

# Material Safety Data Sheet

## Cyclohexanol

ACC# 00499

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Cyclohexanol**Catalog Numbers:** AC147680000, AC147680010, AC147680025, AC147680050, AC147680200, AC147685000, C558-500**Synonyms:** Adronal; Cyclohexyl alcohol; Hexalin; Hexahydrophenol; Hydroxycyclohexane.**Company Identification:**

Fisher Scientific  
1 Reagent Lane  
Fair Lawn, NJ 07410

**For information, call:** 201-796-7100**Emergency Number:** 201-796-7100**For CHEMTREC assistance, call:** 800-424-9300**For International CHEMTREC assistance, call:** 703-527-3887

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
108-93-0	Cyclohexanol	98	203-630-6

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: after melting, clear colorless low melting solid. Flash Point: 67 deg C.

**Warning!** Causes eye, skin, and respiratory tract irritation. Harmful if inhaled or swallowed.

**Combustible liquid and vapor.** Hygroscopic (absorbs moisture from the air).

**Target Organs:** Blood, kidneys, central nervous system, liver, respiratory system, eyes, skin.

#### Potential Health Effects

**Eye:** Causes eye irritation. Instilled into the eye of the rabbit, moderately severe irritation and corneal injury, which was reversible, occurred. (Doc of TLV)

**Skin:** Causes skin irritation. May be harmful if absorbed through the skin. In a 48-hour closed patch test using 4% cyclohexanol in petrolatum, there was evidence of erythema or edema in human subjects. Dermal toxicity data from animals indicate that a Skin notation is appropriate to minimize the potential for skin irritation as well as dermal absorption leading to central nervous system effects. (Doc of TLV)

**Ingestion:** Harmful if swallowed. May cause irritation of the digestive tract.

**Inhalation:** Harmful if inhaled. Causes respiratory tract irritation.

**Chronic:** May cause liver and kidney damage. Adverse reproductive effects have been reported in

animals. Laboratory experiments have resulted in mutagenic effects. Chronic exposure may cause blood effects. Exposure to high concentrations may cause central nervous system depression.

## Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

**Skin:** Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

**Ingestion:** Do not induce vomiting. Get medical aid immediately. Call a poison control center.

**Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

**Notes to Physician:** Treat symptomatically and supportively.

## Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Will burn if involved in a fire. Containers may explode in the heat of a fire. Combustible liquid and vapor.

**Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or chemical foam.

**Flash Point:** 67 deg C ( 152.60 deg F)

**Autoignition Temperature:** 300 deg C ( 572.00 deg F)

**Explosion Limits, Lower:** 1.2 vol %

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 2; Flammability: 2; Instability: 1

## Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Remove all sources of ignition. Use a spark-proof tool. Do not let this chemical enter the environment.

## Section 7 - Handling and Storage

**Handling:** Use spark-proof tools and explosion proof equipment. Do not get in eyes, on skin, or on clothing. Keep away from heat, sparks and flame. Do not ingest or inhale. Use only in a chemical fume hood.

**Storage:** Keep away from sources of ignition. Store in a cool, dry place. Store in a tightly closed container.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Cyclohexanol	50 ppm TWA; Skin - potential significant contribution to overall exposure by the cutaneous route	50 ppm TWA; 200 mg/m <sup>3</sup> TWA 400 ppm IDLH	50 ppm TWA; 200 mg/m <sup>3</sup> TWA

**OSHA Vacated PELs:** Cyclohexanol: 50 ppm TWA; 200 mg/m<sup>3</sup> TWA

### Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

## Section 9 - Physical and Chemical Properties

**Physical State:** Low melting solid

**Appearance:** after melting, clear colorless

**Odor:** camphor

**pH:** 6.5 (40 g/L aq.sol.(20°C))

**Vapor Pressure:** 1.3 mbar @ 20 deg C

**Vapor Density:** 3.46 (air=1)

**Evaporation Rate:**0.08 (n-butyl acetate=1)

**Viscosity:** Not available.

**Boiling Point:** 161 deg C @ 760 mmHg

**Freezing/Melting Point:**23 deg C

**Decomposition Temperature:**Not available.

**Solubility:** 3.6 g/100mL (20°C)

**Specific Gravity/Density:**0.960

**Molecular Formula:**C<sub>6</sub>H<sub>12</sub>O

**Molecular Weight:**100.16

## Section 10 - Stability and Reactivity

**Chemical Stability:** Hygroscopic: absorbs moisture or water from the air.

**Conditions to Avoid:** Incompatible materials, ignition sources, excess heat, exposure to moist air or water.

**Incompatibilities with Other Materials:** Strong oxidizing agents, strong acids, strong bases, isocyanates, aliphatic amines.

**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide.

**Hazardous Polymerization:** Will not occur.

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 108-93-0: GV7875000

**LD50/LC50:**

CAS# 108-93-0:

Draize test, rabbit, eye: 100 uL/24H Moderate;

Draize test, rabbit, eye: 100 uL/24H Mild;

Draize test, rabbit, eye: 10 uL Moderate;

Draize test, rabbit, skin: 500 uL/24H Moderate;

Draize test, rabbit, skin: 500 uL/24H Mild;

Oral, rat: LD50 = 1400 mg/kg;

**Carcinogenicity:**

CAS# 108-93-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information found

**Teratogenicity:** No information found

**Reproductive Effects:** Adverse reproductive effects have occurred in experimental animals.

**Mutagenicity:** Mutagenic effects have occurred in humans.

**Neurotoxicity:** No information found

**Other Studies:**

## Section 12 - Ecological Information

**Ecotoxicity:** No data available. No information available.

**Environmental:** Will not bioconcentrate, highly mobile in soil.

**Physical:** No information available.

**Other:** Do not empty into drains.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

	<b>US DOT</b>	<b>Canada TDG</b>
<b>Shipping Name:</b>	Not regulated.	Not regulated.
<b>Hazard Class:</b>		
<b>UN Number:</b>		
<b>Packing Group:</b>		

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 108-93-0 is listed on the TSCA inventory.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

CAS# 108-93-0: 40 CFR 799.5115

#### Section 12b

CAS# 108-93-0: Section 4, 1 % de minimus concentration

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

#### CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

#### SARA Codes

CAS # 108-93-0: immediate, delayed, fire.

#### Section 313

This material contains Cyclohexanol (CAS# 108-93-0, 98%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

#### Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

#### Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

#### OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

#### STATE

CAS# 108-93-0 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

#### California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

### European/International Regulations

**European Labeling in Accordance with EC Directives****Hazard Symbols:**

XN

**Risk Phrases:**

R 20/22 Harmful by inhalation and if swallowed.

R 37/38 Irritating to respiratory system and skin.

**Safety Phrases:**

S 24/25 Avoid contact with skin and eyes.

**WGK (Water Danger/Protection)**

CAS# 108-93-0: 1

**Canada - DSL/NDSL**

CAS# 108-93-0 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of B3, D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

**Canadian Ingredient Disclosure List**

CAS# 108-93-0 is listed on the Canadian Ingredient Disclosure List.

<b>Section 16 - Additional Information</b>
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**MSDS Creation Date:** 12/19/1997**Revision #11 Date:** 3/05/2008

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