-14-0
	Paclobutrazol	Organic	Paclobutrazol	76738-62-0
	PAHs	Organic	Acenaphthene	83-32-9
			Acenaphthylene	208-96-8
			Anthracene	120-12-7
			Benz(a)anthracene	56-55-3
			Benzo(b)fluoranthene	205-99-2
			Benzo(j)fluoranthene	205-82-3
			Benzo(k)fluoranthene	207-08-9
			Benzo(g,h,i)perylene	191-24-2
			Benzo(a)pyrene	50-32-8
			Chrysene	218-01-9
			Dibenz(a,h)anthracene	53-70-3
			7H-Dibenzo(c,g)carbazole	194-59-2
			Dibenzo(a,e)pyrene	192-65-4
			Dibenzo(a,h)pyrene	189-64-0
			Dibenzo(a,i)pyrene	189-55-9
			Dibenzo(a,l)pyrene	191-30-0
			7,12-Dimethylbenz(a)anthracene	57-97-6
			Fluoranthene	206-44-0
			Fluorene	86-73-7
			Indeno(1,2,3-c,d)pyrene	193-39-5
			PAHs	
			Phenanthrene	85-01-8
			Pyrene	129-00-0
	Paraffins, chlorinated	Organic	Chlorinated paraffins	
	Paraquat	Organic	Paraquat	1910-42-5
	Parathion	Organic	Parathion	56-38-2
	Parathion-methyl	Organic	Methyl parathion	298-00-0
	Pb	Inorganic	Lead	7439-92-1
	PBBs	Organic	Polybrominated biphenyls	
	PCBs	Organic	Polychlorinated biphenyls	1336-36-3
	PCE	Organic	Tetrachloroethylene (PCE)	127-18-4

CROSS REFERENCE OF CHEMICAL NAMES

	CONSTITUENT	Category	See Listing(s) Under:	CAS No.
P	PCNB	Organic	Pentachloronitrobenzene	82-68-8
	PCP	Organic	Pentachlorophenol	87-86-5
	PDB	Organic	1,4-Dichlorobenzene	106-46-7
	Pendimethalin	Organic	Pendimethalin	40487-42-1
	Penta	Organic	Pentachlorophenol	87-86-5
	Pentabromodiphenyl ether	Organic	Pentabromodiphenyl ether	32534-81-9
	Pentachlorobenzene	Organic	Pentachlorobenzene	608-93-5
	Pentachloroethane	Organic	Pentachloroethane	76-01-7
	Pentachloronitrobenzene	Organic	Pentachloronitrobenzene	82-68-8
	Pentachlorophenol	Organic	Pentachlorophenol	87-86-5
	Pentanal	Organic	n-Valeraldehyde	110-62-3
	Pentane	Organic	Pentane	109-66-0
	2-Pentanone	Organic	Methyl n-propyl ketone	107-87-9
	3-Pentanone	Organic	Diethyl ketone	96-22-0
	Perchlorate	Inorganic	Perchlorate	
	Perchlorobenzene	Organic	Hexachlorobenzene	118-74-1
	Perchlorobutadiene	Organic	Hexachlorobutadiene	87-68-3
	Perchloroethane	Organic	Hexachloroethane	67-72-1
	Perchloroethylene	Organic	Tetrachloroethylene (PCE)	127-18-4
	Perflan	Organic	Tebuthiuron	34014-18-1
	Permethrin	Organic	Permethrin	52645-53-1
	Petroleum hydrocarbons	Organic	Diesel Oil	68476-34-6
			Gasoline	8006-61-9
			Kerosene	8008-20-6
	pH	Inorganic	pH	
	Phenacetin	Organic	Phenacetin	62-44-2
	Phenamiphos	Organic	Fenamiphos	22224-92-6
	Phenanthrene	Organic	Phenanthrene	85-01-8
	Phenazopyridine	Organic	Phenazopyridine	94-78-0
	Phenazopyridine hydrochloride	Organic	Phenazopyridine hydrochloride	136-40-3
	Phenesterin	Organic	Phenesterin	3546109
	Phenmedipham	Organic	Phenmedipham	13684-63-4
	Phenobarbital	Organic	Phenobarbital	50-06-6
	Phenol	Organic	Phenol	108-95-2
	Phenols, chlorinated	Organic	Chlorinated phenols	
			4-Chloro-m-cresol	59-50-7
			4-Chloro-o-cresol	1570-64-5
			6-Chloro-m-cresol	
			2-Chlorophenol	95-57-8
			3-Chlorophenol	108-43-0
			4-Chlorophenol	106-48-9
			2,3-Dichlorophenol	576-24-9
			2,4-Dichlorophenol	120-83-2
			2,5-Dichlorophenol	583-78-8
			2,6-Dichlorophenol	87-65-0
			3,4-Dichlorophenol	95-77-2
			Pentachlorophenol	87-86-5
			2,3,4,6-Tetrachlorophenol	58-90-2
			2,3,5,6-Tetrachlorophenol	935-95-5
			2,4,5-Trichlorophenol	95-95-4
			2,4,6-Trichlorophenol	88-06-2
	Phenols, nitro-	Organic	4,6-Dinitro-o-cresol	534-52-1
			2,4-Dinitrophenol	51-28-5
			Dinitrophenols	25550-58-7
			Nitrophenol	25154-55-6
			2-Nitrophenol	25154-55-7
			4-Nitrophenol	25154-55-8
			Nitrophenols	
			Trinitrophenol	88-89-1
	Phenols, non-chlorinated	Organic	Phenols, non-chlorinated	
			Catechol	120-80-9
			m-Cresol	108-39-4
			o-Cresol	95-48-7
			p-Cresol	106-44-5
			2,4-Dimethylphenol	105-67-9
			2,6-Dimethylphenol	576-26-1
			3,4-Dimethylphenol	95-65-8
			4,6-Dinitro-o-cresol	534-52-1
			4,6-Dinitro-o-cyclohexyl phenol	131-89-5
			2,4-Dinitrophenol	51-28-5
			Dinitrophenols	25550-58-7
			Nitrophenol	25154-55-6
			2-Nitrophenol	25154-55-7
			4-Nitrophenol	25154-55-8
			Nitrophenols	
			Nonylphenol	104405; 136834
			Phenol	108-95-2
			Resorcinol	108-46-3
			Trinitrophenol	88-89-1
	Phenoxybenzamine	Organic	Phenoxybenzamine	59-96-1
	Phenoxybenzamine hydrochloride	Organic	Phenoxybenzamine hydrochloride	63-92-3

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CONSTITUENT	Category	See Listing(s) Under:	CAS No.
Phenylamine	Organic	Aniline	62-53-3
Phenylbenzene	Organic	1,1-Biphenyl	92-52-4
1-Phenylbutane	Organic	n-Butylbenzene	104-51-8
m-Phenylenediamine	Organic	m-Phenylenediamine	108-45-2
Phenylethane	Organic	Ethylbenzene	100-41-4
Phenyl ether	Organic	Phenyl ether	101-84-8
Phenyl glycidyl ether	Organic	Phenyl glycidyl ether	122-60-1
Phenylhydrazine	Organic	Phenylhydrazine	100-63-0
Phenylhydrazine hydrochloride	Organic	Phenylhydrazine hydrochloride	59-88-1
Phenyl mercaptan	Organic	Phenyl mercaptan	108-98-5
Phenylmercuric acetate	Organic	Phenylmercuric acetate	62-38-4
Phenylmethylketone	Organic	Acetophenone	98-86-2
o-Phenylphenate, sodium	Organic	o-Phenylphenate, sodium	132-27-4
2-Phenylpropane	Organic	Cumene	98-82-8
Phorate	Organic	Phorate	298-02-2
Phosmet	Organic	Phosmet	732-11-6
Phosphate phosphorus	Inorganic	Phosphate phosphorus	
Phosphine	Inorganic	Phosphine	7803-51-2
Phosphorus	Inorganic	Phosphorus	7723-14-0
Phostoxin	Inorganic	Aluminum phosphide	20859-73-8
Phthalate acid esters (PAEs)	Organic	n-Butyl benzyl phthalate	85-68-7
		Butylphthalyl butylglycolate	85-70-1
		Dibutyl phthalate	84-74-2
		Di(2-ethylhexyl)phthalate	117-81-7
		Diethyl phthalate	84-66-2
		Dimethyl phthalate	131-11-3
		Dimethyl terephthalate	131-11-3
		Di(n-octyl) phthalate	117-84-0
		Ethylphthalyl ethylglycolate	84-72-0
		Phthalate esters	
Phthalate esters	Organic	n-Butyl benzyl phthalate	85-68-7
		Butylphthalyl butylglycolate	85-70-1
		Dibutyl phthalate	84-74-2
		Di(2-ethylhexyl)phthalate	117-81-7
		Diethyl phthalate	84-66-2
		Dimethyl phthalate	131-11-3
		Dimethyl terephthalate	120-61-6
		Di(n-octyl) phthalate	117-84-0
		Ethylphthalyl ethylglycolate	84-72-0
		Phthalate esters	
Phthalates	Organic	n-Butyl benzyl phthalate	85-68-7
		Butylphthalyl butylglycolate	85-70-1
		Dibutyl phthalate	84-74-2
		Di(2-ethylhexyl)phthalate	117-81-7
		Diethyl phthalate	84-66-2
		Dimethyl phthalate	131-11-3
		Dimethyl terephthalate	120-61-6
		Di(n-octyl) phthalate	117-84-0
		Ethylphthalyl ethylglycolate	84-72-0
		Phthalate esters	
Phthalic anhydride	Organic	Phthalic anhydride	85-44-9
Picloram	Organic	Picloram	1918021
Picric acid	Organic	Trinitrophenol	88-89-1
Pirimiphos-methyl	Organic	Pirimiphos-methyl	29232-93-7
Planavin	Organic	Nitralin	4726-14-1
PNAs	Organic	Acenaphthene	83-32-9
		Acenaphthylene	208-96-8
		Anthracene	120-12-7
		Benz(a)anthracene	56-55-3
		Benzo(b)fluoranthene	205-99-2
		Benzo(j)fluoranthene	205-82-3
		Benzo(k)fluoranthene	207-08-9
		Benzo(g,h,i)perylene	191-24-2
		Benzo(a)pyrene	50-32-8
		Chrysene	218-01-9
		Dibenz(a,h)anthracene	53-70-3
		7H-Dibenzo(c,g)carbazole	194-59-2
		Dibenzo(a,e)pyrene	192-65-4
		Dibenzo(a,h)pyrene	189-64-0
		Dibenzo(a,i)pyrene	189-55-9
		Dibenzo(a,l)pyrene	191-30-0
		7,12-Dimethylbenz(a)anthracene	57-97-6
		Fluoranthene	206-44-0
		Fluorene	86-73-7
		Indeno(1,2,3-c,d)pyrene	193-39-5
		PAHs	
		Phenanthrene	85-01-8
		Pyrene	129-00-0
Poast	Organic	Sethoxydim	74051-80-2
Poligeenan	Organic	Poligeenan	53973981
Polybrominated biphenyls	Organic	Polybrominated biphenyls	

CROSS REFERENCE OF CHEMICAL NAMES

	CONSTITUENT	Category	See Listing(s) Under:	CAS No.
P	Polychlorinated biphenyls	Organic	Polychlorinated biphenyls	1336-36-3
	Polynuclear aromatic hydrocarbons	Organic	Acenaphthene	83-32-9
			Acenaphthylene	208-96-8
			Anthracene	120-12-7
			Benz(a)anthracene	56-55-3
			Benzo(b)fluoranthene	205-99-2
			Benzo(j)fluoranthene	205-82-3
			Benzo(k)fluoranthene	207-08-9
			Benzo(g,h,i)perylene	191-24-2
			Benzo(a)pyrene	50-32-8
			Chrysene	218-01-9
			Dibenz(a,h)anthracene	53-70-3
			7H-Dibenzo(c,g)carbazole	194-59-2
			Dibenzo(a,e)pyrene	192-65-4
			Dibenzo(a,h)pyrene	189-64-0
			Dibenzo(a,i)pyrene	189-55-9
			Dibenzo(a,l)pyrene	191-30-0
			7,12-Dimethylbenz(a)anthracene	57-97-6
			Fluoranthene	206-44-0
			Fluorene	86-73-7
			Indeno(1,2,3-c,d)pyrene	193-39-5
			PAHs	
			Phenanthrene	85-01-8
			Pyrene	129-00-0
	Ponceau MC	Organic	Ponceau MC	3761-53-3
	Ponceau MX	Organic	Ponceau MC	3761-53-3
	Ponceau 3R	Organic	Ponceau 3R	3564098
	Potassium bromate	Inorganic	Potassium bromate	7758012
	Potassium cyanide	Inorganic	Potassium cyanide	151-50-8
	Potassium silver cyanide	Inorganic	Potassium silver cyanide	506-61-6
	PPTC	Organic	Vernem	1929-77-7
	Pramitol	Organic	Prometon	1610-18-0
	Princep	Organic	Simazine	122-34-9
	Procarbazine	Organic	Procarbazine	671-16-9
	Procarbazine hydrochloride	Organic	Procarbazine hydrochloride	366-70-1
	Prochloraz	Organic	Prochloraz	67747-09-5
	Profam	Organic	Propham	122-42-9
	Prometon	Organic	Prometon	1610-18-0
	Prometryn	Organic	Prometryn	7287-19-6
	Pronamide	Organic	Pronamide	23950-58-5
	Propachlor	Organic	Propachlor	1918-16-7
	Propane	Organic	Propane	74-98-6
	Propanes, dichloro-	Organic	1,2-Dichloropropane	78-87-5
			Dichloropropanes	26638-19-7
	1,3-Propane sultone	Organic	1,3-Propane sultone	1120-71-4
	Propanil	Organic	Propanil	709-98-8
	Propanoic acid	Organic	Propionic acid	93-65-2
	1-Propanol	Organic	n-Propyl alcohol	71-23-8
	Propargite	Organic	Propargite	2312-35-8
	Propargyl alcohol	Organic	Propargyl alcohol	107-19-7
	Propazine	Organic	Propazine	139-40-2
	Propene	Organic	Propylene	115-07-1
	2-Propeneamide	Organic	Acrylamide	79-06-1
	2-Propenenitrile	Organic	Acrylonitrile	107-13-1
	Propenes, dichloro-	Organic	1,3-Dichloropropene	542-75-6
			Dichloropropenes	
	2-Propenoic acid	Organic	Acrylic acid	79-10-7
	Propenyl alcohol	Organic	Allyl alcohol	107-18-6
	2-propenyl chloride	Organic	3-Chloropropene	107-05-1
	Propham	Organic	Propham	122-42-9
	Prophos	Organic	Propham	122-42-9
	Propiconazole	Organic	Propiconazole	60207-90-1
	beta-Propiolactone	Organic	beta-Propiolactone	57-57-8
	Propionic acid	Organic	Propionic acid	93-65-2
	Propoxur	Organic	Baygon	114-26-1
	n-Propyl acetate	Organic	n-Propyl acetate	109-60-4
	n-Propyl alcohol	Organic	n-Propyl alcohol	71-23-8
	Propylene	Organic	Propylene	115-07-1
	Propylene dichloride	Organic	1,2-Dichloropropane	78-87-5
	Propyleneimine	Organic	Propyleneimine	75-55-8
	Propylene oxide	Organic	Propylene oxide	75-56-9
	n-Propyl nitrate	Organic	n-Propyl nitrate	627-13-4
	Propylthiouracil	Organic	Propylthiouracil	51-52-5
	2-Propynol	Organic	Propargyl alcohol	107-19-7
	Propyzamide	Organic	Pronamide	23950-58-5
	Prowl	Organic	Pendimethalin	40487-42-1
	Prussite	Organic	Cyanogen	460-19-5
	Pursuit	Organic	Pursuit	81335-77-5
	Pydrin	Organic	Pydrin	51630-58-1
	Pyrene	Organic	Pyrene	129-00-0
	Pyridine	Organic	Pyridine	110-86-1

CROSS REFERENCE OF CHEMICAL NAMES

	CONSTITUENT	Category	See Listing(s) Under:	CAS No.
Q	Quinalphos	Organic	Quinalphos	13593-03-8
	Quinofop-ethyl	Organic	Assure	76578-14-8
	Quinone	Organic	Quinone	106-51-4
	Quintozine	Organic	Pentachloronitrobenzene	82-68-8
R	226Ra	Inorganic	Radium-226 + Radium-228	7440-14-4
	228Ra	Inorganic	Radium-226 + Radium-228	7440-14-4
	Radioactivity, Gross Alpha	Inorganic	Radioactivity, Gross Alpha	
	Radioactivity, Gross Beta	Inorganic	Radioactivity, Gross Beta	
	Radium-226 + Radium-228	Inorganic	Radium-226 + Radium-228	7440-14-4
	Radon	Inorganic	Radon	14859-67-7
	Rally	Organic	Systhane	88671-89-0
	Ramrod	Organic	Propachlor	1918-16-7
	RDX (Cyclonite)	Organic	RDX (Cyclonite)	121-82-4
	Redax	Organic	N-Nitrosodiphenylamine	86-30-6
	Reglone	Organic	Diquat	85-00-7
	Reserpine	Organic	Reserpine	50-55-5
	Resmethrin	Organic	Resmethrin	10453-86-8
	Resorcinol	Organic	Resorcinol	108-46-3
	Retard	Organic	Maleic hydrazide	123-33-1
	Rn	Inorganic	Radon	14859-67-7
	Ronilan	Organic	Vinclozolin	50471-44-8
	Rotenone	Organic	Rotenone	83-79-4
	Roundup	Organic	Glyphosate	1071-83-6
	Rovral	Organic	Iprodione	36734-19-7
	RU 25474	Organic	Tralomethrin	66841-25-6
S	Saccharin	Organic	Saccharin	81-07-2
	Safrole	Organic	Safrole	94-59-7
	Savey	Organic	Savey	78587-05-0
	Sb	Inorganic	Antimony	7440-36-0
	SBP-1382	Organic	Resmethrin	10453-86-8
	Scepter	Organic	Imazaquin	81335-37-7
	Se	Inorganic	Selenium	7782-49-2
	Selenium	Inorganic	Selenium	7782-49-2
	Sethoxydim	Organic	Sethoxydim	74051-80-2
	Settleable solids	Inorganic	Settleable solids	
	Sevin	Organic	Carbaryl	63-25-2
	Silver	Inorganic	Silver	7440-22-4
	Silver cyanide	Inorganic	Silver cyanide	506-64-9
	Silver potassium cyanide	Inorganic	Potassium silver cyanide	506-61-6
	Silvex	Organic	2,4,5-TP (Silvex)	93-76-5
	Simazine	Organic	Simazine	122-34-9
	Sinbar	Organic	Terbacil	5902-51-2
	$SO_4^=$	Inorganic	Sulfate	
	Sodium	Inorganic	Sodium	7440-23-5
	Sodium azide	Inorganic	Sodium azide	26628-22-8
	Sodium cyanide	Inorganic	Sodium cyanide	143-33-9
	Sodium diethyldithiocarbamate	Organic	Sodium diethyldithiocarbamate	148-18-5
	Sodium fluoroacetate	Organic	Sodium fluoroacetate	62-74-8
	Sodium o-phenylphenate	Organic	o-Phenylphenate, sodium	132-27-4
	Sonar	Organic	Fluridone	59756-60-4
	Specific conductance (EC)	Inorganic	Specific conductance (EC)	
	Spike	Organic	Tebuthiuron	34014-18-1
	Sr	Inorganic	Strontium	7440-24-6
	90Sr	Inorganic	Strontium-90	
	Sterigmatocystin	Organic	Sterigmatocystin	10048-13-2
	Steri-Seal	Organic	o-Phenylphenate, sodium	132-27-4
	Stockade	Organic	Cypermethrin	52315-07-8
	Stop Mold	Organic	o-Phenylphenate, sodium	132-27-4
	Streptozocin	Organic	Streptozotocin	18883-66-4
	Streptozotocin	Organic	Streptozotocin	18883-66-4
	Strontium	Inorganic	Strontium	7440-24-6
			Strontium-90	
	Strychnine	Organic	Strychnine	57-24-9
	Styrene	Organic	Styrene	100-42-5
	Styrene oxide	Organic	Styrene oxide	96-09-3
	Subdue	Organic	Metalaxyl	57837-19-1
	Sugar of lead	Organic	Lead acetate	301-04-2
	Sulfallate	Organic	Sulfallate	95-06-7
	Sulfate	Inorganic	Sulfate	
	Sulfonamide	Organic	Chlorsulfuron	64902-72-3
	Sulfonimide	Organic	Captafol	2425061
	Sulfur dioxide	Inorganic	Sulfur dioxide	7446095
	Sutan	Organic	Butylate	2008-41-5
	Systhane	Organic	Systhane	88671-89-0
	Systox	Organic	Demeton	8065-48-3
T	2,4,5-T	Organic	2,4,5-T	93-76-5
	Talstar	Organic	Biphenthrin	82657-04-3
	Tandem	Organic	Tridiphane	58138-08-2

CROSS REFERENCE OF CHEMICAL NAMES

CONSTITUENT	Category	See Listing(s) Under:	CAS No.
TBA	Organic	tert-Butyl alcohol	75-65-0
TBT	Organic	Tributyltin	688-73-3
1,1,1-TCA	Organic	1,1,1-Trichloroethane	71-55-6
1,1,2-TCA	Organic	1,1,2-Trichloroethane	79-00-5
2,3,7,8-TCDD (Dioxin)	Organic	2,3,7,8-TCDD (Dioxin)	1746-01-6
TCE	Organic	Trichloroethylene (TCE)	79-01-6
TDS	Inorganic	Total dissolved solids (TDS)	
Tebuthiuron	Organic	Tebuthiuron	34014-18-1
TEDP	Organic	Tetraethyldithiopyrophosphate	3689-24-5
TEL	Organic	Tetraethyl lead	78-00-2
Telone	Organic	1,3-Dichloropropene	542-75-6
		1,2-Dichloropropane	78-87-5
Temik	Organic	Aldicarb	116-06-3
Terbacil	Organic	Terbacil	5902-51-2
Terbufos	Organic	Terbufos	13071-79-9
Terbutryn	Organic	Terbutryn	886-50-0
Terraclor	Organic	Pentachloronitrobenzene	82-68-8
1,2,4,5-Tetrachlorobenzene	Organic	1,2,4,5-Tetrachlorobenzene	95-94-3
2,3,7,8-Tetrachlorodibenzo-p-dioxin	Organic	2,3,7,8-TCDD (Dioxin)	1746-01-6
1,1,1,2-Tetrachloroethane	Organic	1,1,1,2-Tetrachloroethane	630-20-6
1,1,2,2-Tetrachloroethane	Organic	1,1,2,2-Tetrachloroethane	79-34-5
Tetrachloroethene	Organic	Tetrachloroethylene (PCE)	127-18-4
Tetrachloroethylene (PCE)	Organic	Tetrachloroethylene (PCE)	127-18-4
Tetrachloromethane	Organic	Carbon tetrachloride	56-23-5
2,3,4,6-Tetrachlorophenol	Organic	2,3,4,6-Tetrachlorophenol	58-90-2
2,3,5,6-Tetrachlorophenol	Organic	2,3,5,6-Tetrachlorophenol	935-95-5
Tetrachlorovinphos	Organic	Tetrachlorovinphos	961-11-5
Tetrachlorvinphos	Organic	Tetrachlorovinphos	961-11-5
Tetraethyldithiopyrophosphate	Organic	Tetraethyldithiopyrophosphate	3689-24-5
Tetraethyl lead	Organic	Tetraethyl lead	78-00-2
Tetramethyldiaminobenzophenone	Organic	Michler's ketone	90-94-8
1,4,5,8-Tetraminoanthraquinone	Organic	Disperse Blue 1	2475-45-8
Tetranitromethane	Organic	Tetranitromethane	509-14-8
Th	Inorganic	Thallium	7440-28-0
Thallium	Inorganic	Thallium	7440-28-0
Thimet	Organic	Phorate	298-02-2
Thioacetamide	Organic	Thioacetamide	62-55-5
Thiobencarb	Organic	Thiobencarb	28249-77-6
Thiocarb	Organic	Sodium diethyldithiocarbamate	148-18-5
Thiodan	Organic	Endosulfan	115-29-7
4,4'-Thiodianiline	Organic	4,4'-Thiodianiline	139-65-1
Thiophanate-methyl	Organic	Thiophanate-methyl	23564-05-8
Thiophenol	Organic	Phenyl mercaptan	108-98-5
Thiophos	Organic	Parathion	56-38-2
Thiotepa	Organic	Tris(1-aziridinyl)phosphine sulfide	52-24-4
Thiourea	Organic	Thiourea	62-56-6
Thiram	Organic	Thiram	137-26-8
THMs	Organic	Bromodichloromethane	74-97-5
		Bromoform	75-25-2
		Chloroform	67-66-3
		Dibromochloromethane	124-48-1
Thriafur	Organic	2-Amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole	712-68-5
Tin, tributyl-	Organic	Tributyltin	688-73-3
TNT	Organic	Trinitrotoluene (TNT)	612-82-8
o-Tolidine	Organic	3,3'-Dimethylbenzidine	119-96-7
o-Tolidine hydrochloride	Organic	3,3'-Dimethylbenzidine dihydrochloride	119-93-7
Toluene	Organic	Toluene	108-88-3
2,4-Toluenediamine	Organic	2,4-Diaminotoluene	95-80-7
Toluene diisocyanate	Organic	Toluene diisocyanate	26471-62-5
Toluenes, dinitro-	Organic	2,4-Dinitrotoluene	121-14-2
		2,6-Dinitrotoluene	606-20-2
		Dinitrotoluenes	25321-14-6
o-Toluidine hydrochloride	Organic	o-Toluidine hydrochloride	636-21-5
o-Toluidine	Organic	o-Toluidine	95-53-4
Tolyl chloride	Organic	Benzyl chloride	100-44-7
Tordon	Organic	Picloram	1918021
Total dissolved solids (TDS)	Inorganic	Total dissolved solids (TDS)	
Toxaphene	Organic	Toxaphene	8001-35-2
2,4,5-TP (Silvex)	Organic	2,4,5-TP (Silvex)	93-76-5
Tralomethrin	Organic	Tralomethrin	66841-25-6
Treflan	Organic	Trifluralin	1582-09-8
Triallate	Organic	Triallate	2303-17-5
Triasulfuron	Organic	Triasulfuron	82097-50-5
1,2,4-Tribromobenzene	Organic	1,2,4-Tribromobenzene	615-54-3
Tribromomethane	Organic	Bromoform	75-25-2
Tribufos	Organic	Merphos	150-50-5
Tributyltin	Organic	Tributyltin	688-73-3
Trichlorfon	Organic	Trichlorfon	52-68-6
Trichloroacetaldehyde	Organic	Chloral	75-87-6
Trichloroacetaldehyde, hydrated	Organic	Chloral hydrate	302-17-0
Trichloroacetic acid	Organic	Trichloroacetic acid	76-03-9

CROSS REFERENCE OF CHEMICAL NAMES

	CONSTITUENT	Category	See Listing(s) Under:	CAS No.
T	Trichloroacetonitrile	Organic	Trichloroacetonitrile	545-06-02
	1,2,4-Trichlorobenzene	Organic	1,2,4-Trichlorobenzene	120-82-1
	1,3,5-Trichlorobenzene	Organic	1,3,5-Trichlorobenzene	108-70-3
	Trichlorobenzenes	Organic	1,2,4-Trichlorobenzene	120-82-1
			1,3,5-Trichlorobenzene	108-70-3
			Trichlorobenzenes	12002-48-1
	unsymmetrical-Trichlorobenzene	Organic	1,2,4-Trichlorobenzene	120-82-1
	1,1,1-Trichloroethane	Organic	1,1,1-Trichloroethane	71-55-6
	1,1,2-Trichloroethane	Organic	1,1,2-Trichloroethane	79-00-5
	1,1,1-Trichloro-2,2-ethanediol	Organic	Chloral hydrate	302-17-0
	Trichloroethene	Organic	Trichloroethylene (TCE)	79-01-6
	Trichloroethylene (TCE)	Organic	Trichloroethylene (TCE)	79-01-6
	Trichloroethylidene ghycol	Organic	Chloral hydrate	302-17-0
	Trichlorofluoromethane	Organic	Trichlorofluoromethane	75-69-4
	Trichloromethane	Organic	Chloroform	67-66-3
	(Trichloromethyl)benzene	Organic	Benzotrichloride	98-07-7
	N-Trichloromethylmercapto-tetrahydrophthalimide	Organic	Captan	133-06-2
	2,4,5-Trichlorophenol	Organic	2,4,5-Trichlorophenol	95-95-4
	2,4,6-Trichlorophenol	Organic	2,4,6-Trichlorophenol	88-06-2
	2,4,5-Trichlorophenoxyacetic acid	Organic	2,4,5-T	93-76-5
	2,4,5-Trichlorophenoxypropionic acid	Organic	2,4,5-TP (Silvex)	93-76-5
	1,1,2-Trichloropropane	Organic	1,1,2-Trichloropropane	598-77-6
	1,2,3-Trichloropropane	Organic	1,2,3-Trichloropropane	96-18-4
	alpha,alpha,alpha-Trichlorotoluene	Organic	Benzotrichloride	98-07-7
	Trichlorotrifluoroethane	Organic	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1
	1,1,2-Trichloro-1,2,2-trifluoroethane	Organic	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1
	Trichlorphon	Organic	Trichlorfon	52-68-6
	Tridiphane	Organic	Tridiphane	58138-08-2
	Triethylamine	Organic	Triethylamine	121-44-8
	Trifluralin	Organic	Trifluralin	1582-09-8
	Triglycine	Organic	Nitrilotriacetic acid	139-13-9
	Trihalomethanes	Organic	Bromodichloromethane	75-27-4
			Bromoform	75-25-2
			Chloroform	67-66-3
			Dibromochloromethane	124-48-1
	Triiodomethane	Organic	Iodoform	75-47-8
	Trimethylamine	Organic	Trimethylamine	75-50-3
	1,3,5-Trimethylbenzene	Organic	1,3,5-Trimethylbenzene	108-67-8
	symmetrical-Trimethylbenzene	Organic	1,3,5-Trimethylbenzene	108-67-8
	1,3,5-Trinitrobenzene	Organic	1,3,5-Trinitrobenzene	99-35-4
	Trinitroglycerol	Organic	Trinitroglycerol	
	Trinitrophenol	Organic	Trinitrophenol	88-89-1
	Trinitrotoluene (TNT)	Organic	Trinitrotoluene (TNT)	118-96-7
	Tris(1-aziridinyl)phosphine sulfide	Organic	Tris(1-aziridinyl)phosphine sulfide	52-24-4
	Tris(2,3-dibromopropyl)phosphate	Organic	Tris(2,3-dibromopropyl)phosphate	126-72-7
	Trisodium nitrilotriacetate	Organic	Nitrilotriacetate, trisodium monohydrate	18662-53-8
	Trithion	Organic	Trithion	786-19-6
	Tritium	Inorganic	Tritium	10028-17-8
	Trp-P-1	Organic	Tryptophan-P-1	62450-06-0
	Trp-P-2	Organic	Tryptophan-P-2	62450-07-1
	Tryptophan-P-1	Organic	Tryptophan-P-1	62450-06-0
	Tryptophan-P-2	Organic	Tryptophan-P-2	62450-07-1
	Turbacil	Organic	Terbacil	5902-51-2
	Turbidity	Inorganic	Turbidity	
U	U	Inorganic	Uranium	7440-61-1
	UDMH	Organic	1,1-Dimethylhydrazine	57-14-7
	Uranium	Inorganic	Uranium	7440-61-1
	Urethane	Organic	Urethane	51-79-6
	Urox	Organic	Bromacil	314-40-9
V	V	Inorganic	Vanadium	7440-62-2
	n-Valeraldehyde	Organic	n-Valeraldehyde	110-62-3
	Vanadium	Inorganic	Vanadium	7440-62-2
	VC	Organic	Vinyl chloride	75-01-4
	Vegadex	Organic	Sulfallate	95-06-7
	Velpar	Organic	Hexazinone	51235-04-2
	Verdict	Organic	Haloxyfop-methyl	69806-40-2
	Vernem	Organic	Vernem	1929-77-7
	Vernolate	Organic	Vernem	1929-77-7
	Vinclozolin	Organic	Vinclozolin	50471-44-8
	Vinyl acetate	Organic	Vinyl acetate	108-05-4
	Vinylbenzene	Organic	Styrene	100-42-5
	Vinyl bromide	Organic	Vinyl bromide	593-60-2
	Vinyl chloride	Organic	Vinyl chloride	75-01-4
	Vinyl cyanide	Organic	Acrylonitrile	107-13-1
	Vinylethylene	Organic	1,3-Butadiene	106-99-0
	Vinylidene chloride	Organic	1,1-Dichloroethylene	75-35-4
	Vinyl toluene	Organic	Vinyl toluene	25013-15-4
	Vinyl trichoride	Organic	1,1,2-Trichloroethane	79-00-5
	Vitavax	Organic	Carboxin	5234-68-4

CROSS REFERENCE OF CHEMICAL NAMES

	CONSTITUENT	Category	See Listing(s) Under:	CAS No.
V	Vydate	Organic	Oxamyl	23135-22-0
W	Warfarin	Organic	Warfarin	81-81-2
	Waxes, chlorinated	Organic	Chlorinated paraffins	
X	m-Xylene	Organic	Xylene(s)	1330-20-7
	o-Xylene	Organic	Xylene(s)	1330-20-7
	p-Xylene	Organic	Xylene(s)	1330-20-7
	Xylene(s)	Organic	Xylene(s)	1330-20-7
	asymmetrical-m-Xylenol	Organic	2,4-Dimethylphenol	105-67-9
	2,4-Xylidine	Organic	2,4-Xylidine	1300-73-8
	2,6-Xylidine	Organic	2,6-Xylidine	87-62-7
Z	Zinc	Inorganic	Zinc	7440-66-6
	Zinc cyanide	Inorganic	Zinc cyanide	557-21-1
	Zinc phosphide	Inorganic	Zinc phosphide	1314-84-7
	Zineb	Organic	Zineb	12122-67-7
	Ziram	Organic	Ziram	137-30-4
	Zn	Inorganic	Zinc	7440-66-6

WATER QUALITY GOALS
FOR
INORGANIC CONSTITUENTS

WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS in ug/l (ppb) unless noted

RGANIC STITUENT	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment)	California State Action Levels (Department of Health Services)		Other Taste & Odor Thresholds
	California Dept. of Health Services		U.S. Environmental Protection Agency						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal		Toxicity	Taste & Odor	
ty									
um	1000	200		50 to 200		60 (100)			
um phosphide									
ia									500 (146)
ium sulfamate									
ny	6		6		6	20			
	50		50 / 5 (100)		zero (100)				
									0.35 (126)
os	7 MFL (101)		7 MFL (101)		7 MFL (101)				
	1000		2000		2000				
im	4		4		4				
im oxide									
m sulfate									
							1000		
e	10 (100)		10 (147)		zero (147)				
e									
e									6.3 (126)
rm	5		5		5	0.07			
disulfide									0.39 (126)
nine	4000 (66,100)		4000 (66)		4000 (66)				
e									
e		250,000 (73)		250,000					
e	4000 (66,100)		4000 (66)		4000 (66)				2 (126)
e dioxide	800 (67,100)		800 (67)		300 (67)				670 (126)
	1000 (100)		1000 (147)		800 (147)				
um (III)						200,000			
um (VI)						0.2			
um (total)	50		100		100	2.5 (134)			
		15 units		15 units					
	1300 (111)	1000	1300 (111)	1000	1300	170			
cyanide									
vity		Non-corrosive		Non-corrosive					
e	200 / 150 (100)		200 (137)		200 (137)	150			170 (126)
gen bromide									
gen chloride									
e	2000 (109)		4000	2000	4000	1000			
ine									160,000 (126)
ine sulfate									
en selenide									2.1 (126)
en sulfide									0.029 (126)
		300		300					
	15 (111)		15 (111)		zero	2			
nese		50		50					
ic chloride									
y, inorganic	2		2		2	1.2			
enum									
	100					1 (100)			
carbonyl									0.072 (126)
subsulfide									
	45,000 (72)		10,000 (103)		10,000 (89)	10,000 (103)			

WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS in ug/l (ppb) unless noted

RGANIC STITUENT	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Regulatory Level as a Drinking Water Level (14)	Agricultural Water Quality Goals (78)
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS) *Drinking Water and Health*		
ity									
um			5000 (7-day)						5000
um phosphide	2.8								
ia		30,000 (68)				(D,68)			
ium sulfamate	1400	2000				(D)			
ny	2.8	6				(D)			
	2.1			0.023	0.02 (A)	0.02 (A,68)		5 #R	100
os				(15)	(A)	7 MFL (A,101)		# (15)	
	490	2000 (68)	4700		(D)	(D,68)			
im	14	30,000 (10-day)			(B1,119)			# (15)	100
im oxide				0.005	(B2)			(15)	
im sulfate				0.000012				(15)	
	630	600 (68)				(D,68)			700 / 750 (91)
e		200 (24-hr)			0.05 (B2)	0.05 (B2,68)			
e			2300						
e									
im	3.5	5	5	0.092 (153)	(B1,119)	(D)		#R (15)	10
disulfide	700							300 R (5,68)	
nine	700	3000 (68)	166 / 581 (7)		(D)				
e		(D)	7 / 24 (7)						
e									106,000
e	700	4000 (68)				(D,68)			
e dioxide		800 (68)	60 / 210 (7)		(D)	(D,68)			
	21	800 (68)	7 / 24 (7)		(D)	(D,68)			
um (III)					10,500 (D)				
um (VI)	21			0.18	(A / D,155)			# (15)	100
um (total)		1000 (10-day)				(D)			
									50
					(D)	(D,68)			200
cyanide	35								
vity									
e	140	200			(D)	(D)			
gen bromide	630								
gen chloride	350	50 (10-day)				(D)			
e	420								1000
ine				0.012	0.01 (B2)			0.02 #	
ine sulfate				0.012	0.01 (B2)			0.1 #	
en selenide									
en sulfide	21								
			1190						
									5000
				4.1	(B2)	(B2)		0.25 #R (5)	5000
nese	330				(D)				200
ic chloride	0.2				(C)			R	
y, inorganic		2			(D)	(D)		R	
lenum	35	40 (68)				(D,68)			10
	140	100		(15)				# (15)	200
carbonyl					(B2)			#R	
subsulfide				0.021	(A)			# (15)	
	11,000 (89)	10,000 (10-day,89)							

WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS in ug/l (ppb) unless noted

RGANIC STITUENT	USEPA National Recommended Ambient Water Quality Criteria											
	Human Health and Welfare Protection					Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
ty						≥20,000 (9,51)						
um						87 (2,62)		750 (2,62)				
um phosphide												
ia						see page 13		see page 13				
ium sulfamate												
ny	14 (2)	4300 (2)								9000	1600	610 (38)
			0.018 (2,94)	0.14 (2,94)		150 (1)		340 (1)				
os			7 MFL (101)									
	1000 (51)											
im										130	5.3	
im oxide												
m sulfate												
e												
e												
e												
rm						see page 15 (1)		see page 15 (1)				
disulfide												
mine												
e												
e						230,000 (4)		860,000 (4)				
e						11 (98)		19 (98)				
e dioxide												
ium (III)						see page 17 (1)		see page 17 (1)				
ium (VI)						11 (1)		16 (1)				
ium (total)												
					(51,130)				(51,131)			
	1300				1000	see page 18 (1)		see page 18 (1)				
cyanide												
ivity												
e	700	220,000				5.2 (137)		22 (137)				
gen bromide												
gen chloride												
e												
ine												
ine sulfate												
gen selenide												
gen sulfide									2 (51)			
					300 (51)				1000 (51)			
						see page 19 (1)		see page 19 (1)				
nese		100 (51,127)			50 (51)							
ic chloride												
y, inorganic	0.050 (2)	0.051 (2)				0.77 (1,140)		1.4 (1,140)				
lenum												
	610 (2)	4600 (2)				see page 20 (1)		see page 20 (1)				
carbonyl												
subsulfide												
	10,000 (51,89)											

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WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS in ug/l (ppb) unless noted

RGANIC STITUENT	California Toxics Rule Criteria (USEPA)								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	(30-day Average) aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
ly									
um									
um phosphide									
lia									
ium sulfamate									
ny	14 (2)	4300 (2)				4300 (2)			
			150 (1,142)	340 (1,142)			36 (1,142)	69 (1,142)	
os	7 MFL (101,143)								
m									
m oxide									
m sulfate									
e									
e									
e									
rm			see page 15 (1,142)	see page 15 (1,142)			9.3 (1,142)	42 (1,142)	
disulfide									
nine									
e									
e									
e									
e dioxide									
um (III)			see page 16 (1,143)	see page 16 (1,143)					
um (VI)			11 (1,142)	16 (1,142)			50 (1,142)	1100 (1,142)	
um (total)									
	1300 (2,142)		see page 18 (1,142)	see page 18 (1,142)			3.1 (1,142)	4.8 (1,142)	
cyanide									
vity									
e	700 (142)	220,000 (142)	5.2 (142,143)	22 (142,143)		220,000 (142)	1 (142,143)	1 (142,143)	
gen bromide									
gen chloride									
e									
ine									
ine sulfate									
en selenide									
en sulfide									
			see page 19 (1,142)	see page 19 (1,142)			8.1 (1,142)	210 (1,142)	
nese									
ic chloride									
y, inorganic	0.05 (2,142)	0.051 (2,142)				0.051 (2,142)			
enum									
	610 (2,142)	4600 (2,142)	see page 20 (1,142)	see page 20 (1,142)		4600 (2,142)	8.2 (1,142)	74 (1,142)	
carbonyl									
subsulfide									

10440

WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS in ug/l (ppb) unless noted

RGANIC STITUENT	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria Saltwater Aquatic Life Protection						
	Human Health (30-day Average) aquatic organism consumption only	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
		6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
ty													
um													
um phosphide													
ia		600 (89)			2400 (89)	6000 (89)	35 (112)		233 (112)				
ium sulfamate													
ny	1200												
		8			32	80	36 (1)		69 (1)				
os													
m	0.033 #												
m oxide													
m sulfate													
e													
e													
e													
im		1			4	10	9.3 (1)		42 (1)				
disulfide													
nine													
e													
e													
e		2 (90)			8 (90)	60 (90)	7.5 (99)		13 (99)				
e dioxide													
um (III)	190,000										10,300 (96)		
um (VI)		2 (12)			8 (12)	20 (12)	50 (1)		1100 (1)				
um (total)		2 (12)			8 (12)	20 (12)							
										(51,131)			
		3			12	30	3.1 (1)		4.8 (1)				
cyanide													
vity													
e		1			4	10	1 (137)		1 (137)				
en bromide													
en chloride													
e													
ine													
ine sulfate													
en selenide													
en sulfide										2 (51)			
		2			8	20	8.1 (1)		210 (1)				
ese													
c chloride													
y, inorganic		0.04			0.16	0.4	0.94 (1,140)		1.8 (1,140)				
enum													
		5			20	50	8.2 (1)		74 (1)				
carbonyl													
subsulfide													

10441

WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS in ug/l (ppb) unless noted

GANIC STITUENT	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
y				
ım	7429-90-5	Al		
ım phosphide	20859-73-8	Celphos	Phostoxin	
ia	7664-41-7	NH3	NH4+ (ammonium)	
ium sulfamate	7773-06-0			
ıy	7440-36-0	Sb		
	7440-38-2	As		
	7784-42-1	AsH3		
ıs	1332-21-4			
	7440-39-3	Ba		
m	7440-41-7	Be		
m oxide	1304-56-9			
m sulfate	13510-49-1			
	7440-42-8	B		
e	15541-45-4			
e		Br-		
e	7726-95-6			
m	7440-43-9	Cd		
disulfide	75-15-0	Carbon bisulfide	CS2	
nine	127-65-1	NH2Cl	Monochloramine	
e		ClO3-		
e	16887-00-6	Cl-		
e	7782-50-5	Cl2		
e dioxide	10049-04-4	ClO2		
	7758-19-2	ClO2-		
ım (III)	16065-83-1	Cr (III)	Chromium, trivalent	
ım (VI)	7440-47-3	Cr (VI)	Chromium, hexavalent	
ım (total)	7440-47-3	Cr		
	7440-48-4	Co		
	7440-50-8	Cu		
cyanide	544-92-3	Cupricin	Cuprous cyanide	Cyanide, copper
vity				
e	57-12-5	CN-	HCN	Hydrogen cyanide
en bromide	506-68-3	Bromine cyanide		
en chloride	506-77-4	Chlorine cyanide		
e	7782-41-4	F-	Fluorine, soluble	
ne	302-01-2	H2NNH2	Diamine	
ne sulfate	10034-93-2			
en selenide	7783075	H2Se		
en sulfide	7783064	H2S		
		I-		
	7439-89-6	Fe		
	7439-92-1	Pb		
ese	7439-96-5	Mn		
c chloride	7487-94-7	HgCl2		
, inorganic	7439-97-6	Hg		
enum	7439-98-7	Mo		
	7440-02-0	Ni		
arbonyl	13463-39-3			
ubsulfide	12035-72-2			
	14797-55-8	NO3-		

WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS in ug/l (ppb) unless noted

RGANIC STITUENT	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) In Drinking Water (Office of Environmental Health Hazard Assessment)	California State Action Levels (Department of Health Services)		Other Taste & Odor Thresholds
	California Dept. of Health Services		U.S. Environmental Protection Agency						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal		Toxicity	Taste & Odor	
	1000 (103)		1000 (103)		1000 (89)	1000 (103)			
		3 threshold units		3 threshold units					
n tetroxide									12 (126)
ı, dissolved									
									0.28 (126)
rate							18		
				6.5 to 8.5 units					
ate phosphorus									
ine									0.2 (126)
orus									
ium bromate									
ium cyanide									
ium silver cyanide									
ctivity, Gross Alpha	15 pCi/L (110)		15 pCi/L (110)		zero (100)				
ctivity, Gross Beta	50 pCi/L		4 mrem/yr		zero (100)				
ı-226 + Radium-228	5 pCi/L		5 pCi/L		zero (100)				
			300 pCi/L (100)		zero (100)				
ım	50		50		50				
ble solids									
		100		100					
yanide									
ı									
ı azide									
ı cyanide									
c conductance (EC)		900 umhos/cm (74)							
ım									
ım-90	8 pCi/L								
		250,000 (73)	500,000 (100)	250,000	500,000 (100)				
fioxide									110 (126)
n	2		2		0.5	0.1			
issolved solids (TDS)		500,000 (75)		500,000					
	20,000 pCi/L								
ty		5 units	1.0/0.5/0.3 NTU (84)						
n	20 pCi/L		20ug/L = 30pCi/L (100)		zero (100)	0.2ug/L = 0.2pCi/L (100)			
ım									
		5000		5000					
anide									
osphide									

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WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS in ug/l (ppb) unless noted

RGANIC STITUENT	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Regulatory Level as a Drinking Water Level (14)	Agricultural Water Quality Goals (78)
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS) *Drinking Water and Health*		
	700	1000 (10-day,89)							
m tetroxide									
n, dissolved									
rate		20 - 40 (68)							
ate phosphorus									
ine	2				(D)				
orus	0.14 (40)	0.1 (40)			(D)	(D)			
ium bromate				0.071				0.5 #	
ium cyanide	350								
ium silver cyanide	1400								
ctivity, Gross Alpha						0.15 pCi/L (A,110)			
ctivity, Gross Beta						0.04 mrem/yr (A)			
n-226 + Radium-228						(A)			
						1.5 pCi/L (A)			
rm	35	50			(D)	(D)			20
ble solids									
	35	100			(D)	(D)			
yanide	700								
		2000 (57)							
azide	28								
cyanide	280								
c conductance (EC)									700 µmhos/cm
um	4200	4000 (68)	8400 (7-day)			(D,68)			
um-90						(A)			
dioxide									
n	0.6	0.5			(D)				
issolved solids (TDS)									450,000
						(A)		#	
ty									
m	21		35			(A)		#	
um	63 (123)					(D)			100
	2100	2000 (68)			(D)	(D,68)			2000
anide	350								
osphide	2								

WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS in ug/l (ppb) unless noted

RGANIC STITUENT	USEPA National Recommended Ambient Water Quality Criteria											
	Human Health and Welfare Protection					Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
n tetroxide												
ı, dissolved						see page 21	see page 21					
rate												
					5 to 9 units (51)				6.5 to 9.0 units (51)			
ate phosphorus						(141)						
ine												
orus												
ium bromate												
ium cyanide												
ium silver cyanide												
ctivity, Gross Alpha												
ctivity, Gross Beta												
-226 + Radium-228												
ım	170 (2)	11,000 (2)				5.0 (135)		(135,136)				
ble solids									(51,131)			
									see page 22 (1)			
yanide												
azide												
cyanide												
conductance (EC)												
ım												
ım-90												
					250,000 (51,133)							
lioxide												
n	1.7 (2)	6.3 (2)								1400	40	20 (16)
ssolved solids (TDS)					250,000 (51,133)							
y									(51,131)			
n												
um												
	9100 (2)	69,000 (2)			5000	see page 23 (1)		see page 23 (1)				
anide												
osphide												

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WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS in ug/l (ppb) unless noted

RGANIC STITUENT	California Toxics Rule Criteria (USEPA)							
	Inland Surface Waters					Enclosed Bays & Estuaries		
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health (30-day Average) aquatic organism consumption only	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum		Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
n tetroxide									
ı, dissolved									
rate									
ate phosphorus									
ine									
orus									
ium bromate									
ium cyanide									
ium silver cyanide									
ctivity, Gross Alpha									
ctivity, Gross Beta									
ı-226 + Radium-228									
ım			5.0 (97,142)	20 (85,142)			71 (1,142)	290 (1,142)	
ble solids									
				see page 22 (1,142)				1.9 (1,142)	
yanide									
ı									
ı azide									
ı cyanide									
: conductance (EC)									
ım									
ım-90									
lioxide									
n	1.7 (2,143)	6.3 (2,143)				6.3 (2,143)			
ssolved solids (TDS)									
y									
n									
um									
			see page 23 (1,142)	see page 23 (1,142)			81 (1,142)	90 (1,142)	
anide									
osphide									

10446

WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS in ug/l (ppb) unless noted

RGANIC STITUENT	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria Saltwater Aquatic Life Protection						
	Human Health (30-day Average) aquatic organism consumption only	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
		6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
n tetroxide													
), dissolved													
rate													
						6.0 to 9.0 units (117)				6.5 to 8.5 units (51,132)			
ate phosphorus							(141)						
ine													
orus										0.1 (51,79)			
ium bromate													
ium cyanide													
ium silver cyanide													
ctivity, Gross Alpha													
ctivity, Gross Beta													
n-226 + Radium-228													
um		15			60	150	71 (1)		290 (1)				
ble solids			1000 (117)	1500 (117)		3000 (117)							
		0.7			2.8	7				1.9 (1)			
yanide													
azide													
cyanide													
conductance (EC)													
um													
um-90													
lioxide													
n	14										2130		
issolved solids (TDS)													
ty			75 NTU (117)	100 NTU (117)		225 NTU (117)							
n													
um													
		20			80	200	81 (1)		90 (1)				
anide													
osphide													

10447

WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS in ug/l (ppb) unless noted

RGANIC STITUENT	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
	14797-65-0	NO2-		
n tetroxide	20816-12-0	OsO4		
ı, dissolved	7782447	Dissolved Oxygen	O2	DO
	10028-15-6	O3		
rate		ClO4-		
		negative log of H+ concentration		
ate phosphorus				
ine	7803-51-2	Hydrogen phosphide		
orus	7723-14-0	P		
ium bromate	7758012			
ium cyanide	151-50-8	Cyanide, potassium		
ium silver cyanide	506-61-6	Silver potassium cyanide		
ctivity, Gross Alpha		Gross Alpha radioactivity		
ctivity, Gross Beta		Gross Beta radioactivity		
ı-226 + Radium-228	7440-14-4	226Ra + 228Ra		
	14859-67-7	Rn		
ım	7782-49-2	Se		
ble solids				
	7440-22-4	Ag		
yanide	506-64-9	Cyanide, silver		
ı	7440-23-5	Na		
ı azide	26628-22-8	Azide, sodium		
ı cyanide	143-33-9	Cyanide, sodium		
; conductance (EC)		Electrical Conductivity	Conductivity	EC
ım	7440-24-6	Sr		
ım-90		^{90}Sr		
		SO4=		
floxide	7446095			
ı	7440-28-0	Th		
issolved solids (TDS)		TDS		
	10028-17-8	^{3}H		
ly				
ı	7440-61-1	U		
um	7440-62-2	V		
	7440-66-6	Zn		
anide	557-21-1	Cyanide, zinc		
osphide	1314-84-7			

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WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS
FRESHWATER AQUATIC LIFE - AMMONIA

USEPA National Ambient Water Quality Criteria to Protect Freshwater Aquatic Life

Total Ammonia Nitrogen

Continuous Concentration, 30-day Avg. (mg N/L)‡

pH	Fish Early Life Stages Present — Temperature, C										Fish Early Life Stages Absent — Temperature, C										Maximum Concentration 1-hour Avg. (mg N/L)		pH
	0	14	16	18	20	22	24	26	28	30	0-7	8	9	10	11	12	13	14	15†	16†	Salmonids Present	Salmonids Absent	
6.5	6.67	6.67	6.06	5.33	4.68	4.12	3.62	3.18	2.80	2.46	10.8	10.1	9.51	8.92	8.36	7.84	7.35	6.89	6.46	6.06	32.6	48.8	6.5
6.6	6.57	6.57	5.97	5.25	4.61	4.05	3.56	3.13	2.75	2.42	10.7	9.99	9.37	8.79	8.24	7.72	7.24	6.79	6.36	5.97	31.3	46.8	6.6
6.7	6.44	6.44	5.86	5.15	4.52	3.98	3.50	3.07	2.70	2.37	10.5	9.81	9.20	8.62	8.08	7.58	7.11	6.66	6.25	5.86	29.8	44.6	6.7
6.8	6.29	6.29	5.72	5.03	4.42	3.89	3.42	3.00	2.64	2.32	10.2	9.58	8.98	8.42	7.90	7.40	6.94	6.51	6.10	5.72	28.0	42.0	6.8
6.9	6.12	6.12	5.56	4.89	4.30	3.78	3.32	2.92	2.57	2.25	9.93	9.31	8.73	8.19	7.68	7.20	6.75	6.33	5.93	5.56	26.2	39.2	6.9
7.0	5.91	5.91	5.37	4.72	4.15	3.65	3.21	2.82	2.48	2.18	9.60	9.00	8.43	7.91	7.41	6.95	6.52	6.11	5.73	5.37	24.1	36.1	7.0
7.1	5.67	5.67	5.15	4.53	3.98	3.50	3.08	2.70	2.38	2.09	9.20	8.63	8.09	7.58	7.11	6.67	6.25	5.86	5.49	5.15	21.9	32.9	7.1
7.2	5.39	5.39	4.90	4.31	3.78	3.33	2.92	2.57	2.26	1.99	8.75	8.20	7.69	7.21	6.76	6.34	5.94	5.57	5.22	4.90	19.7	29.5	7.2
7.3	5.08	5.08	4.61	4.06	3.57	3.13	2.76	2.42	2.13	1.87	8.24	7.73	7.25	6.79	6.37	5.97	5.60	5.25	4.92	4.61	17.5	26.2	7.3
7.4	4.73	4.73	4.30	3.78	3.32	2.92	2.57	2.26	1.98	1.74	7.69	7.21	6.76	6.33	5.94	5.57	5.22	4.89	4.59	4.30	15.3	23.0	7.4
7.5	4.36	4.36	3.97	3.49	3.06	2.69	2.37	2.08	1.83	1.61	7.09	6.64	6.23	5.84	5.48	5.13	4.81	4.51	4.23	3.97	13.3	19.9	7.5
7.6	3.98	3.98	3.61	3.18	2.79	2.45	2.16	1.90	1.67	1.47	6.46	6.05	5.67	5.32	4.99	4.68	4.38	4.11	3.85	3.61	11.4	17.0	7.6
7.7	3.58	3.58	3.25	2.86	2.51	2.21	1.94	1.71	1.50	1.32	5.81	5.45	5.11	4.79	4.49	4.21	3.95	3.70	3.47	3.25	9.64	14.4	7.7
7.8	3.18	3.18	2.89	2.54	2.23	1.96	1.73	1.52	1.33	1.17	5.17	4.84	4.54	4.26	3.99	3.74	3.51	3.29	3.09	2.89	8.11	12.1	7.8
7.9	2.80	2.80	2.54	2.24	1.96	1.73	1.52	1.33	1.17	1.03	4.54	4.26	3.99	3.74	3.51	3.29	3.09	2.89	2.71	2.54	6.77	10.1	7.9
8.0	2.43	2.43	2.21	1.94	1.71	1.50	1.32	1.16	1.02	0.897	3.95	3.70	3.47	3.26	3.05	2.86	2.68	2.52	2.36	2.21	5.62	8.41	8.0
8.1	2.10	2.10	1.91	1.68	1.47	1.29	1.14	1.00	0.879	0.773	3.41	3.19	2.99	2.81	2.63	2.47	2.31	2.17	2.03	1.91	4.64	6.95	8.1
8.2	1.79	1.79	1.63	1.43	1.26	1.11	0.973	0.855	0.752	0.661	2.91	2.73	2.56	2.40	2.25	2.11	1.98	1.85	1.74	1.63	3.83	5.73	8.2
8.3	1.52	1.52	1.39	1.22	1.07	0.941	0.827	0.727	0.639	0.562	2.47	2.32	2.18	2.04	1.91	1.79	1.68	1.58	1.48	1.39	3.15	4.71	8.3
8.4	1.29	1.29	1.17	1.03	0.906	0.796	0.700	0.615	0.541	0.475	2.09	1.96	1.84	1.73	1.62	1.52	1.42	1.33	1.25	1.17	2.59	3.88	8.4
8.5	1.09	1.09	0.990	0.870	0.765	0.672	0.591	0.520	0.457	0.401	1.77	1.66	1.55	1.46	1.37	1.28	1.20	1.13	1.06	0.990	2.14	3.20	8.5
8.6	0.920	0.920	0.836	0.735	0.646	0.568	0.499	0.439	0.386	0.339	1.49	1.40	1.31	1.23	1.15	1.08	1.01	0.951	0.892	0.836	1.77	2.65	8.6
8.7	0.778	0.778	0.707	0.622	0.547	0.480	0.422	0.371	0.326	0.287	1.26	1.18	1.11	1.04	0.976	0.915	0.858	0.805	0.754	0.707	1.47	2.20	8.7
8.8	0.661	0.661	0.601	0.528	0.464	0.408	0.359	0.315	0.277	0.244	1.07	1.01	0.944	0.885	0.829	0.778	0.729	0.684	0.641	0.601	1.23	1.84	8.8
8.9	0.565	0.565	0.513	0.451	0.397	0.349	0.306	0.269	0.237	0.208	0.917	0.860	0.806	0.756	0.709	0.664	0.623	0.584	0.548	0.513	1.04	1.56	8.9
9.0	0.486	0.486	0.442	0.389	0.342	0.300	0.264	0.232	0.204	0.179	0.790	0.740	0.694	0.651	0.610	0.572	0.536	0.503	0.471	0.442	0.885	1.32	9.0

Notes:

† At 15 C and above, the criterion for fish early life stages absent is the same as the criterion for fish early life stages present.

‡ In addition, the highest four-day average within the 30-day period should not exceed 2.5 times the Criteria Continuous Concentration shown in the above table.

Criteria Continuous Concentration

30-day average total ammonia nitrogen (in mg N/L) ‡

when fish early life stages are present:

$$CCC = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}}\right) \times MIN\left(2.85, 1.45\times 10^{0.028\times(25-T)}\right)$$

when fish early life stages are absent:

$$CCC = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}}\right) \times 1.45\times 10^{0.028\times(25-MAX(T,7))}$$

where T = temperature in degrees C

Criteria Maximum Concentration

1-hour average total ammonia nitrogen (in mg N/L)

where salmonid fish are present:

$$CMC = \frac{0.275}{1+10^{7.204-pH}} + \frac{39.0}{1+10^{pH-7.204}}$$

where salmonid fish are not present:

$$CMC = \frac{0.411}{1+10^{7.204-pH}} + \frac{58.4}{1+10^{pH-7.204}}$$

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WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS
SALTWATER AQUATIC LIFE - AMMONIA

USEPA National Ambient Water Quality Criteria to Protect Saltwater Aquatic Life
Total Ammonia

Criteria Continuous Concentrations, 4-day Avg. (mg/L)

Salinity = 10 g/kg

pH	Temperature, C 0	5	10	15	20	25	30	35
7.0	41	29	20	14	9.4	6.6	4.4	3.1
7.2	26	18	12	8.7	5.9	4.1	2.8	2.0
7.4	17	12	7.8	5.3	3.7	2.6	1.8	1.2
7.6	10	7.2	5.0	3.4	2.4	1.7	1.2	0.84
7.8	6.6	4.7	3.1	2.2	1.5	1.1	0.75	0.53
8.0	4.1	2.9	2.0	1.40	0.97	0.69	0.47	0.34
8.2	2.7	1.8	1.3	0.87	0.62	0.44	0.31	0.23
8.4	1.7	1.2	0.81	0.56	0.41	0.29	0.21	0.16
8.6	1.1	0.75	0.53	0.37	0.27	0.20	0.15	0.11
8.8	0.69	0.50	0.34	0.25	0.18	0.14	0.11	0.08
9.0	0.44	0.31	0.23	0.17	0.13	0.10	0.08	0.07

Salinity = 20 g/kg

pH	0	5	10	15	20	25	30	35
7.0	44	30	21	14	9.7	6.6	4.7	3.1
7.2	27	19	13	9.0	6.2	4.4	3.0	2.1
7.4	18	12	8.1	5.6	4.1	2.7	1.9	1.3
7.6	11	7.5	5.3	3.4	2.5	1.7	1.2	0.84
7.8	6.9	4.7	3.4	2.3	1.6	1.1	0.78	0.53
8.0	4.4	3.0	2.1	1.5	1.0	0.72	0.50	0.34
8.2	2.8	1.9	1.3	0.94	0.66	0.47	0.31	0.24
8.4	1.8	1.2	0.84	0.59	0.44	0.30	0.22	0.16
8.6	1.1	0.78	0.56	0.41	0.28	0.20	0.15	0.12
8.8	0.72	0.50	0.37	0.26	0.19	0.14	0.11	0.08
9.0	0.47	0.34	0.24	0.18	0.13	0.10	0.08	0.07

Salinity = 30 g/kg

pH	0	5	10	15	20	25	30	35
7.0	47	31	22	15	11	7.2	5.0	3.4
7.2	29	20	14	9.7	6.6	4.7	3.1	2.2
7.4	19	13	8.7	5.6	4.1	2.9	2.0	1.4
7.6	12	8.1	5.6	3.7	3.1	1.8	1.3	0.90
7.8	7.5	5.0	3.4	2.4	1.7	1.2	0.81	0.56
8.0	4.7	3.1	2.2	1.6	1.1	0.75	0.53	0.37
8.2	3.0	2.1	1.4	1.0	0.69	0.50	0.34	0.25
8.4	1.9	1.3	0.90	0.62	0.44	0.31	0.23	0.17
8.6	1.2	0.84	0.59	0.41	0.30	0.22	0.16	0.12
8.8	0.78	0.53	0.37	0.27	0.20	0.15	0.11	0.09
9.0	0.50	0.34	0.26	0.19	0.14	0.11	0.08	0.07

Criteria Maximum Concentrations, 1-hour Avg. (mg/L)

Salinity = 10 g/kg

pH	Temperature, C 0	5	10	15	20	25	30	35
7.0	270	191	131	92	62	44	29	21
7.2	175	121	83	58	40	27	19	13
7.4	110	77	52	35	25	14	12	8.3
7.6	69	48	33	23	16	11	7.7	5.6
7.8	44	31	21	15	10	7.1	5.0	3.5
8.0	27	19	13	9.4	6.4	4.6	3.1	2.3
8.2	18	12	8.5	5.8	4.2	2.9	2.1	1.5
8.4	11	7.9	5.4	3.7	2.7	1.9	1.4	1.0
8.6	7.3	5.0	3.5	2.5	1.8	1.3	0.98	0.75
8.8	4.6	3.3	2.3	1.7	1.2	0.92	0.71	0.56
9.0	2.9	2.1	1.5	1.1	0.85	0.67	0.52	0.44

Salinity = 20 g/kg

pH	0	5	10	15	20	25	30	35
7.0	291	200	137	96	64	44	31	21
7.2	183	125	87	60	42	29	20	14
7.4	116	79	54	37	27	18	12	8.7
7.6	73	50	35	23	17	11	7.9	5.6
7.8	46	31	23	15	11	7.5	5.2	3.5
8.0	29	20	14	9.8	6.7	4.8	3.3	2.3
8.2	19	13	8.9	6.2	4.4	3.1	2.1	1.6
8.4	12	8.1	5.6	4.0	2.9	2.0	1.5	1.1
8.6	7.5	5.2	3.7	2.7	1.9	1.4	1.0	0.77
8.8	4.8	3.3	2.5	1.7	1.3	0.94	0.73	0.56
9.0	3.1	2.3	1.6	1.2	0.87	0.69	0.54	0.44

Salinity = 30 g/kg

pH	0	5	10	15	20	25	30	35
7.0	312	208	148	102	71	48	33	23
7.2	196	135	94	64	44	31	21	15
7.4	125	85	58	40	27	19	13	9.4
7.6	79	54	37	25	21	12	8.5	6.0
7.8	50	33	23	16	11	7.9	5.4	3.7
8.0	31	21	15	10	7.3	5.0	3.5	2.5
8.2	20	14	9.6	6.7	4.6	3.3	2.3	1.7
8.4	12.7	8.7	6.0	4.2	2.9	2.1	1.6	1.1
8.6	8.1	5.6	4.0	2.7	2.0	1.4	1.1	0.81
8.8	5.2	3.5	2.5	1.8	1.3	1.0	0.75	0.58
9.0	3.3	2.3	1.7	1.2	0.94	0.71	0.56	0.46

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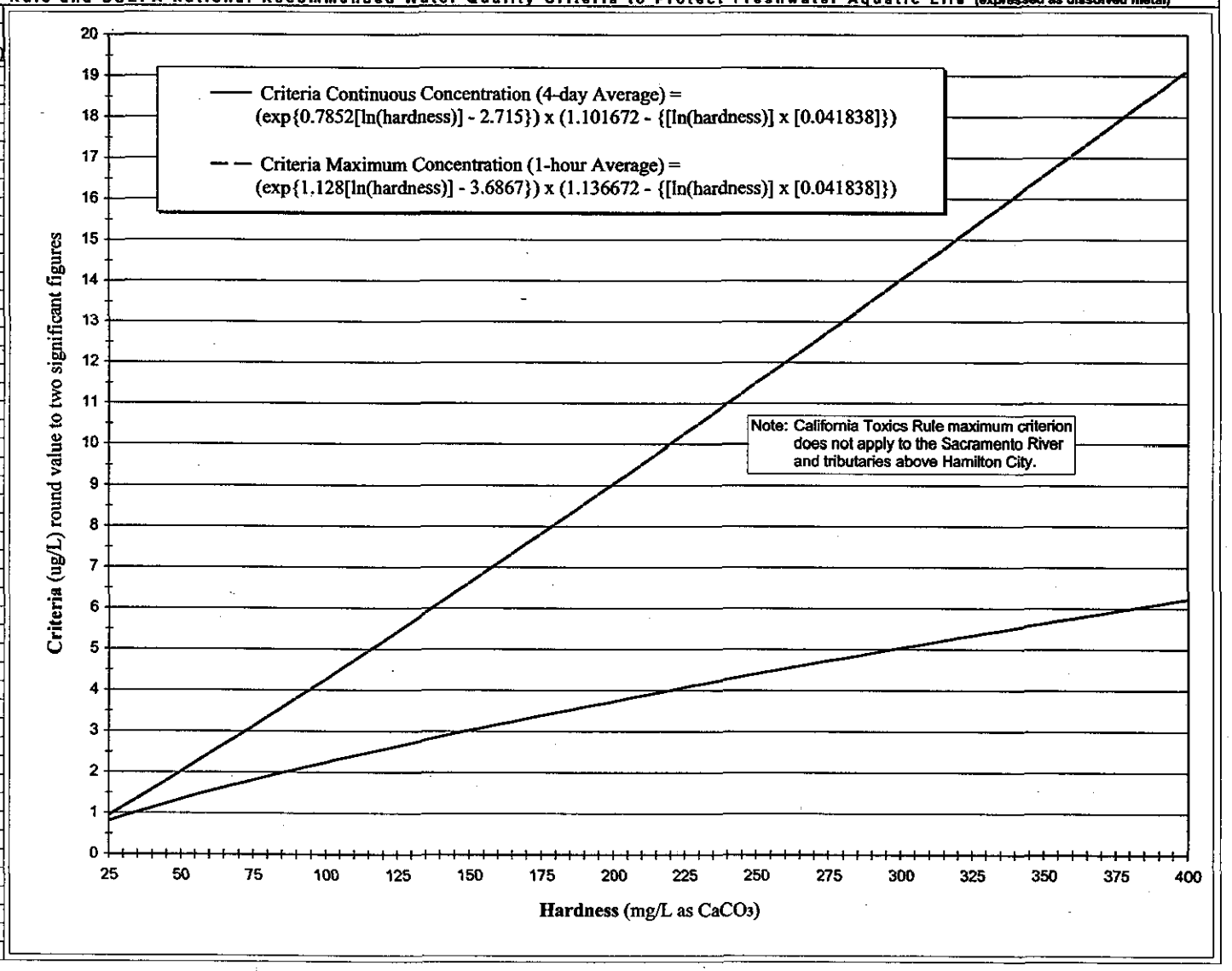
WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS
FRESHWATER AQUATIC LIFE - CADMIUM

California Toxics Rule and USEPA National Recommended Water Quality Criteria to Protect Freshwater Aquatic Life (expressed as dissolved metal)

Hardness (mg/L as $CaCO_3$)	Cadmium	
	Continuous Conc. 4-day Avg. (ug/L)	Maximum Conc. 1-hour Avg. (ug/L)
< 25	use formula	use formula
25	0.80	0.95
30	0.92	1.2
35	1.0	1.4
40	1.1	1.6
45	1.2	1.8
50	1.3	2.0
55	1.4	2.2
60	1.5	2.5
65	1.6	2.7
70	1.7	2.9
75	1.8	3.1
80	1.9	3.3
85	2.0	3.6
90	2.1	3.8
95	2.2	4.0
100	2.2	4.3
110	2.4	4.7
120	2.6	5.2
130	2.7	5.7
140	2.9	6.1
150	3.0	6.6
160	3.2	7.1
170	3.3	7.6
180	3.5	8.1
190	3.6	8.5
200	3.7	9.0
210	3.9	9.5
220	4.0	10
230	4.1	11
240	4.3	11
250	4.4	12
260	4.5	12
270	4.7	12
280	4.8	13
290	4.9	14
300	5.0	14
310	5.2	15
320	5.3	15
330	5.4	16
340	5.5	16
350	5.6	17
360	5.8	17
370	5.9	18
380	6.0	18
390	6.1	19
400	6.2	19
> 400	6.2	19



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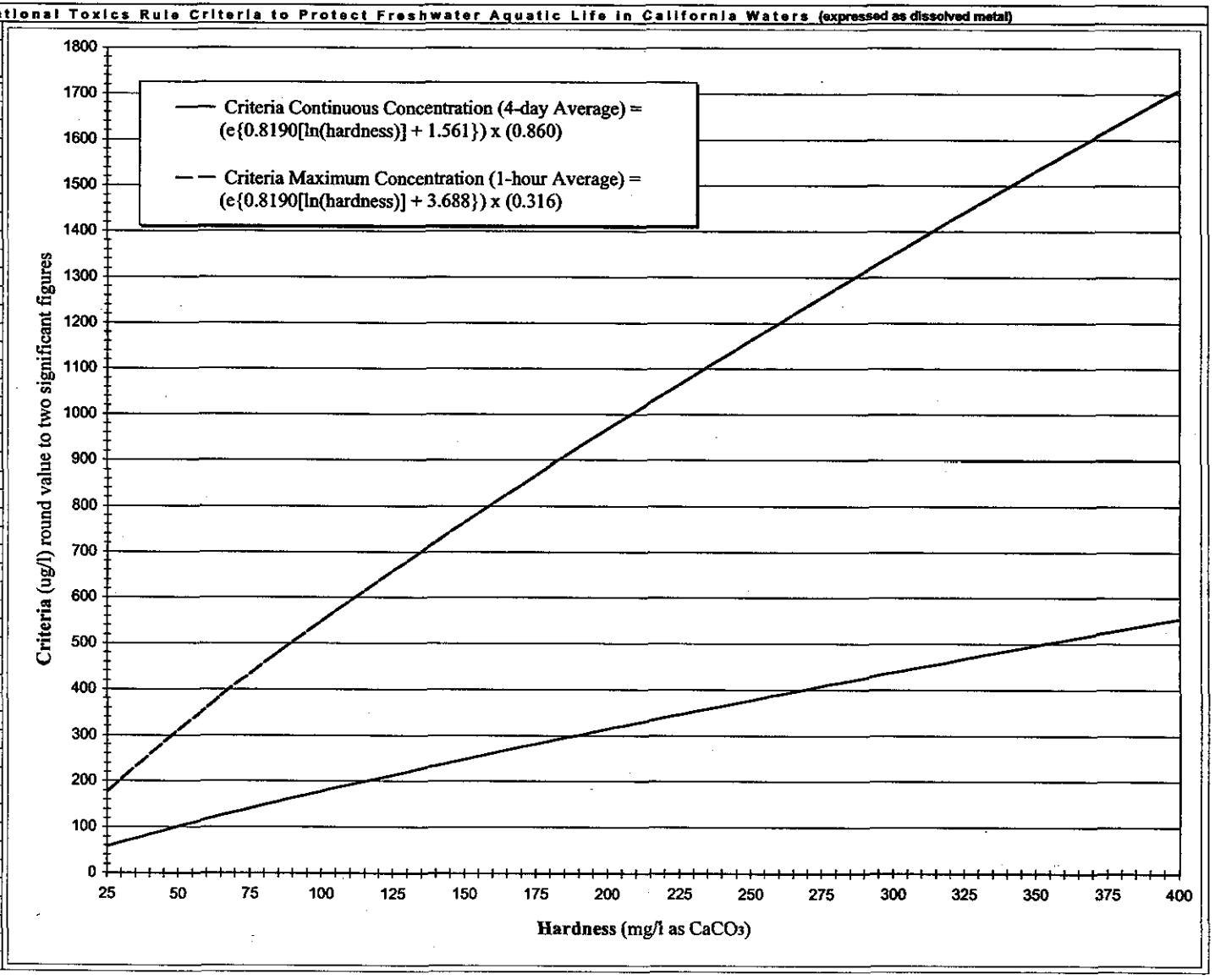
WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS
FRESHWATER AQUATIC LIFE - CHROMIUM (III)

Hardness (mg/l as $CaCO_3$)	Chromium (III) Continuous Conc. 4-day Avg. (ug/l)	Chromium (III) Maximum Conc. 1-hour Avg. (ug/l)
< 25	use formula	use formula
25	57	180
30	66	200
35	75	230
40	84	260
45	93	290
50	100	310
55	110	340
60	120	360
65	130	390
70	130	410
75	140	430
80	150	460
85	160	480
90	160	500
95	170	530
100	180	550
110	190	590
120	210	640
130	220	680
140	230	720
150	250	760
160	260	810
170	270	850
180	290	890
190	300	930
200	310	970
210	330	1000
220	340	1000
230	350	1100
240	360	1100
250	380	1200
260	390	1200
270	400	1200
280	410	1300
290	430	1300
300	440	1300
310	450	1400
320	460	1400
330	470	1500
340	480	1500
350	500	1500
360	510	1600
370	520	1600
380	530	1600
390	540	1700
400	550	1700
> 400	550	1700



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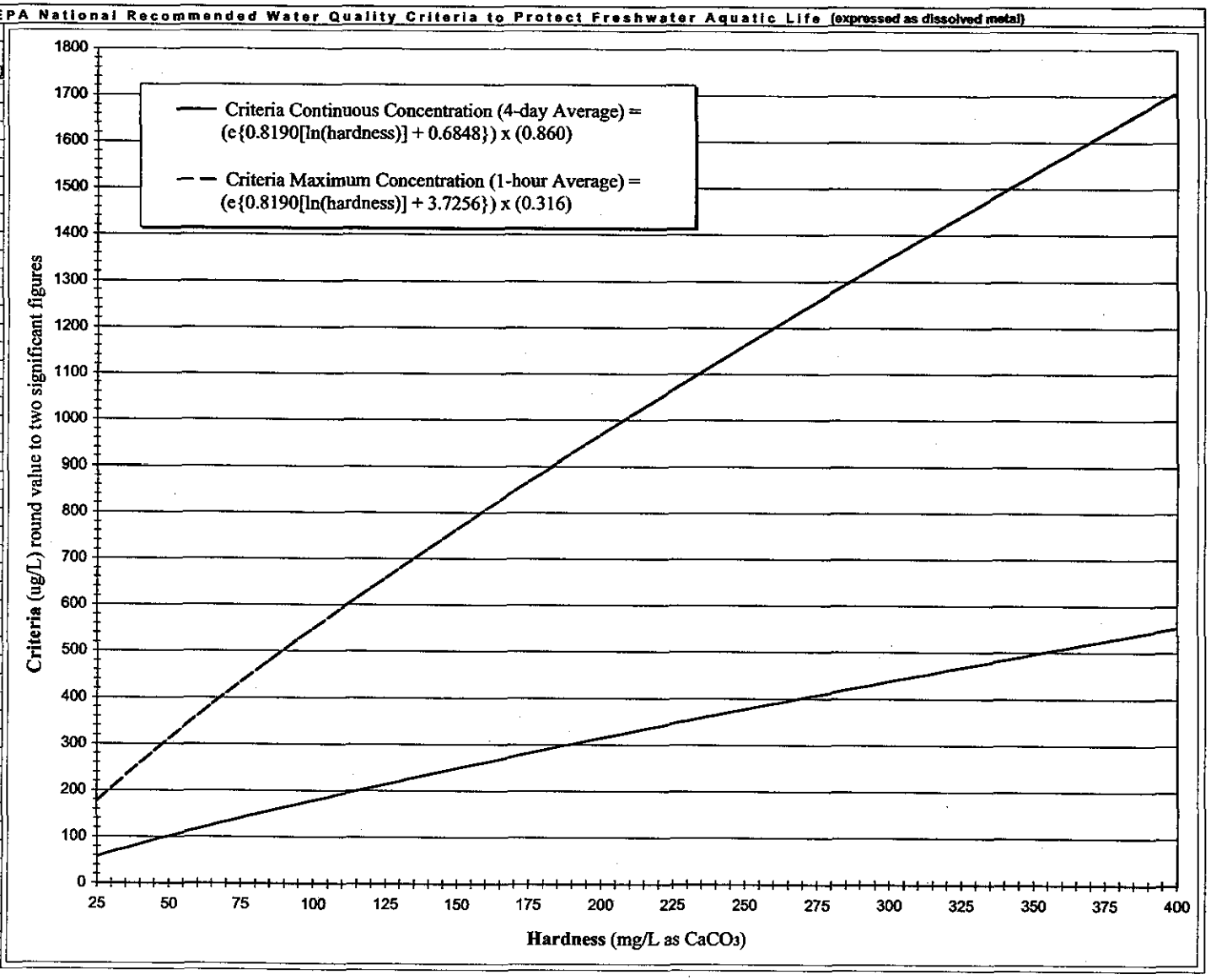
WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS
FRESHWATER AQUATIC LIFE - CHROMIUM (III)

Hardness (mg/L as $CaCO_3$)	Chromium (III) Continuous Conc. 4-day Avg. (ug/L)	Chromium (III) Maximum Conc. 1-hour Avg. (ug/L)
< 25	use formula	use formula
25	24	180
30	28	210
35	31	240
40	35	270
45	39	300
50	42	320
55	45	350
60	49	370
65	52	400
70	55	430
75	59	450
80	62	470
85	65	500
90	68	520
95	71	550
100	74	570
110	80	620
120	86	660
130	92	710
140	98	750
150	100	790
160	110	840
170	110	880
180	120	920
190	130	960
200	130	1000
210	140	1000
220	140	1100
230	150	1100
240	150	1200
250	160	1200
260	160	1200
270	170	1300
280	170	1300
290	180	1400
300	180	1400
310	190	1400
320	190	1500
330	200	1500
340	200	1600
350	210	1600
360	210	1600
370	220	1700
380	220	1700
390	230	1700
400	230	1800
> 400	230	1800



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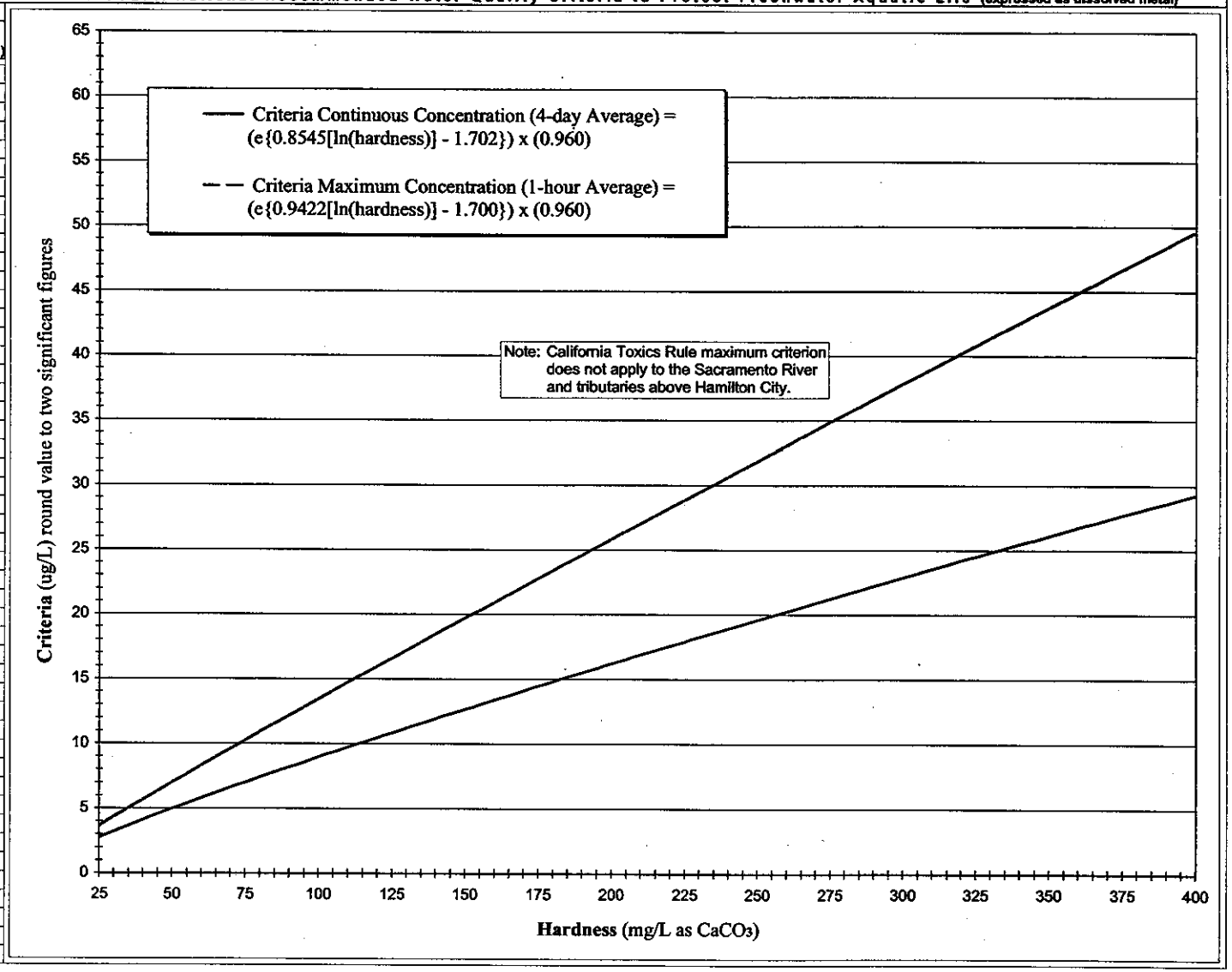
WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS
FRESHWATER AQUATIC LIFE - COPPER

California Toxics Rule and USEPA National Recommended Water Quality Criteria to Protect Freshwater Aquatic Life (expressed as dissolved metal)

Hardness (mg/L as CaCO3)	Copper	
	Continuous Conc. 4-day Avg. (ug/L)	Maximum Conc. 1-hour Avg. (ug/L)
< 25	use formula	use formula
25	2.7	3.6
30	3.2	4.3
35	3.7	5.0
40	4.1	5.7
45	4.5	6.3
50	5.0	7.0
55	5.4	7.7
60	5.8	8.3
65	6.2	9.0
70	6.6	9.6
75	7.0	10
80	7.4	11
85	7.8	12
90	8.2	12
95	8.6	13
100	9.0	13
110	9.7	15
120	11	16
130	11	17
140	12	19
150	13	20
160	13	21
170	14	22
180	15	23
190	16	25
200	16	26
210	17	27
220	18	28
230	18	30
240	19	31
250	20	32
260	20	33
270	21	34
280	22	36
290	22	37
300	23	38
310	24	39
320	24	40
330	25	41
340	26	43
350	26	44
360	27	45
370	27	46
380	28	47
390	29	48
400	29	50
> 400	29	50



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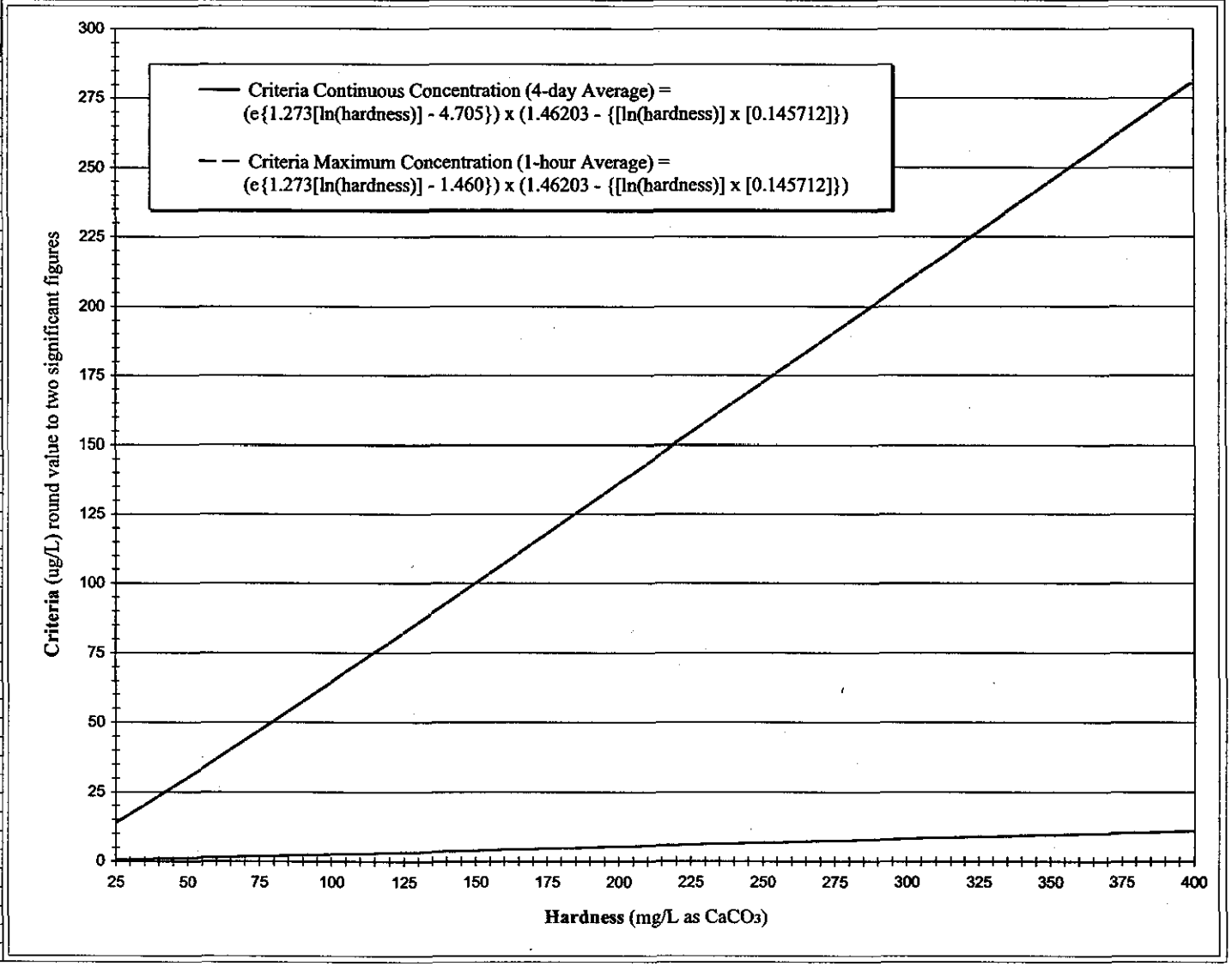
From References 17 and 26.

WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS
FRESHWATER AQUATIC LIFE - LEAD

California Toxics Rule and USEPA National Recommended Water Quality Criteria to Protect Freshwater Aquatic Life (expressed as dissolved metal)

Hardness (mg/L as $CaCO_3$)	Lead	
	Continuous Conc. 4-day Avg. (ug/L)	Maximum Conc. 1-hour Avg. (ug/L)
< 25	use formula	use formula
25	0.54	14
30	0.66	17
35	0.79	20
40	0.92	24
45	1.0	27
50	1.2	30
55	1.3	33
60	1.4	37
65	1.6	40
70	1.7	44
75	1.8	47
80	2.0	51
85	2.1	54
90	2.2	58
95	2.4	61
100	2.5	65
110	2.8	72
120	3.1	79
130	3.3	86
140	3.6	93
150	3.9	100
160	4.2	110
170	4.5	110
180	4.7	120
190	5.0	130
200	5.3	140
210	5.6	140
220	5.9	150
230	6.2	160
240	6.4	170
250	6.7	170
260	7.0	180
270	7.3	190
280	7.6	190
290	7.8	200
300	8.1	210
310	8.4	220
320	8.7	220
330	9.0	230
340	9.3	240
350	9.5	240
360	9.8	250
370	10	260
380	10	270
390	11	270
400	11	280
> 400	11	280



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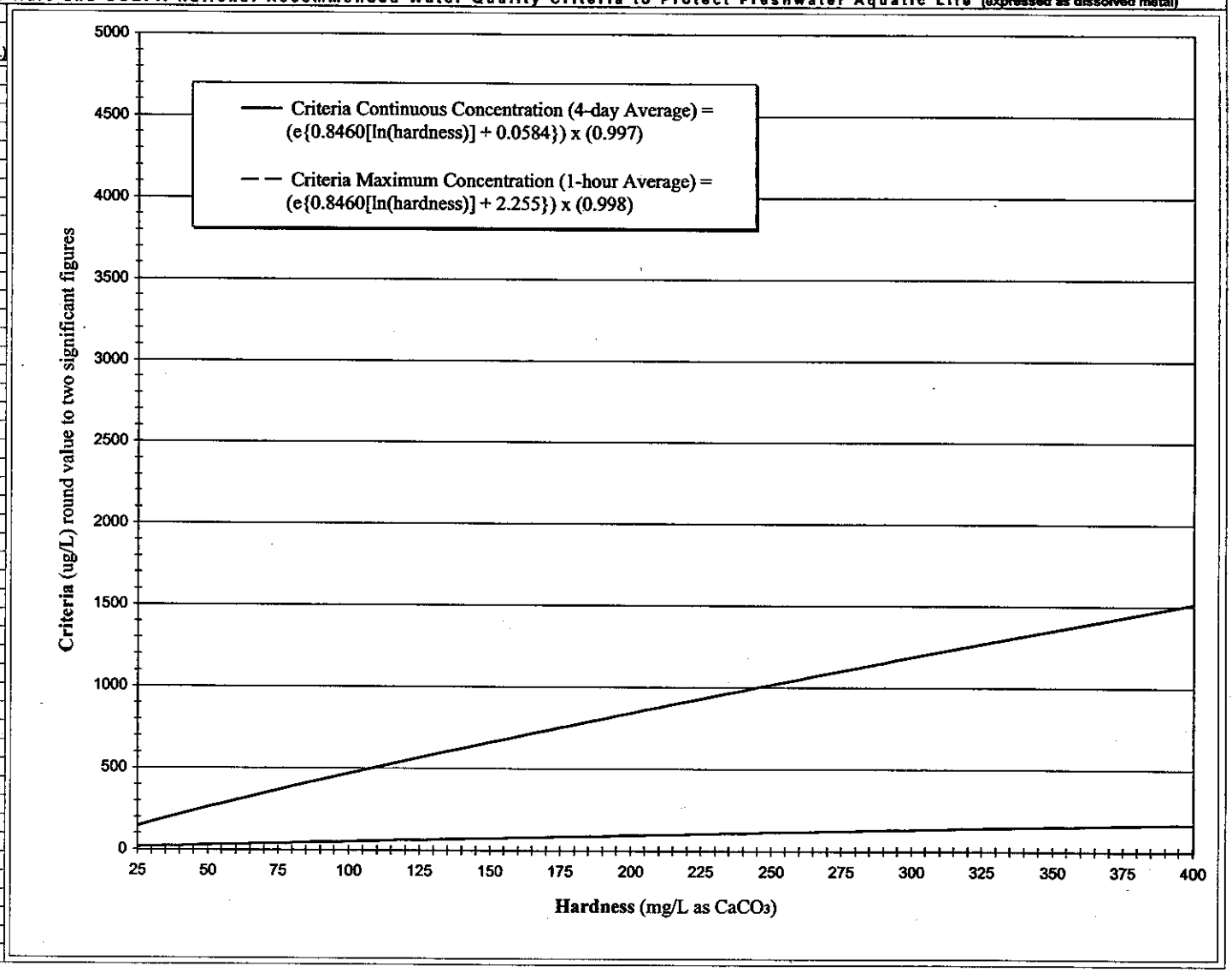
WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS
FRESHWATER AQUATIC LIFE - NICKEL

Hardness (mg/L as CaCO3)	California Toxics Rule and USEPA National Recommended Water Quality Criteria to Protect Freshwater Aquatic Life (expressed as dissolved metal)	
	Nickel	
	Continuous Conc. 4-day Avg. (ug/L)	Maximum Conc. 1-hour Avg. (ug/L)
< 25	use formula	use formula
25	16	140
30	19	170
35	21	190
40	24	220
45	26	240
50	29	260
55	31	280
60	34	300
65	36	330
70	38	350
75	41	370
80	43	390
85	45	410
90	48	430
95	50	450
100	52	470
110	56	510
120	61	550
130	65	580
140	69	620
150	73	660
160	77	700
170	81	730
180	86	770
190	90	810
200	93	840
210	97	880
220	100	910
230	110	950
240	110	980
250	110	1000
260	120	1100
270	120	1100
280	120	1100
290	130	1200
300	130	1200
310	140	1200
320	140	1300
330	140	1300
340	150	1300
350	150	1400
360	150	1400
370	160	1400
380	160	1400
390	160	1500
400	170	1500
> 400	170	1500



10456

WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS
FRESHWATER AQUATIC LIFE - OXYGEN, DISSOLVED

	USEPA National Ambient Water Quality Criteria to Protect Freshwater Aquatic Life — Dissolved Oxygen (mg/L)				
	Coldwater Criteria			Warmwater Criteria	
	Early Life Stages (a,b)		Other Life Stages	Early Life Stages (b)	Other Life Stages
	Water Column	Intergravel			
30-Day Mean	Not Applicable	Not Applicable	6.5	Not Applicable	5.5
7-Day Mean	9.5	6.5	Not Applicable	6.0	Not Applicable
7-Day Mean Minimum	Not Applicable	Not Applicable	5.0	Not Applicable	4.0
1-Day Minimum (c)	8.0	5.0	3.0	5.0	3.0

Notes:

(a) The water column concentrations are recommended to achieve the required intergravel dissolved oxygen concentrations. For species that have early life stages exposed directly to the water column, the intergravel concentrations apply.

(b) Includes all embryonic and larval stages and all juvenile forms to 30-days following hatching.

(c) For reservoirs or other manipulable discharges, the application of the one day minimum criterion must limit either the frequency of occurrence of values below the acceptable 7-day mean minimum or must impose further limits on the extent of excursions below the 7-day mean minimum. For such controlled discharges, it is recommended that the occurrence of the daily minima below the acceptable 7-day mean minimum be limited to 3 weeks per year or that the acceptable one-day minimum be increased to 4.0 mg/L for coldwater fish and 3.5 mg/L for warmwater fish.

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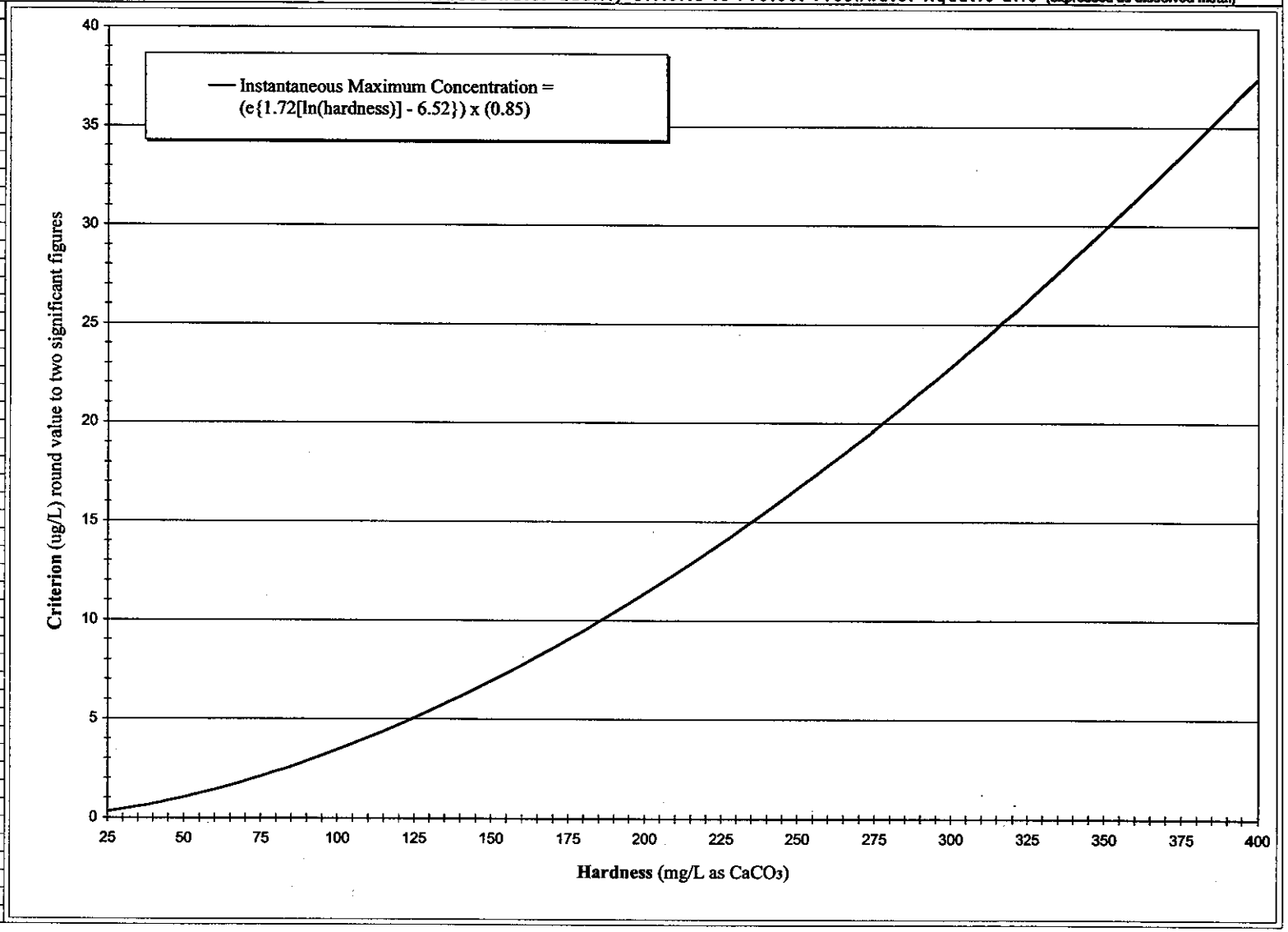
WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS
FRESHWATER AQUATIC LIFE - SILVER

Hardness (mg/L as $CaCO_3$)	California Toxics Rule and USEPA National Recommended Water Quality Criteria to Protect Freshwater Aquatic Life (expressed as dissolved metal) Silver Instantaneous Maximum (ug/L)
< 25	use formula
25	0.32
30	0.43
35	0.57
40	0.71
45	0.87
50	1.0
55	1.2
60	1.4
65	1.6
70	1.9
75	2.1
80	2.4
85	2.6
90	2.9
95	3.2
100	3.4
110	4.1
120	4.7
130	5.4
140	6.2
150	6.9
160	7.7
170	8.6
180	9.5
190	10
200	11
210	12
220	13
230	14
240	16
250	17
260	18
270	19
280	20
290	22
300	23
310	24
320	26
330	27
340	28
350	30
360	31
370	33
380	34
390	36
400	37
> 400	37



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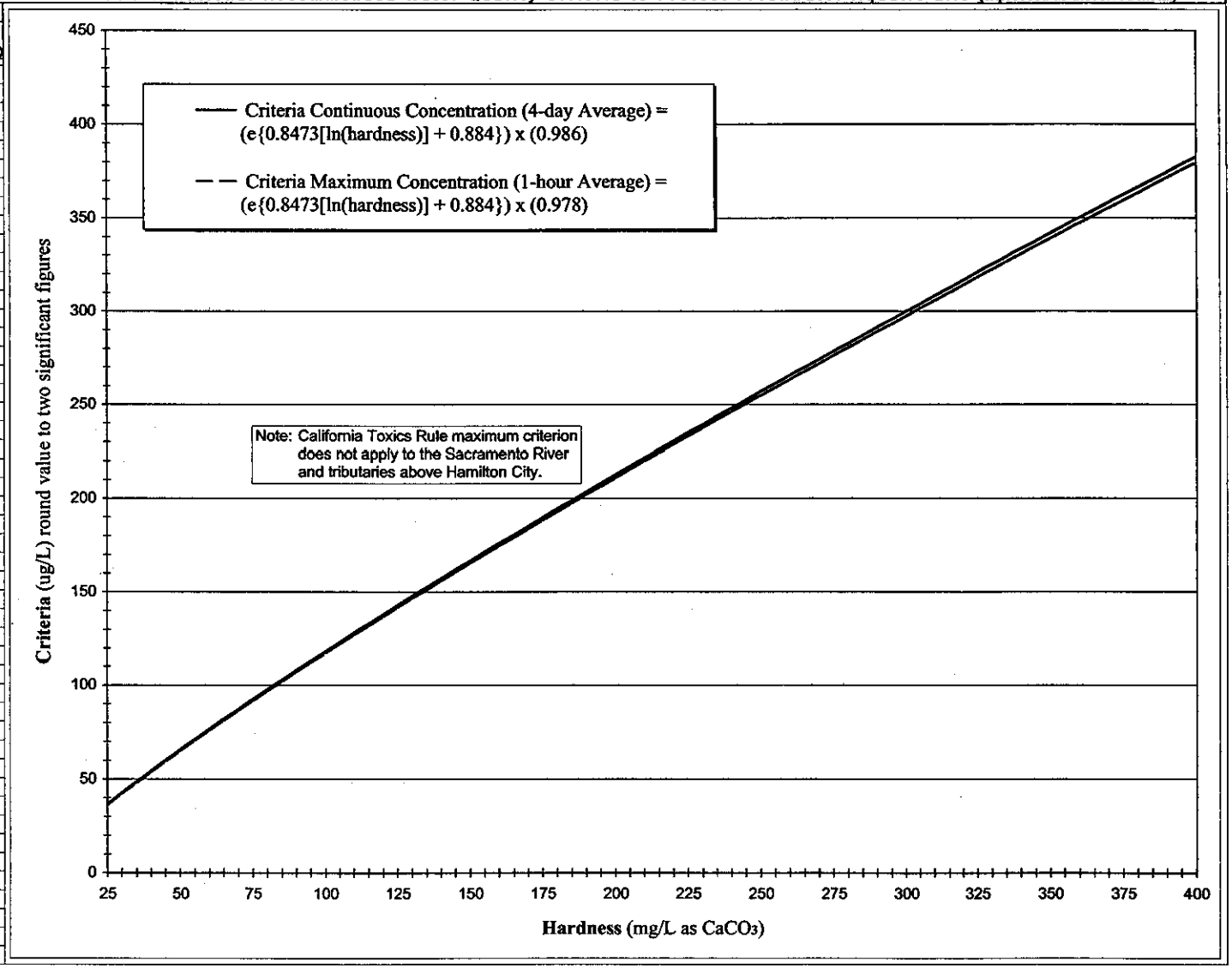
WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS
FRESHWATER AQUATIC LIFE - ZINC

Hardness (mg/L as $CaCO_3$)	California Toxics Rule and USEPA National Recommended Water Quality Criteria to Protect Freshwater Aquatic Life (expressed as dissolved metal)	
	Zinc	
	Continuous Conc. 4-day Avg. (ug/L)	Maximum Conc. 1-hour Avg. (ug/L)
< 25	use formula	use formula
25	36	36
30	43	42
35	49	48
40	54	54
45	60	60
50	66	65
55	71	71
60	77	76
65	82	81
70	87	87
75	93	92
80	98	97
85	100	100
90	110	110
95	110	110
100	120	120
110	130	130
120	140	140
130	150	150
140	160	160
150	170	170
160	180	170
170	190	180
180	190	190
190	200	200
200	210	210
210	220	220
220	230	230
230	240	240
240	250	250
250	260	250
260	270	260
270	270	270
280	280	280
290	290	290
300	300	300
310	310	310
320	320	310
330	320	320
340	330	330
350	340	340
360	350	350
370	360	360
380	370	360
390	370	370
400	380	380
> 400	380	380



10456

WATER QUALITY GOALS
FOR
ORGANIC CONSTITUENTS

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment)	California State Action Levels (Department of Health Services)		Other Taste & Odor Thresholds
	California Dept. of Health Services		U.S. Environmental Protection Agency						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal		Toxicity	Taste & Odor	
a-C									
ohthene									
ohthylene									
ate									
dehyde									34 (126)
nide									
acid									97,000 (126)
hlor									
e									20,000 (126)
itrile									300,000 (126)
henone									
ylaminofluorene									
ene									670 (126)
rfen					zero (68)				
n									110 (126)
nide			(105)		zero				
acid									
itrile									9100 (126)
mycin D									
ins									
r	2		2		zero	4			
b			7 (148)		7 (148)		7		
b sulfone			7 (148)		7 (148)				
b sulfoxide			7 (148)		7 (148)				
							0.002 #		
ohol									14,000 (126)
n									
oanthraquinone									
oazotoluene									
obiphenyl									
o-9-ethylcarbazole hloride									
o-2-methylanthraquinone									
o-5-(5-nitro-2-furyl)-1,3,4-zole									
z									
e									
acetate									37 (126)
									65,000 (126)
dine									
dine hydrochloride									
cene									
e									
l									
e	3 / 1 (100)		3		3	0.15			
ine									
ectin B1									

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Regulatory Level as a Drinking Water Level (14)	Agricultural Water Quality Goals (78)
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS) *Drinking Water and Health*		
a-C				0.088				1 #	
hthene	420								
hthylene					(D)				
ate	2.8				4 (C)				
lehyde	280 (68)				(B2)			#	
ide				0.5				5 #	
acid									
hlor	140							35 # (68)	
e	700				(D)				
itrile					(D)				
henone	700				(D)				
/laminofluorene				0.0092				0.1 #	
ine									
fen	91	2000 (10-day)				1 (B2)		10 # (68)	
n					(C)				
ide	1.4	300 (10-day)		0.0078	0.008 (B2)	0.01 (B2)	0.024	0.1 #	
acid	3500								
itrile		20 (10-day)		0.035	0.06 (B1)	0.06 (B1)	0.38	0.35 #	
ycin D				0.000004				0.00004 #R	
				0.15				1.5 #	
ins								0.01 # (68)	
r	70	100 (10-day)	700	0.63		0.4 (B2)		4.5 # (68)	
b	7	7	0.2 / 0.7 (7)		(D)	(D)	2.3 (21)		
b sulfone	7	7			(D)	(D)			
b sulfoxide		7				(D)			
		0.3 (10-day)		0.0021	0.002 (B2)	0.002 (B2)	0.003	0.02 #	
	1750								
ohol	35			1.7	(C)				
	2.1								
n	63	60				(D)			
oanthraquinone				1.1				10 #	
oazotoluene				0.0092				0.1 #	
obiphenyl				0.0017				0.015 #	
o-9-ethylcarbazole hloride				0.45				4.5 #	
o-2-methylanthraquinone				0.23				2.5 #	
o-5-(5-nitro-2-furyl)-1,3,4-zole				0.0022				0.02 #	
	18							R	
e				0.037				0.35 #	
acetate									
				6.1	6 (B2)			50 #	
dine				0.25				2.5 #	
dine hydrochloride				0.32				3.5 #	
ene	2100				(D)	(D)			
	9.1				(C)				
e				1.2	1 (B2)			10 #	
	63				(D)				
	350								
e	25	20	150	0.15		(C)			
ne				0.04				0.4 #	
ctin B1	2.8								

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA National Recommended Ambient Water Quality Criteria											
	Human Health and Welfare Protection					Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
-C												
hthene	1200	2700			20					1700		520 (38)
hthylene												
te												
ehyde												
ide												
icid												
ilor												
trile												
henone												
aminofluorene												
ne												
fen												
	320	780								68	21	
ide												
acid												
itrile			0.059 / 0.055 (68)	0.66 / 4.0 (68)						7550		2600 (17)
ycin D												
ns												
r									76 (8)			
sulfone												
sulfoxide												
			0.00013	0.00014					3			
ohol												
anthraquinone												
azotoluene												
biphenyl												
-9-ethylcarbazole loride												
-2-methylanthraquinone												
-5-(5-nitro-2-furyl)-1,3,4- ole												
acetate												
						14 (68)		28 (68)				
line												
line hydrochloride												
ene	9600	110,000										
						12 (68)		330 (68)	1.0 (8)			
ne												
ctin B1												

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Toxics Rule Criteria (USEPA)								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	(30-day Average) aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
s-C									
phthene	1200	2700				2700			
phthylene									
ate									
dehyde									
oide									
acid									
chlor									
e									
itrile									
henone									
diaminofluorene									
ene									
rfen									
n	320 (143)	780 (143)				780 (143)			
nide									
acid									
nitrile	0.059 (113,143)	0.66 (113,143)				0.66 (113,143)			
mycin D									
ins									
r									
o									
o sulfone									
o sulfoxide									
	0.00013 (113)	0.00014 (113)			3	0.00014 (113)			1.3
ohol									
n									
oanthraquinone									
oazotoluene									
obiphenyl									
o-9-ethylcarbazole loride									
o-2-methylanthraquinone									
o-5-(5-nitro-2-furyl)-1,3,4- zole									
e									
acetate									
line									
line hydrochloride									
zene	9600	110,000				110,000			
e									
e									
ne									
ctin B1									

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria Saltwater Aquatic Life Protection						
	Human Health (30-day Average) aquatic organism consumption only	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
		6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
a-C													
phthene											970	710	500 (38)
phthylene	0.0088 # (33)										300 (52)		
ate													
dehyde													
ide													
acid													
hlor													
e													
itrile													
henone													
/laminofluorene													
ine													
fen													
n	220										55		
nide													
acid													
itrile	0.10 #												
nycin D													
ins													
ir													
o													
o sulfone													
o sulfoxide													
	0.000022 #									1.3			
ophot													
n													
oanthraquinone													
oazotoluene													
obiphenyl													
o-9-ethylcarbazole loride													
o-2-methylanthraquinone													
o-5-(5-nitro-2-furyl)-1,3,4- zole													
e													
acetate													
							37 (68)		77 (68)				
dine													
dine hydrochloride													
xene	0.0088 # (33)										300 (52)		
e							11 (68)		310 (68)				
ne													
ctin B1													

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
a-C	26148-68-5	2-Amino-9H-pyrido(2,3-b)indole	2-Amino-alpha-carboline	Glob-P-2
hthene	83-32-9	1,2-Dihydroacenaphthylene		a polynuclear aromatic hydrocarbon
hthylene	208-96-8			a polynuclear aromatic hydrocarbon
ate	30560-19-1			
lehyde	75-07-0	Ethanal		
ide	60-35-5	Acetic acid amide	Ethanamide	Methanecarboxamide
acid	64-19-7			
hlor	34256-82-1			
e	67-64-1	Dimethylketone		
itrile	75-05-8	Ethyl nitrile	Cyanomethane	
henone	98-86-2	Phenylmethylketone		
laminofluorene	53-96-3	2-AAF	2-Acetaminofluorene	2-Fluorenylacetamide
ne	74-86-2	Ethyne		
fen	62476-59-9	Blazer		
n	107-02-8			
nide	79-06-1	2-Propeneamide		
acid	79-10-7	2-Propenoic acid		
itrile	107-13-1	2-Propenenitrile	Vinyl cyanide	Cyanoethylene
nycin D	50-76-0	Dactinomycin		
	3688-53-7	2-(2-Furyl)-3-(5-nitro-2-furyl)acrylamide	Furylamide	
ins	1402-68-2			
r	15972-60-8	Alochlor	Lasso	Alanex
o	116-06-3	Temik		
o sulfone	1646-88-4			
o sulfoxide				
	309-00-2	1,4:5,8-Dimethanonaphthalene	Aldrosol	HHDN
	74223-64-6	DPX 6376	Metasulfuron methyl ester	
ohol	107-18-6	Propenyl alcohol		
	67485-29-4			
n	834-12-8	Ametrex		
oanthraquinone	117-79-3			
oazotoluene	97-56-3	4'-Amino-2,3-dimethylazobenzene		
obiphenyl	92-67-1	4-Aminodiphenyl	4-Biphenylamine	
o-9-ethylcarbazole hloride	6109-97-3	Methallyl chloride		
o-2-methylanthraquinone	82-28-0	C.I. disperse orange 11	2-Methyl-1-anthraquinonylamine	
o-5-(5-nitro-2-furyl)-1,3,4- zole	712-68-5	Furidiazine	Thriafur	
	33089-61-1	Imidamide		
e	61-82-5	3-Amino-1,2,4-triazole		
acetate	628-63-7			
	62-53-3	Aminobenzene	Benzamine	Phenylamine
line	90-04-0	o-Methoxyaniline	o-Amino-anisole	
line hydrochloride	134-29-2	o-Aminoanisole hydrochloride		
ene	120-12-7			a polynuclear aromatic hydrocarbon
	74115-24-5	Bisclofentezine	Clofentezine	
	140-57-8	2-P(butylphenoxy)-1-methylethyl-2-chloroethyl sulfite	Aracide	
	76578-14-8	Quinofop-ethyl		
	3337-71-1	Methyl ((4-aminophenyl)sulfonyl)carbamate		
e	1912-24-9	Aatrex	Atranex	Crisazina
ne	492-80-8	4,4-Dimethylaminobenzo-phenonimide		
ctin B1	65195-55-3	Abamectin		

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment)	California State Action Levels (Department of Health Services)		Other Taste & Odor Thresholds
	California Dept. of Health Services		U.S. Environmental Protection Agency						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal		Toxicity	Taste & Odor	
ine									
prine									
os-methyl									
nzene									
							30		
n									
id									
yl									
on	18					200			
dehyde									
)anthracene			0.1 (100)		zero (100)				
ie	1		5		zero	0.14 (100)			170 (126)
ne									
b)fluoranthene									
j)fluoranthene									
k)fluoranthene									
uran									
c adic									
g,h,i)perylene									
a)pyrene	0.2		0.2		zero	0.004			
richloride									
chloride									12 (126)
violet 4B									
BHC							0.015 #		
HC							0.025 #		
-BHC (Lindane)	0.2		0.2		0.2	0.032			
HC									
al-BHC									
thrin									
henyl									0.5 (126)
hloroethoxy) methane									
hloroethyl) ether									360 (126)
hloroisopropyl) ether									
oromethyl) ether									
ol A									
il									
cetic acid	60 (100,106)		60 (106,147)						
enzene									
chloromethane									34,000 (126)
fichloromethane	100 / 80 (19,100)		100 / 80 (19,149)		zero				
orm	100 / 80 (19,100)		100 / 80 (19,149)		zero				510 (126)
nethane									
ophenyl phenyl ether									
ynil									
ynil octanoate									
or									
adiene									1.4 (126)
									170 (126)
ol									7100 (126)
benzene							70		

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Regulatory Level as a Drinking Water Level (14)	Agricultural Water Quality Goals (78)
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS) *Drinking Water and Health*		
ine				0.0032				0.03 #	
prine				0.019				0.2 #R	
os-methyl			87.5						
zene				0.32	0.3 (B2)			3 #	
	2.8	3				(C)			
n	210								
id	180								
	2100		700						
yl	350							R	
on	210	200			(E)	(E)			
dehyde	700								
anthracene				0.029 (93)	(B2)	(B2)		0.02 # (68)	
e		200 (10-day)		0.35	1 to 10 (A)	1 (A)		3.5 #R	
ne				0.00007	0.0002 (A)			0.0005 #	
b)fluoranthene				0.029 (93)	(B2)	(B2)		0.02 # (68)	
j)fluoranthene				0.029 (93)				0.045 # (68)	
k)fluoranthene				0.029 (93)	(B2)	(B2)		#	
uran								0.5 # (68)	
adic	28,000				(D)				
g,h,i)perylene					(D)	(D)			
a)pyrene				0.0029	0.005 (B2)	0.02 (B2)		0.03 #	
richloride					0.003 (B2)			0.0001 / 0.025 # (68)	
chloride				0.21	0.2 (B2)			2 #	
violet 4B				1.8				15 #	
BHC			500 (7-day,43)	0.013	0.006 (B2)		0.33	0.15 #	
HC			500 (7-day,43)	0.023	0.02 (C)		0.12	0.25 #	
-BHC (Lindane)	0.2	0.2	500 (7-day,43)	0.032		(C)	0.054	0.3 #	
HC			500 (7-day,43)		(D)			#	
al-BHC			500 (7-day)	0.0088	0.02 (B2)			0.1 #	
	0.7								
thrin	100								
henyl	350				(D)				
hloroethoxy) methane					(D)				
hloroethyl) ether				0.014	0.03 (B2)		0.42	0.15 #	
hloroisopropyl) ether	280	300				(D)			
romethyl) ether				0.00076	0.00016 (A)			0.01 #	
ol A	350								
il		90	87.5			(C)		R (150)	
cetic acid									
enzene		4000 (10-day,68)				(D,68)			
chloromethane		90			(D)	(D)			
fichloromethane	140	6000 (10-day,68)		0.27	0.6 (B2)	0.6 (B2,68)		2.5 #	
orm	140	2 (10-day,68)			4 (B2)	4 (B2,68)		45 # (68)	
nethane	9.8	10 (68)			(D)	(D,68)		500 R (5,68)	
ophenyl phenyl ether					(D)				
ynil	140							R	
ynil octanoate	140							R	
lor			70						
adiene				0.010	(B2)			0.2 #	
ol	700				(D)				
benzene									

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA National Recommended Ambient Water Quality Criteria											
	Human Health and Welfare Protection					Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
ine												
prine												
os-methyl									0.01 (51)			
nzene												
on												
oid												
yl								8.8 (152)				
on												
dehyde												
)anthracene			0.0044 (41)	0.049 (41)								
ie			1.2	71						5300		
ine			0.00012	0.00054						2500		
b)fluoranthene			0.0044 (41)	0.049 (41)								
j)fluoranthene												
k)fluoranthene			0.0044 (41)	0.049 (41)								
uran												
c adic												
g,h,i)perylene												
a)pyrene			0.0044 (41)	0.049 (41)								
richloride												
chloride												
violet 4B												
BHC			0.0039	0.013								
HC			0.014	0.046								
-BHC (Lindane)			0.019	0.063		0.08 (114)		0.95				
HC												
al-BHC			0.0123	0.0414						100		
thrin												
henyl												
hloroethoxy) methane												
hloroethyl) ether			0.031	1.4						238,000 (46)	122 (58)	
hloroisopropyl) ether	1400	170,000								238,000 (46)	122 (58)	
oromethyl) ether			0.00013	0.00078						238,000 (46)	122 (58)	
nol A												
il												
acetic acid												
benzene												
chloromethane										11,000 (20)		
dichloromethane			0.56	46						11,000 (20)		
orm			4.3	360						11,000 (20)		
methane	48	4000								11,000 (20)		
iophenyl phenyl ether										360 (58)	122 (58)	
xynil												
xynil octanoate												
lor												
adiene												
ol												
benzene												

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Toxics Rule Criteria (USEPA)								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	(30-day Average) aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
ine									
prine									
os-methyl									
nzene									
n									
on									
oid									
n									
yl									
on									
dehyde									
)anthracene	0.0044 (113)	0.049 (113)				0.049 (113)			
ne	1.2 (113)	71 (113)				71 (113)			
ine	0.00012 (113,143)	0.00054 (113,143)				0.00054 (113,143)			
b)fluoranthene	0.0044 (113)	0.049 (113)				0.049 (113)			
j)fluoranthene									
k)fluoranthene	0.0044 (113)	0.049 (113)				0.049 (113)			
uran									
c adic									
g,h,i)perylene									
a)pyrene	0.0044	0.049				0.049			
richloride									
chloride									
violet 4B									
HC	0.0039 (113)	0.013 (113)				0.013 (113)			
HC	0.014 (113)	0.046 (113)				0.046 (113)			
-BHC (Lindane)	0.019 (113)	0.063 (113)		0.95		0.063 (113)			0.16
HC									
al-BHC									
thrin									
henyl									
hloroethoxy) methane									
hloroethyl) ether	0.031 (113,143)	1.4 (113,143)				1.4 (113,143)			
hloroisopropyl) ether	1400	170,000 (143)				170,000 (143)			
romethyl) ether									
nol A									
il									
cetic acid									
enzene									
hloromethane									
lichloromethane	0.56 (113)	46 (113)				46 (113)			
orm	4.3 (113)	360 (113)				360 (113)			
nethane	48	4000				4000			
ophenyl phenyl ether									
ynil									
ynil octanoate									
lor									
adiene									
nol									
benzene									

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria Saltwater Aquatic Life Protection						
	Human Health (30-day Average) aquatic organism consumption only	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
		6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
ine													
prine													
os-methyl										0.01 (51)			
nzene													
n													
on													
oid													
n													
yl													
on													
dehyde													
)anthracene	0.0088 # (33)										300 (52)		
ie	5.9 #										5100		700 (83)
ine	0.000069 #												
b)fluoranthene	0.0088 # (33)										300 (52)		
j)fluoranthene											300 (52)		
k)fluoranthene	0.0088 # (33)										300 (52)		
uran													
c adic													
g,h,i)perylene	0.0088 # (33)										300 (52)		
a)pyrene	0.0088 # (33)										300 (52)		
richloride													
chloride													
violet 4B													
BHC		0.004 (43)			0.008 (43)	0.012 (43)							
HC		0.004 (43)			0.008 (43)	0.012 (43)							
-BHC (Lindane)		0.004 (43)			0.008 (43)	0.012 (43)				0.16			
HC		0.004 (43)			0.008 (43)	0.012 (43)							
al-BHC		0.004 (43)			0.008 (43)	0.012 (43)					0.34		
thrin													
henyl													
hloroethoxy) methane	4.4												
hloroethyl) ether	0.045 #												
hloroisopropyl) ether	1200												
oromethyl) ether													
nol A													
il													
acetic acid													
benzene													
chloromethane											12,000 (20,')	6400 (20)	11,500 (20,82)
dichloromethane	130 # (13)										12,000 (20)	6400 (20)	11,500 (20,82)
form	130 # (13)										12,000 (20)	6400 (20)	11,500 (20,82)
methane	130 # (13)										12,000 (20)	6400 (20)	11,500 (20,82)
ophenyl phenyl ether													
xynil													
xynil octanoate													
lor													
adiene													
ol													
benzene													

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
ine	115-02-6			
oprine	446-86-6	Diphenyldiimide	Diphenyldiazene	Diazobenzene
os-methyl	86-50-0	Guthion		
nzene	103-33-3	Diphenyldiimide		
n	114-26-1	Propoxur		
on	43121-43-3			
oid	68359-37-5	Cyfluthrin		
n	1861-40-1	Balan	Benfluralin	
yl	17804-35-2	Bentate	Aritate	
on	25057-89-0	Basagran		
dehyde	100-52-7			
)anthracene	56-55-3	1,2-Benzanthracene	Benzo(a)anthracene	a polynuclear aromatic hydrocarbon
ne	71-43-2			
ine	92-87-5	p-Diaminodiphenyl		
(b)fluoranthene	205-99-2	3,4-Benzofluoranthene		a polynuclear aromatic hydrocarbon
(j)fluoranthene	205-82-3	10,11-Benzofluoranthene		a polynuclear aromatic hydrocarbon
(k)fluoranthene	207-08-9	8,9-Benzofluoranthene		a polynuclear aromatic hydrocarbon
uran	271-89-6			
c adic	65-85-0	Carboxybenzene		
g,h,i)perylene	191-24-2	1,12-Benzoperylene		a polynuclear aromatic hydrocarbon
a)pyrene	50-32-8	BaP	3,4-Benzopyrene	a polynuclear aromatic hydrocarbon
richloride	98-07-7	(Trichloromethyl)benzene	alpha,alpha,alpha-Trichlorotoluene	
chloride	100-44-7	alpha-Chlorotoluene	Chlorophenylmethane	Tolyl chloride
violet 4B	1694-09-3			
BHC	319-84-6	alpha-Benzene hexachloride	alpha-Hexachlorocyclohexane	alpha-HCH
HC	319-85-7	beta-Benzene hexachloride	beta-Hexachlorocyclohexane	beta-HCH
-BHC (Lindane)	58-89-9	Lindane	gamma-Benzene hexachloride	gamma-Hexachlorocyclohexane
HC	319-86-8	delta-Benzene hexachloride	delta-Hexachlorocyclohexane	delta-HCH
al-BHC	608-73-1	technical-Benzene hexachloride	technical-Hexachlorocyclohexane	
	141-66-2	Dicrotophos		
thrin	82657-04-3	Brigade	Talstar	
henyl	92-52-4	Diphenyl	Phenylbenzene	
hloroethoxy) methane	111-91-1	Dichloroethyl formal	Dichlorodiethyl formal	
hloroethyl) ether	111-44-4	BCEE	2,2'-Dichlorodiethyl ether	symmetrical-Dichloroethyl ether
hloroisopropyl) ether	39638-32-9	Bis(2-chloro-1-methylethyl) ether	2,2'-Oxybis(1-chloropropane)	BCIE
oromethyl) ether	542-88-1	BCME	Dichlorodimethyl ether	Chloromethyl ether
nol A	80-05-7	Bis(4-hydroxyphenyl)propane		
il	314-40-9	Hyvar X or XL	Urox	
acetic acid	79-08-3	A haloacetic acid		
benzene	108-86-1			
chloromethane	74-97-5	Chlorobromomethane		
dichloromethane	75-27-4	Dichlorobromomethane	BDCM	a trihalomethane (THM)
form	75-25-2	Tribromomethane		a trihalomethane (THM)
methane	74-83-9	Methyl bromide		
iophenyl phenyl ether	101-55-3	p-Bromodiphenyl ether		
xynil	1689-84-5	2,6-Dibromo-4-cyanophenol	3,5-Dibromo-4-hydroxybenzonitrile	
xynil octanoate	1689-99-2			
lor	23184-66-9	Butanex	Lambast	
tadiene	106-99-0	Vinylethylene	Bivinyl	Divinyl
	106-97-8			
nol	71-36-3	n-Butyl alcohol		
benzene	104-51-8	1-Phenylbutane		

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment)	California State Action Levels (Department of Health Services)		Other Taste & Odor Thresholds
	California Dept. of Health Services		U.S. Environmental Protection Agency						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal		Toxicity	Taste & Odor	
l acetate									170 (126)
l acrylate									7.8 (126)
ityl alcohol									19,000 (126)
tyl alcohol							12 #		290,000 (126)
lamine									6200 (126)
e									
ed hydroxyanisole									
l benzyl phthalate									
l lactate									520,000 (126)
l mercaptan									0.012 (126)
thalyl butylglycolate									
Butyltoluene									32 (126)
utyrolactone									
ior									1000 (126)
actam									
ol									
							1.5 #		
yl							700		
uran	18		40		40	1.7 (100)			
tetrachloride	0.5		5		zero	0.1 (100)			520 (125,126)
ulfan									
in									
ol									
hydrate					40				
mben									
mbucil									
ane	0.1		2		zero	0.03			
imeform									
ndic acid									
uron-ethyl									
ated paraffins									
ated benzenes									
ated naphthalenes									
ated phenols									
acetic acid	60 (100,106)		60 (106,147)						
alkyl ethers									
roaniline									
benzene	70		100		100				50 (126)
ro-m-cresol									
ro-o-cresol									
ro-m-cresol									
ethane									16 (126)
form	100 / 80 (19,100)		100 / 80 (19,149)						2400 (126)
methane									
methyl methyl ether									
ro-2-methylpropene									
ronaphthalene									
rophenol									
rophenol									
rophenol									
ro-o-phenylenediamine									

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Regulatory Level as a Drinking Water Level (14)	Agricultural Water Quality Goals (78)
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS) *Drinking Water and Health*		
acetate									
acrylate									
tyl alcohol									
tyl alcohol									
amine									
e	350	400				(D)			
ed hydroxyanisole				180				2000 #	
benzyl phthalate	140				(C)	(C)			
lactate									
mercaptan									
thalyl butylglycolate	7000								
Butyltoluene									
utyrolactone				0.035				0.35 #	
or									
actam	3500								
ol	1.4			0.23		(C)		2.5 #	
	910		350	15				150 #	
yl	700	700	574			(D)			
uran	35	40				(E)			
tetrachloride	4.9	200 (10-day)	200 (7-day)	0.23	0.3 (B2)	0.3 (B2)	4.5	2.5 #	
ulfan	70								
in	700	700				(D)			
ol			2200 (24-hr)						
	14								
hydrate		60				(C)			
nben	110	100	1750			(D)			
nbucil				15				0.001 #R	
ane	0.42	60 (10-day)		0.027	0.03 (B2)	0.01 (B2)	0.028	0.25 #	
meform								0.25 # (68)	
dic acid				0.38				4 #	
uron-ethyl	140								
ated paraffins				0.39 (63)				4 (63)	
ated benzenes									
ated naphthalenes									
ated phenols									
acetic acid									
alkyl ethers									
roaniline	28							#	
benzene	140	100			(D)	(D)	2.3 (21)		
ro-m-cresol									
ro-o-cresol									
ro-m-cresol									
ethane						(B)		100 # (68)	
form		4000 (10-day,68)		1.1	6 (B2)	6 (B2,68)	0.26 / 5.6 (44)	10 #	
methane		3			(D,68)	(C)			
methyl methyl ether				0.015 (65)	(A)			0.15 # (65)	
ro-2-methylpropene				0.25				2.5 #	
ronaphthalene	560								
rophenol	35	40 (68)				(D,68)			
rophenol									
rophenol									
ro-o-phenylenediamine				2.2				20 #	

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA National Recommended Ambient Water Quality Criteria											
	Human Health and Welfare Protection					Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
acetate												
acrylate												
tyl alcohol												
tyl alcohol												
amine												
e												
ed hydroxyanisole												
benzyl phthalate	3000	5200								940 (45)	3 (45)	
lactate												
mercaptan												
ıthalyl butylglycolate	16,800 (68)	32,400 (68)								940 (45)	3 (45)	
tutyltoluene												
.tyrolactone												
or												
ectam												
ol												
yl						2.53 (151)		2.53 (151)	0.02 (54)			
uran									0.5 (152)			
tetrachloride			0.25	4.4						35,200		
ulfan												
in												
ol												
hydrate												
nben												
nbucil												
ane			0.0021	0.0022		0.0043 (114)			2.4			
meform												
idic acid												
uron-ethyl												
ated paraffins												
ated benzenes										250		50 (23)
ated naphthalenes										1600		
ated phenols												
acetic acid												
alkyl ethers										238,000	122 (58)	
oaniline												
benzene	680	21,000			20					250 (22)		50 (22,23)
o-m-cresol					3000					30		
o-o-cresol					1800							
o-m-cresol					20							
ethane												
orm			5.7	470						28,900	1240	
methane										11,000 (20)		
methyl methyl ether										238,000 (46)	122 (58)	
o-2-methylpropene												
onaphthalene	1700	4300								1600 (48)		
ophenol	120	400			0.1					4380		2000 (34)
ophenol					0.1							
ophenol					0.1							
o-o-phenylenediamine												

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Toxics Rule Criteria (USEPA)								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	(30-day Average) aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
acetate									
acrylate									
tyl alcohol									
tyl alcohol									
amine									
e									
ed hydroxyanisole									
benzyl phthalate	3000	5200				5200			
lactate									
mercapten									
thalyl butylglycolate									
utyltoluene									
tyrolactone									
or									
ectam									
l									
yl									
uran									
tetrachloride	0.25 (113,143)	4.4 (113,143)				4.4 (113,143)			
ulfan									
in									
ol									
hydrate									
nben									
nbucil									
ane	0.00057 (113)	0.00059 (113)	0.0043 (114)		2.4	0.00059 (113)	0.004 (114)		0.09
meform									
idic acid									
uron-ethyl									
ated paraffins									
ated benzenes									
ated naphthalenes									
ated phenols									
cetic acid									
alkyl ethers									
oaniline									
enzene	680 (143)	21,000 (143)				21,000 (143)			
o-m-cresol									
o-o-cresol									
o-m-cresol									
ethane									
orm									
nethane									
nethyl methyl ether									
o-2-methylpropene									
onaphthalene	1700	4300				4300			
ophenol	120	400				400			
ophenol									
ophenol									
o-o-phenylenediamine									

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria Saltwater Aquatic Life Protection						
	Human Health (30-day Average) aquatic organism consumption only	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
		6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
acetate													
acrylate													
tyl alcohol													
tyl alcohol													
amine													
e													
ed hydroxyanisole													
benzyl phthalate											2944 (45)		3.4 (38,45)
lactate													
mercaptan													
thalyl butylglycolate											2944 (45)		3.4 (38,45)
utyltoluene													
utyrolactone													
or													
actam													
ol													
yl							0.81 (151)		0.81 (151)				
uran													
tetrachloride	0.90 #										50,000	6400 (20)	11,500 (20,82)
ulfan													
in													
ol		30 (86)			120 (86)	300 (86)							
hydrate													
nben													
nbucil													
ane	0.000023 # (81)						0.004 (114)			0.09			
meform													
idic acid													
uron-ethyl													
ated paraffins													
ated benzenes											160	129	
ated naphthalenes											7.5		
ated phenols		1			4	10							
acetic acid													
alkyl ethers													
oaniline													
benzene	570										160 (22)	129 (22)	
o-m-cresol		1 (87)			4 (87)	10 (87)							
o-o-cresol		1 (87)			4 (87)	10 (87)							
o-m-cresol		1 (87)			4 (87)	10 (87)							
ethane													
form	130 #										12,000 (20)	6400 (20)	11,500 (20,82)
methane	130 # (13)										12,000 (20)	6400 (20)	11,500 (20,82)
methyl methyl ether													
o-2-methylpropene													
onaphthalene											7.5 (48)		
ophenol		1 (87)			4 (87)	10 (87)							
ophenol		1 (87)			4 (87)	10 (87)							
ophenol		1 (87)			4 (87)	10 (87)					29,700		
o-o-phenylenediamine													

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
acetate	123-86-4			
acrylate	141-32-2			
tyl alcohol	78-92-2	sec-Butanol	2-Butanol	
tyl alcohol	75-65-0	t-Butyl alcohol	t-Butanol	TBA
amine	109-73-9	1-Aminobutane		
e	2008-41-5	Sutan		
ed hydroxyanisole	25013-16-5	BHA	Antioxyne B	
benzyl phthalate	85-68-7	Benzyl butyl phthalate	A phthalate acid ester (PAE)	
lactate	138-22-7			
mercaptan	109-79-5	1-Butanethiol		
thalyl butylglycolate	85-70-1	BPBG	Butyl glycolyl butyl phthalate	A phthalate acid ester (PAE)
butyltoluene	98-51-1	1-Methyl-4-tert-butylbenzene		
utyrolactone	96-48-0	3-Hydroxybutyric acid		
or	464-49-3	2-Camphanone		
actam	105-60-2	1,6-Hexolactam		
l	2425061	Difolatan	Sulfonimide	
	133-06-2	Orthocide	N-Trichloromethylmercapto-tetrahydrophthalimide	
yl	63-25-2	Sevin		
uran	1563-66-2	Furadan		
tetrachloride	56-23-5	Tetrachloromethane	Freon 10	
uffan	55285-14-8	Advantage		
in	5234-68-4	Carboxine	Carbathiin	Vitavax
ol	120-80-9			
	75-87-6	Trichloroacetaldehyde		
hydrate	302-17-0	Trichloroacetaldehyde, hydrated	Trichloroethylidene ghycol	1,1,1-Trichloro-2,2-ethanediol
mben	133-90-4	Amiben		
ntbucil	305-03-3			
ane	57-74-9	Chlordan		
meform	6164-98-3			
dic acid	115-28-6			
uron-ethyl	90982-32-4			
ated paraffins		Paraffins, chlorinated	Chlorinated waxes	Waxes, chlorinated
ated benzenes	68411-45-0	Benzenes, chlorinated		
ated naphthalenes	25586-43-0	Naphthalenes, chlorinated		
ated phenols		Phenols, chlorinated		
cetic acid	79-11-8	Monochloroaceticacid	A haloacetic acid	
alkyl ethers		Ethers, chloroalkyl-		
oaniline	106-47-8	1-Amino-4-chlorobenzene		
enzene	108-90-7	Monochlorobenzene		
o-m-cresol	59-50-7	4-Chloro-3-methylphenol	p-Chloro-m-cresol	3-Methyl-4-chlorophenol
o-o-cresol	1570-64-5	4-Chloro-2-methylphenol	p-Chloro-o-cresol	2-Methyl-4-chlorophenol
o-m-cresol		6-Chloro-3-methylphenol	3-Methyl-6-chlorophenol	
ethane	75-00-3	Ethyl chloride		
orm	67-66-3	Trichloromethane	Freon 20	a trihalomethane (THM)
nethane	74-87-3	Methyl chloride		
methyl methyl ether	107-30-2	CMME	Methylchloromethyl ether	Chloromethoxymethane
o-2-methylpropene	563-47-3	3-Chloroisobutylene		
onaphthalene	91587	beta-Chloronaphthalene		
ophenol	95-57-8	o-Chlorophenol		
ophenol	108-43-0	m-Chlorophenol		
ophenol	106-48-9	p-Chlorophenol		
o-o-phenylenediamine	95-83-0	1-Chloro-3,4-diaminobenzene		

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment)	California State Action Levels (Department of Health Services)		Other Taste & Odor Thresholds
	California Dept. of Health Services		U.S. Environmental Protection Agency						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal		Toxicity	Taste & Odor	
picrin							50	37	37 (126)
hloroprene									24 (126)
ropropene									8.9 (126)
thalonil									
rotoluene							140		6.9 (126)
rotoluene							140		
ro-o-toluidine									
zotocin									
ropham							350		
yrifos									
ulfuron									
ine									
asic Red 9 ydrochloride									
nyl anthranilate									
idine									
ol									37 (126)
ol									
ol									
rotonaldehyde									420 (126)
e									0.8 (126)
ron									
zine									
gen									
exane									11 (126)
exanol									2800 (126)
exanone									8300 (126)
exene									0.39 (126)
exylamine									25,000 (126)
entadiene									6 (126)
hosphamide									
thrin									
nethrin									
azine									
	70		70		70	70			
azine									
l (DCPA)									
n	200		200		200	790			
ozide									
n									
ed No. 9									
romodiphenyl ether									
on									
one alcohol									64,000 (126)
minoanisole									
minoanisole sulfate									
minodiphenyl ether									

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Regulatory Level as a Drinking Water Level (14)	Agricultural Water Quality Goals (78)
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS) *Drinking Water and Health*		
picrin			12 / 40 (7)						
hloroprene								#	
ropropene				1.7	(C)			15	
thalonil		2 (10-day)		11		1.5 (B2)		100 / 30 # (68)	
rotoluene	140	100				(D)			
rotoluene		100				(D)			
ro-o-toluidine				0.13				1.5 #	
zotocin				0.00015				0.0015 #	
ropham	1400								
yrifos	21	20				(D)			
ulfuron	350							R	
ine				0.29 (93)	(B2)	(B2)		0.1 # (68)	
asic Red 9 ydrochloride				0.00015				1.5 #	
nyl anthranilate				7.6				100 #	
idine				0.23				2.5 #	
ol	35				(C)				
ol	35				(C)				
ol					(C)				
rotonaldehyde					(C)				
e	700	11,000 (10-day,68)			(D)	(D,68)			
ron				0.16				1.5 #	
zine		1 (68)				(C,68)		R	
gen	280								
exane									
exanol								R	
exanone	35,000								
exene									
exylamine	1400								
entadiene									
hosphamide				0.061				0.5 #R	
thrin	35								
nethrin	70								
azine	53								
	70	70	87.5			(D)			
azine				0.00071				0.005 #R	
l (DCPA)	70	70				(D)			
n	210	200				(D)			
ozide	1050			1.9				20 / 40 # (68)	
	180								
n				0.46				4.5 #	
ed No. 9				6.6				50 #	
				0.15	0.1 (B2)			1 # (50)	
				0.1	0.1 (B2)			1 # (50)	
	3.5			0.1	0.1 (B2)		0.042	1 #R (50)	
romodiphenyl ether	7				(C)				
on	0.3								
one alcohol									
minoanisole				1.5				15 #	
minoanisole sulfate				2.7				25 #	
aminodiphenyl ether				0.25				2.5 #	

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA National Recommended Ambient Water Quality Criteria											
	Human Health and Welfare Protection					Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
icrin												
loroprene												
opropene												
halonil												
otoluene												
otoluene												
o-o-toluidine												
otocin												
opham												
rifos						0.014 / 0.041 (151)		0.02 / 0.083 (151)				
lfuron												
ne			0.0044 (41)	0.049 (41)								
sic Red 9 ydrochloride												
yl anthranilate												
dine												
ol												
l												
l												
rotonaldehyde												
e												
on												
ine												
ien												
xane												
xanol												
xanone												
xene												
xylamine												
ntadiene												
osphamide												
hrin												
ethrin												
zine												
	100 (51)											
azine												
(DCPA)			0.008 (8)						14,300 (8)			
									110 (54)			
xide												
d No. 9												
			0.00083	0.00084						0.6		
			0.00059	0.00059						1050		
			0.00059	0.00059		0.001 (114)			1.1			
omodiphenyl ether										360 (58)	122 (58)	
n									0.1 (51)			
ne alcohol												
minoanisole												
minoanisole sulfate												
minodiphenyl ether												

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Toxics Rule Criteria (USEPA)								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health (30-day Average)	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
icrin									
loroprene									
opropene									
halonil									
otoluene									
otoluene									
o-o-toluidine									
otocin									
opham									
rifos									
ituron									
ne	0.0044 (113)	0.049 (113)				0.049 (113)			
sic Red 9 ydrochloride									
yl anthranilate									
dine									
ol									
l									
l									
rotonaldehyde									
e									
on									
ine									
len									
exane									
exanol									
exanone									
exene									
exylamine									
ntadiene									
osphamide									
hrin									
ethrin									
zine									
azine									
(DCPA)									
n									
zide									
n									
ed No. 9									
	0.00083 (113)	0.00084 (113)				0.00084 (113)			
	0.00059 (113)	0.00059 (113)				0.00059 (113)			
	0.00059 (113)	0.00059 (113)	0.001 (114)		1.1	0.00059 (113)	0.001 (114)		0.13
omodiphenyl ether									
n									
ne alcohol									
minoanisole									
minoanisole sulfate									
minodiphenyl ether									

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria Saltwater Aquatic Life Protection						
	Human Health (30-day Average) aquatic organism consumption only	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
		6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
oicrin													
hloroprene													
opropene													
halonil													
otoluene													
otoluene													
o-o-toluidine													
zotocin													
opham													
yrifos							0.009 / 0.0056 (151)		0.02 / 0.011 (151)				
ulfuron													
ne	0.0088 # (33)										300 (52)		
asic Red 9 ydrochloride													
yl anthranilate													
dine													
ol		30 (86)			120 (86)	300 (86)							
ol		30 (86)			120 (86)	300 (86)							
ol		30 (86)			120 (86)	300 (86)							
rotonaldehyde													
e													
on													
ine													
jen													
exane													
exanol													
exanone													
exene													
exylamine													
entadiene													
hosphamide													
thrin													
ethrin													
azine													
azine													
(DCPA)													
n													
zide													
n													
ed No. 9													
	0.00017 # (50)										3.6		
	0.00017 # (50)										14		
	0.00017 # (50)						0.001 (114)			0.13			
omodiphenyl ether													
on										0.1 (51)			
ne alcohol													
minoanisole													
minoanisole sulfate													
minodiphenyl ether													

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
›icrin	76-06-2			
hloroprene	126998	2-Chlorobutadiene-1,3		
›opropene	107-05-1	Allyl chloride	2-propenyl chloride	
thalonil	1897-45-6	Bravo	Daconil	
›toluene	95-49-8	o-Chlorotoluene		
›toluene	106-43-4	p-Chlorotoluene		
›-o-toluidine	95-69-2			
›otocin	54749-90-5	Glucopyranose		
›opham	101-21-3	CIPC	Chloro-IPC	Isopropyl-N-(3-chlorophenyl)carbamate
/rifos	2921-88-2	Dursban	Lorsban	
ılfuron	64902-72-3	Sulfonamide		
ne	218-01-9			a polynuclear aromatic hydrocarbon
ısic Red 9 ydrochloride	569-61-9	Basic parafuchsine		
ıyl anthranilate	87-29-6			
dine	120-71-8	2-Methyoxy-5-Methylaniline	5-Methyl-o-anisidine	
ol	108-39-4	3-Methylphenol		
ol	95-48-7	2-Methylphenol		
ol	106-44-5	4-Methylphenol		
rotonaldehyde	4170-30-3	2-Butenal	beta-Methyl acrolein	
e	98-82-8	Isopropyl benzene	2-Phenylpropane	
›on	135-20-6	Ammonium nitroso-beta-phenylhydroxylamine		
›ine	21725-46-2	Bladex		
ıen	460-19-5	Ethanedinitrile	Prussite	
exane	110-82-7			
exanol	108-93-0			
exanone	108-94-1			
exene	110-83-8			
exylamine	108-91-8	Aminocyclohexane		
ntadiene	542-92-7			
›osphamide	50-18-0	Endoxan monohydrate	Genoxal	Mitoxan
thrin	68085-85-8	Karate		
ıethrin	52315-07-8	Stockade		
ızine	66215-27-8	Azimethiphos		
	94-75-7	2,4-Dichlorophenoxyacetic acid		
azine	4342034			
l (DCPA)	1861-32-1	DCPA		
n	75-99-0	Dowpon	2,2-Dichloropropionic acid	
›zide	1596-84-5	Dazide	Alar	Butanedioic acid mono(2,2-dimethyl hydrazide)
	39515-41-8	Fenpropathrin	Fenpropanate	
ı	117-10-2	Chrysazin	1,8-Dihydroxyanthraquinone	
ed No. 9	2092-56-0			
	72-54-8	4,4'-DDD	Dichlorodiphenyldichloroethane	1,1-Dichloro-2,2-bis(p-chlorophenyl)ethane
	72-55-9	4,4'-DDE	Dichlorodiphenyldichloroethylene	
	50-29-3	4,4'-DDT	Dichlorodiphenyltrichloroethane	
omodiphenyl ether	1163-19-5	DBDPE	Bis(pentabromophenyl) ether	
›n	8065-48-3	Systox		
›ne alcohol	123-42-2	4-Hydroxy-4-methyl-2-pentanone		
minoanisole	615-05-4	Methoxyphenylenediamine	4-Methoxy-1,3-benzenediamine	
minoanisole sulfate	39156-41-7			
minodiphenyl ether	101-80-4	4,4'-Oxydianiline	Bis(4-aminophenyl)ether	

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) In Drinking Water (Office of Environmental Health Hazard Assessment)	California State Action Levels (Department of Health Services)		Other Taste & Odor Thresholds
	California Dept. of Health Services		U.S. Environmental Protection Agency						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal		Toxicity	Taste & Odor	
minotoluene									
ın							6		
(a,h)acridine									
(a,j)acridine									
(a,h)anthracene									
enzo(c,g)carbazole									
o(a,e)pyrene									
o(a,h)pyrene									
o(a,l)pyrene									
o(a,i)pyrene									
oacetic acid	60 (100,106)		60 (106,147)						
oacetonitrile									
romobenzene									
ochloromethane	100 / 80 (19,100)		100 / 80 (19,149)		60				
ochloropropane (DBCP)	0.2		0.2		zero	0.0017			10 (125)
romoethane	0.05		0.05		zero				
phthalate									
ıa									
oacetic acid	60 (100,106)		60 (106,147)		zero				
oacetonitrile									
hlorobenzene	600		600	10 (100)	600	600	600 (77)	10 (77)	24 (126)
hlorobenzene							600 (77)	10 (77)	
hlorobenzene	5		75	5 (100)	75	6			11 (126)
obenzenes									
hlorobenzidine									
odifluoromethane							1000		
hloroethane	5								
hloroethane	0.5		5		zero	0.4			7000 (126)
hloroethylene	6		7		7	10			1500 (126)
Dichloroethylene	6		70		70				
,2-Dichloroethylene	10		100		100				260 (126)
oethylenes									
omethane	5		5		zero	0.13 (100)			9100 (126)
hlorophenol									
hlorophenol									
hlorophenol									
hlorophenol									
hlorophenol									
Dichlorophenoxy)butyric acid									
hloropropane	5		5		zero	0.5			10 (126)
opropanes									
hloropropene	0.5					0.2			
opropenes									
vos									
ı							0.002 #		
Oil									100 (49)
ıolamine									22,000,000 (126)
amine									470 (126)
ıylhexyl) adipate	400		400		400				
ıylhexyl)phthalate	4		6		zero	12			
ketone									4700 (126)
phthalate									

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Regulatory Level as a Drinking Water Level (14)	Agricultural Water Quality Goals (78)
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS) *Drinking Water and Health*		
minotoluene				0.0092				0.1 #	
in		0.6	14			(E)			
(a,h)acridine				0.029 (93)				#	
(a,j)acridine				0.029 (93)				#	
(a,h)anthracene				0.0085	(B2)			0.1 #	
enzo(c,g)carbazole				0.0029 (93)				0.00045 # (68)	
o(a,e)pyrene				0.0029 (93)				#	
o(a,h)pyrene				0.00029 (93)				0.001 # (68)	
o(a,i)pyrene				0.00029 (93)				0.001 # (68)	
o(a,l)pyrene				0.00029 (93)				#	
oacetic acid									
oacetonitrile		20	23 / 161 (7)			(C)			
romobenzene	70								
ochloromethane		60 (68)	18,000 (24-hr)	0.37		0.4 (C,68)	0.6	3.5	
ochloropropane (DBCP)		50 (10-day)		0.005		0.03 (B2)	0.051	0.05 / 2.5 #R (5,68)	
romoethane		8 (10-day)		0.0097	0.0004 (B2)	0.0005 (B2)	0.055	0.1 #R	
phthalate	700		770		(D)	(D)			
ıe	210	200	8.75			(D)			
oacetic acid		5000 (10-day,68)	175 / 420 (7)		(B2)	(B2,68)		#	
oacetonitrile		6				(C)			
hlorobenzene	630	600	300 (25)		(D)	(D)			
hlorobenzene		600			(D)	(D)			
hlorobenzene		75	94 (25)	6.5		(C)		10 #	
obenzenes									
hlorobenzidine				0.029	0.08 (B2)			0.3 #	
odifluoromethane	1400	1000	5600 (7-day)			(D)			
hloroethane				6.1	(C)			50 #	
hloroethane		7 (10-day)		0.74	0.4 (B2)	0.4 (B2)	0.71	5 #	
hloroethylene	6	7	100		0.06 (C)	(C)			
Dichloroethylene		70			(D)	(D)			
,2-Dichloroethylene	140	100				(D)			
oethylenes									
omethane	420	2000 (10-day,68)	5000 (7-day)	2.5	5 (B2)	5 (B2,68)		25 #	
hlorophenol	21								
hlorophenol	21	20 (68)	2000 / 7000 (7)			(E,68)			
hlorophenol									
hlorophenol									
hlorophenol									
Dichlorophenoxy)butyric acid	56							R	
hloropropane		90 (10-day)		0.97		0.6 (B2)		#	
opropanes									
hloropropene	210	3 (10-day)		0.38	0.4 / 0.7 / 0.8 (B2)	0.4 (B2)	0.45	2 # (68)	
opropenes									
vos				0.085	0.1 (B2)			1 #	
)		0.5 (10-day)		0.0022	0.002 (B2)	0.002 (B2)	0.0019	0.02 #	
Oil		100 (10-day,49)							
nolamine									
amine									
nylhexyl) adipate	420	400			30 (C)	30 (C)			
nylhexyl)phthalate			4200	12	3 (B2)	3 (B2)	2.4	40 #	
ketone									
phthalate	5600				(D)	(D)			

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA National Recommended Ambient Water Quality Criteria											
	Human Health and Welfare Protection					Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
minotoluene												
n						0.05 (151)		0.08 / 0.09 (151,68)	0.009 (54)			
(a,h)acridine												
(a,j)acridine												
(a,h)anthracene			0.0044 (41)	0.049 (41)								
enzo(c,g)carbazole												
o(a,e)pyrene												
o(a,h)pyrene												
o(a,i)pyrene												
o(a,l)pyrene												
oacetic acid												
oacetonitrile												
romobenzene												
ochloromethane			0.41	34						11,000 (20)		
ochloropropane (DBCP)												
romoethane												
phthalate	2700	12,000								940 (45)	3 (45)	
a									200 (54)			
oacetic acid												
oacetonitrile												
hlorobenzene	2700	17,000								1120 (24)	763 (24)	
hlorobenzene	400	2600								1120 (24)	763 (24)	
hlorobenzene	400	2600								1120 (24)	763 (24)	
obenzenes										1120	763	
hlorobenzidine			0.04	0.077								
odifluoromethane			0.19							11,000 (20)		
hloroethane												
hloroethane			0.38	99						118,000	20,000	
hloroethylene			0.057	3.2						11,600 (27)		
Dichloroethylene										11,600 (27)		
2-Dichloroethylene	700	140,000								11,600 (27)		
oethylenes										11,600		
omethane			4.7	1600						11,000 (20)		
hlorophenol					0.04							
hlorophenol	93	790			0.3					2020	365	70 (35)
hlorophenol					0.5							
hlorophenol					0.2							
hlorophenol					0.3							
Dichlorophenoxy)butyric acid												
hloropropane			0.52	39						23,000 (28)	5700 (28)	
opropanes										23,000	5700	
hloropropene	10	1700	0.34 (68)	14 (68)						6060 (29)	244 (29)	
opropenes	87	14,100								6060	244	
vos												
			0.00014	0.00014		0.056 (139)		0.24				
Oil												
olamine												
amine												
ylhexyl) adipate												
ylhexyl)phthalate			1.8	5.9		(138)						
ketone												
phthalate	23,000	120,000								940 (45)	3 (45)	

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Toxics Rule Criteria (USEPA)								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health (30-day Average) aquatic organism consumption only	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum		Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
minotoluene									
n									
(a,h)acridine									
(a,j)acridine									
(a,h)anthracene	0.0044 (113)	0.049 (113)				0.049 (113)			
enzo(c,g)carbazole									
o(a,e)pyrene									
o(a,h)pyrene									
o(a,i)pyrene									
o(a,l)pyrene									
oacetic acid									
oacetonitrile									
romobenzene									
ochloromethane	0.41 (113)	34 (113)				34 (113)			
ochloropropane (DBCP)									
romoethane									
phthalate	2700 (143)	12,000 (143)				12,000 (143)			
a									
oacetic acid									
oacetonitrile									
hlorobenzene	2700	17,000				17,000			
hlorobenzene	400	2600				2600			
hlorobenzene	400	2600				2600			
obenzenes									
hlorobenzidine	0.04 (113,143)	0.077 (113,143)				0.077 (113,143)			
odifluoromethane									
hloroethane									
hloroethane	0.38 (113,143)	99 (113,143)				99 (113,143)			
hloroethylene	0.057 (113,143)	3.2 (113,143)				3.2 (113,143)			
Dichloroethylene									
,2-Dichloroethylene	700	140,000				140,000			
oethylenes									
omethane	4.7 (113)	1600 (113)				1600 (113)			
hlorophenol									
hlorophenol	93 (143)	790 (143)				790 (143)			
hlorophenol									
hlorophenol									
hlorophenol									
Dichlorophenoxy)butyric acid									
hloropropane	0.52	39				39			
opropanes									
hloropropene	10 (143)	1700 (143)				1700 (143)			
opropenes									
vos									
	0.00014 (113)	0.00014 (113)	0.056	0.24		0.00014 (113)	0.0019 (114)		0.71
Oil									
olamine									
amine									
ylhexyl) adipate									
ylhexyl)phthalate	1.8 (113,143)	5.9 (113,143)				5.9 (113,143)			
ketone									
phthalate	23,000 (143)	120,000 (143)				120,000 (143)			

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria Saltwater Aquatic Life Protection						
	Human Health (30-day Average) aquatic organism consumption only	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
		6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
rminotoluene													
on									0.82 (68)				
(a,h)acridine													
(a,j)acridine													
(a,h)anthracene	0.0088 # (33)										300 (52)		
enzo(c,g)carbazole											300 (52)		
o(a,e)pyrene											300 (52)		
o(a,h)pyrene											300 (52)		
o(a,i)pyrene											300 (52)		
o(a,l)pyrene											300 (52)		
oacetic acid													
oacetonitrile													
romobenzene													
ochloromethane	130 # (13)										12,000 (20)	6400 (20)	11,500 (20,82)
ochloropropane (DBCP)													
romoethane													
phthalate	3500										2944 (45)		3.4 (38,45)
a													
oacetic acid													
oacetonitrile													
hlorobenzene	5100 (77)										1970 (24)	129 (22)	
hlorobenzene	5100 (77)										1970 (24)	129 (22)	
hlorobenzene	18 #										1970 (24)	129 (22)	
obenzenes	5100 (77)										1970	129 (22)	
hlorobenzidine	0.0081 #												
odifluoromethane											12,000 (20)	6400 (20)	11,500 (20,82)
hloroethane													
hloroethane	130 #										113,000		
hloroethylene	7100										224,000 (27)		
Dichloroethylene											224,000 (27)		
,2-Dichloroethylene											224,000 (27)		
oethylenes											224,000		
omethane	450 #										12,000 (20)	6400 (20)	11,500 (20,82)
hlorophenol		1 (87)			4 (87)	10 (87)							
hlorophenol		1 (87)			4 (87)	10 (87)							
hlorophenol		1 (87)			4 (87)	10 (87)							
hlorophenol		1 (87)			4 (87)	10 (87)							
hlorophenol		1 (87)			4 (87)	10 (87)							
Dichlorophenoxy)butyric acid													
hloropropane											10,300 (28)	3040 (28)	
opropanes											10,300	3040	
hloropropene	8.9 #										790 (29)		
opropenes											790		
vos													
)	0.00004 #						0.0019 (114)			0.71			
Oil													
nolamine													
amine													
hylhexyl) adipate													
hylhexyl)phthalate	3.5 #						(138)						
ketone													
phthalate	33,000										2944 (45)		3.4 (38,45)

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
aminotoluene	95-80-7	2,4-Toluenediamine		
on	333-41-5	Basudin	Neocidol	
(a,h)acridine	226-36-8			
(a,j)acridine	224-42-0			
(a,h)anthracene	53-70-3	1,2;5,6-Dibenzanthracene	Dibenzo(a,h)anthracene	a polynuclear aromatic hydrocarbon
enzo(c,g)carbazole	194-59-2			a polynuclear aromatic hydrocarbon
o(a,e)pyrene	192-65-4			a polynuclear aromatic hydrocarbon
o(a,h)pyrene	189-64-0			a polynuclear aromatic hydrocarbon
o(a,i)pyrene	189-55-9			a polynuclear aromatic hydrocarbon
o(a,l)pyrene	191-30-0			a polynuclear aromatic hydrocarbon
oacetic acid		A haloacetic acid		
oacetonitrile	3252-43-5			
romobenzene	106-37-6			
ochloromethane	124-48-1	Chlorodibromomethane		a trihalomethane (THM)
ochloropropane (DBCP)	96-12-8	1,2-Dibromo-3-chloropropane	DBCP	
romoethane	106-93-4	Ethylene dibromide	EDB	
phthalate	84-74-2	Bis-butyl phthalate	Di-n-butylphthalate	A phthalate acid ester (PAE)
ba	1918-00-9	Banvel		
oacetic acid	79-43-6	A haloacetic acid		
oacetonitrile	3018-12-0			
hlorobenzene	95-50-1	o-Dichlorobenzene	o-DCB	
hlorobenzene	541-73-1	m-Dichlorobenzene		
hlorobenzene	106-46-7	p-Dichlorobenzene	PDB	p-DCB
obenzenes	25321-22-6	Benzenes, dichloro-		
hlorobenzidine	91-94-1	DCB		
odifluoromethane	75-71-8	Difluorodichloromethane	Freon 12	
hloroethane	75-34-3	1,1-DCA		
hloroethane	107-06-2	1,2-DCA	Ethylene dichloride	Freon 150
hloroethylene	75-35-4	1,1-Dichloroethene	1,1-DCE	Vinylidene chloride
-Dichloroethylene	156-59-2	cis-1,2-Dichloroethene	cis-1,2-DCE	
,2-Dichloroethylene	156-60-5	trans-1,2-Dichloroethene	trans-1,2-DCE	
oethylenes		Ethylenes, dichloro-	Dichloroethenes	
omethane	75-09-2	Methylene chloride		
hlorophenol	576-24-9			
hlorophenol	120-83-2			
hlorophenol	583-78-8			
hlorophenol	87-65-0			
hlorophenol	95-77-2			
Dichlorophenoxy)butyric acid	94-82-6	2,4-D butyric acid		
hloropropane	78-87-5	Propylene dichloride	component of D-D	minor component of Telone
opropanes	26638-19-7	Propanes, dichloro-		
hloropropene	542-75-6	1,3-Dichloropropylene	component of D-D	major component of Telone
opropenes		Propenes, dichloro-		
vos	62-73-7	DDVP	Dichlorodimethylvinylphosphate	
)	60-57-1			
Oil	68476-34-6	Fuel oil #2		a petroleum hydrocarbon
olamine	111-42-2	DEA		
amine	109-89-7			
hylhexyl) adipate	103-23-1			
hylhexyl)phthalate	117-81-7	Bis(2-ethylhexyl) phthalate	DEHP	A phthalate acid ester (PAE)
ketone	96-22-0	3-Pentanone		
phthalate	84-66-2	Bis-ethyl phthalate	A phthalate acid ester (PAE)	

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment)	California State Action Levels (Department of Health Services)		Other Taste & Odor Thresholds
	California Dept. of Health Services		U.S. Environmental Protection Agency						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal		Toxicity	Taste & Odor	
stilbestrol									
sulfate									
oquat									
nzuron									
dyl resorcinol ether									
osafrole									
tyl ketone									14 (126)
opylamine									1300 (126)
opyl methyl phosphonate									
ipin									
oate							1		
nethoxybenzidine									
nethoxybenzidine hloride									
rin									
ylamine									290 (126)
thylaminoazobenzene									
thylamino)methylimino]-5-[2- -2-furyl)vinyl]-1,3,4-									
methylaniline									25 (126)
imethylbenz(a)anthracene									
nethylbenzidine									
nethylbenzidine chloride									
ylcarbamoyl chloride									
methylformamide									50,000 (126)
nethylhydrazine									
nethylhydrazine									
yl methyl phosphonate									
nethylphenol							100		
nethylphenol									
nethylphenol									
yl phthalate									
yl sulfate									
yl terephthalate									
ylvinylchloride									
itrobenzene									
itro-o-cresol									
itro-o-cyclohexyl phenol									
itrophenol									
phenols									
itropyrene									
itropyrene									
itrotoluene									
itrotoluene									
oluenes									
b	7		7		7	14			
tyl) phthalate									
oxane							3 #		230,000 (126)
amid(e)							200		
ylamine									
henylhydrazine									

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Regulatory Level as a Drinking Water Level (14)	Agricultural Water Quality Goals (78)
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS) *Drinking Water and Health*		
stilbestrol				0.0001				0.001 #	
sulfate								0.35 # (68)	
oquat	560								
nzuron	140								
tyl resorcinol ether				0.021				0.2 #	
osafrole				0.8				10 #	
tyl ketone									
opylamine									
opyl methyl phosphonate	560	600			(D)	(D)			
ipin	14				(C)				
oate	1.4								
nethoxybenzidine								0.05 # (68)	
nethoxybenzidine hloride								0.1 # (68)	
rin		2000				(D)			
ylamine									
thylaminoazobenzene				0.0076				0.1 #	
hylamino)methylimino]-5-[2- -2-furyl)vinyl]-1,3,4-				0.08				1 #	
methylaniline	14								
imethylbenz(a)anthracene				0.00014				0.0015 #	
nethylbenzidine								0.0045 # (68)	
nethylbenzidine chloride								0.005 # (68)	
ylcarbamoyl chloride				0.0027				0.025 #	
methylformamide									
nethylhydrazine								0.15 # (68)	
nethylhydrazine				0.000064				0.0005 #	
yl methyl phosphonate		100				7 (C)			
nethylphenol	140								
nethylphenol	4								
nethylphenol	7								
yl phthalate					(D)	(D)			
yl sulfate					(B2)			0.025 # (68)	
yl terephthalate	700								
ylvinylchloride				0.78				10 #	
itrobenzene	0.7	1			(D)	(D)		40 R (5,68)	
itro-o-cresol			110 (11)						
itro-o-cyclohexyl phenol	14								
itrophenol	14		110 (11)						
henols			110						
itropyrene				0.00029 (93)				0.01 # (68)	
itropyrene				0.0029 (93)				0.005 # (68)	
itrotoluene	14	500 (10-day)		0.11	0.05 (B2,65)	0.05 (B2,65)		1 #R	
itrotoluene		400 (10-day)			0.05 (B2,65)	0.05 (B2,65)		#R	
oluenes									
b	7	7	39		(D)	(D)		R	
tyl) phthalate									
oxane		400 (10-day)		1.3	3 (B2)	3 (B2)		15 #	
amid(e)	210	200				(D)			
ylamine	180	200				(D)			
henylhydrazine				0.04	0.05 (B2)			0.4 #	

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA National Recommended Ambient Water Quality Criteria											
	Human Health and Welfare Protection					Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
stilbestrol												
sulfate												
quat												
nzuron												
tyl resorcinol ether												
safrole												
tyl ketone												
opylamine												
opyl methyl phosphonate												
ipin												
oate												
nethoxybenzidine												
nethoxybenzidine loride												
rin												
ylamine												
thylaminoazobenzene												
hylamino)methylimino]-5-[2- -2-furyl)vinyl]-1,3,4-												
nethylaniline												
methylbenz(a)anthracene												
nethylbenzidine												
nethylbenzidine chloride												
ylcarbamoyl chloride												
nethylformamide												
ethylhydrazine												
ethylhydrazine												
yl methyl phosphonate												
ethylphenol	540	2300			400					2120		
ethylphenol												
ethylphenol												
yl phthalate	313,000	2,900,000								940 (45)	3 (45)	
yl sulfate												
yl terephthalate										940 (45)	3 (45)	
ylvinylchloride												
itrobenzene												
itro-o-cresol	13.4	765								230 (88)		150 (38,88)
itro-o-cyclohexyl phenol												
itrophenol	70	14,000								230 (88)		150 (38,88)
henols	70	14,300								230 (88)		150 (38,88)
itropyrene												
itropyrene												
itrotoluene			0.11	9.1						330 (53)	230 (53)	
itrotoluene										330 (53)	230 (53)	
oluenes										330	230	
o												
tyl) phthalate										940 (45)	3 (45)	
xane												
amid(e)												
ylamine												
henylhydrazine			0.040	0.54						270		

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Toxics Rule Criteria (USEPA)								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health (30-day Average) aquatic organism consumption only	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum		Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
stilbestrol									
sulfate									
xquat									
nzuron									
yl resorcinol ether									
safrole									
tyl ketone									
opylamine									
opyl methyl phosphonate									
ipin									
oate									
nethoxybenzidine									
nethoxybenzidine hloride									
rin									
ylamine									
thylaminoazobenzene									
hylamino)methylimino]-5-[2- -2-furyl)vinyl]-1,3,4-									
nethylaniline									
methylbenz(a)anthracene									
nethylbenzidine									
nethylbenzidine chloride									
ylcarbamoyl chloride									
nethylformamide									
ethylhydrazine									
ethylhydrazine									
yl methyl phosphonate									
ethylphenol	540	2300				2300			
ethylphenol									
ethylphenol									
yl phthalate	313,000 (143)	2,900,000 (143)				2,900,000 (143)			
yl sulfate									
yl terephthalate									
ylvinylchloride									
itrobenzene									
itro-o-cresol	13.4 (143)	765 (143)				765 (143)			
itro-o-cyclohexyl phenol									
itrophenol	70 (143)	14,000 (143)				14,000 (143)			
henols									
itropyrene									
itropyrene									
itrotoluene	0.11 (113,143)	9.1 (113,143)				9.1 (113,143)			
itrotoluene									
oluenes									
b									
tyl) phthalate									
xane									
amid(e)									
ylamine									
henylhydrazine	0.040 (113,143)	0.54 (113,143)				0.54 (113,143)			

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria Saltwater Aquatic Life Protection						
	Human Health (30-day Average)	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	aquatic organism consumption only	6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
stilbestrol													
sulfate													
oquat													
nzuron													
dyl resorcinol ether													
osafrole													
tyl ketone													
opylamine													
opyl methyl phosphonate													
ipin													
oate													
nethoxybenzidine													
nethoxybenzidine hloride													
rin													
ylamine													
thylaminoazobenzene													
hylamino)methylimino]-5-[2- -2-furyl)vinyl]-1,3,4-													
methylaniline													
imethylbenz(a)anthracene											300 (52)		
nethylbenzidine													
nethylbenzidine ichloride													
ylcarbamoyl chloride													
methylformamide													
nethylhydrazine													
nethylhydrazine													
yl methyl phosphonate													
nethylphenol		30 (86)			120 (86)	300 (86)							
nethylphenol													
nethylphenol													
yl phthalate	820,000										2944 (45)		3.4 (38,45)
yl sulfate													
yl terephthalate											2944 (45)		3.4 (38,45)
ylvinylchloride													
itrobenzene													
itro-o-cresol	220	30 (86)			120 (86)	300 (86)					4850 (88)		
itro-o-cyclohexyl phenol		30 (86)			120 (86)	300 (86)							
itrophenol	4.0	30 (86)			120 (86)	300 (86)					4850 (88)		
henols		30 (86)			120 (86)	300 (86)					4850 (88)		
itropyrene													
itropyrene													
itrotoluene	2.6 #										590 (53)		370 (53,82)
itrotoluene											590 (53)		370 (53,82)
oluenes											590		370 (82)
b													
tyl) phthalate											2944 (45)		3.4 (38,45)
xane													
amid(e)													
ylamine													
henylhydrazine	0.16 #												

10495

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
stilbestrol	56-53-1	DES		
sulfate	64-67-5			
)quat	43222-48-6	Avenge		
nzuron	35367-38-5			
tyl resorcinol ether	101-90-6	DGRE		
)safrole	94-58-6	1,2-(Methylenedioxy)-4-propylbenzene	1,3-Benzodioxole	
ityl ketone	108-83-8	2,6-Dimethyl-4-heptanone		
opylamine	108-18-9			
opyl methyl phosphonate	1445-75-6	DIMP		
ipin	55290-64-7	Harvade		
oate	60-51-5	De-Fend	Cygon	Fosfamid
nethoxybenzidine	119-90-4	o-Dianisidine		
nethoxybenzidine hloride	20325-40-0	o-Dianisidine dihydrochloride		
rin	70-38-2	2,4-Dimethylbenzytester	Chrysanthemumic acid	
ylamine	124-40-3	DMA		
thylaminoazobenzene	60-11-7	Methyl yellow	Butter yellow	
hylamino)methyliminoj-5-[2- -2-furyl)vinyl]-1,3,4-	55738-54-0			
methylaniline	121-69-7			
methylbenz(a)anthracene	57-97-6	DMBA		a polynuclear aromatic hydrocarbon
nethylbenzidine	119-93-7	o-Tolidine		
nethylbenzidine chloride	612-82-8	o-Tolidine hydrochloride		
ylcarbamoyl chloride	79-44-7	Dimethylcarbamyl chloride		
methylformamide	68-12-2	DMF		
nethylhydrazine	57-14-7	UDMH	unsymmetrical-Dimethylhydrazine	
nethylhydrazine	540-73-8	symmetrical-Dimethylhydrazine		
yl methyl phosphonate				
nethylphenol	105-67-9	asymmetrical-m-Xylenol	2,4-DMP	
nethylphenol	576-26-1			
nethylphenol	95-65-8			
yl phthalate	131-11-3	Bis-methyl phthalate	A phthalate acid ester (PAE)	
yl sulfate	77-78-1			
yl terephthalate	120-61-6	DMT	Dimethyl p-phthalate	
ylvinylchloride	513-37-1	1-Chloro-2-methylpropene	1-Chloroisobutene	
itrobenzene	99-65-0	m-Dinitrobenzene		
itro-o-cresol	534-52-1	2-Methyl-4,6-dinitrophenol	4,6-Dinitro-2-methylphenol	
itro-o-cyclohexyl phenol	131-89-5	DNOHP		
itrophenol	51-28-5			
)henols	25550-58-7			
itropyrene	42397-64-8			
itropyrene	42397-65-9			
itrotoluene	121-14-2			
itrotoluene	606-20-2			
oluenes	25321-14-6	Toluenes, dinitro-		
b	88-85-7	DNBP		
tyl) phthalate	117-84-0	Bis-n-octyl phthalate	A phthalate acid ester (PAE)	
xane	123-91-1	p-Dioxane	Diethylene ether	
amid(e)	957-51-7	Diphenamide		
ylamine	122-39-4			
henylhydrazine	122-66-7	Hydrazobenzene		

10496

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) In Drinking Water (Office of Environmental Health Hazard Assessment)	California State Action Levels (Department of Health Services)		Other Taste & Odor Thresholds
	California Dept. of Health Services		U.S. Environmental Protection Agency						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal		Toxicity	Taste & Odor	
	20		20		20	15 (100)			
Black 38									
Blue 6									
Brown 95									
se Blue 1									
on									
hlane									
ulfan									
ulfan sulfate									
al	100		100		100	580			
	2		2		2	1.8			
rohydrin			(145)		zero				500 to 1000 / 3000 (125,126)
ol 17B									
									7500 (126)
l									760,000 (126)
lamine									20,000,000 (126)
on									
							4		
xyethanol									190,000 (126)
xyethyl acetate									5000 (126)
cetate									2600 (126)
crylate									0.38 (126)
nine									4300 (126)
-amyl ketone									2500 (126)
nzene	700 / 300 (100)		700	30 (100)	700	300			29 (26,125)
romide									46 (126)
,4'-dichlorobenzilate									
l dipropylthiocarbamate									
ne									39 (126)
ediamine									16,000,000 (126)
e glycol									
e glycol monobutyl ether									
eimine									170,000 (126)
e oxide (ETO)									140,000 (126)
e thiourea (ETU)									
ther									750 (126)
rmate									11,000 (126)
ercaptan									0.0075 (126)
-nitrophenyl ophosphorothioate									
thalyl ethylglycolate									
s									
iphos									
1									
turon									
thene									
ne									
ne									
nidol									

10497

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Regulatory Level as a Drinking Water Level (14)	Agricultural Water Quality Goals (78)
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS) Drinking Water *and Health*		
	16					(D)			
Black 38				0.0047 (65)				0.045 # (65)	
Blue 6				0.0047 (65)				0.045 # (65)	
Brown 95				0.0052 (65)				0.05 # (65)	
e Blue 1				7.8 (65)				100 #	
n	0.3	0.3	0.7			(E)			
niane	70	80			(D)	(D)			
	14	10				(D)			
	28								
ılfan	42								
ılfan sulfate									
al	140	100				(D)			
	2	2			(D)	(D)		#R	
rohydrin		100 (10-day)	530 (7-day)	0.44	3 (B2)	4 (B2)		4.5 #R	
ol 17B				0.0009				0.01 #	
f									
famine									
on	35								
	3.5								
xyethanol								R	
xyethyl acetate								R	
cetate	6300								
crylate								#	
nine									
-amyl ketone									
nzene	700	700			(D)	(D)			
romide									
,4'-dichlorobenzilate	140			0.32				3.5 #	
dipropylthiocarbamate	180								
ne									
ediamine									
ne glycol	14,000	14,000				(D)			
ne glycol monobutyl ether	350				(C)				
eimine				0.00054				0.005 #	
ne oxide (ETO)				0.11				1 / 10 #R (5)	
ne thiourea (ETU)	0.6	300 (10-day)		0.78		0.2 (B2)	0.23	10 / 3 #R (68)	
ther	1400								
rmate									
ercaptan									
-nitrophenyl phosphorothioate	0.07								
thalyl ethylglycolate	21,000								
s	56								
iphos	1.8	2				(D)			
n			87.5						
turon	91	90				(D)			
thene	280				(D)				
ne	280				(D)	(D)			
ne	560								
nidol	140								

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA National Recommended Ambient Water Quality Criteria											
	Human Health and Welfare Protection					Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
									0.5 (54)			
Black 38												
Blue 6												
Brown 95												
e Blue 1												
n									0.05 (54)			
iane												
lfan	110 (115)	240 (115)				0.056 (114,115)			0.22 (115)			
lfan suffate	110	240					0.056 (104)					
al												
	0.76 (18)	0.81 (18)				0.036,139		0.086				
rohydrin												
ol 17B												
lamine												
on												
									0.02 (54)			
yethanol												
yethyl acetate												
etate												
ryfate												
ine												
amyl ketone												
nzene	3100	29,000								32,000		
omide												
4'-dichlorobenzilate												
dipropylthiocarbamate												
e												
ediamine												
e glycol												
e glycol monobutyl ether												
eimine												
e oxide (ETO)												
e thiourea (ETU)												
her												
rmate												
ercaptan												
nitrophenyl hosphorothioate												
thalyl ethylglycolate	86,000 (68)	5,080,000 (68)								940 (45)	3 (45)	
s												
phos												
turon												
thene	300	370								3980		
e	1300	14,000										
ne												
nidol												

10499

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Toxics Rule Criteria (USEPA)								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health (30-day Average) aquatic organism consumption only	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum		Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
Black 38									
Blue 6									
Brown 95									
e Blue 1									
n									
iane									
lfan	110 (115)	240 (115)	0.056 (114,115)		0.22 (115)	240 (115)	0.0087 (114,115)		0.034 (115)
lfan sulfate	110	240				240			
al									
	0.76 (18)	0.81 (18)	0.036	0.086		0.81 (18)	0.0023 (114)		0.037
rohydrin									
ol 17B									
l									
lamine									
on									
yethanol									
yethyl acetate									
etate									
rylate									
nine									
amyl ketone									
nzene	3100 (143)	29,000 (143)				29,000 (143)			
rmide									
4'-dichlorobenzilate									
dipropylthiocarbamate									
e									
ediamine									
e glycol									
e glycol monobutyl ether									
eimine									
e oxide (ETO)									
e thiourea (ETU)									
her									
rmate									
ercaptan									
nitrophenyl phosphorothioate									
thalyl ethylglycolate									
s									
phos									
)									
turon									
thene	300	370				370			
e	1300	14,000				14,000			
ne									
nidol									

10500

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria Saltwater Aquatic Life Protection						
		Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Human Health (30-day Average) aquatic organism consumption only	6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
Black 38													
Blue 6													
Brown 95													
se Blue 1													
on													
niane													
ulfan		0.009 (42)			0.018 (42)	0.027 (42)	0.0087 (114,115)			0.034 (115)			
ulfan sulfate		0.009 (42)			0.018 (42)	0.027 (42)		0.0087 (104)					
al													
		0.002			0.004	0.006	0.0023 (114)			0.037			
rohydrin													
ol 17B													
lamine													
on													
yethanol													
yethyl acetate													
etate													
rylate													
nine													
-amyl ketone													
nzene	4100										430		
romide													
,4'-dichlorobenzilate													
dipropylthiocarbamate													
e													
ediamine													
e glycol													
e glycol monobutyl ether													
eimine													
e oxide (ETO)													
e thiourea (ETU)													
ther													
rmate													
ercaptan													
-nitrophenyl phosphorothioate													
thalyl ethylglycolate											2944 (45)		3.4 (38,45)
s													
iphos													
n													
turon													
thene	15										40	16	
e	0.0068 # (33)										300 (52)		
ne													
nidol													

10501

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
	85-00-7	Aquacide	Reglone	
Black 38	1937-37-7	2-Naphthalenesulfonic acid		
Blue 6	2602-46-2	Diazine blue		
Brown 95	16071-86-6			
se Blue 1	2475-45-8	1,4,5,8-Tetraminoanthraquinone		
on	298-04-4	Disulfoton	Ethylthiodemeton	
hiane	505-29-3			
	330-54-1	Crisuron	Dialon	Karmex
	2439103	Dodecylguanidine acetate		
ulfan	115-29-7	Endosulfan I (alpha)	Endosulfan II (beta)	Thiodan
ulfan sulfate	1031-07-8			
ıaf	145-73-3	Endothall		
	72-20-8	Endrex	Hexadrin	
orohydrin	106-89-8	Chloropropylene	1-Chloro-2,3-epoxypropane	
ol 17B	50-28-2	Altrad	Baridol	Femogen
	74-84-0			
ıl	64-17-5	Ethyl alcohol		
lamine	141-43-5	2-Aminoethanol	MEA	Monoethanolamine
ion	16672-87-0	2-Chloroethylphosphonic acid		
	563-12-2	Diethion		
xyethanol	110-80-5	Ethylene glycol monoethyl ether		
xyethyl acetate	111-15-9	Ethylene glycol monoethyl ether acetate		
cetate	141-78-6			
crylate	140-88-5			
nine	75-04-7	Aminoethane		
-amyl ketone	106-68-3	EAK	5-Methyl-3-heptanone	
nzene	100-41-4	Phenylethane		
romide	74-96-4	Bromoethane		
,4'-dichlorobenzilate	510-15-6	Chlorobenzilate		
dipropylthiocarbamate	759-94-4	EPTC	Eptam	
ne	74-85-1			
nediamine	107-15-3	1,2-Diaminoethane		
ne glycol	107-21-1	1,2-Ethane diol		
ne glycol monobutyl ether	111-76-2	2-Butoxy ethanol	Ethylene glycol butyl ether	EGBE
neimine	151-56-4	Aziridine		
ne oxide (ETO)	75-21-8	ETO	Epoxyethane	Oxirane
ne thiourea (ETU)	96-45-7	ETU		
ther	60-29-7			
rmate	109-94-4			
ercaptan	75-08-1	Ethanethiol		
-nitrophenyl ophosphorothioate	2104-64-5	EPN		
thalyl ethylglycolate	84-72-0	EPEG	Ethyl carbethoxymethyl phthalate	A phthalate acid ester (PAE)
s	101200-48-0	IN L5300		
iphos	22224-92-6	Nemacur	Phenamiphos	
n	14484-64-1	Fermate		
sturon	2164-17-2	Cotoron	Cottonex	Lanex
nthene	206-44-0			a polynuclear aromatic hydrocarbon
ne	86-73-7			a polynuclear aromatic hydrocarbon
ne	59756-60-4	Sonar		
nidol	56425-91-3	Cutlass		

10502

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment)	California State Action Levels (Department of Health Services)		Other Taste & Odor Thresholds
	California Dept. of Health Services		U.S. Environmental Protection Agency						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal		Toxicity	Taste & Odor	
nil									
nate									
g agents (MBAS)		500		500					
afen									
s									
dehyde							100		600 (126)
acid									1,700,000 (126)
rmylhydrazino)-4-(5-nitro-2-iazole									
l-al									
l									3500 (126)
cyclox									
ne									5 (55)
nate-ammonium									
l									
e									
ldehyde									
l									
sate	700		700		700	1000			
luvin									
trin									
ers									
thanes			100 / 80 (19,100)						
ane									290 (126)
fop-methyl									
ry									
e 1									
hlor	0.01		0.4		zero	0.008			
hlor epoxide	0.01		0.2		zero	0.006			
e									7.3 (126)
romobenzene									
lorobenzene	1		1		zero				
lorobutadiene									
lorocyclopentadiene	50		50	8 (100)	50	50			7.7 (126)
lorodibenzo-p-dioxin									
loroethane									10 (126)
lorophene									
ethylphosphoramide									
ne									6.4 (126)
none									
l									
luin									
									0.26 (126)
(1,2,3-c,d)pyrene									
m									11 (126)
ne									
l acetate									17 (126)

10503

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Regulatory Level as a Drinking Water Level (14)	Agricultural Water Quality Goals (78)
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS) *Drinking Water and Health*		
nil	420								
nate	70							R	
g agents (MBAS)									
			1120		0.1 (B2)			100 #	
afen					0.2 (C)				
s	14	10				(D)			
dehyde	1400	1000 (68)			(B1,119)	(B1,119)		20 # (124)	
acid									
mmythydrazino)-4-(5-nitro-2-iazole				0.015				0.15 #	
l-al	2100				(C)				
	7							#	
l	21								
cyclox				1.2	1 (B2)			10 #	
ne		5 (100,107)							
nate-ammonium	3								
l				0.0073				0.05 #	
2				0.025				0.25 #	
ldehyde	2.8				(B2)			#	
l								0.2 # (68)	
sate	700	700			(D)	(D)			
luvin								25 # (68)	
trin				0.0035				0.035 #	
ners									
thanes									
ane								R	
fop-methyl	0.35								
ny	91								
e 1				0.69				5 #	
hlor		10 (10-day)		0.0085	0.008 (B2)	0.008 (B2)	0.012	0.1 #R	
hlor epoxide		10 (24-hr)		0.0064	0.004 (B2)	0.004 (B2)		0.04 #	
ie					(D)				
omobenzene	14								
lorobenzene		50 (10-day)	30 (7-day)	0.019	0.02 (B2)	0.02 (B2)	0.017	0.2 #R	
lorobutadiene		1			0.5 (C)	0.5 (C)			
lorocyclopentadiene	49 / 42 (68)				(D / E, 68)	(D)			
lorodibenzo-p-dioxin				0.000011 (120)	0.000006 (B2)			0.0001 #	
loroethane	0.7	1		0.9	3 (C)	(C)		10 #	
lorophene	2		7						
iethylphosphoramide								0.005 #R (68)	
ine		4000 (10-day)				(D)			
none	230	400				(D)			
	350	400			(D)	(D)			
l	91								
quin	1800								
(1,2,3-c,d)pyrene				0.029 (93)	(B2)	(B2)		#	
m									
ne	280							#	
				0.025				0.25 #	
l acetate									

10504

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	US-EPA National Recommended Ambient Water Quality Criteria											
	Human Health and Welfare Protection					Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
nil												
nate												
g agents (MBAS)												
afen												
s												
dehyde												
acid												
rmylhydrazino)-4-(5-nitro-2-iazole												
-al												
l												
yclox												
ie												
nate-ammonium												
l												
ldehyde												
l												
sate												
luvin												
trin												
ers										360	122	
thanes										11,000		
ine												
op-methyl												
y												
e 1												
hlor			0.00021	0.00021		0.0038 (114)			0.52			
hlor epoxide			0.00010	0.00011		0.0038 (114)			0.52			
e												
omobenzene												
lorobenzene			0.00075	0.00077						250 (22)		50 (22,23)
lorobutadiene			0.44 / 0.11 / 0.046 (154)	50 / 0.12 / 0.049 (154)						90	9.3	
lorocyclopentadiene	240	17,000			1					7.0	5.2	
lorodibenzo-p-dioxin												
loroethane			1.9	8.9						980	540	
lorophene												
ethylphosphoramide												
ne												
none												
l												
uin												
(1,2,3-c,d)pyrene			0.0044 (41)	0.049 (41)								
m										11,000 (20)		
ne												
acetate												

10505

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Toxics Rule Criteria (USEPA)								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	(30-day Average) aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
nil									
nate									
ıg agents (MBAS)									
afen									
s									
dehyde									
acid									
xmylhydrazino)-4-(5-nitro-2-iazole									
l-al									
il									
cyclox									
ne									
nate-ammonium									
1									
2									
ldehyde									
ol									
sate									
fluvin									
itrin									
ners									
ethanes									
ane									
fop-methyl									
ny									
e 1									
chlor	0.00021 (113)	0.00021 (113)	0.0038 (114)		0.52	0.00021 (113)	0.0036 (114)		0.053
chlor epoxide	0.00010 (113)	0.00011 (113)	0.0038 (114)		0.52	0.00011 (113)	0.0036 (114)		0.053
ne									
romobenzene									
nlorobenzene	0.00075 (113)	0.00077 (113)				0.00077 (113)			
nlorobutadiene	0.44 (113,143)	50 (113,143)				50 (113,143)			
nlorocyclopentadiene	240 (143)	17,000 (143)				17,000 (143)			
nlorodibenzo-p-dioxin									
nloroethane	1.9 (113,143)	8.9 (113,143)				8.9 (113,143)			
nlorophene									
ethylphosphoramide									
ine									
none									
il									
quin									
(1,2,3-c,d)pyrene	0.0044 (113)	0.049 (113)				0.049 (113)			
m									
ne									
l acetate									

10509

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria Saltwater Aquatic Life Protection						
	Human Health (30-day Average)	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	aquatic organism consumption only	6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
nil													
nate													
ıg agents (MBAS)													
afen													
ıs													
ldehyde													
: acid													
ormylhydrazino)-4-(5-nitro-2-iazole													
l-al													
ıl													
cyclox													
ne													
nate-ammonium													
1													
2													
aldehyde													
ol													
sate													
fluvin													
itrin													
ners													
ethanes	130 # (13)										12000	6400	11,500 (82)
ane													
fop-methyl													
ny													
e 1													
hlor	0.00072 # (30)						0.0036 (114)			0.053			
hlor epoxide	0.00072 # (30)						0.0036 (114)			0.053			
ne													
romobenzene													
lorobenzene	0.00021 #										160 (22)	129 (22)	
lorobutadiene	14 #										32		
lorocyclopentadiene	58										7.0		
lorodibenzo-p-dioxin													
loroethane	2.5 #										940		
lorophene													
ethylphosphoramide													
ine													
none													
l													
quin													
(1,2,3-c,d)pyrene	0.0088 # (33)										300 (52)		
m											12000 (20)	6400 (20)	11,500 (20,82)
ne													
l acetate													

10507

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
nil	66332-96-5	Moncut		
nate	69409-94-5	Mavrik		
ıg agents (MBAS)		Methylene blue active substances	MBAS	
	133-07-3	Folpan		
afen	72178-02-0			
s	944-22-9	Difonate	Dyfonate	Dyphonate
dehyde	50-00-0	Methanal		
acid	64-18-6			
ormylhydrazino)-4-(5-nitro-2-iazole	3570-75-0	Nifurthiazole	FNT	
l-al	39148-24-8	Aliette		
	110-00-9	Furfuran		
il	98-01-1			
cyclox	60568-05-0	Epic 500	Campogran	Furmetamide
ıe	8006-61-9			a petroleum hydrocarbon
nate-ammonium	77182-82-2	Hoe 39866	Basta	
1	67730-11-4	2-Amino-6-methyldipyrido[1,2-a:3',2'-d]-imidazole		
2	67730-10-3	2-Aminopyrido[1,2-a:3',2'-d]-imidazole		
ıldehyde	765-34-4			
ıl	556-52-5			
sate	1071-83-6	Roundup	Glyphosate isopropylamine salt	
luvin	126-07-8			
itrin	16568-02-8	Acetaldehyde methylformylhydrazone		
ıers		Ethers, halo-		
ethanes		Methanes, halo-		
ane	151-67-7	2-Bromo-2-chloro-1,1,1-trifluoroethane		
fop-methyl	69806-40-2	Verdict		
ny	79277-27-3	DPX-M6316		
e 1	2784-94-3			
hlor	76-44-8			
hlor epoxide	1024-57-3			
ıe	142-82-5			
romobenzene	87-82-1			
ılorobenzene	118-74-1	Perchlorobenzene	HCB	
ılorobutadiene	87-68-3	Perchlorobutadiene	HCBD	
ılorocyclopentadiene	77-47-4	HEX	HCCPD	
ılorodibenzo-p-dioxin	19408-74-3	HxCDD		
ıloroethane	67-72-1	Perchloroethane		
ılorophene	70-30-4			
ethylphosphoramide	680-31-9			
ıne	110-54-3			
none	51235-04-2	Velpar		
	2691-41-0	Cyclotetramethylene tetranitramine	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	
l	35554-44-0			
ıuin	81335-37-7	Scepter		
	95-13-6			
(1,2,3-c,d)pyrene	193-39-5			a polynuclear aromatic hydrocarbon
m	75-47-8	Triiodomethane		
ne	36734-19-7	Rovral		
	76180-96-6	2-Amino-3-methylimidazo[4,5-f]quinoline		
l acetate	123-92-2			

10508

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment)	California State Action Levels (Department of Health Services)		Other Taste & Odor Thresholds
	California Dept. of Health Services		U.S. Environmental Protection Agency						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal		Toxicity	Taste & Odor	
l alcohol									270 (126)
l acetate									150 (126)
l alcohol									10,000 (126)
rone									5400 (126)
xafin									
xanol									160,000 (126)
xyl acetate									1000 (126)
xylamine									4900 (126)
xyl ether									0.8 (126)
xyl methylphosphonate									
xyl methyl phosphonic acid									
en									
e									
ne									100 (49)
n									
arpine									
cetate									
ubacetate									
ion							160		
anhydride									
hydrazide									
lpha-C									
lan									
at chloride									
s									
s oxide									
oxide									1000 (126)
xyl									
rylonitrile									
nidophos									
ol									740,000 (126)
athion									
nyl									
ychlor	40 / 30 (100)		40		40	30			4700 (125)
acetate									3000 (126)
acrylate									2.1 (126)
acrylonitrile									2100 (126)
amine									2400 (126)
n-amyl ketone									280 (126)
ylaniline									18,000 (126)
t-butyl ether (MtBE)	13	5				13			15 to 95 (10)
n-butyl ketone									250 (126)
ylcholanthrene									
ylchrysene									
cyclohexane									150 (126)
lethylcyclohexanol									6,000,000 (126)

10509

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Regulatory Level as a Drinking Water Level (14)	Agricultural Water Quality Goals (78)
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS) *Drinking Water and Health*		
l alcohol									
l acetate									
l alcohol	2100								
rone	140	100			40 (C)	40 (C)			
alin	100								
anol									
yl acetate									
ylamine									
yl ether									
yl methylphosphonate		700				(D)			
yl methyl phosphonic acid	700				(D)				
en	35				(C)				
e				0.0022			0.011	0.02 #R	
ne		100 (10-day,49)							
n	14							2 # (68)	
rpine				0.0045				0.045 #	
cetate				0.13	(B2)			1.5 #	
ubacetate				0.92				10 #	
	1.4				(C)			R	
	1400								
ion	140	100	160			(D)			
anhydride	700								
hydrazide	3500	4000				(D)			
	35		35					#	
	11	4	8.75			(D)			
	70								
	7								
lpha-C				0.029				0.3 #	
lan				0.00027				0.0025 #R	
at chloride	210								
s	0.2								
s oxide	0.2								
oxide									
xyl	420								
rylonitrile	0.7								
nidophos	0.35								
ol	3500								
athion	0.7				(C)				
nyl	180	200	175			(E)			
ychlor	35	40	700		(D)	(D)			
acetate									
acrylate					(D)				
acrylonitrile									
amine									
n-amyl ketone									
ylaniline									
t-butyl ether (MtBE)		200		19					
n-butyl ketone									
ychlanthrene				0.0016				0.015 #	
ychrysene				0.0029 (93)				0.0025 # (68)	
cyclohexane									
lethylcyclohexanol									

10510

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA National Recommended Ambient Water Quality Criteria											
	Human Health and Welfare Protection					Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
l alcohol												
l acetate												
l alcohol												
rone			36	2600						117,000		
alin												
anol												
yl acetate												
ylamine												
yl ether												
yl methylphosphonate												
yl methyl phosphonic acid												
en												
e												
ne												
n												
rpine												
cetate												
ubacetate												
on								0.43 (151)	0.1 (51)			
anhydride												
hydrazide												
lpha-C												
lan												
at chloride												
s												
s oxide												
oxide												
yl												
rylonitrile												
nidophos												
ol												
athion												
myl						0.52 (151)		5.5 (151)				
ychlor	100 (51)								0.03 (51)			
acetate												
acrylate												
acrylonitrile												
amine												
n-amyl ketone												
ylaniline												
t-butyl ether (MtBE)												
n-butyl ketone												
ychloanthrene												
ychrysene												
cyclohexane												
ethylcyclohexanol												

10511

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Toxics Rule Criteria (USEPA)								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	(30-day Average) aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
l alcohol									
l acetate									
l alcohol									
rone	8.4 (113,143)	600 (113,143)				600 (113,143)			
alin									
anol									
yl acetate									
ylamine									
yl ether									
yl methylphosphonate									
yl methyl phosphonic acid									
en									
e									
ne									
n									
rpine									
cetate									
ubacetate									
l									
:									
on									
anhydride									
hydrazide									
lpha-C									
lan									
at chloride									
s									
s oxide									
oxide									
yl									
rylonitrile									
nidophos									
ol									
athion									
nyl									
ychlor									
acetate									
acrylate									
acrylonitrile									
amine									
n-amyl ketone									
ylaniline									
t-butyl ether (MtBE)									
n-butyl ketone									
ylcholanthrene									
ylchrysene									
cyclohexane									
lethylcyclohexanol									

10512

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria Saltwater Aquatic Life Protection						
	Human Health (30-day Average) aquatic organism consumption only	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
		6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
yl alcohol													
yl acetate													
yl alcohol													
rone	150,000										12,900		
palin													
panol													
pyl acetate													
pylamine													
pyl ether													
pyl methylphosphonate													
pyl methyl phosphonic acid													
en													
e													
ene													
en													
arpine													
cetate													
ubacetate													
n													
x													
ion									0.34 (152)	0.1 (51)			
anhydride													
hydrazide													
alpha-C													
alan													
at chloride													
os													
os oxide													
l oxide													
xyl													
crylonitrile													
midophos													
nol													
lathion													
myl													
xychlor										0.03 (51)			
l acetate													
l acrylate													
l acrylonitrile													
lamine													
l n-amyl ketone													
hylaniline													
l t-butyl ether (MtBE)													
l n-butyl ketone													
ylcholanthrene													
ylchrysene													
cyclohexane													
Methylcyclohexanol													

10513

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
l alcohol	123-51-3	3-Methyl-1-butanol	Isobutyl carbinol	
l acetate	110-19-0			
l alcohol	78-83-1	Isobutanol		
rone	78-59-1			
alin	33820-53-0			
anol	67-63-0	Isopropyl alcohol		
yl acetate	108-21-4			
ylamine	75-31-0	2-Aminopropane		
yl ether	108-20-3	Di-isopropyl ether	DIPE	
yl methylphosphonate				
yl methyl phosphonic acid	1832-54-8	IMPA		
en	82558-50-7	EL-107		
a	143-50-0	Chlordecone		
ne	8008-20-6	Kerosine	Fuel oil #1	a petroleum hydrocarbon
n	77501-63-4	Cobra		
rpine	303-34-4			
cetate	301-04-2	Sugar of lead		
ubacetate	1335-32-6	Basic lead acetate	BLA	
	330-55-2			
	83055-99-6	DPX-F5384		
ion	121-75-5	Cythion		
anhydride	108-31-6			
hydrazide	123-33-1	Antergon	Chemform	Retard
	12427-38-2	Dithane M-22	Manzate	
	94-74-6	2-Methyl-4-chlorophenoxyacetic acid		
	94-81-5	4-(2-Methyl-4-chlorophenoxy)butyric acid		
	93-65-2	2-(2-Methyl-4-chlorophenoxy)proplonic acid		
lpha-C	68006-83-7	2-Amino-3-methyl-9H-pyrido-[2,3-b]indole		
tan	148-82-3	Alanine nitrogen mustard	Alkeran	
at chloride	24307-26-4			
s	150-50-5	Tribufos	Folex 6EC	
s oxide	78-48-8	Butiphos		
oxide	141-79-7	Methyl isobutenyl ketone		
xyl	57837-19-1	Subdue		
rylonitrile	126-98-7	2-Cyanopropene		
nidophos	10265-92-6	Monitor		
ol	67-56-1	Methyl alcohol		
athion	950-37-8			
nyl	16752-77-5	Lannate		
ychlor	72-43-5			
acetate	79-20-9			
acrylate	96-33-3			
acrylonitrile	126-98-7			
amine	74-89-5	Aminomethane		
n-amyl ketone	110-43-0	2-Heptanone		
yfanilline	100-61-8			
t-butyl ether (MtBE)	1634-04-4	MtBE		
n-butyl ketone	591-78-6	2-Hexanone		
ylcholanthrene	56-49-5			
ylchrysene	3697-24-3			
cyclohexane	108-87-2			
lethylcyclohexanol	25639-42-3			

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment)	California State Action Levels (Department of Health Services)		Other Taste & Odor Thresholds
	California Dept. of Health Services		U.S. Environmental Protection Agency						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal		Toxicity	Taste & Odor	
ethylenebis(2-chloroaniline)									
ethylenebis(N,N-yl)aniline									
ethylenebis(2-methylaniline)									
ethylenedianiline									
ethylenedianiline ochloride									
ethyl ketone									8400 (126)
formate									150,000 (126)
hydrazine									
hydrazine sulfate									
isoamyl ketone									13 (126)
isobutyl carbinol									150 (126)
isobutyl ketone (MIBK)							120		1300 (126)
isopropyl ketone									3100 (126)
mercaptan									0.024 (126)
mercury									
methacrylate									25 (126)
methanesulfonate									
yl-1-nitroanthraquinone									
yl-N'-nitro-N-guanidine									
ylolacrylamide									
parathion							2		
n-propyl ketone									15,000 (126)
Methylstyrene									43 (126)
thiouracil									
chlor									
uzin									
ildazole									
r's ketone									
ycin C									
te	20								
rotaline									
furylidene)-amino)-2-dinone									
naiene							170		21 (126)
thylamine									
amide									
riacetate, trisodium ydrate									
riacetic acid									
acenaphthene									
-o-anisidine									
enzene									110 (126)
chrysene									
hane									220 (126)
n									
fluorene									

10515

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Regulatory Level as a Drinking Water Level (14)	Agricultural Water Quality Goals (78)
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS) *Drinking Water and Health*		
ethylenebis(2-chloroaniline)				0.023				0.25 #	
ethylenebis(N,N-yl)aniline				0.76	0.8 (B2)			10 #	
ethylenebis(2-methylaniline)				0.038				0.4 #	
ethylenedianiline				0.022				0.2 #	
ethylenedianiline ochloride				0.029				0.3 #	
ethyl ketone	4200	7500 (10-day)			(D)	(D)			
formate									
hydrazine								0.3 # (68)	
hydrazine sulfate								0.2 # (68)	
isoamyl ketone									
isobutyl carbinol									
isobutyl ketone (MIBK)									
isopropyl ketone									
mercaptan									
mercury	0.07				(C)			0.15 #R (5,68)	
methacrylate	9800		800		(E)				
methanesulfonate				0.35				3.5 #	
yl-1-nitroanthraquinone				0.0081				0.1 #	
yl-N'-nitro-N-guanidine				0.0042				0.04 #	
ylolacrylamide								1 # (68)	
parathion	1.8	2	30			(D)			
n-propyl ketone									
vlethylstyrene									
thiouracil				0.088				1 #	
chlor	110	100			(C)	(C)			
uzin	175	200			(D)	(D)			
idazole								2 # (68)	
's ketone				0.041				0.4 #	
	1.4			0.0019		0.0049 (8)		0.02 #	
rcin C				0.0000043				0.000045 #	
te	14								
rotaline				0.0035				0.035 #	
furylidene)-amino]-2-dinone								0.1 # (68)	
	14								
alene	14	100			(C)	(C)			
thylamine				0.019				0.2 #	
amide	700								
			700						
iacetate, trisodium ydrate				3.5				35 #	
iacetic acid				6.6				50 #	
acenaphthene				0.27				3 #	
-o-anisidine				0.71				5 #	
nzene	3.5		5 (7-day)		(D)			#	
chrysene				0.00029 (93)				0.001 # (68)	
hane									
n				0.43 (65)			0.0089	4.5 # (65)	
fluorene				0.29 (93)				0.045 # (68)	

10516

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA National Recommended Ambient Water Quality Criteria											
	Human Health and Welfare Protection					Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
thylenebis(2-chloroaniline)												
thylenebis(N,N-/l)aniline												
thylenebis(2-methylaniline)												
thylenedianiline												
thylenedianiline chloride												
ethyl ketone												
formate												
ydrazine												
ydrazine sulfate												
isoamyl ketone												
isobutyl carbinol												
isobutyl ketone (MIBK)												
isopropyl ketone												
mercaptan												
mercury												
methacrylate												
methanesulfonate												
/l-1-nitroanthraquinone												
yl-N'-nitro-N-guanidine												
ytolacrylamide												
parathion									0.08 (152)			
n-propyl ketone												
ethylstyrene												
hiouracil												
hlor	44 (8)								100 (8)			
zin	5250 (8)								100 (8)			
dazole												
's ketone												
			0.000093 (8)	0.000097 (8)					0.001 (51)			
cin C												
e									13 (151)			
otaline												
urylidene)-amino]-2-inone												
atene										2300	620	
thylamine												
amide												
acetate, trisodium /drate												
acetic acid												
cenaphthene												
o-anisidine												
nzene	17	1900			30					27,000		
chrysene												
ane												
luorene												

10517

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Toxics Rule Criteria (USEPA)								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	(30-day Average) aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
thylenebis(2-chloroaniline)									
thylenebis(N,N- yl)aniline									
thylenebis(2-methylaniline)									
thylenedianiline									
thylenedianiline chloride									
ethyl ketone									
formate									
ydrazine									
ydrazine sulfate									
isoamyl ketone									
isobutyl carbinol									
isobutyl ketone (MIBK)									
isopropyl ketone									
mercaptan									
mercury									
methacrylate									
methanesulfonate									
yl-1-nitroanthraquinone									
yl-N'-nitro-N- guanidine									
ylolacrylamide									
parathion									
n-propyl ketone									
Methylstyrene									
hiouracil									
chlor									
izin									
idazole									
's ketone									
din C									
e									
otaline									
furylidene)-amino]-2- linone									
alene									
thylamine									
amide									
iacetate, trisodium ydrate									
iacetic acid									
acenaphthene									
o-anisidine									
nzene	17 (143)	1900 (143)				1900 (143)			
chrysene									
ane									
)									
fluorene									

10518

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria Saltwater Aquatic Life Protection						
	Human Health (30-day Average) aquatic organism consumption only	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
		6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
thylenebis(2-chloroaniline)													
thylenebis(N,N-yl)aniline													
thylenebis(2-methylaniline)													
thylenedianiline													
thylenedianiline chloride													
ethyl ketone													
formate													
ydrazine													
ydrazine sulfate													
isoamyl ketone													
isobutyl carbinol													
isobutyl ketone (MIBK)													
isopropyl ketone													
mercaptan													
mercury													
methacrylate													
methanesulfonate													
yl-1-nitroanthraquinone													
yl-N'-nitro-N-guanidine													
ylolacrylamide													
parathion													
n-propyl ketone													
Methylstyrene													
hiouracil													
chlor													
zin													
dazole													
's ketone													
										0.001 (51)			
cin C													
e													
otaline													
furylidene)-amino]-2-linone													
alene											2350		
thylamine													
amide													
iacetate, trisodium ydrate													
iacetic acid													
acenaphthene													
o-anisidine													
nzene	4.9										6680		
chrysene													
ane													
luorene													

10516

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
thylenebis(2-chloroaniline)	101-14-4			
thylenebis(N,N-yl)aniline	101-61-1	4,4'-Methylenebis(N,N-dimethyl)benzeneamine	bis(p-(Dimethylanino)phenyl)methane	Michler's methane
thylenebis(2-methylaniline)	838-88-0	Methylenebis(ortho-toluidine)		
thylenedianiline	101-77-9			
thylenedianiline chloride	13552-44-8			
ethyl ketone	78-93-3	2-Butanone	MEK	
formate	107-31-3			
ydrazine	60-34-4			
ydrazine sulfate				
isoamyl ketone	110-12-3	MIAK	5-Methyl-2-hexanone	
isobutyl carbinol	108-11-2	Methylamyl alcohol	MIBC	4-Methyl-2-pentanol
isobutyl ketone (MIBK)	108-10-1	4-Methyl-2-pentanone	MIBK	
isopropyl ketone	563-80-4	3-Methyl-2-butanone		
mercaptan	74-93-1	Methanethiol		
mercury	22967-92-6	Mercury, methyl	MeHg	
methacrylate	80-62-6			
methanesulfonate	66-27-3	MMS		
yl-1-nitroanthraquinone	129-15-7	2-Aminonaphthalene		
yl-N'-nitro-N-guanidine	70-25-7	MNNG		
ylolacrylamide	924-42-5			
parathion	298-00-0	Parathion-methyl		
n-propyl ketone	107-87-9	MPK	Ethyl acetone	2-Pentanone
Methylstyrene	98-83-9			
hiouracil	56-04-2			
chlor	51218-45-2	Dual		
zin	21087-64-9			
idazole	443-48-1			
's ketone	90-94-8	Tetramethyldiaminobenzophenone		
	2385-85-5	Dechlorane		
cin C	50-07-7	Ametycine		
e	2212-67-1	Ordram		
otaline	315-22-0	Crotaline		
furylidene)-amino]-2-linone	139-91-3			
	300-76-5	Dibrom		
alene	91-20-3			
thylamine	91-59-8	beta-Naphthylamine		
amide	15299-99-7	Devrinol		
	4726-14-1	Planavin		
iacetate, trisodium ydrate	18662-53-8	Trisodium nitrilotriacetate	NTA	
iacetic acid	139-13-9	NTA	Triglycine	
acenaphthene	602-87-9			
o-anisidine	99-59-2	Azoamine scarlet		
nzene	98-95-3			
chrysene	7496028			
ane	79-24-3			
	1836-75-5	Nitrofene	2,4-Dichloro-1-(4-nitrophenoxy)benzene	
luorene	607-57-8			

10520

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment)	California State Action Levels (Department of Health Services)		Other Taste & Odor Thresholds
	California Dept. of Health Services		U.S. Environmental Protection Agency						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal		Toxicity	Taste & Odor	
razone									
itrofurfurylidene)-amino]-2-olidinone									
-Nitro-2-furyl)-2-yl]acetamide									
ianidine									
ethane									9100 (126)
ienol									
phenol									
phenol									
enols									
propane									12,000 (126)
propane									53,000 (126)
pyrene									
pyrene									
mines									
sodi-n-butylamine									
sodiethanolamine									
sodiethylamine									
sodimethylamine							0.02 #		
sodiphenylamine									
sodiphenylamine									
sodipropylamine									
so-N-ethylurea									
somethylethylamine									
so-N-methylurea									
so-N-methylurethane									
somethylvinylamine									
somorpholine									
sonornicotine									
sopiperidine									
sopyrrolidine									
sosarcosine									
toluene									80 (126)
lonachlor									
e									1.3 (126)
henol									
azon									
oxin A									
omodiphenyl ether									
									1.7 (126)
ease									
n									
zon									
	200 / 50 (100)		200		200	50			
ordane									
rfen									
utrazol									
at									
on							40		

10521

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Regulatory Level as a Drinking Water Level (14)	Agricultural Water Quality Goals (78)
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS) *Drinking Water and Health*		
azone				0.027				0.25 #	
itrofurfurylidene)-amino]-2- lidinone				0.019				0.2 #	
-Nitro-2-furyl)-2- l]acetamide				0.023				0.25 #	
anidine	700	700			(D)	(D)			
ethane									
enol			290 (7-day)						
henol			290 (7-day,37)						
henol		60	290 (7-day,37)			(D)			
enols									
ropane									
ropane								15 # (68)	
yrene				0.029 (93)				0.3 # (68)	
yrene				0.029 (93)				0.015 # (68)	
mines									
sodi-n-butylamine				0.0032	0.006 (B2,121)	0.0064		0.03 #	
sodiethanolamine				0.013	0.01 (B2)			0.15 #	
sodiethylamine				0.00097	0.0002 (B2)			0.01 #	
sodimethylamine				0.0022	0.0007 (B2)			0.02 #	
sodiphenylamine				3.9	7 (B2)			40 #	
sodiphenylamine				1.6	(B2)			15 #	
sodipropylamine				0.005	0.005 (B2)			0.05 #	
so-N-ethylurea				0.0013				0.015 #	
somethylethylamine				0.0016	0.002 (B2)			0.015 #	
so-N-methylurea				0.00029				0.003 #	
so-N-methylurethane				0.00032				0.003 #	
somethylvinylamine								0.002 # (68)	
somorpholine				0.0052				0.05 #	
sonornicotine				0.025				0.25 #	
sopiperidine				0.0037				0.035 #	
sopyrrolidine				0.017	0.02 (B2)			0.15 #	
sosarcosine								2.5 # (68)	
toluene									
onachlor									
henol									
azon	280								
	5								
oxin A								0.015 # (68)	
omodiphenyl ether	21				(D)				
rease									
n	35				(C)				
zon	35							#R	
	180	200				(E)			
ordane									
rfen	20								
utrazol	91								
at	32	30	59.5		(C)	(C)			
on	4.2		30		(C)				

10522

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA National Recommended Ambient Water Quality Criteria											
	Human Health and Welfare Protection					Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
azone												
itrofurfurylidene)-amino]-2- lidinone												
-Nitro-2-furyl)-2-]acetamide												
anidine												
ethane												
enol										230 (88)		150 (38,88)
henol										230 (88)		150 (38,88)
henol										230 (88)		150 (38,88)
enols										230		150 (38)
ropane												
ropane												
yrene												
yrene												
mines	0.0008	1.24								5850		
sodi-n-butylamine			0.0064 (51)	0.587 (51)						5850 (56)		
sodiethanolamine			0.0125 (68)	1060 (68)						5850 (56)		
sodiethylamine			0.0008 (51)	1.2 (51)						5850 (56)		
sodimethylamine			0.00069	8.1						5850 (56)		
sodiphenylamine			5.0	16						5850 (56)		
sodiphenylamine										5850 (56)		
sodipropylamine			0.005	1.4						5850 (56)		
so-N-ethylurea												
somethylethylamine			0.0016 (68)	0.219 (68)						5850 (56)		
so-N-methylurea												
so-N-methylurethane												
somethylvinylamine										5850 (56)		
somorpholine												
sonornicotine												
sopiperidine												
sopyrrolidine			0.016	91.9						5850 (56)		
sosarcosine												
toluene												
onachlor												
henol						6.6 (68)		25.0 (68)				
izon												
oxin A												
omodiphenyl ether										360 (58)	122 (58)	
ease	(51,128)				(51,128)				(51,129)			
zon												
ordane												
rfen												
trazol												
			0.0044 (41)	0.049 (41)								
at												
on						0.013		0.065				

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Toxics Rule Criteria (USEPA)								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health (30-day Average) aquatic organism consumption only	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum		Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
azone									
itrofurfurylidene)-amino]-2-olidinone									
-Nitro-2-furyl)-2-yl]acetamide									
anidine									
ethane									
enol									
ohenol									
ohenol									
enols									
opropane									
opropane									
oyrene									
oyrene									
mines									
sodi-n-butylamine									
sodiethanolamine									
sodiethylamine									
sodimethylamine	0.00069 (113,143)	8.1 (113,143)				8.1 (113,143)			
sodiphenylamine	5.0 (113,143)	16 (113,143)				16 (113,143)			
sodiphenylamine									
sodipropylamine	0.005	1.4				1.4			
so-N-ethylurea									
somethylethylamine									
so-N-methylurea									
so-N-methylurethane									
somethylvinylamine									
somorpholine									
sonornicotine									
sopiperidine									
sopyrrolidine									
sosarcosine									
toluene									
onachlor									
henol									
azon									
oxin A									
omodiphenyl ether									
ease									
n									
zon									
ordane									
orfen									
utrazol									
at									
on									

10524

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria Saltwater Aquatic Life Protection						
	Human Health (30-day Average) aquatic organism consumption only	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
		6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
razone													
litrofurfurylidene)-amino]-2-olidinone													
-Nitro-2-furyl)-2-yl]acetamide													
anidine													
ethane													
enol		30 (86)			120 (86)	300 (86)					4850 (88)		
phenol		30 (86)			120 (86)	300 (86)					4850 (88)		
phenol		30 (86)			120 (86)	300 (86)					4850 (88)		
enols		30 (86)			120 (86)	300 (86)					4850		
propane													
propane													
pyrene													
pyrene													
mines											3,300,000		
sodi-n-butylamine											3,300,000 (56)		
sodiethanolamine											3,300,000 (56)		
sodiethylamine											3,300,000 (56)		
sodimethylamine	7.3 #										3,300,000 (56)		
sodiphenylamine	2.5 #										3,300,000 (56)		
sodiphenylamine											3,300,000 (56)		
sodipropylamine											3,300,000 (56)		
so-N-ethylurea													
somethylethylamine											3,300,000 (56)		
so-N-methylurea													
so-N-methylurethane													
somethylvinylamine											3,300,000 (56)		
somorpholine													
sonomicotine													
sopiperidine													
sopyrrolidine											3,300,000 (56)		
sosarcosine													
toluene													
lonachlor	0.000023 # (81)												
e													
henol							1.6 (68)		6.2 (68)				
azon													
oxin A													
omodiphenyl ether													
rease			25,000 (117)	40,000 (117)		75,000 (117)				(51,129)			
n													
izon													
1													
ordane	0.000023 # (81)												
orfen													
utrazol													
	0.0088 # (33)										300		
iat													
ion													

10525

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
razone	59-87-0	Biofurcina	Coxstat	Dermofural
itrofurfurylidene)-amino]-2-olidinone	555-84-0	Nifuradene	NF 246	
-Nitro-2-furyl)-2-yl]acetamide	531-82-8	Furathiazole	Furium	NFTA
anidine	556-88-7			
ethane	75-52-5			
enol	25154-55-6	Mononitrophenols		
phenol	25154-55-7	o-Nitrophenol		
phenol	25154-55-8	p-Nitrophenol		
enols		Phenols, nitro-		
propane	108-03-2			
propane	79-46-9			
pyrene	5522-43-0			
pyrene	57835-92-4			
mines				
sodi-n-butylamine	924-16-3	Dibutylnitrosamine	DBNA	
sodiethanolamine	1116-54-7	Diethanolnitrosamine		
sodiethylamine	55-18-5	Diethylnitrosamine	DEN	
sodimethylamine	62-75-9	Dimethylnitrosamine	DMNA	NDMA
sodiphenylamine	86-30-6	Diphenylnitrosamine	Redax	NDPA
sodiphenylamine	156-10-5	Diphenylnitrosamine		
sodipropylamine	621-64-7	Dipropylnitrosamine	N-Nitrosodi-n-propylamine	DPNA
so-N-ethylurea	759-73-9	Ethylnitrosourea	ENU	
somethylethylamine	10595-95-6	Methyl ethyl nitrosamine	N-Nitroso-N-methylethylamine	
so-N-methylurea	684-93-5	N-Nitroso-N-methylurea	Methylnitrosourea	MNU
so-N-methylurethane	615-53-2	Methylnitrosourethane		
somethylvinylamine	4549-40-0	Methyl vinyl nitrosamine		
somorpholine	59-89-2			
sonornicotine	16543-55-8			
sopiperidine	100-75-4			
sopyrrolidine	930-55-2			
sosarcosine	13256-22-9			
toluene	1321-12-6	m-Methylnitrobenzene		
lonachlor	39765-80-5	Nonachlor		
e	111-84-2			
henol	104405; 136834			
azon	27314-13-2	Azinone		
	85509-19-9	DPX-H6573		
oxin A	303-47-9			
omodiphenyl ether	32536-52-0			
	111-65-9			
rease		Oil	Grease	
n	19044-88-3			
zon	19666-30-9			
l	23135-22-0	Vydate		
ordane	27304-13-8			
rfen	42874-03-3	Goal		
utrazol	76738-62-0			
		Polynuclear aromatic hydrocarbons	PNAs	
at	1910-42-5	Ortho paraquat		
on	56-38-2	Ethyl parathion	Thiophos	

10526

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment)	California State Action Levels (Department of Health Services)		Other Taste & Odor Thresholds
	California Dept. of Health Services		U.S. Environmental Protection Agency						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal		Toxicity	Taste & Odor	
ethalin									
romodiphenyl ether									
hlorobenzene									
hloroethane									
hloronitrobenzene							20		
hlorophenol	1		1		zero	0.4			30 (125)
e									22 (126)
hrin									
etin									
threne									
opyridine									
opyridine hydrochloride									
sterin									
edipham									
arbital									
							4200	5 (39)	7900 (126)
s, non-chlorinated									
ybenzamine									
ybenzamine hydrochloride									
ylenediamine									
ether									180 (126)
glycidyl ether									
hydrazine									
hydrazine hydrochloride									
mercaptan									0.28 (126)
mercuric acetate									
yphenate, sodium									
et									
te esters									
c anhydride									
m	500		500		500	500			
hos-methyl									
nan									
minated biphenyls									
orinated biphenyls	0.5		0.5		zero				
u MC									
u 3R									
azine									
azine hydrochloride									
raz									
on									
ryn									
ide									
hlor									
e									1000 (126)
pane sultone									
il									
gite									
yl alcohol									
ine									
m									

10527

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Regulatory Level as a Drinking Water Level (14)	Agricultural Water Quality Goals (78)
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS) *Drinking Water and Health*		
ıethalin	280								
romodiphenyl ether	14				(D)				
hlorobenzene	6				(D)				
hloroethane									
hloronitrobenzene	21						3.6		
hlorophenol		300 (10-day)	6 / 21 (7)	0.43	0.3 (B2)	0.3 (B2)		20 #	
e									
hrin	350								
etin				16				150 #	
ithrene					(D)	(D)			
opyridine				0.21				2 #	
opyridine hydrochloride				0.23				2.5 #	
terin				0.00023				0.0025 #	
edipham	1800								
arbital				0.076				1 #	
	4200	4000 (68)			(D)	(D,68)			
s, non-chlorinated									
ybenzamine				0.011				0.1 #	
ybenzamine hydrochloride				0.013				0.15 #	
ylenediamine	42								
ether									
glycidyl ether								2.5 # (68)	
ydrazine								0.3 # (68)	
ydrazine hydrochloride								0.4 # (68)	
mercaptan									
mercuric acetate	0.6								
ytphenate, sodium				12				100 #	
			0.7						
et	140								
te esters									
anhydride	14,000								
n	490	500	1050			(D)			
os-methyl	70								
nan								100 # (68)	
minated biphenyls				0.0012				0.01 #R	
orinated biphenyls			50 (7-day)	0.007	0.1 (B2)	0.1 (B2,68)	0.16 (69)	0.045 / 0.05 #R (68,108)	
u MC				7.8				100 #	
u 3R				2.2				20 #	
azine				0.0025				0.025 #	
azine hydrochloride				0.0029				0.03 #R	
raz	6.3				0.2 (C)				
on	110	100				(D)			
ryn	28								
ide	53	50				(C)		#	
hlor	91	90	700			(D)			
e									
pane sultone				0.015				0.15 #	
il	35		140						
ite	140							#R	
yl alcohol	14								
ine	14	10	325			(C)			
m	140	100				(D)			

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA National Recommended Ambient Water Quality Criteria											
	Human Health and Welfare Protection					Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
ıethalin												
romodiphenyl ether										360 (58)	122 (58)	
hlorobenzene	3.5	4.1								250 (22)		50 (22,23)
hloroethane										7240	1100	
hloronitrobenzene												
hlorophenol			0.28	8.2	30	see page 91		see page 91				
e												
hrin												
ıetin												
ıthrene												
opyridine												
opyridine hydrochloride												
ıterin												
edipham												
ıarbital												
	21,000	4,600,000			300					10,200	2560	
s, non-chlorinated												
ybenzamine												
ybenzamine hydrochloride												
ıylenediamine												
ether												
glycidyl ether												
ıydrazine												
ıydrazine hydrochloride												
mercaptan												
mercuric acetate												
ylphenate, sodium												
ıt												
te esters										940	3	
anhydride												
n												
ios-methyl												
nan												
ıminated biphenyls												
orinated biphenyls			0.00017 (118)	0.00017 (118)		0.014 (114,116)				2		
ıu MC												
ıu 3R												
ıazine												
ıazine hydrochloride												
ıraz												
on												
ryn												
ıide												
hlor	466 (8)								8 (8)			
e												
pane sultone												
il												
gite												
yl alcohol												
ine												
m												

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Toxics Rule Criteria (USEPA)								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	(30-day Average) aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
ıethalin									
romodiphenyl ether									
hlorobenzene									
hloroethane									
hloronitrobenzene									
hlorophenol	0.28 (113)	8.2 (113)	see page 91	see page 91		8.2 (113)	7.9	13	
e									
hrin									
etin									
nthrene									
opyridine									
opyridine hydrochloride									
sterin									
edipham									
arbital									
	21,000	4,600,000				4,600,000			
s, non-chlorinated									
ybenzamine									
ybenzamine hydrochloride									
ylenediamine									
ether									
glycidyl ether									
hydrazine									
hydrazine hydrochloride									
mercaptan									
mercuric acetate									
yphenate, sodium									
e									
et									
te esters									
c anhydride									
m									
hos-methyl									
nan									
minated biphenyls									
orinated biphenyls	0.00017 (113)	0.00017 (113)	0.014 (114,116)				0.03 (114,116)		
u MC									
u 3R									
azine									
azine hydrochloride									
raz									
on									
ryn									
nide									
hlor									
e									
pane sultone									
it									
gite									
gyl alcohol									
ine									
m									

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria Saltwater Aquatic Life Protection						
		Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Human Health (30-day Average) aquatic organism consumption only	6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
nethalin													
romodiphenyl ether													
hlorobenzene											160 (22)	129 (22)	
hloroethane											390	281	
hloronitrobenzene													
hlorophenol		1 (87)			4 (87)	10 (87)	7.9		13				
ie													
thrin													
etin													
nthrene	0.0088 # (33)										300 (52)		
zopyridine													
zopyridine hydrochloride													
sterin													
iedipham													
barbital													
		30 (86)			120 (86)	300 (86)					5800		
s, non-chlorinated		30			120	300							
xybenzamine													
xybenzamine hydrochloride													
nylenediamine													
ether													
glycidyl ether													
hydrazine													
hydrazine hydrochloride													
mercaptan													
mercuric acetate													
yiphenate, sodium													
e													
et													
ate esters											2944		3.4 (38)
c anhydride													
m													
hos-methyl													
nen													
minated biphenyls													
lorinated biphenyls	0.000019 # (118)						0.03 (114,116)				10		
au MC													
au 3R													
bazine													
bazine hydrochloride													
raz													
ton													
tryn													
nide													
hlor													
ie													
pane sultone													
il													
gite													
gyl alcohol													
ine													
m													

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
ethalin	40487-42-1	Prowl		
romodiphenyl ether	32534-81-9			
hlorobenzene	608-93-5			
hloroethane	76-01-7			
hloronitrobenzene	82-68-8	PCNB	Terraclor	Quintozine
hlorophenol	87-86-5	PCP	Penta	
e	109-66-0			
hrin	52645-53-1			
etin	62-44-2			
threne	85-01-8			a polynuclear aromatic hydrocarbon
opyridine	94-78-0	2,6-Diamino-3-phenylazopyridine	Diridone	
opyridine hydrochloride	136-40-3	2,6-Diamino-3-phenylazopyridine hydrochloride		
terin	3546109	Chloroethylaminobenzeneacetate		
edipham	13684-63-4	Betanal		
arbital	50-06-6			
	108-95-2			
s, non-chlorinated				
ybenzamine	59-96-1	Bensylyte		
ybenzamine hydrochloride	63-92-3	Dibenzyline hydrochloride		
ylenediamine	108-45-2	1,3-Diaminobenzene	Direct Brown BR	Direct Brown GG
ether	101-84-8	Diphenyl ether		
glycidyl ether	122-60-1			
hydrazine	100-63-0			
hydrazine hydrochloride	59-88-1			
mercaptan	108-98-5	Thiophenol		
mercuric acetate	62-38-4			
ylphenate, sodium	132-27-4	Sodium o-phenylphenate	Stop Mold	Sterl-Seal
e	298-02-2	Thimet		
et	732-11-6			
te esters		Phthalates	Phthalate acid esters (PAEs)	
c anhydride	85-44-9			
m	1918021	Tordon		
hos-methyl	29232-93-7			
nan	53973981			
minated biphenyls		PBBs		
orinated biphenyls	1336-36-3	PCBs		
u MC	3761-53-3	D&C Red No. 5	Ponceau MX	
u 3R	3564098	FD&C Red No. 1		
azine	671-16-9	1-Methyl-2-(p-(isopropylcarbamoyl)benzyl)hydrazine	MIH	
azine hydrochloride	366-70-1			
raz	67747-09-5	BTS 40542		
on	1610-18-0	Gesafram 50	Methoxypropazine	Pramitol
ryn	7287-19-6			
ide	23950-58-5	Kerb	Propyzamide	
hlor	1918-16-7	Ramrod		
e	74-98-6			
pane sultone	1120-71-4			
il	709-98-8			
gite	2312-35-8	Omite		
yl alcohol	107-19-7	2-Propynol		
ine	139-40-2	Milogard		
m	122-42-9	Profam	Prophos	

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment)	California State Action Levels (Department of Health Services)		Other Taste & Odor Thresholds
	California Dept. of Health Services		U.S. Environmental Protection Agency						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal		Toxicity	Taste & Odor	
nazole									
opiolactone									
ic acid									28,000 (126)
l acetate									310 (126)
l alcohol									23,000 (126)
ne									28 (126)
neimine									
ne oxide									31,000 (126)
l nitrate									15,000 (126)
hiouracil									
e									950 (126)
hos									
e									9300 (126)
cyclonite)									
ine									
thrin									
inol									
ne									
rin									
ydrin									
ne	4		4		4	0.4 (100)			
diethyldithiocarbamate									
fluoroacetate									
atocystin									
zotocin									
ine									
	100		100	10 (100)	100				11 (126)
oxide									
te									
ne									
-TCDD (Dioxin)	0.00003		0.00003		zero				
iuron									
il									
os									
yn									
-Tetrachlorobenzene									
-Tetrachloroethane									
-Tetrachloroethane	1								500 (126)
loroethylene (PCE)	5		5		zero	0.056 (100)			170 (126)
-Tetrachlorophenol									
-Tetrachlorophenol									
lorovinphos									
hyldithiopyrophosphate									
hyl lead									
tromethane									

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Regulatory Level as a Drinking Water Level (14)	Agricultural Water Quality Goals (78)
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS) *Drinking Water and Health*		
onazole	91								
ropiolactone				0.0025				0.025 #	
nic acid									
yl acetate									
yl alcohol									
ene									
eneimine								0.015 # (68)	
ene oxide				0.15	0.1 (B2)			1.5 # (68)	
yl nitrate									
hiouracil				0.035				0.35 #R	
	1750								
	175								
	210				(D)	(D)			
e	7								
ohos	4								
ie									
yclonite)	2.1	2			0.3 (C)	0.3 (C)			
ine				0.0032				0.03 #	
thrin	210							R	
inol			500 (7-day)						
ne	28		14						
arin								1400 to 420,000 #	
				0.16				1.5 #	
	175								
ydim	630								
ne	3.5	4	1505			(C)			
diethyldithiocarbamate	210								
fluoroacetate	0.14							R	
atocystin				0.16				0.01 #	
zotocin				0.00032				0.003 #R	
ine	2								
	140	100	931			(C)			
oxide				0.22				2 #	
ite				0.18			0.31	2 #	
ne	180								
	70	70	700			(D)			
-TCDD (Dioxin)		0.0001 (10-day)	0.0007	0.00000027		0.0000002 (B2)		0.0000025 #R	
uron	490	500				(D)			
il	91	90				(E)		R	
s		0.9				(D)			
yn	7								
-Tetrachlorobenzene	2								
-Tetrachloroethane	21	70			1 (C)	1 (C)			
-Tetrachloroethane		0.3		0.13	0.2 (C)	0.2 (C)		1.5 #	
loroethylene (PCE)	70	10		0.69			3.6	7 #	
-Tetrachlorophenol	210								
-Tetrachlorophenol									
lorovinphos	210								
hyldithiopyrophosphate	3.5								
hyl lead	0.0007								
tromethane								0.025 # (68)	

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA National Recommended Ambient Water Quality Criteria											
	Human Health and Welfare Protection					Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
nazole												
opiolactone												
ic acid												
l acetate												
l alcohol												
ne												
neimine												
ne oxide												
l nitrate												
hiouracil												
	960	11,000										
e												
hos												
e												
yclonite)												
ine												
thrin												
inol												
ne									10 (54)			
rin												
ydim												
ne									10 (54)			
diethyldithiocarbamate												
fluoroacetate												
atocystin												
zotocin												
line												
oxide												
te												
ne												
-TCDD (Dioxin)			1.3 E-8	1.4 E-8						<0.01	<0.00001	
uron												
l												
s												
yn												
-Tetrachlorobenzene	2.3	2.9								250 (22)		50 (22,23)
-Tetrachloroethane										9320 (47)		
-Tetrachloroethane			0.17	11						9320 (47)	2400	
loroethylene (PCE)			0.8	8.85						5280	840	
-Tetrachlorophenol	490 (68)	3130 (68)			1							
-Tetrachlorophenol												
lorovinphos												
hyldithiopyrophosphate												
hyl lead												
tromethane												

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Toxics Rule Criteria (USEPA)								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health (30-day Average)	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
nazole									
opiolactone									
ic acid									
l acetate									
l alcohol									
ne									
neimine									
ne oxide									
l nitrate									
hiouracil									
	960	11,000				11,000			
e									
hos									
e									
yclonite)									
ine									
thrin									
inol									
ne									
rin									
ydim									
ne									
dlethyldithiocarbamate									
fluoroacetate									
atocystin									
zotocin									
ine									
oxide									
te									
ne									
-TCDD (Dioxin)	0.000000013 (113,144)	0.000000014 (113,144)				0.000000014 (113,144)			
iuron									
il									
s									
yn									
-Tetrachlorobenzene									
-Tetrachloroethane									
-Tetrachloroethane	0.17 (113,143)	11 (113,143)				11 (113,143)			
loroethylene (PCE)	0.8 (113,143)	8.85 (113,143)				8.85 (113,143)			
-Tetrachlorophenol									
-Tetrachlorophenol									
lorovinphos									
hyldithiopyrophosphate									
hyl lead									
tromethane									

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria Saltwater Aquatic Life Protection						
	Human Health (30-day Average) aquatic organism consumption only	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
		6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
nazole													
opiolactone													
ic acid													
yl acetate													
yl alcohol													
ene													
eneimine													
ene oxide													
yl nitrate													
hiouracil													
	0.0088 # (33)										300 (52)		
e													
phos													
e													
Cyclonite)													
ine													
thrin													
inol		30 (86)			120 (86)	300 (86)							
ne													
rin													
ydim													
ne													
diethyldithiocarbamate													
fluoroacetate													
atocystin													
zotocin													
ine													
oxide													
te													
ne													
-TCDD (Dioxin)	0.0000000039 # (76)												
iuron													
il													
os													
yn													
-Tetrachlorobenzene											160 (22)	129 (22)	
-Tetrachloroethane													
-Tetrachloroethane	1200										9020		
loroethylene (PCE)	99 #										10,200	450	
-Tetrachlorophenol		1 (87)			4 (87)	10 (87)					440		
-Tetrachlorophenol		1 (87)			4 (87)	10 (87)					440		
lorovinphos													
hyldithiopyrophosphate													
hyl lead													
tromethane													

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
)nazole	60207-90-1	Banner		
·opiolactone	57-57-8			
ic acid	93-65-2	Propanoic acid		
yl acetate	109-60-4			
yl alcohol	71-23-8	1-Propanol		
ene	115-07-1	Propene		
eneimine	75-55-8	2-Methylaziridine		
ene oxide	75-56-9			
yl nitrate	627-13-4	NPN		
hiouracil	51-52-5			
	81335-77-5			
	51630-58-1	Fenvalerate		
	129-00-0			a polynuclear aromatic hydrocarbon
e	110-86-1			
)hos	13593-03-8			
e	106-51-4	1,4-Benzoquinone		
Cyclonite)	121-82-4	Cyclonite	Hexogen	Hexahydro-1,3,5-trinitro-1,3,5-triazine
ine	50-55-5			
thrin	10453-86-8	SBP-1382		
inol	108-46-3			
ne	83-79-4			
rin	81-07-2			
	94-59-7	4-Allyl-1,2-methylenedioxybenzene		
	78587-05-0	DPX-Y5893		
ydim	74051-80-2	Poast		
ne	122-34-9	Princep		
diethyldithiocarbamate	148-18-5	Diethyldithiocarbamate, sodium	Dithiocarb	Thiocarb
fluoroacetate	62-74-8			
atocystin	10048-13-2			
zotocin	18883-66-4	Streptozocin		
ine	57-24-9			
	100-42-5	Vinylbenzene		
oxide	96-09-3	1,2-Epoxyethylbenzene		
te	95-06-7	2-Chloroallyl-diethyldithiocarbamate	CDEC	Vegadex
ne	88671-89-0	Rally		
	93-76-5	2,4,5-Trichlorophenoxyacetic acid		
-TCDD (Dioxin)	1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	Dioxin	
uron	34014-18-1	Graslan	Perflan	Spike
	5902-51-2	Turbacil	Sinbar	
s	13071-79-9	Contraven	Counter	
yn	886-50-0			
-Tetrachlorobenzene	95-94-3			
-Tetrachloroethane	630-20-6			
-Tetrachloroethane	79-34-5			
loroethylene (PCE)	127-18-4	Tetrachloroethene	Perchloroethylene	PCE
-Tetrachlorophenol	58-90-2			
-Tetrachlorophenol	935-95-5			
lorovinphos	961-11-5	Tetrachlorvinphos		
hyldithiopyrophosphate	3689-24-5	TEDP		
hyl lead	78-00-2	Lead, tetraethyl-	TEL	
tromethane	509-14-8			

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment)	California State Action Levels (Department of Health Services)		Other Taste & Odor Thresholds
	California Dept. of Health Services		U.S. Environmental Protection Agency						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal		Toxicity	Taste & Odor	
etamide									
ncarb	70	1				70 (100)			
iodianiline									
anate-methyl									
ba									
e	150		1000	40 (100)	1000	150			42 (26,125)
e diisocyanate									
dine									11,000 (126)
dine hydrochloride									
ene	3		3		zero				140 (125)
P (Silvex)	50		50		50				
ethrin									
e									
furon									
ribromobenzene									
ftin									
rfon									
roacetic acid	60 (100,106)		60 (106,147)		300				
roacetonitrile									
richlorobenzene	70 / 5 (100)		70		70	5			3000 / 64 (125,126)
richlorobenzene									
robenzenes									
richloroethane	200		200		200				970 (126)
richloroethane	5		5		3				
roethylene (TCE)	5		5		zero	0.8			310 (126)
rofluoromethane	150					700			
richlorophenol									
richlorophenol									
richloropropane									
richloropropane							0.005 #		
richloro-1,2,2-trifluoroethane	1200					4000			
ane									
lamine									420 (126)
lin									
ylamine									0.2 (126)
rimethylbenzene									15 (126)
rinitrobenzene									
glycerol									
phenol									
toluene (TNT)									
aziridinyl)phosphine sulfide									
3-dibromopropyl)phosphate									
l							7		
phan-P-1									
phan-P-2									
ne									
aldehyde									17 (126)
1									
olin									
etate									88 (126)
romide									

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Regulatory Level as a Drinking Water Level (14)	Agricultural Water Quality Goals (78)
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS) *Drinking Water and Health*		
etamide				0.0057				0.05 #	
ncarb	70								
iodianiline				0.0023				0.025 #	
anate-methyl	560							R	
ea				0.49				5 #	
	35		35						
e	1400	1000 (68)	340		(D)	(D,68)		3500 R (5)	
e diisocyanate				0.9				10 #	
dine				0.19				2 #	
dine hydrochloride				0.27				2.5 #	
ene		4 (10-day)	8.75	0.029	0.03 (B2)	0.03 (B2)		0.3 #	
P (Silvex)	53	50	5.25		(D)	(D)			
ethrin	53								
e	91								
uron	70								
ribromobenzene	35								
tin	2 (122)				(D,122)				
fon			26 / 88 (7)						
oacetic acid		300 (68)	50 / 120 (7)		(C)	(C,68)			
oacetonitrile		50 (10-day,68)							
richlorobenzene	70	10		9.7	(D)	(D)			
richlorobenzene		40				(D)			
obenzenes									
richloroethane		200	3800		(D)	(D)	17 (21)		
richloroethane	2.8	3		0.49	0.6 (C)	0.6 (C)		5 #	
oethylene (TCE)				2.3		2 (B2)	1.5 (21)	25 #	
ofluoromethane	2100	2000	8000 (7-day)			(D)			
richlorophenol	700								
richlorophenol		30 (10-day,68)	2500 (7-day)	0.5	3 (B2)	3 (B2,68)		5 #	
richloropropane	35								
richloropropane	42	40						#	
richloro-1,2,2-trifluoroethane	210,000								
ane	21								
amine									
lin	5.3	5	700		5 (C)	5 (C)			
ylamine									
rimethylbenzene		10,000 (24-hr,68)				(D,68)			
rinitrobenzene	210								
glycerol		5				2			
phenol			200 (7-day)						
toluene (TNT)	0.35	2			1 (C)	1 (C)			
uziridinyl)phosphine sulfide				0.0029				0.03 #	
-dibromopropyl)phosphate				0.015				0.15 #	
han-P-1				0.0013				0.015 #	
han-P-2				0.011				0.1 #	
ne				0.035				0.35 #R	
aldehyde									
	7								
olin	180							#R	
etate									
omide								0.5 # (68)	

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA National Recommended Ambient Water Quality Criteria											
	Human Health and Welfare Protection					Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
etamide												
ncarb									3.1 (151)			
odianiline												
anate-methyl												
ba												
e	6800	200,000								17,500		
e diisocyanate												
dine												
dine hydrochloride												
ene			0.00073	0.00075		0.0002		0.73				
P (Silvex)	10 (51)											
ethrin												
e												
uron												
ribromobenzene												
tin						0.063		0.46				
fon												
oacetic acid												
oacetonitrile												
richlorobenzene	260	940								250 (22)		50 (22,23)
richlorobenzene										250 (22)		50 (22,23)
obenzenes										250 (22)		50 (22,23)
richloroethane										18,000		
richloroethane			0.60	42						18,000	9400	
oethylene (TCE)			2.7	81						45,000		21,900 (31)
ofluoromethane			0.19							11,000 (20)		
richlorophenol	2600	9800			1							
richlorophenol			2.1	6.5	2						970	
richloropropane												
richloropropane												
richloro-1,2,2-trifluoroethane												
ane												
amine												
in												
ylamine												
rimethylbenzene												
rinitrobenzene												
glycerol												
phenol										230 (88)		150 (38,88)
oluene (TNT)												
aziridinyl)phosphine sulfide												
-dibromopropyl)phosphate												
han-P-1												
han-P-2												
ne												
aldehyde												
olin												
etate												
omide												

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Toxics Rule Criteria (USEPA)								
	Inland Surface Waters					Enclosed Bays & Estuaries			
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health	Saltwater Aquatic Life Protection		
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum	(30-day Average) aquatic organism consumption only	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
etamide									
ncarb									
iodianiline									
anate-methyl									
ea									
e	6800	200,000				200,000			
e diisocyanate									
dine									
dine hydrochloride									
ene	0.00073 (113)	0.00075 (113)	0.0002	0.73		0.00075 (113)	0.0002	0.21	
P (Silvex)									
ethrin									
e									
furon									
ribromobenzene									
tin									
fon									
oacetic acid									
oacetonitrile									
richlorobenzene									
richlorobenzene									
obenzenes									
richloroethane									
richloroethane	0.60 (113,143)	42 (113,143)				42 (113,143)			
oethylene (TCE)	2.7 (113,143)	81 (113,143)				81 (113,143)			
ofluoromethane									
richlorophenol									
richlorophenol	2.1 (113)	6.5 (113)				6.5 (113)			
richloropropane									
richloropropane									
richloro-1,2,2-trifluoroethane									
ane									
amine									
fin									
ylamine									
rimethylbenzene									
rinitrobenzene									
glycerol									
phenol									
toluene (TNT)									
aziridinyl)phosphine sulfide									
3-dibromopropyl)phosphate									
han-P-1									
han-P-2									
ne									
aldehyde									
otin									
cetate									
romide									

10542

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria Saltwater Aquatic Life Protection						
	Human Health (30-day Average) aquatic organism consumption only	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
		6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
etamide													
ncarb													
iodlanilline													
anate-methyl													
ea													
e	85,000										6300	5000	
e diisocyanate													
dine													
dine hydrochloride													
ene	0.00021 #						0.0002		0.21				
P (Silvex)													
ethrin													
e													
furon													
ribromobenzene													
itin	0.0014						0.010		0.37				
fon													
oacetic acid													
oacetonitrile													
richlorobenzene											160 (22)	129 (22)	
richlorobenzene											160 (22)	129 (22)	
obenzenes											160 (22)	129 (22)	
richloroethane	540,000										31,200		
richloroethane	43,000												
oethylene (TCE)	27 #										2000		
ofluoromethane											12,000 (20)	6400 (20)	11,500 (20,82)
richlorophenol		1 (87)			4 (87)	10 (87)							
richlorophenol	0.29 #	1 (87)			4 (87)	10 (87)							
richloropropane													
richloropropane													
richloro-1,2,2-trifluoroethane													
ane													
lamine													
lin													
yfamine													
rimethylbenzene													
rinitrobenzene													
glycerol													
phenol		30 (86)			120 (86)	300 (86)					4850 (88)		
toluene (TNT)													
aziridinyl)phosphine sulfide													
3-dibromopropyl)phosphate													
phan-P-1													
phan-P-2													
ne													
aldehyde													
olin													
etate													
romide													

10543

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
etamide	62-55-5			
ncarb	28249-77-6	Benthiocarb	Bolero	
iodianiline	139-65-1			
anate-methyl	23564-05-8	Methylthiofanate		
ba	62-56-6			
	137-26-8			
e	108-88-3	Methylbenzene		
e diisocyanate	26471-62-5	Diisocyanatotoluene		
dine	95-53-4	2-Aminotoluene		
dine hydrochloride	636-21-5	2-Aminotoluene hydrochloride		
ene	8001-35-2	Camphechlor	Chlorocamphene	
P (Silvex)	93-76-5	2,4,5-Trichlorophenoxypropionic acid	Silvex	
ethrin	66841-25-6	RU 25474		
e	2303-17-5			
furon	82097-50-5	Amber		
ribromobenzene	615-54-3			
ltin	688-73-3	TBT	Tin, tributyl-	
fon	52-68-6	Trichlorphon	Chlorofos	Dipterex
oacetic acid	76-03-9	A haloacetic acid		
oacetonitrile	545-06-02			
richlorobenzene	120-82-1	unsymmetrical-Trichlorobenzene		
richlorobenzene	108-70-3			
obenzenes	12002-48-1	Benzenes, trichloro-		
richloroethane	71-55-6	1,1,1-TCA	Methyl chloroform	
richloroethane	79-00-5	1,1,2-TCA	Vinyl trichoride	
oethylene (TCE)	79-01-6	Trichloroethene	TCE	
ofluoromethane	75-69-4	Fluorotrichloromethane	Freon 11	
richlorophenol	95-95-4			
richlorophenol	88-06-2			
richloropropane	598-77-6			
richloropropane	96-18-4	Allyl trichloride		
richloro-1,2,2-trifluoroethane	76-13-1	Trichlorotrifluoroethane	Freon 113	
ane	58138-08-2	Tandem		
lamine	121-44-8			
lin	1582-09-8	Treflan		
ylamine	75-50-3			
rimethylbenzene	108-67-8	Mesitylene	symmetrical-Trimethylbenzene	
rinitrobenzene	99-35-4			
glycerol				
phenol	88-89-1	Picric acid		
toluene (TNT)	118-96-7	TNT		
aziridinyl)phosphine sulfide	52-24-4	Thiotepa		
3-dibromopropyl)phosphate	126-72-7			
	786-19-6	Carbophenothion		
phan-P-1	62450-06-0	Trp-P-1		
phan-P-2	62450-07-1	Trp-P-2		
ne	51-79-6	Ethyl carbamate		
aldehyde	110-62-3	Amyl aldehyde	Pentanal	
n	1929-77-7	Vernolate	PPTC	
olin	50471-44-8	Ronilan		
cetate	108-05-4			
romide	593-60-2	Bromoethene	Bromoethylene	

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Drinking Water Standards (California & Federal) Maximum Contaminant Levels (MCLs)					California Public Health Goal (PHG) in Drinking Water (Office of Environmental Health Hazard Assessment)	California State Action Levels (Department of Health Services)		Other Taste & Odor Thresholds
	California Dept. of Health Services		U.S. Environmental Protection Agency						
	Primary MCL	Secondary MCL	Primary MCL	Secondary MCL	MCL Goal		Toxicity	Taste & Odor	
nloride	0.5		2		zero	0.043 (100)			3400 (126)
luene									420 (126)
in									
(s)	1750		10,000	20 (100)	10,000	1800			17 (26,126)
idine									1800 (126)
idine									

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WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA Integrated Risk Information System (IRIS) Reference Dose as a Drinking Water Level (60)	Drinking Water Health Advisories or Suggested No-Adverse-Response Levels (SNARLs) for toxicity other than cancer risk		One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water				California Proposition 65 Regulatory Level as a Drinking Water Level (14)	Agricultural Water Quality Goals (78)
		USEPA	National Academy of Sciences (NAS)	Cal/EPA Cancer Potency Factor as a Drinking Water Level (102)	USEPA Integrated Risk Information System (IRIS)	USEPA Drinking Water Health Advisory or SNARL	National Academy of Sciences (NAS) *Drinking Water and Health*		
loride	21	3000 (10-day)		0.13	0.048 / 0.096 (156)	0.02 (A)	1.1	1.5 #	
luene									
n	2							R	
(s)	14,000	10,000 (68)			(D)	(D,68)			
idine									
idine								50 # (68)	
	350		35						
			87.5						

10546

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	USEPA National Recommended Ambient Water Quality Criteria											
	Human Health and Welfare Protection					Freshwater Aquatic Life Protection						
	Non-Cancer Health Effects		One-in-a-Million Cancer Risk Estimate			Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Sources of Drinking Water (water+organisms)	Other Waters (aquatic organism consumption only)	Taste & Odor or Welfare	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
loride			2.0	525								
luene												
in												
(s)												
idine												
idine												

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Toxics Rule Criteria (USEPA)							
	Inland Surface Waters					Enclosed Bays & Estuaries		
	Human Health (30-day Average)		Freshwater Aquatic Life Protection			Human Health (30-day Average) aquatic organism consumption only	Saltwater Aquatic Life Protection	
	Drinking Water Sources (consumption of water and aquatic organisms)	Other Waters (aquatic organism consumption only)	Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum		Continuous Concentration (4-day Average)	Maximum Concentration (1-hour Average)	Instantaneous Maximum
hloride	2 (113,143)	525 (113,143)				525 (113,143)			
luene									
in									
(s)									
idine									
idine									

10548

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	California Ocean Plan Numerical Water Quality Objectives						USEPA National Recommended Ambient Water Quality Criteria Saltwater Aquatic Life Protection						
	Human Health (30-day Average) aquatic organism consumption only	Marine Aquatic Life Protection					Recommended Criteria				Toxicity Information (Lowest Observed Effect Level)		
		6-month Median	30-day Average	7-day Average	Daily Maximum	Instantaneous Maximum	Continuous Concentration (4-day Average)	24-hour Average	Maximum Concentration (1-hour Average)	Instantaneous Maximum	Acute	Chronic	Other
hloride	36 #												
oluene													
in													
(s)													
lidine													
lidine													

10546

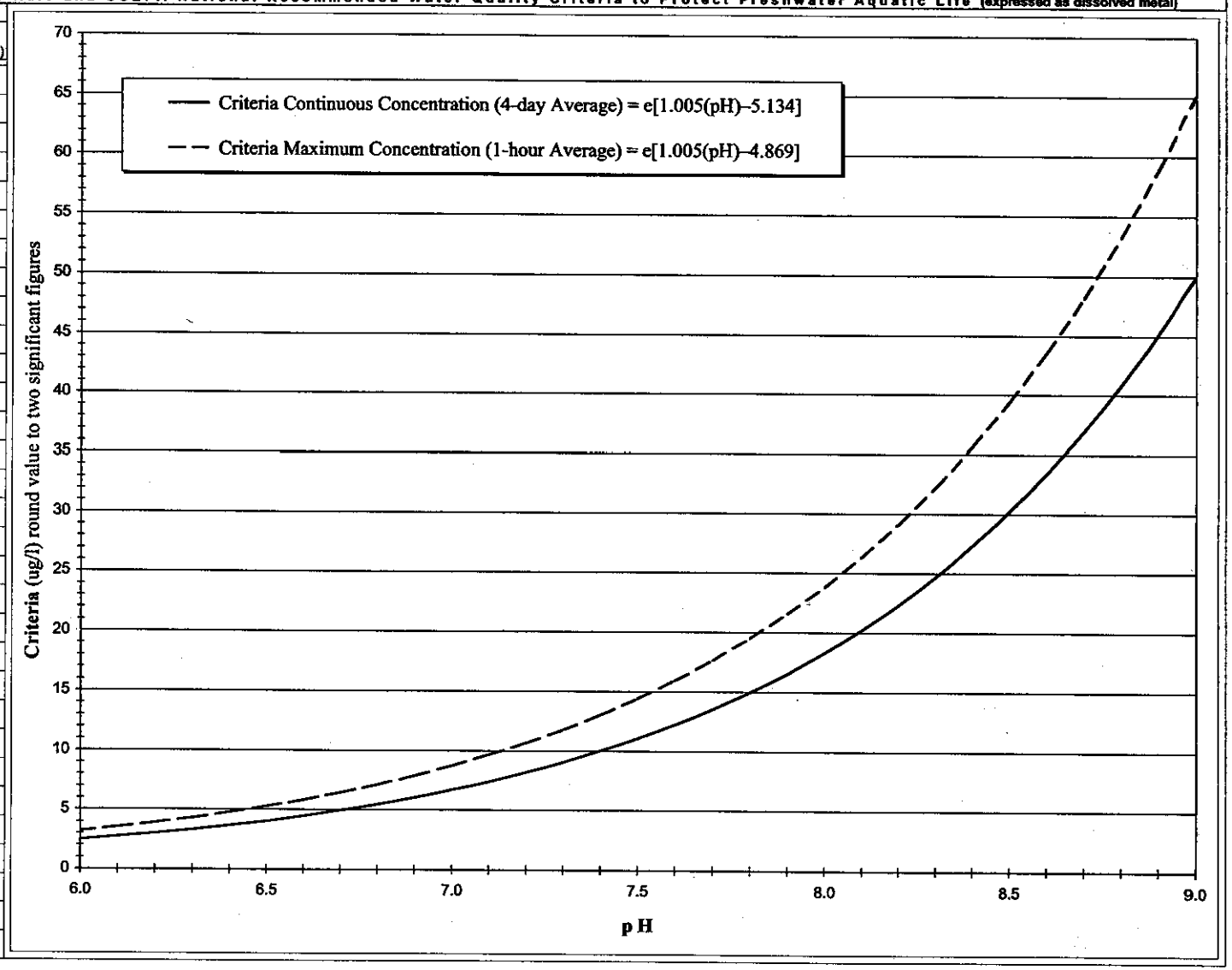
WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS in ug/l (ppb) unless noted

ANIC STITUENT	Chemical Abstracts Service Registry Number	Synonyms and Abbreviations		
hloride	75-01-4	VC	Chloroethene	Chloroethylene
oluene	25013-15-4	Methyl styrene		
in	81-81-2	Coumadin	Coumafen	
(s)	1330-20-7	o-Xylene	m-Xylene	p-Xylene
idine	1300-73-8	Amino-2,4-dimethylbenzene	2,4-Dimethylaniline	
idine	87-62-7	2,6-Dimethylaniline	Amino-2,6-dimethylbenzene	
	12122-67-7	Dithane Z-78		
	137-30-4			

10550

WATER QUALITY GOALS FOR ORGANIC CONSTITUENTS
FRESHWATER AQUATIC LIFE - PENTACHLOROPHENOL

pH	California Toxics Rule and USEPA National Recommended Water Quality Criteria to Protect Freshwater Aquatic Life (expressed as dissolved metal)	
	Pentachlorophenol	
	Continuous Conc. 4-day Avg. (ug/l)	Maximum Conc. 1-hour Avg. (ug/l)
6.0	2.4	3.2
6.1	2.7	3.5
6.2	3.0	3.9
6.3	3.3	4.3
6.4	3.7	4.8
6.5	4.0	5.3
6.6	4.5	5.8
6.7	5.0	6.5
6.8	5.5	7.1
6.9	6.1	7.9
7.0	6.7	8.7
7.1	7.4	9.6
7.2	8.2	11
7.3	9.0	12
7.4	10	13
7.5	11	14
7.6	12	16
7.7	14	18
7.8	15	19
7.9	17	22
8.0	18	24
8.1	20	26
8.2	22	29
8.3	25	32
8.4	27	36
8.5	30	39
8.6	33	44
8.7	37	48
8.8	41	53
8.9	45	59
9.0	50	65



FOOTNOTES

FOOTNOTES

(7-day) For exposure of 7 days or less.
(10-day) For exposure of 10 days or less.
(24-hr) For exposure of 24 hours or less.

(A) Known human carcinogen; sufficient epidemiologic evidence in humans.
(B) Probable human carcinogen.
(B1) Probable human carcinogen; limited epidemiologic evidence in humans.
(B2) Probable human carcinogen; sufficient evidence from animal studies; no or inadequate human data.
(C) Possible human carcinogen; limited evidence from animal studies; no human data.
(D) Not classified as to human carcinogenicity; no data or inadequate evidence.
(E) Evidence of non-carcinogenicity for humans.

(1) Expressed as dissolved.
(2) Expressed as total recoverable.
(3) Varies from 1.4 to 2.4 mg/L with air temperature; see Title 22, CCR, Section 64435, Table 4.
(4) For dissolved chloride associated with sodium; criterion probably will not be adequately protective when chloride is associated with potassium, calcium, or magnesium, rather than sodium.
(5) Based on reproductive toxicity; applies only to second value if more than one value is listed.
(6) Pentavalent arsenic [As(V)] effects on plants.
(7) Calculated for child / for adult.
(8) Advisory concentration; U.S. EPA Water Quality Advisory; Reference 13.
(9) As $CaCO_3$; minimum concentration except where natural concentrations are less.
(10) From Reference 11.
(11) For dinitrophenols.
(12) Value developed for chromium (VI); may be applied to total chromium if valence unknown.
(13) For sum of bromoform, bromomethane, chloromethane, dibromochloromethane, and bromodichloromethane.
(14) Regulatory dose level divided by 2 liters per day average consumption; represents a 1-in-100,000 incremental cancer risk estimate unless otherwise noted.
(15) Determined not to pose a risk of cancer through ingestion (Title 22, CCR, Section 12707).
(16) Toxicity to one species of fish after 2600 hours of exposure.
(17) Mortality in a fish species after 30 day exposure.
(18) Applies separately to endrin and endrin aldehyde.
(19) For total trihalomethanes (sum of bromoform, bromodichloromethane, chloroform and dibromochloromethane); based largely on technology and economics.
(20) For halomethanes.
(21) Based on limited evidence.
(22) For chlorinated benzenes.
(23) Toxicity to a fish species exposed for 7.5 days.
(24) For dichlorobenzenes.
(25) 1983 Suggested-No-Adverse-Response Level; to be reviewed in the future.
(26) From Reference 8.
(27) For dichloroethylenes.
(28) For dichloropropanes.
(29) For dichloropropenes.
(30) For heptachlor and heptachlor epoxde.
(31) Adverse behavioral effects occur to one species.
(32) As $CaCO_3$; minimum criterion except where natural concentrations are less.
(33) For sum of acenaphthylene, anthracene, benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, benzo(a)pyrene, chrysene, dibenz(a,h)anthracene, fluorene, indeno(1,2,3-c,d)pyrene, phenanthrene, and pyrene.
(34) Flavor impairment in a fish species occurs.
(35) Mortality to early life stages of a fish species occurs.
(36) Based on organoleptic considerations (taste, odor, color, laundry staining, etc.)
(37) For mononitrophenols.
(38) Toxicity to algae occurs.
(39) For chlorinated systems.
(40) For white phosphorus.
(41) For carcinogenic polynuclear aromatic hydrocarbons.
(42) For endosulfan-alpha, endosulfan-beta and endosulfan sulfate.
(43) For benzene hexachloride isomers.
(44) Calculated from corn oil gavage animal study / from drinking water animal study.
(45) For sum of phthalate esters.
(46) For chloroalkyl ethers.
(47) For tetrachloroethanes.
(48) For chlorinated naphthalenes.
(49) 1980 U.S. EPA Suggested-No-Adverse-Response Level.
(50) For DDT, DDD, and DDE.
(51) From Reference 9.
(52) For polynuclear aromatic hydrocarbons.
(53) For dinitrotoluenes.
(54) From Reference 20.
(55) From Reference 30.
(56) For nitrosamines.
(57) Guidance level assumes relative source contribution of 10% from drinking water; Reference 3.
(58) For haloethers.
(59) Chronic Suggested-No-Adverse-Response Level was estimated to be 100-fold lower than the listed 24-hour value in calculating this level.
(60) Assumes 70 kg body weight, 2 liters/day water consumption, and 20% relative source contribution from drinking water. An additional uncertainty factor of 10 is used for Class C carcinogens.
(61) 6-month median.
(62) For pH between 6.5 and 9.0.
(63) Average chain length, C12; approximately 60% chlorine by weight.
(64) Based on kepone.
(65) Value for the technical grade of chemical or mixture of isomers.
(66) As Cl; federal limit effective 12/17/01 for surface water systems serving >10,000 people; federal limit effective 12/17/03 for all other systems; maximum residual disinfectant level and goal; apply only if this disinfectant is used.
(67) As ClO2; federal limit effective 12/17/01 for surface water systems serving >10,000 people; federal limit effective 12/17/03 for all other systems; maximum residual disinfectant level and goal; apply only if this disinfectant is used.
(68) Draft / tentative / provisional; applies only to second value if more than one value listed.
(69) For Arochlor 1260.
(70) At pH 6.8, caused 50% reduction in growth of yearling sockeye salmon in 56-day test.
(71) May be present as a decomposition product in Ferbam, Maneb, Nabam, Thiram, Zineb, and Ziram.
(72) As NO3; in addition, MCL for total nitrate plus nitrite = 10,000 ug/L (as N).
(73) Recommended level; Upper level = 500 mg/L; Short-term level = 600 mg/L.
(74) Recommended level; Upper level = 1600 umhos/cm; Short-term level = 2200 umhos/cm.
(75) Recommended level; Upper level = 1000 mg/L; Short-term level = 1500 mg/L.
(76) For "TCDD equivalents" calculated as the sum of 2,3,7,8-chlorinated dibenzodioxin and dibenzofuran concentrations multiplied by their respective USEPA Toxicity Equivalency Factors.
(77) For 1,2- and 1-3-dichlorobenzenes.
(78) Unless otherwise noted, from Reference 19.
(79) For elemental phosphorus; marine or estuarine.
(80) Instantaneous maximum.
(81) For oxychlordane and alpha and gamma isomers of chlordane, chlordene and nonachlor.
(82) A decrease in the number of algal cells occurs.
(83) Adverse effects on a fish species exposed for 168 days.

FOOTNOTES

(84) At no time exceed 5 NTU; systems that filter must not exceed 1 NTU (0.5 NTU for conventional or direct filtration) in at least 95% of daily samples in any month. Effective December 2001, 0.3 NTU for conventional or direct filtration systems serving >10,000 people. Proposed 0.3 NTU 95th percentile and 1 NTU maximum for systems serving <10,000 people.

(85) Expressed as total recoverable; this National Toxics Rule criterion applies to SF Bay through Susuin Bay and Sacramento-San Joaquin Delta, Salt Slough, Mud Slough (north), and San Joaquin River,Sack Dam to mouth of Merced River; does not apply to San Joaquin River, mouth of Merced to Vernalis; see reference 23.

(86) For nonchlorinated phenolic compounds.

(87) For chlorinated phenolic compounds.

(88) For nitrophenols.

(89) Expressed as nitrogen.

(90) For total chlorine residual; for intermittent chlorine sources see Chapter IV, Table B of Reference 28.

(91) Second value from Reference 16.

(92) For 3,3'-Dichlorobenzidine and its salts.

(93) Based on toxicity of benzo(a)pyrene and Potency Equivalency Factors of Cal/EPA, OEHHA; see Reference 18.

(94) Criterion refers to the inorganic form only.

(95) For the pentavalent form.

(96) EC50 for eastern oyster embryos.

(97) Expressed as total recoverable; this National Toxics Rule criterion applies to SF Bay through Susuin Bay and Sacramento-San Joaquin Delta, Salt Slough, Mud Slough (north), and San Joaquin River,Sack Dam to mouth of Merced River; does not apply to Grassland Water District, San Luis National Wildlife Refuge, and Los Banos State Wildlife Refuge; see reference 23.

(98) For total residual chlorine.

(99) For sum of chlorine-produced oxidants.

(100) Proposed; applies only to second value if more than one value is listed.

(101) MFL = million fibers per liter; limited to fibers longer than 10 um.

(102) Assumes 70 kg body weight and 2 liters/day water consumption.

(103) As nitrogen (N); in addition, limit for total nitrate + nitrite = 10,000 ug/L (as N).

(104) Based on endosulfan; USEPA Water Quality Advisory; Reference 13.

(105) No more than 0.05% monomer when dosed at 1 mg/L for drinking water treatment; see Reference 2.

(106) For five haloacetic acids (sum of mono-, di-, and trichloroacetic acids and mono- and dibromoacetic acids).

(107) Unleaded; based on benzene.

(108) For molecules with 60% chlorine or greater by molecular weight; applies only to second value if more than one value listed.

(109) Optimal fluoride level and (range) vary with annual average of maximum daily air temperature; 50.0 to 53.7 degrees F - 1.2 (1.1 - 1.7) mg/L; 53.8 to 58.3 degrees F - 1.1 (1.0 - 1.7) mg/L; 58.4 to 63.8 degrees F - 1.0 (0.9 - 1.5) mg/L; 63.9 to 70.6 degrees F - 0.9 (0.8 - 1.4) mg/L; 70.7 to 79.2 degrees F - 0.8 (0.7 - 1.3) mg/L; 79.3 to 90.5 degrees F - 0.7 (0.6 - 1.2) mg/L.

(110) Picocuries per liter; including Radium-226 but excluding Radon and Uranium.

(111) MCL includes this "Action level" to be exceeded in no more than 10% of samples at the tap.

(112) Criterion expressed as unionized ammonia; criteria based on total ammonia are shown on Inorganics Page 14.

(113) Based on carcinogenicity at 1-in-a-million risk level.

(114) Developed as 24-hour average usinig 1980 USEPA Guidelines; but applied as 4-day average in the National Toxics Rule, reference 22.

(115) Criterion most appropriately applied to the sum of alpha-Endosulfan and beta-Endosulfan. Reference 26.

(116) Applies separately to Aroclors 1242, 1254, 1221, 1232, 1248, 1260, and 1016; based on carcinogenicity at 1-in-a-million risk level.

(117) Effluent limitation for wastes discharged to waters.

(118) For the sum of Aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260.

(119) Cancer classification not supported by ingestion data.

(120) For isomers with chlorines in 2,3,7 and 8 positions.

(121) Cancer risk may not be linear with dose above 60 ug/L.

(122) For the oxide form.

(123) For the pentoxide form.

(124) For the gas phase.

(125) Applies to first value if more than one value listed. From Reference 7.

(126) Applies to second value if more than one value listed. Water-dilution odor threshold calculated from air odor threshold using equilibrium distributions. From Reference 29.

(127) For protection of consumers of marine molluscs.

(128) Virtually free from oil and grease, particularly from the tastes and odors that emanate from petroleum products.

(129) 0.01 of the lowest continuous flow 96-hour LC50 to several important freshwater and marine species, each having a demonstrated high susceptibility to oils and petrochemicals; surface waters shall be virtually free from floating nonpetroleum oils of vegetable or animal origin, as well as petroleum derived oils.

(130) Waters shall be virtually free from substances producing objectionable color for aesthetic purposes; the source of supply should not exceed 75 color units on the platinum-cobalt scale for domestic water supplies.

(131) Increased color, in combination with turbidity (suspended and settleable solids) should not reduce the depth of the compensation point for photosynthetic activity by more than 10% from the seasonally established norm for aquatic life.

(132) For open ocean waters where depth is substantially greater than euphotic zone, pH should not be changed > 0.2 units from naturally occurring variation or in any case outside of range 6.5 to 8.5. For shallow highly productive coastal and estuarine areas where naturally occurring pH variations approach the lethal limits of some species, change in pH should be avoided but in any case should not exceed limits for freshwater., i.e., 6.5 to 9.0.

(133) For chlorides and sulfates in domestic water supplies.

(134) Based on the assumption that 7.2% of Cr is Cr(VI).

(135) Expressed as total recoverable; may be converted to a value expressed as dissolved by multiplying by 0.922.

(136) The Maximum Concentration is equal to 1/ [(f1/185.9) + (f2/12.83)], where f1 and f2 are the fractions of total selenium that are treated as selenite and selenate, respectively.

(137) Expressed as free cyanide (as CN).

(138) Not toxic to aquatic organisms at or below the solubility limit of this chemical. Reference 26.

(139) The derivation of this criterion did not consider exposure through the diet, which is probably important for aquatic life occupying upper trophic levels. Reference 26.

(140) Criterion derived from data for inorganic mercury (II), but is applied to total mercury. It will probably be underprotective if a substantial portion of mercury in the water column is methylmercury. Derivation of criterion did not consider exposure through the diet, which is probably important for aquatic life occupying upper trophic levels. Reference 26.

(141) See Reference 16.

(142) Criteria do not apply to waters subject to water quality objectives in Tables III-2A and III-2B of the San Francisco Bay Regional Water Quality Control Board's 1986 Basin Plan. See Reference 17.

(143) These criteria were promulgated for specific California waters in the National Toxics Rule, Reference 23.

(144) Applies to "TCDD Equivalents" calculated from the concentrations of 2,3,7,8-chlorinated dibenzodioxins and 2,3,7,8-chlorinated dibenzofurans and their corresponding toxic equivalency factors (TEFs); see Reference 27.

(145) No more than 0.01% monomer when dosed at 20 mg/L for drinking water treatment; see Reference 2.

(146) From Reference 31.

(147) Effective 12/17/01 for surface water systems serving >10,000 people; effective 12/17/03 for all other systems.

(148) Effective date postponed.

(149) 100 ug/L TTHM MCL effective until 12/17/01 for systems serving >10,000 people, then 80 ug/L MCL is effective; effective date for 80 ug/L MCL is 12/17/03 for all other systems.

(150) Applies to the lithium salt.

(151) Criterion derived by the California Department of Fish and Game; not a national recommended criterion. Applies to first value if more than one value is listed. From Reference 32.

(152) Interim criterion derived by the California Department of Fish and Game; not a national recommended criterion. Applies to first value if more than one value is listed. From Reference 32.

(153) For the (+2) valence state.

(154) Second and third values are draft criteria. Second value derived using nonlinear approach assuming a relative source contribution. Third value derived using linear approach without a relative source contribution.

(155) A based on inhalation exposure data / D based on oral exposure data.

(156) Adult exposure / exposure from birth.

(157) Action Level temporarily at 1-in-100,000 risk level.

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REFERENCES

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References 3, 4, 6, 11, 12, 13, and 18.

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References 9, 13, 16, 20, 21, 22, 23, 24, 25, 26, and 32.

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STATE OF CALIFORNIA — ENVIRONMENTAL PROTECTION AGENCY

STATE WATER RESOURCES CONTROL BOARD

901 "P" Street (in the process of moving to 1001 "I" Street), P.O. Box 100, Sacramento, CA 95812-0100

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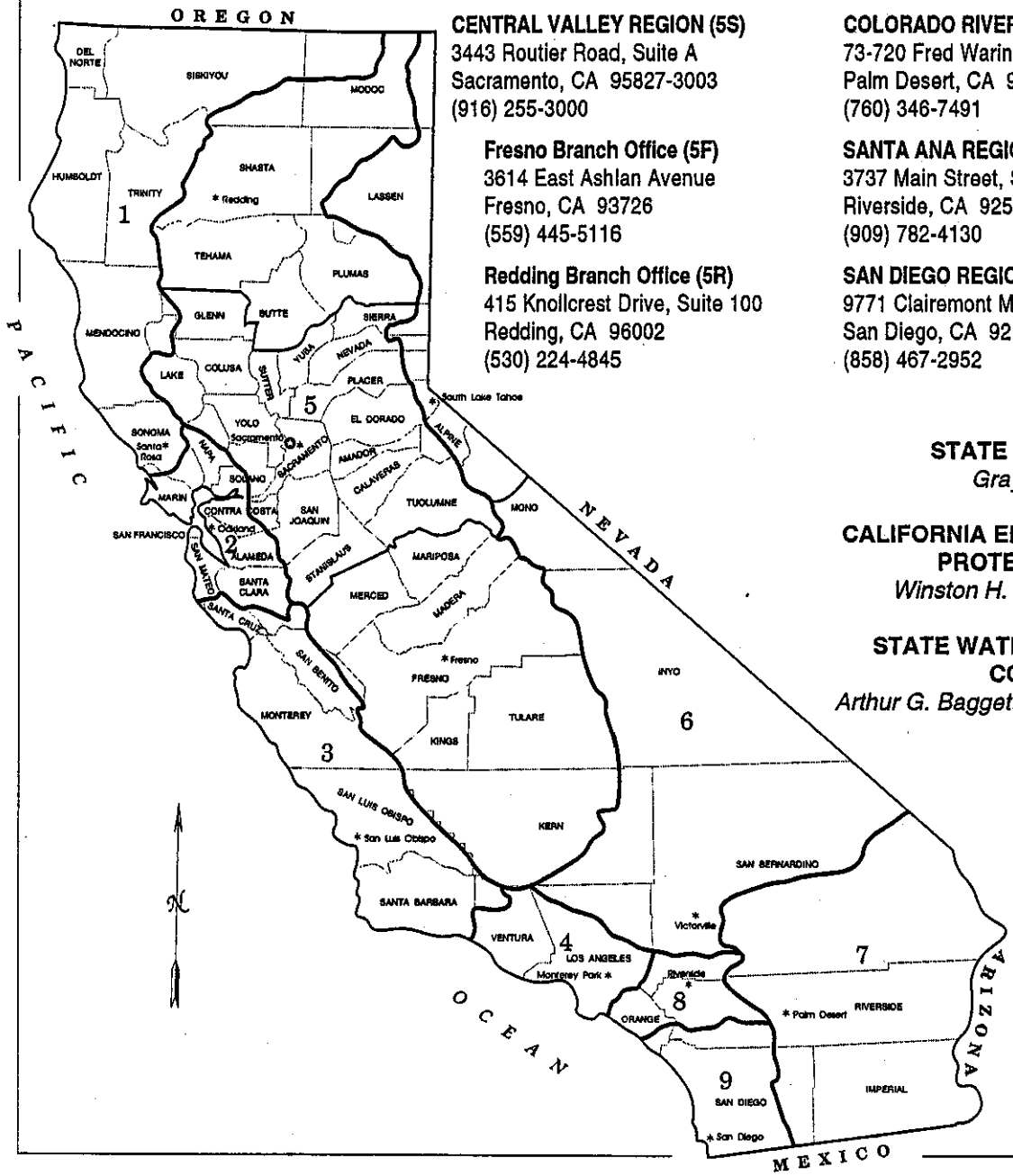

STATE OF CALIFORNIA
Gray Davis, Governor

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
Winston H. Hickox, Secretary

STATE WATER RESOURCES CONTROL BOARD
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1 September 2000

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California Regional Water Quality Control Board

Central Valley Region

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Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

Sacramento Main Office
Internet Address: http://www.swrcb.ca.gov/~rwqcb5
3443 Routier Road, Suite A, Sacramento, California 95827-3003
Phone (916) 255-3000 • FAX (916) 255-3015

TO: Technical Staff and Other Interested Persons

FROM: Jon B. Marshack, D.Env.
Senior Environmental Specialist
Environmental/Technical Support

DATE: 11 October 2000

SIGNATURE: Jon B. Marshack

SUBJECT: NEW PUBLIC HEALTH GOALS FOR CHEMICALS IN DRINKING WATER

In September 2000, the California Office of Environmental Health Hazard Assessment (OEHHA) adopted six new Public Health Goals (PHGs) for chemicals in drinking water. PHGs are levels of drinking water contaminants at which adverse health effects are not expected to occur from a lifetime of exposure. The California Safe Drinking Water Act of 1996 (Health and Safety Code Section 116365) requires OEHHA to adopt PHGs based exclusively on public health considerations. PHGs adopted by OEHHA will be considered by the California Department of Health Services in establishing or revising primary drinking water standards (California Maximum Contaminant Levels, or MCLs).

PHGs and other toxicological criteria may be used to evaluate compliance with narrative water quality objectives for Toxicity in the Basin Plans, as these objectives relate to beneficial uses involving human exposures (e.g., municipal and domestic supply or "MUN"). Therefore, ambient groundwater or surface water with chemical concentrations above PHGs could be interpreted as violating water quality objectives if the waters are designated MUN.

The new Public Health Goals for drinking water are as follows:

Carbofuran	1.7	ug/L (ppb)
Carbon tetrachloride	0.1	ug/L (ppb)
Dichloromethane (Methylene chloride)	4	ug/L (ppb)
Diquat	15	ug/L (ppb)
Thiobencarb[1]	70	ug/L (ppb)
Vinyl chloride	0.05	ug/L (ppb)

Technical support documents for these PHGs are available in electronic format. Please contact me by phone (916-255-3123 or CalNet 8-494-3123) or by e-mail (MarshaJ@rb5s.swrcb.ca.gov) if you need one or more of these documents or if you have any questions.

cc: Frances McChesney, Office of the Chief Counsel, SWRCB
Tim Regan, Office of the Chief Counsel, SWRCB

[1] This PHG covers the parent compound, (thiobencarb), its chlorobenzyl and chlorophenyl moiety-containing degradation products and oxidation products such as thiobencarb sulfoxide, thiobencarb sulfone, and 4-chlorobenzosulfonic acid.

California Regional Water Quality Control Board
Central Valley Region

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

Sacramento Main Office
Internet Address: http://www.swrcb.ca.gov/rwqcb5
3443 Routier Road, Suite A, Sacramento, California 95827-3003
Phone (916) 255-3000 • FAX (916) 255-3015

TO: Technical Staff and Other Interested Persons

FROM: Jon B. Marshack, D.Env.
Senior Environmental Specialist
Environmental/Technical Support

DATE: 5 December 2000

SIGNATURE: Jon B. Marshack

SUBJECT: NEW ACTION LEVELS AND IRIS CRITERIA FOR DRINKING WATER

DHS Action Levels

In October and November, the California Department of Health Services published eight new Action Levels for chemicals in drinking water. Action Levels are health-based advisory levels for chemicals that do not yet have primary Maximum Contaminant Levels (MCLs). The new Action Levels for drinking water are as follows:

Vanadium	15	ug/L (ppb)
sec-Butylbenzene	260	ug/L (ppb)
tert-Butylbenzene	260	ug/L (ppb)
Isopropylbenzene (Cumene)	770	ug/L (ppb)
N-Methyl dithiocarbamate (Metam sodium)	20	ug/L (ppb)
Methylisothiocyanate (MITC)	50	ug/L (ppb)
n-Propylbenzene	260	ug/L (ppb)
2,3,5,6-Tetrachlorotherephthalate	3500	ug/L (ppb)

USEPA IRIS Criteria

Since August, USEPA has published revisions to their Integrated Risk Information System (IRIS) database. IRIS contains two types of toxicologic criteria, reference doses for non-cancer health effects and cancer risk levels. Drinking water concentrations may be derived from these criteria using standard toxicologic assumptions.[1] The new and revised IRIS criteria as drinking water concentrations are as follows:

[1] See "Selecting Water Quality Goals" in the CVRWQCB report *A Compilation of Water Quality Goals* (August 2000).

	Reference Dose	10^{-6} Cancer Risk Level
Chloral hydrate	70 ug/L (ppb)	
Chlorine dioxide	210 ug/L (ppb)	
Chlorite (sodium salt)	210 ug/L (ppb)	
Vinyl chloride		0.048 ug/L (ppb) adult exposure
		0.024 ug/L (ppb) exposure since birth

The difference between the two vinyl chloride criteria is the assumed exposure duration.

Action Levels, IRIS criteria and other toxicologic limits may be used to evaluate compliance with narrative water quality objectives for Toxicity in the Basin Plans, as these objectives relate to beneficial uses involving human exposures (e.g., municipal and domestic supply or "MUN"). Therefore, ambient groundwater or surface water with chemical concentrations above DHS Action Levels could be interpreted as violating water quality objectives if the waters are designated MUN.

The above criteria and the six Public Health Goals adopted by OEHHA in September (see my memo of 11 October 2000) are not contained in the August 2000 edition of *Water Quality Goals*. The *Water Quality Goals* report and updates may be obtained on the internet at www.swrcb.ca.gov/rwqcb5/wq_goals.

Please contact me by phone at (916) 255-3123 or CalNet 8-494-3123 or by e-mail at marshaj@rb5s.swrcb.ca.gov if you have questions.

cc: Frances McChesney, Office of the Chief Counsel, SWRCB
Tim Regan, Office of the Chief Counsel, SWRCB

California Regional Water Quality Control Board

Central Valley Region

Robert Schneider, Chair

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

Sacramento Main Office
Internet Address: http://www.swrcb.ca.gov/rwqcb5
3443 Routier Road, Suite A, Sacramento, California 95827-3003
Phone (916) 255-3000 • FAX (916) 255-3015

TO: Technical Staff and Other Interested Persons

FROM: Jon B. Marshack, D.Env.
Senior Environmental Specialist
Environmental/Technical Support

DATE: 8 February 2001

SIGNATURE: Jon B. Marshack

SUBJECT: WATER QUALITY GOALS UPDATE

This is the third notice of changes since the publication of the August 2000 edition of *A Compilation of Water Quality Goals*. This notice contains an explanation of the most recent changes as well as instructions for updating your copy of that document to reflect all three notices. The *Water Quality Goals* report and all updates may be obtained on the internet at www.swrcb.ca.gov/rwqcb5/wq_goals.

New Arsenic MCL

On 22 January, USEPA adopted a new drinking water standard for arsenic. The new Primary Maximum Contaminant Level (MCL) of 10 ug/L is lower than California's current MCL of 50 ug/L. The Safe Drinking Water Act requires that State MCLs be equal to or lower than federal MCLs; so, expect to see a new California MCL for arsenic in the near future. MCLs are not purely health protective concentrations. They include technologic and economic factors associated with providing municipal water at the tap.

Arsenic in drinking water at concentrations lower than the MCL are associated with significant adverse health effects. Arsenic is a known human carcinogen. USEPA adopts MCL Goals at a level that represents no health risk. Because exposure to any amount of a carcinogen is theoretically associated with some risk of getting cancer, USEPA sets MCL Goals for known and probable human carcinogens at "zero." A new MCL Goal for arsenic has been set at this level. The one-in-a-million cancer risk level – the concentration of arsenic in drinking water associated with one additional cancer case in a million persons exposed over their lifetimes – has been estimated at 0.02 ug/L. In interpreting the narrative Toxicity objective in the Basin Plan for carcinogens, we normally cite the one-in-a-million cancer risk level as the *de minimis* or negligible level of cancer risk associated with involuntary exposure of humans to municipal and domestic water supplies. However, natural background concentrations of arsenic in most locations are expected to exceed this concentration.

Arsenic exposure is also associated with other adverse health effects, including cellular necrosis, skin lesions and abnormal nerve conduction. USEPA's Integrated Risk Information System (IRIS) database includes a reference dose (RfD) for arsenic. The RfD can be converted into a concentration of arsenic in drinking water that should protect against non-cancer health effects. That concentration is 2.1 ug/L.

The state Office of Environmental Health Hazard Assessment is expected to propose a Public Health Goal for arsenic in drinking water in the near future.

Radionuclide MCLs

On 7 December, USEPA revised the federal drinking water regulations for radionuclides. A new federal Primary MCL was adopted for uranium at 30 ug/L, with an effective date for community water systems of 8 December 2003. Because radionuclides are carcinogens, MCL Goals of "zero" were also adopted by USEPA for gross alpha particle activity, gross beta particle and photon activity, radium-226 plus radium-228, and uranium.

The current California Primary MCL for uranium – 20 picocuries per liter (pCi/L) – is in different units than the new federal MCL. The Department of Health Services plans to propose adoption of a new California Primary MCL for uranium that is equal to the new federal MCL.

Methylmercury Water Quality Criterion

In late January, USEPA issued a new recommended Ambient Water Quality Criterion for methylmercury to protect human health from exposure to mercury from the aquatic environment. The new criterion is 0.3 mg methylmercury per kg of fish or shellfish tissue. It replaces older recommended human health criteria for total mercury in surface waters. The promulgated California Toxics Rule criteria for human health protection from mercury in sources of drinking water (0.050 ug/L) and in waters that are not sources of drinking water (0.051 ug/L) are unchanged, and still enforceable.

> "[US]EPA concluded that it is more appropriate at this time to derive a fish tissue (including shellfish) residue water quality criterion for methylmercury rather than a water column-based water quality criterion . . . for many reasons. Such a criterion integrates spatial and temporal complexity that occurs in aquatic systems and that affects methylmercury bioaccumulation. A fish tissue residue water quality criterion is more closely tied to the Clean Water Act goal of protecting the public health because it is based directly on the dominant human exposure route for methylmercury. The concentration of methylmercury is also generally easier to quantify in fish tissue than in water and is less variable over the time periods in which water quality standards are typically implemented in water quality-based. Thus, the data used in permitting activities can be based on a more consistent and measurable endpoint. A fish tissue residue criterion is also consistent with how fish advisories are issued. Fish advisories for mercury are based on the amount of methylmercury in fish tissue that is considered acceptable, although they are usually issued for a certain fish or shellfish species in terms of a meal size. A fish tissue residue water quality criterion should enhance harmonization between these two approaches for protecting the public health."

USEPA is developing guidance for using the new methylmercury criterion, including procedures for translating methylmercury concentrations in fish to total mercury concentrations in ambient surface water or effluent.

Updating Water Quality Goals

Please make the following changes to your hard copy of *A Compilation of Water Quality Goals*, August 2000 edition, to reflect the above changes, changes discussed in my memoranda dated 11 October 2000 and 5 December 2000, and to correct a few errors and omissions:

Inorganics Page 1

Arsenic: Change USEPA Primary MCL to 10 ug/L and delete footnotes. Delete footnote for USEPA MCL Goal.

Boron: Add footnote (160) for California State Action Level – Toxicity.

Inorganics Page 2

Chlorine dioxide: Add entry of "210" for USEPA IRIS Reference Dose.

Chlorite: Change entry to "210" for USEPA IRIS Reference Dose.

Chromium (III): Add entry of "10,500" for USEPA IRIS Reference Dose. Delete entry, but keep footnote, for Cancer Risk Estimates – USEPA IRIS.

Inorganics Page 3

Mercury, inorganic: Delete entries in the first and second columns under Non-Cancer Health Effects.

Inorganics Page 7

Radioactivity, Gross Alpha: Change footnote to (110) for USEPA MCL Goal.

Radioactivity, Gross Beta: Delete footnote for USEPA MCL Goal.

Radium-226 + Radium-228: Delete footnote for USEPA MCL Goal.

Uranium: Change USEPA Primary MCL to 30 ug/L and change footnote to (159). Delete footnote for USEPA MCL Goal.

Vanadium: Add entry of "15" for California State Action Level – Toxicity.

Organics Page 13

Add new lines for *sec-Butylbenzene* and *tert-Butylbenzene*: Add entries of "260" for both chemicals under California State Action Level – Toxicity.

Carbofuran: Delete footnote for California Public Health Goal.

Carbon tetrachloride: Delete footnote for California Public Health Goal.

Organics Page 14

Chloral hydrate: Add the entry of "70" for USEPA IRIS Reference Dose.

Organics Page 25

Dichloromethane: Change entry to "4" and delete footnote for California Public Health Goal.

Organics Page 37

Diquat: Delete footnote for California Public Health Goal.

Organics Page 49

Add new line for *Isopropylbenzene*: Add entry of "260" for California State Action Level – Toxicity.

Organics Page 55

Add new line for *N-Methyldithiocarbamate (Metam)*: Add entry of "20" for California State Action Level – Toxicity.

Add new line for *Methylisothiocyanate (MITC)*: Add entry of "50" for California State Action Level – Toxicity.

Organics Page 57

Methyl mercury: Add the entry of "0.3 mg/kg (161)" in the first and second columns under Non-Cancer Health Effects.

Organics Page 73

Add new line for *n-Propylbenzene*: Add entry of "260" for California State Action Level – Toxicity.

Add new line for *2,3,5,6-Tetrachloroterephthalate*: Add entry of "3500" for California State Action Level – Toxicity.

Organics Page 79

Thiobencarb: Change footnote to (158) for California Public Health Goal.

Organics Page 85

Vinyl chloride: Change entry to "0.05" and delete footnote for California Public Health Goal.

Organics Page 86

Vinyl chloride: Change entry to "0.048 / 0.024" for Cancer Risk Estimates – USEPA IRIS.

Footnotes Page 2

Add footnote (158): This limit covers the parent compound (thiobencarb), its chlorobenzyl and chlorophenyl moiety-containing degradation products and oxidation products such as thiobencarb sulfoxide, thiobencarb sulfone, and 4-chlorobenzosulfonic acid.

Add footnote (159): Effective 8 December 2003 for all community water systems.

Add footnote (160): Value rounded from 0.6 mg/L.

Add footnote (161): Concentration in fish or shellfish tissue.

Please contact me by phone at (916) 255-3123 or CalNet 8-494-3123 or by e-mail at marshaj@rb5s.swrcb.ca.gov if you have questions.

cc: Frances McChesney, Office of the Chief Counsel, SWRCB
Tim Regan, Office of the Chief Counsel, SWRCB

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California Regional Water Quality Control Board

Central Valley Region

Robert Schneider, Chair

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

Sacramento Main Office
Internet Address: http://www.swrcb.ca.gov/rwqcb5
3443 Routier Road, Suite A, Sacramento, California 95827-3003
Phone (916) 255-3000 • FAX (916) 255-3015

TO: Technical Staff and Other Interested Persons

FROM: Jon B. Marshack, D.Env.
Senior Environmental Specialist
Environmental/Technical Support

DATE: 18 April 2001

SIGNATURE: 

SUBJECT: WATER QUALITY GOALS UPDATE

This is the fourth notice of changes since the publication of the August 2000 edition of *A Compilation of Water Quality Goals*. This notice contains an explanation of the most recent changes as well as instructions for updating your copy of *Water Quality Goals*. The *Water Quality Goals* report and all updates may be obtained on the internet at www.swrcb.ca.gov/rwqcb5/wq_goals/.

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National recommended water quality criteria are intended to provide states and tribes with information to help them develop water quality standards pursuant to the federal Clean Water Act. These criteria are not directly enforceable criteria, such as those in the National Toxics Rule and the California Toxics Rule. As such, they cannot currently be applicable to California surface waters. They may be used by the State and Regional Water Boards to develop future water quality objectives.

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PHGs and other toxicological criteria may be used to evaluate compliance with narrative water quality objectives for Toxicity in the Basin Plans, as these objectives relate to beneficial uses involving human exposures (e.g., municipal and domestic supply or "MUN"). Therefore, ambient groundwater or surface water with chemical concentrations above PHGs could be interpreted as violating water quality objectives if the waters are designated MUN.

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Replace this page with Page 15a and Page 15b, attached.

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Attachments (2)

cc: Frances McChesney, Office of the Chief Counsel, SWRCB
Tim Regan, Office of the Chief Counsel, SWRCB

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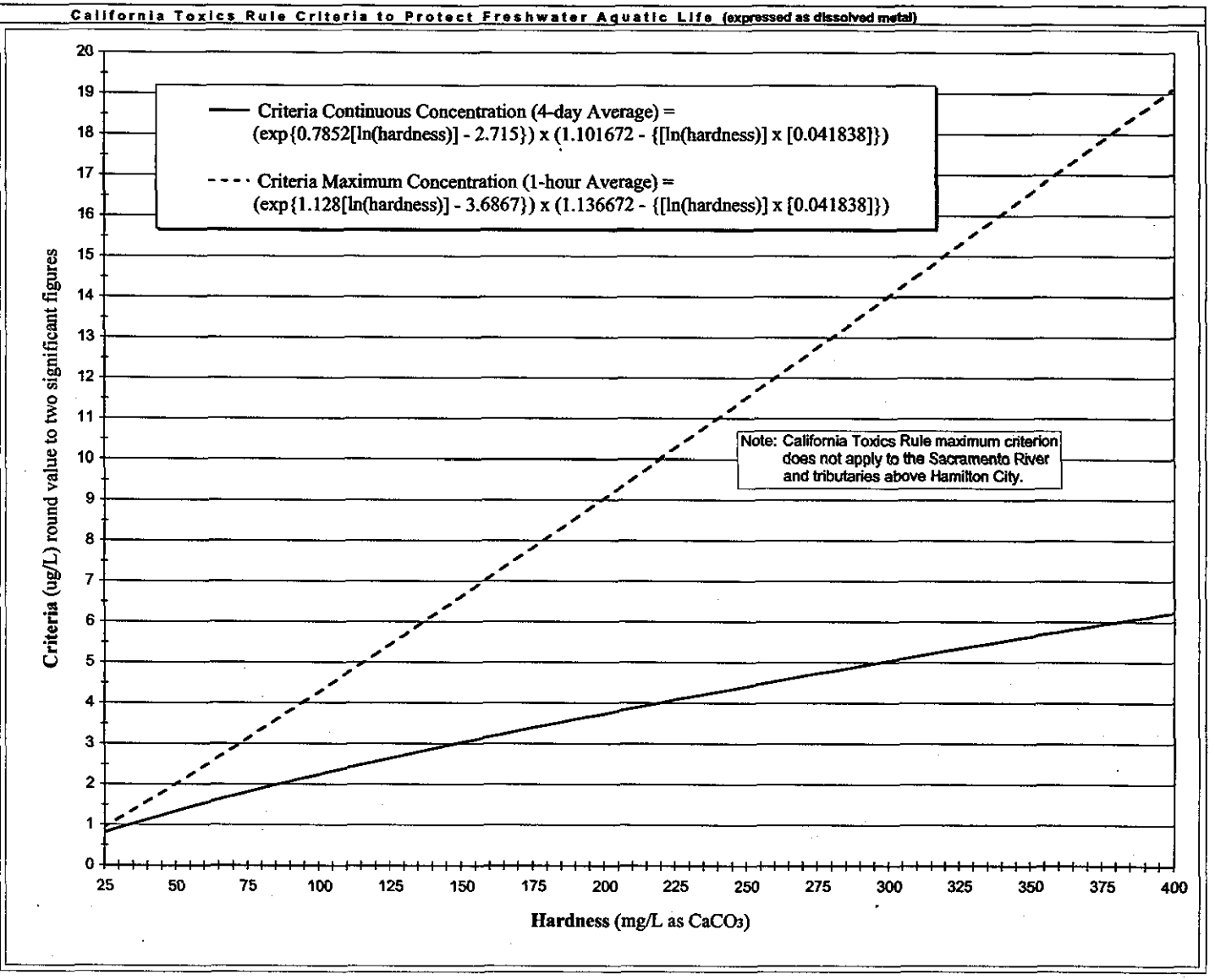
WATER QUALITY GOALS FOR INORGANIC CONSTITUENTS
FRESHWATER AQUATIC LIFE - CADMIUM

Hardness (mg/L as $CaCO_3$)	Cadmium	
	Continuous Conc. 4-day Avg. (ug/L)	Maximum Conc. 1-hour Avg. (ug/L)
< 25	use formula	use formula
25	0.80	0.95
30	0.92	1.2
35	1.0	1.4
40	1.1	1.6
45	1.2	1.8
50	1.3	2.0
55	1.4	2.2
60	1.5	2.5
65	1.6	2.7
70	1.7	2.9
75	1.8	3.1
80	1.9	3.3
85	2.0	3.6
90	2.1	3.8
95	2.2	4.0
100	2.2	4.3
110	2.4	4.7
120	2.6	5.2
130	2.7	5.7
140	2.9	6.1
150	3.0	6.6
160	3.2	7.1
170	3.3	7.6
180	3.5	8.1
190	3.6	8.5
200	3.7	9.0
210	3.9	9.5
220	4.0	10
230	4.1	11
240	4.3	11
250	4.4	12
260	4.5	12
270	4.7	12
280	4.8	13
290	4.9	14
300	5.0	14
310	5.2	15
320	5.3	15
330	5.4	16
340	5.5	16
350	5.6	17
360	5.8	17
370	5.9	18
380	6.0	18
390	6.1	19
400	6.2	19
> 400	6.2	19



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30	0.11	0.62
35	0.12	0.72
40	0.13	0.83
45	0.14	0.93
50	0.15	1.0
55	0.16	1.1
60	0.17	1.2
65	0.18	1.3
70	0.19	1.4
75	0.20	1.5
80	0.21	1.6
85	0.22	1.7
90	0.23	1.8
95	0.24	1.9
100	0.25	2.0
110	0.26	2.2
120	0.28	2.4
130	0.30	2.6
140	0.31	2.8
150	0.33	3.0
160	0.34	3.2
170	0.36	3.4
180	0.37	3.6
190	0.38	3.8
200	0.40	3.9
210	0.41	4.1
220	0.43	4.3
230	0.44	4.5
240	0.45	4.7
250	0.46	4.9
260	0.48	5.1
270	0.49	5.3
280	0.50	5.5
290	0.51	5.7
300	0.53	5.9
310	0.54	6.0
320	0.55	6.2
330	0.56	6.4
340	0.57	6.6
350	0.59	6.8
360	0.60	7.0
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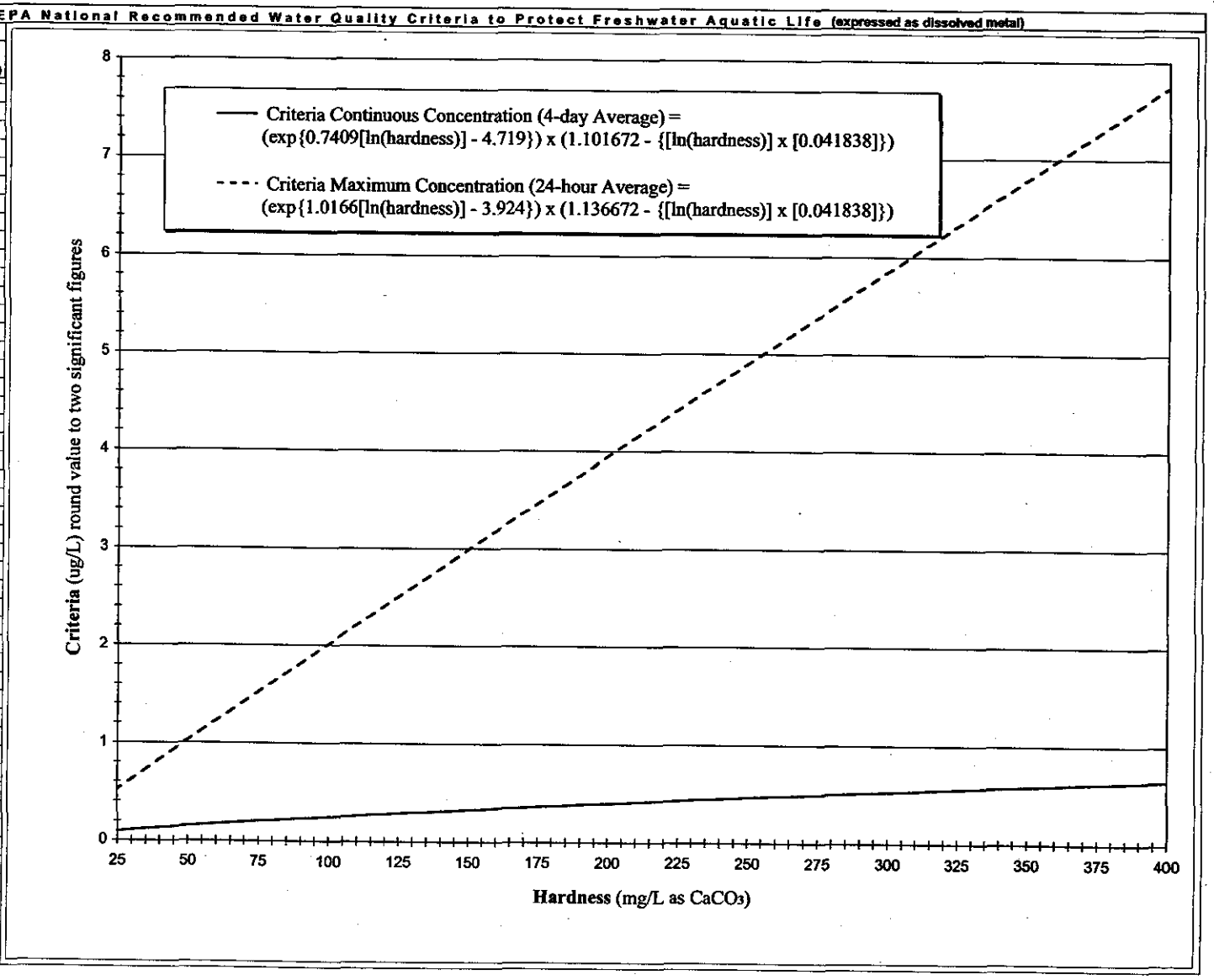

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TO: Technical Staff and Other Interested Persons

FROM: Jon B. Marshack, D.Env.
Senior Environmental Specialist
Environmental/Technical Support

DATE: 18 April 2001

SIGNATURE: Jon B. Marshack

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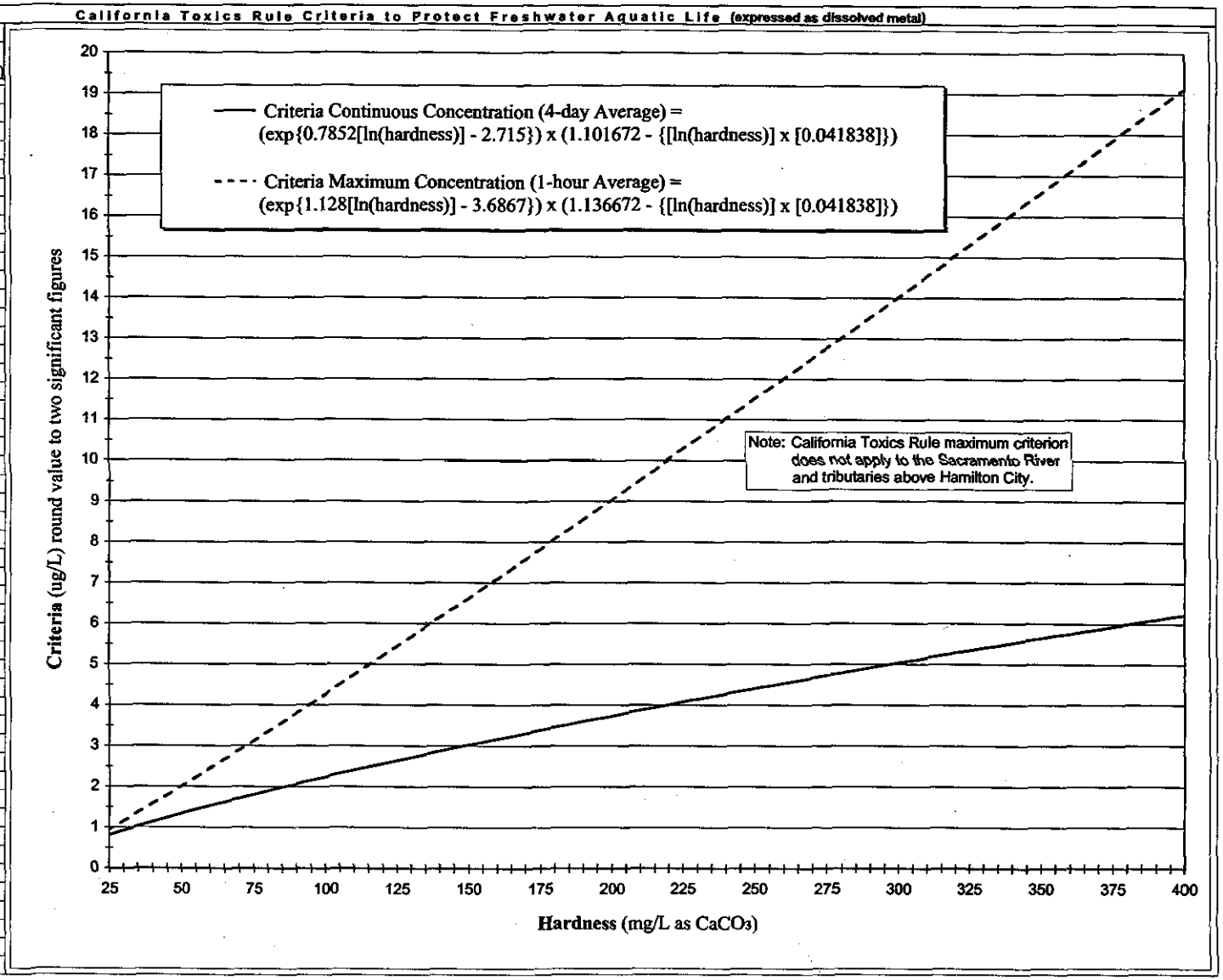

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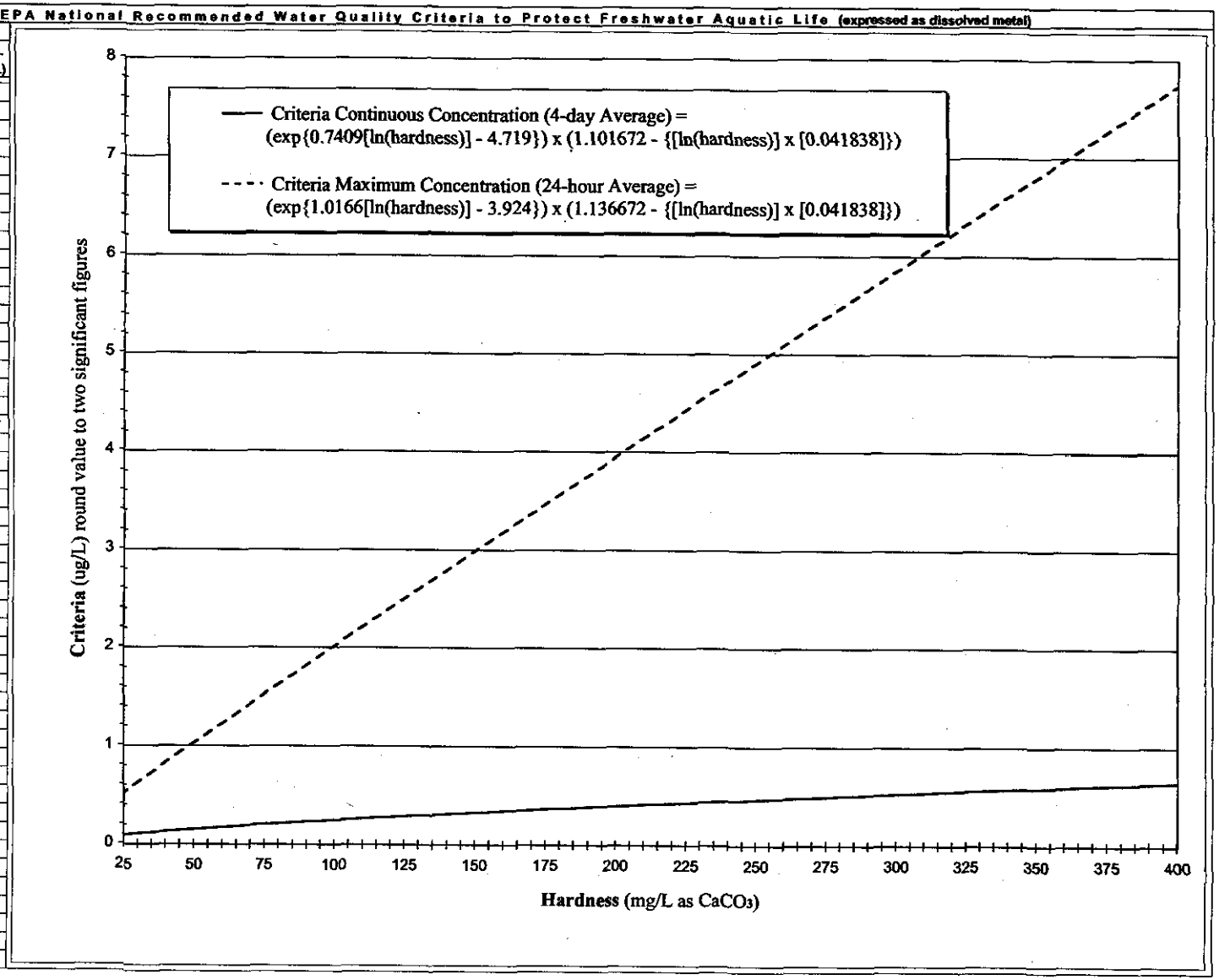

10579

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TO: Technical Staff and Other Interested Persons

FROM: Jon B. Marshack, D.Env.
Senior Environmental Specialist
Environmental/Technical Support

DATE: 26 July 2001

SIGNATURE: Jon B. Marshack

SUBJECT: WATER QUALITY GOALS UPDATE

This is the fifth notice of changes since the publication of the August 2000 edition of *A Compilation of Water Quality Goals*. This notice contains an explanation of the most recent changes as well as instructions for updating your copy of *Water Quality Goals*. The *Water Quality Goals* report and all updates may be obtained on the internet at www.swrcb.ca.gov/rwqcb5/wq_goals.

Public Health Goal for Benzene

In late June, the California Office of Environmental Health Hazard Assessment (OEHHA) released a Public Health Goal (PHG) of 0.15 ug/L for benzene in drinking water. PHGs are levels of drinking water contaminants at which adverse health effects are not expected to occur from a lifetime of exposure. The California Safe Drinking Water Act of 1996 (Health and Safety Code Section 116365) requires OEHHA to adopt PHGs based exclusively on public health considerations. PHGs adopted by OEHHA will be considered by the California Department of Health Services (DHS) in establishing or revising primary drinking water standards (California Maximum Contaminant Levels, or MCLs). DHS is required by the same law to review their MCLs every five years and to revise them to as close to PHGs as is practicable, considering economic factors and technical feasibility. Technical support documents for PHGs are available on the internet at www.oehha.org/water/phg.

The benzene PHG is based on the risk of getting cancer, in this case leukemia, from exposure to benzene through the municipal and domestic water supplies. Benzene is one of a very few chemicals considered to be *known human carcinogens*. For these chemicals, cancer cases in humans have been documented as being directly related to chemical exposure. This is the strongest type of evidence for the relationship between cause and effect. Other *known human carcinogens* include arsenic, vinyl chloride, and ionizing radiation.

PHGs for carcinogens are set at the concentration in water associated with a *de minimis* level of cancer risk – one extra cancer case per million persons exposed over their lifetimes. For volatile contaminants, such as benzene, the use of drinking water in the home can cause exposure through not only the ingestion of water, but also through dermal contact and the inhalation of vapors resulting from

showering and other household water uses. Therefore, PHGs for benzene and other volatile chemicals are calculated by considering all of these exposures. For this reason these PHGs are often lower than other cancer risk estimates that consider only ingestion exposure. These additional exposure routes are relevant to the beneficial use of water for municipal and domestic supply (MUN).

PHGs and other toxicological criteria may be used to evaluate compliance with narrative water quality objectives for Toxicity in the Basin Plans, as these objectives relate to beneficial uses involving human exposures (e.g., municipal and domestic supply). Therefore, ambient groundwater or surface water with chemical concentrations above PHGs could be interpreted as violating water quality objectives if the waters are designated MUN.

Action Levels for Trimethylbenzenes

Also in June 2001, DHS published drinking water action levels of 330 ug/L for both 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene, also called pseudocumene and mesitylene, respectively. These chemicals are constituents of petroleum based fuels. They are also used in the manufacture of dyes and pharmaceuticals. 1,3,5-Trimethylbenzene is used as an ultraviolet oxidation stabilizer in plastics.

Action levels are health-based advisory levels for chemicals that do not currently have primary MCLs. An action level may be established by DHS when a chemical is either found in a drinking water source or is in close proximity to a source and guidance is needed should it reach the source. Like PHGs, drinking water action levels may also be used to evaluate compliance with narrative water quality objectives for Toxicity. Additional information on action levels may be found on the internet at www.dhs.ca.gov/ps/ddwem/chemicals/AL/actionlevels.htm.

Reference Doses for Bromate and Hexachlorocyclopentadiene

In early June, the U.S. Environmental Protection Agency (USEPA) added a reference dose for bromate (BrO_3^-) equal to 28 ug/L in drinking water to their Integrated Risk Information System (IRIS) database of chemicals health effects. Reference doses represent exposure limits below which non-cancer health effects are not expected to occur. Reference doses may be translated into concentrations in drinking water using standard assumptions for the amount of water ingested each day, average body weight and potential exposures to the chemicals from other sources. Bromate is also considered to be a probable human carcinogen, with a one-in-a-million incremental cancer risk estimate of 0.05 ug/L, also reported in IRIS.

USEPA also updated their reference dose for hexachlorocyclopentadiene. The new criterion is equal to 42 ug/L in drinking water. Hexachlorocyclopentadiene is used in the manufacture of flame retardant chemicals and pesticides.

IRIS may be found on the internet at www.epa.gov/iris.

Drinking Water Standard for Arsenic

The current drinking water MCL for arsenic of 50 ug/L was developed in the 1940s. It does not reflect current health effects information. USEPA's IRIS toxicologic database contains a reference dose for non-cancer health effects equal to 2.1 ug/L of arsenic in drinking water and a one-in-a-million incremental cancer risk estimate of 0.02 ug/L. OEHHA has published a cancer potency factor equal to 0.023 ug/L at the one-in-a-million risk level, and is expected to publish a draft Public Health Goal for arsenic in the near future. Arsenic is considered to be a "known human carcinogen" (see the discussion

of this term under *Public Health Goal for Benzene*, above). The epidemiologic data on which the cancer risk estimates are based directly link human exposure to arsenic in drinking water with cases of cancer.

In additional to man-made sources (e.g., arsenical pesticides, wood treatment chemicals, metal smelting) arsenic is a naturally occurring element. It is present in many source waters, especially in the western United States, in concentrations that are often equal to or higher than health-protective levels. For some drinking water supply systems, there would be significant costs if they were required to deliver water to customers below the current MCL.

On 22 January 2001, USEPA adopted a new federal MCL for arsenic of 10 ug/L. On 22 May, USEPA revised the new standard by delaying its effective date until 22 February 2002 in order to conduct reviews of the scientific and economic analyses on which the new MCL was based. On 19 July, USEPA proposed a range of MCL options for arsenic – 3 ug/L, 5 ug/L, 10 ug/L, and 20 ug/L – and requested additional comment on the technical basis for the original 22 January rule. Comments are due by 31 October. More information on the federal arsenic MCL may be found on the internet at www.epa.gov/OGWDW/arsenic.html.

Allowable levels of arsenic in surface water and groundwater are governed by water quality objectives and natural background concentrations. For waters with the beneficial use of municipal and domestic supply (MUN), applicable water quality objectives include both the Chemical Constituents objective and the Toxicity objective. The Chemical Constituents objective requires that water not exceed California MCLs. The Toxicity objective prohibits toxic substances in toxic amounts. Where natural background levels exceed water quality objectives, the Regional Water Boards do not have the authority to require that water quality objectives be met. However, in such cases, controllable water quality factors, such as the discharge of waste, are not permitted to cause natural concentrations to increase.

Total vs. Dissolved

Recently, questions have arisen as to how to measure compliance with USEPA national recommended water quality criteria and USEPA promulgated (California Toxics Rule and National Toxics Rule) criteria for aquatic life protection and human health protection. For metallic constituents, the aquatic life criteria specify whether compliance is to be determined based on dissolved or total recoverable measurements. Human health criteria for metallic constituents and both human health and aquatic life criteria for non-metallic constituents do not specify. According to Phil Woods, Water Quality Standards Coordinator for Region 9 of USEPA, compliance with all criteria which do not specify dissolved or total recoverable are intended to be determined using total recoverable measurements. In *Water Quality Goals*, dissolved criteria for metallic constituents are footnoted (1) and total recoverable criteria are footnoted (2). For other constituents, use total recoverable concentrations.

Updating Your Copy of *Water Quality Goals*

Please make the following changes to your copy of *A Compilation of Water Quality Goals*, August 2000 edition, to reflect the new information discussed above:

Inorganics Page 2

Bromate: Add an entry of "28" under USEPA Integrated Risk Information System Reference Dose.

Organics Page 7

Benzene: Change the California Public Health Goal entry to read "0.15" and delete the footnote.

Organics Page 44

Hexachlorocyclopentadiene: Change the USEPA Integrated Risk Information System Reference Dose entry to read "42" and delete the footnote. Change the One-in-a-Million Cancer Risk Estimate – USEPA Integrated Risk Information System entry to read "E" and delete the footnote.

Organics Page 79

1,3,5-Trimethylbenzene: Add an entry of "330" under California State Action Level - Toxicity.

1,2,4-Trmethylbenzene: Add a new listing for this chemical and add an entry of "330" under California State Action Level - Toxicity.

Please contact me by phone at (916) 255-3123 or CalNet 8-494-3123 or by e-mail at marshaj@rb5s.swrcb.ca.gov if you have questions.

cc: Frances McChesney, Office of the Chief Counsel, SWRCB
Catherine George, Office of the Chief Counsel, SWRCB
Erik Spiess, Office of the Chief Counsel, SWRCB

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California Regional Water Quality Control Board

Central Valley Region

Robert Schneider, Chair

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

Sacramento Main Office
Internet Address: http://www.swrcb.ca.gov/rwqcb5
3443 Routier Road, Suite A, Sacramento, California 95827-3003
Phone (916) 255-3000 • FAX (916) 255-3015

TO: Technical Staff and Other Interested Persons

FROM: Jon B. Marshack, D.Env.
Staff Environmental Scientist
Program Support Unit

DATE: 20 November 2001

SIGNATURE:

SUBJECT: WATER QUALITY GOALS UPDATE

This is the sixth notice of changes since the publication of the August 2000 edition of *A Compilation of Water Quality Goals*. This notice contains an explanation of the most recent changes as well as instructions for updating your copy of *Water Quality Goals*. In addition, new information is provided to help users select among available numerical limits to interpret narrative water quality objectives. The *Water Quality Goals* report and all updates may be obtained on the internet at www.swrcb.ca.gov/rwqcb5/available_documents/wq_goals.

New Public Health Goals

In August and September, the California Office of Environmental Health Hazard Assessment (OEHHA) released four new Public Health Goals (PHGs) for chemicals in drinking water:

Nickel	12	ug/L (ppb)	
Simazine	4	ug/L	
Tetrachloroethylene (PCE)	0.06	ug/L	
Uranium (from natural sources)	0.5	ug/L	(0.43 pCi/L)

PHGs are levels of drinking water contaminants at which adverse health effects are not expected to occur from lifetime of exposure. The California Safe Drinking Water Act of 1996 (Health and Safety Code Section 116365) requires OEHHA to adopt PHGs based exclusively on public health considerations. PHGs adopted by OEHHA will be considered by the California Department of Health Services (DHS) in establishing or revising primary drinking water standards (California Maximum Contaminant Levels, or MCLs). DHS is required by the same law to review their MCLs every five years and to revise them to as close to PHGs as is practicable, considering economic factors and technical feasibility. Technical support documents for PHGs are available on the internet at www.oehha.org/water/phg.

The PHGs for tetrachloroethylene and uranium are based on cancer risk. PHGs for carcinogens are set at the concentration in water associated with a *de minimis* or negligible level of cancer risk – one extra cancer case per million persons exposed over their lifetimes. For volatile contaminants, such as PCE, the use of drinking water in the home can cause exposure through not only the ingestion of water, but also through dermal contact and the inhalation of vapors resulting from showering and other household water uses. Therefore, PHGs for PCE and other volatile chemicals are calculated by considering all of these exposures. For this reason these PHGs are often lower than other one-in-a-million cancer risk estimates that consider only ingestion exposure. These additional exposure routes are relevant to the beneficial use of water for municipal and domestic supply (MUN).

PHGs and other toxicological criteria may be used to evaluate compliance with narrative water quality objectives for Toxicity in the Basin Plans, as these objectives relate to beneficial uses involving human exposures (e.g., municipal and domestic supply). Therefore, ambient groundwater or surface water with chemical concentrations above PHGs could be interpreted as violating water quality objectives if the waters are designated MUN.

Public Health Goals for Total and Hexavalent Chromium – An Update

In 1999, OEHHA published a Public Health Goal of 2.5 ug/L (ppb) for total chromium in drinking water. This PHG was based on the assumption that exposure to hexavalent chromium (Cr VI) in drinking water may cause cancer. The PHG technical support document included a health protective level of 0.2 ug/L for Cr VI, equal to the one-in-a-million cancer risk estimate in drinking water. The PHG for total chromium is based on the health protective level for Cr VI, assuming that total chromium contains no more than 7.2 percent Cr VI. Both the PHG for total chromium and the health protective level for Cr VI are reported in the August 2000 Edition of *A Compilation of Water Quality Goals*.

On 9 November 2001, OEHHA formally withdrew the PHG document for chromium. The PHG for total chromium and the cancer risk-based health protective level for Cr VI have been controversial. Recent data on drinking water sources collected by DHS and others have called into question the proportion of Cr VI in total chromium in California drinking water sources assumed by OEHHA. Many toxicologists, including those from the drinking water program of USEPA, disagree with OEHHA's assumption that Cr VI may cause cancer from drinking water exposure. As a result, OEHHA requested that the University of California (UC) convene a scientific panel of experts to provide guidance on health issues relating to the presence of Cr VI in drinking water. The Chromate Toxicity Review Committee, as the panel was called, has completed its review and has forwarded its report to OEHHA. The committee concluded that "we found no basis in either the epidemiological or animal data published in the literature for concluding that orally ingested Cr (VI) is a carcinogen."

OEHHA had asked the committee to examine the reliability of a key German study used by OEHHA to identify the health protective level for Cr VI and the PHG for total chromium. The study, published in 1968, is the only one of its kind that has examined long-term cancer risks from ingestion of Cr VI. Previous UC peer reviews of the PHG document had deemed the German study data as appropriate for deriving the PHG for total chromium. However, OEHHA was aware of the study's limitations and for that reason had asked the committee to examine it. The committee's report states that the study should not be used to assess cancer risks from Cr VI for several reasons. OEHHA no longer plans to use the study in future risk assessments on Cr VI because the committee presented information that a virus contracted by mice used in the study could have caused lesions observed by the German researchers and interpreted as chromium-induced tumors.

The committee proposes that California should continue to consider its current drinking water standard (maximum contaminant level) of 50 ug/L for total chromium to be protective of public health.[1] OEHHA is in the process of developing a separate PHG for Cr VI, which is expected to be complete by the Spring of 2003. That PHG will be used by DHS to develop a California drinking water standard for Cr VI. Legislation recently signed into law requires DHS to adopt a Primary MCL for Cr VI by 1 January 2004.

Arsenic – New Federal MCL and Information on Health Effects

On 31October 2001, USEPA adopted a new final drinking water MCL for arsenic of 10 ug/L The former MCL for arsenic of 50 ug/L (ppb) was developed by the US Public Health Service in 1942. It did not reflect current information on the health effects of arsenic, including bladder, lung and skin cancer, inhibition of tissue respiration, skin and mucus membrane irritation and necrosis, central and peripheral neurotoxicity, peripheral vascular disease, and reproductive and developmental toxicity. In January 2001, USEPA adopted the new federal MCL for arsenic of 10 ug/L. But in May, USEPA delayed the effective date of the new standard in order to conduct reviews of the scientific and economic analyses on which the new MCL was based.

In September 2001, a subcommittee of the National Research Council (NRC) released their review of the toxicologic basis for the new drinking water standard. The NRC report confirmed the finding that recent studies of arsenic in humans, taken together with earlier studies, "provide a sound and sufficient database showing an association between bladder and lung cancers and chronic arsenic exposure in drinking water, and they provide a basis for quantitative risk assessment." "In addition, recent studies increase the weight of evidence for an association between internal cancers and arsenic exposure through drinking water." "Taiwanese and other human studies include data on exposures at arsenic concentrations relatively close to some U.S. exposures. Consequently, the extrapolation is over only a relatively small range of arsenic concentrations." Shorter extrapolations decrease the uncertainty of numerical cancer risk estimates. The report also cited increasing evidence that chronic exposure to arsenic in drinking water may also be associated with health effects other than cancer.

"In summary, the subcommittee concludes that recent studies and analyses enhance the confidence in risk estimates that suggest chronic arsenic exposure is associated with an increased incidence of bladder and lung cancer at arsenic concentrations in drinking water that are below the current MCL of 50 ug/L. The results of this subcommittee's assessment ... suggest that the risks for bladder and lung cancer incidence are greater than the risk estimates on which EPA based its January 2001 pending rule." The subcommittee found that men and women who daily consume water containing 3 ug/L of arsenic have about a 1 in 1,000 increased risk of developing bladder or lung cancer during their lifetime. At 10 ug/L, the new drinking water standard adopted by USEPA, the risk is greater than 3 in 1,000. Additional information on the federal arsenic drinking water standard may be found on the internet at http://www.epa.gov/safewater/arsenic.html. The NRC report may be viewed on the internet at http://www.nap.edu/catalog/10194.html.

California legislation recently signed into law requires OEHHA to adopt a Public Health Goal for arsenic in drinking water by the end of 2002 and requires DHS to adopt a revised Primary MCL for arsenic no later than 30 June 2004. OEHHA is already in the process of preparing the draft PHG, which will consider the same epidemiologic studies cited in the NRC report. The high cancer potency from

[1] The USEPA Integrated Risk Information System (IRIS) database contains a reference dose for non-cancer health effects from Cr VI, which is equivalent to 21 ug/L in drinking water.

these studies "yields a 1-in-a-million risk level in the low part per trillion range," according to Dr. Robert Howd, Chief of the Water Toxicology Unit of OEHHA. "Protection against all other effects (particularly stroke, heart disease, and hypertension), including an adequate margin of safety, requires a level in the low part per billion range. It should be noted that the arsenic level which would be protective against cancer is far below the limit of detection, which is about three parts per billion." The new PHG and the new drinking water standard adopted by USEPA will be factored into the development of the revised California drinking water standard by DHS.

Cancer Risk Level for Quinoline

In September, USEPA published new toxicologic criteria for the chemical quinoline in the Integrated Risk Information System (IRIS) database. The one-in-a-million incremental cancer risk level for quinoline in drinking water is 0.01 ug/L. Quinoline is a derivative of coal tar that is used in medicine and chemical manufacture. IRIS may be viewed on the internet at www.epa.gov/iris/.

Cancer Risk Level for Chloroform

In October, USEPA published new toxicologic information on chloroform in IRIS. Chloroform is one of the trihalomethanes formed when raw water containing organic matter is chlorinated to remove pathogens. USEPA has deleted the one-in-a-million incremental cancer risk level for chloroform from IRIS, based on new information regarding the mode of action for cancer from chloroform exposure. USEPA now considers the reference dose (RfD) for noncancer health effects from chloroform of 70 ug/L to be adequately protective of public health for cancer effects by the oral route because the mode of action for both cancer and noncancer health effects appears to be cytotoxicity — general toxicity to cells. This causes the dose-response relationship for cancer to have a threshold, below which cancer is not expected to occur. The RfD appears to be significantly below this cancer risk threshold.

New and Revised Drinking Water Action Levels

In August, DHS published a new toxicity-based Action Level for the solvent carbon disulfide of 160 ug/L. At the same time, the Action Level for vanadium was revised to 50 ug/L to account for data suggesting that a greater proportion of potential vanadium exposure for California residents comes from drinking water, as compared with other sources such as food. Action Levels are health-based advisory levels for chemicals that do not yet have primary Maximum Contaminant Levels (MCLs). More information on Action Levels may be found on DHS' web site at www.dhs.ca.gov/ps/ddwem/chemicals/AL/actionlevels.htm.

IRIS criteria, Action Levels and other toxicologic limits may be used to evaluate compliance with narrative water quality objectives for Toxicity in the Basin Plans, as these objectives relate to beneficial uses involving human exposures (e.g., municipal and domestic supply or "MUN"). Therefore, ambient groundwater or surface water with chemical concentrations above these criteria could be interpreted as violating water quality objectives if the waters are designated MUN.

Selecting Among Available Numerical Limits

The text *Selecting Water Quality Goals* at the beginning of the *Water Quality Goals* report provides information on how numerical limits may be used to implement narrative water quality objectives. However, it appears that many persons still have trouble selecting appropriate limits. The San Francisco Bay Regional Board has developed a manual of Risk Based Screening Levels for soil and water to guide

the assessment of contaminated sites. That manual uses default rules or algorithms for selecting among numerical limits. Such algorithms may also help users of the *Water Quality Goals* report. The following concepts should guide the derivation of such algorithms.

To be defensible, selected limits should be chosen so as to implement all applicable water quality objectives in the appropriate Basin Plan. For each constituent, the process involves three steps:

1) Select a single numerical limit to satisfy each water quality objective or portion thereof.
2) Select the lowest of the numerical limits from step (1).
3) Select the larger of
   a) the numerical limit chosen in step (2) and
   b) the natural background level of the constituent.[2]

These steps should provide a water quality numerical limit which if equaled or exceeded in ambient water, indicates that pollution has occurred. This is the least stringent limit below which ambient water would be in compliance with applicable water quality standards. It should be noted that antidegradation policies may require that more stringent limits be applied to ambient water quality, where the natural background level was not selected in step (3) above.

In step (1), with respect to toxicity information, there is a preference for:

- Purely risk-based limits over risk-management based limits, unless the water quality objective mandates the use of a risk-management based limit (e.g., the Chemical Constituent objectives mandates compliance with California Primary and Secondary MCLs);
- Limits developed and/or published by California agencies over those developed by federal agencies or other organizations (to be consistent with regulatory actions of our sister agencies);
- Limits that reflect peer reviewed science (avoid using draft or provisional limits, unless nothing else is available);
- Limits that reflect current science (e.g., IRIS numbers over USEPA health advisories).

Avoid using Proposition 65 limits. These limits are in conflict with other health-based limits in drinking water in California (i.e., PHGs and other health-based criteria from which MCLs are derived). The intent of Proposition 65 is to do two things:

- Provide warnings to persons prior to significant exposure to carcinogens and reproductive toxicants, and
- Prohibit significant discharges of these chemicals into sources of drinking water.

The intent of Proposition 65 is not to designate "safe" levels of these chemicals in drinking water. Other programs exist in California for that purpose, including the Public Health Goal program.

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[2] For the NPDES program and for other situations where it is not clear that background conditions represent true "natural background" (i.e., conditions have not been influenced by controllable water quality factors), the limit chosen in step (2) should be imposed even where background levels are less stringent. According to the SWRCB *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP), the water quality objective becomes the effluent limit in such cases. In SIP Section 1.4, Calculation of Effluent Limitations, Step 2 (page 6), when the water quality criterion (C), is less than the background concentration (B), then the effluent limit (ECA) is set at the criterion (C), not at the background concentration (B).

The general guidance above may be used to generate algorithms to help in selecting the most appropriate water quality numerical limits. Because some limits for groundwater and surface water differ significantly, separate algorithms are presented below.

An Algorithm for Groundwater

For chemicals in groundwater, the following water quality objectives and applicable numerical limits normally apply:

- Chemical Constituents Objective *(each of the following apply separately)*
  - California Primary and Secondary MCLs *(lowest of these)*
  - Numerical water quality objective from the Basin Plan
  - Concentrations that indicate impairment of any beneficial use
    - Agricultural use protective limits
- Toxicity Objective
  - Purely human health-risk based limits, *normally in the following hierarchy*
    - OEHHA Public Health Goal
    - Cal/EPA cancer potency factor at the one-in-a-million risk level
    - California State Action Level based on toxicity
    - USEPA IRIS criteria, *select the lowest of*
      - one-in-a-million cancer risk estimate
      - reference dose
    - USEPA Health Advisory, *select the lowest of*
      - one-in-a-million cancer risk estimate
      - lifetime non-cancer limit
    - USEPA MCL Goals *(non-zero values only)*
    - Other health-risk based limits *(check dates and basis before using these)*
      - National Academy of Sciences criteria
        - one-in-a-million cancer risk estimate
        - drinking water health advisory
      - Proposition 65 levels
- Tastes and Odors Objective
  - Taste- and odor-based limits, *normally in the following hierarchy*
    - California Secondary MCL
    - California State Action Level based on taste & odor

- Federal Secondary MCL
- USEPA National Ambient Water Quality Criterion based on taste & odor *(do not use if limit is based on tainting of fish flesh)*
- Other taste & odor thresholds from the peer reviewed literature

First, select one limit for each of the items above that begin with an arrow (➢). Second, take the lowest of those limits. The result should be a limit that applies all applicable water quality objectives. (Note: Natural background levels and antidegradation policies may modify this selection.) See also *A Note of Caution*, below.

An Algorithm for Inland and Estuarine Surface Waters

Different numerical limits apply to surface waters. Additional beneficial uses – for example, those that protect aquatic life – normally apply. There are additional constraints on surface water standards than on groundwater standards. The California Toxics Rule (CTR) and National Toxics Rule (NTR) contain promulgated and enforceable numerical limits for California inland and estuarine surface waters. CTR and NTR criteria preempt our interpretation of the narrative water quality objectives with respect to the toxicity of chemicals to humans and aquatic life. For example, if the CTR contains a human health protective criterion for the chemical of interest, it has precedence over the use of the Public Health Goal to interpret the narrative Toxicity objective with respect to human health protection. Likewise, if the CTR includes an aquatic life protective criterion, it supersedes any USEPA recommended aquatic life criteria for the same chemical, even if the latter are newer or more stringent numbers. The CTR/NTR constraint does not apply to groundwater. In addition, the CTR, NTR and USEPA Recommended Ambient Water Quality Criteria for human health protection should not be applied to groundwater, because they are derived assuming exposure through consumption of both water and fish/shellfish.

- ❖ California Toxics Rule and National Toxics Rule
  - ➢ Criteria for human health protection *(use criteria for drinking water sources, consumption of water plus aquatic organisms, unless the MUN beneficial use has specifically been de-listed for the water body)*
  - ➢ Criteria for aquatic life protection *(use the criterion with the longest averaging period unless more frequent sampling justifies using criteria with shorter averaging periods)*
- ❖ Chemical Constituents Objective *(each of the following apply separately)*
  - ➢ California Primary and Secondary MCLs *(lowest of these)*
  - ➢ Numerical water quality objective from the Basin Plan *(may supercede CTR or NTR criteria if approved by USEPA)*
  - ➢ Concentrations that indicate impairment of any designated beneficial use
    - Agricultural use protective limits

- Toxicity Objective
  - Purely human health-risk based limits, *normally in the following hierarchy (applies only if there are no CTR or NTR criteria for human health protection)*
    - OEHHA Public Health Goal
    - Cal/EPA cancer potency factor at the one-in-a-million risk level
    - California State Action Level based on toxicity
    - USEPA IRIS criteria, *select the lowest of*
      - one-in-a-million cancer risk estimate
      - reference dose
    - USEPA Health Advisory, *select the lowest of*
      - one-in-a-million cancer risk estimate
      - lifetime non-cancer limit
    - USEPA MCL Goals *(non-zero values only)*
    - Other health-risk based limits *(check dates and basis before using these)*
      - National Academy of Sciences criteria
        - one-in-a-million cancer risk estimate
        - drinking water health advisory
      - Proposition 65 levels
  - Aquatic life protective limits, normally in the following hierarchy *(applies only if there are no CTR or NTR criteria for aquatic life protection)*
    - California Department of Fish and Game criteria *(use the criterion with the longest averaging period unless more frequent sampling justifies using criteria with shorter averaging periods)*
    - USEPA Recommended Ambient Water Quality Criteria *(use the criterion with the longest averaging period unless more frequent sampling justifies using criteria with shorter averaging periods)*
- Tastes and Odors Objective
  - Taste- and odor-based limits, normally in the following hierarchy
    - California Secondary MCL
    - California State Action Level based on taste & odor
    - Federal Secondary MCL
    - USEPA National Ambient Water Quality Criterion based on taste & odor
    - other taste & odor thresholds from the peer reviewed literature

First, select one limit for each of the items above that begin with an arrow (➢). Second, take the lowest of those limits. The result should be a limit that applies all applicable water quality objectives. (Note: Natural background levels and antidegradation policies may modify this selection.)

A Note of Caution

Automatically selecting numerical limits by algorithm will not always generate the most appropriate limit. If specific beneficial uses do not apply, then limits protective of those uses should not be considered. It may make sense to deviate from the hierarchies listed above in specific cases. We may have information that certain numerical limits are outdated or are in dispute (see the discussion of PHGs for chromium, above). For example, boron has a DHS Action Level of 1000 ug/L and a reference dose from IRIS equal to 630 ug/L in drinking water. Normally, we would prefer using a California number over one from USEPA. However, the Action Level list from DHS cites the reference dose from IRIS as its source of the toxicologic information. Included is a note that DHS simply "rounded off" the value from 0.6 to 1 mg/L. This manner of rounding appears to defy logic. Perhaps a risk-management decision prevented the Action Level from being set at the toxicity -based level. In any case, the IRIS reference dose is more precise. So, for boron I would recommend using the IRIS reference dose instead of the DHS Action Level to implement the narrative Toxicity objective. What this example shows is that, while an algorithm may be a good place to begin the selection process, other information may need to be brought to bear on the final selection of water quality numerical limits.

Disclaimer

The recommended procedures discussed herein are not, nor intended to be Board policy, but rather an explanation of the staff practice of interpreting and applying standards and criteria for use in the Board's programs for water quality protection.

Updating Your Copy of *Water Quality Goals*

Please make the following changes to your copy of *A Compilation of Water Quality Goals,* August 2000 edition, to reflect the new information discussed above:

Inorganics Page 1

Carbon disulfide: Add entry of "160" for California State Action Level – Toxicity.

Nickel: Change the California Public Health Goal entry to read "12" and delete the footnote.

Chromium (III): Delete the California Public Health Goal entry.

Chromium (VI): Delete the California Public Health Goal entry.

Chromium (total): Delete the California Public Health Goal entry of 2.5, leaving the footnote "(134)".

Inorganics Page 2

Chromium (VI): Delete the entry for Cal/EPA Cancer Potency Factor and replace it with the footnote "(134)".

Inorganics Page 7

Uranium: Change the California Public Health Goal entry to read "0.5 ug/L = 0.43 pCi/L (162)".

Vanadium: Change the California State Action Levels – Toxicity to read "50".

Organics Page 14

Chloroform: Add entry of "70(108)" for IRIS Reference Dose. Delete the entry for One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water - USEPA Integrated Risk Information System (IRIS) and change the footnote to read "(B2,108)."

Organics Page 73

Simazine: Change the California Public Health Goal entry to read "4" and delete the footnote.

Tetrachloroethylene (PCE): Change the California Public Health Goal entry to read "0.06" and delete the footnote.

Organics Page 74

Add a new line for Quinoline and an entry of "0.01" under One-in-a-Million Incremental Cancer Risk Estimates for Drinking Water - USEPA Integrated Risk Information System (IRIS).

Footnotes Page 2

(108): Change this footnote to read "The reference dose (RfD) for noncancer health effects is also considered adequately protective of public health for cancer by the oral route of exposure, on the basis of the nonlinear dose response for this chemical and the mode of action for both cancer and noncancer effects having a common link through cytotoxicity."

(134): Change this footnote to read "Withdrawn."

Add footnote (162) that reads "For natural uranium."

Please contact me by phone at (916) 255-3123 or CalNet 8-494-3123 or by e-mail at marshaj@rb5s.swrcb.ca.gov if you have questions or comments on the information presented herein.

cc: Frances McChesney, Catherine George, and Emma Suarez, Office of the Chief Counsel, SWRCB

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