# 1. Identification

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Cyclohexanol (Reagent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat No.</td>
<td>C558-500</td>
</tr>
<tr>
<td>Synonyms</td>
<td>Hexalin; Adronal; Cyclohexyl alcohol</td>
</tr>
<tr>
<td>Recommended Use</td>
<td>Laboratory chemicals.</td>
</tr>
<tr>
<td>Uses advised against</td>
<td>No Information available</td>
</tr>
</tbody>
</table>

## 2. Hazard(s) identification

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquids</td>
<td>Category 4</td>
</tr>
<tr>
<td>Acute oral toxicity</td>
<td>Category 4</td>
</tr>
<tr>
<td>Acute Inhalation Toxicity - Vapors</td>
<td>Category 4</td>
</tr>
<tr>
<td>Skin Corrosion/irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Target Organs - Respiratory system</td>
<td></td>
</tr>
</tbody>
</table>

### Label Elements

**Signal Word**
- Warning

**Hazard Statements**
- Combustible liquid
Cyclohexanol (Reagent)  

Revision Date 18-Jul-2014

Harmful if swallowed  
Harmful if inhaled  
Causes skin irritation  
Causes serious eye irritation  
May cause respiratory irritation

Precautionary Statements
Prevention  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Wear protective gloves/protective clothing/eye protection/face protection  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
Keep cool

Inhalation  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
Call a POISON CENTER or doctor/physician if you feel unwell

Skin  
IF ON SKIN: Wash with plenty of soap and water  
If skin irritation occurs: Get medical advice/attention  
Take off contaminated clothing and wash before reuse

Eyes  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention

Ingestion  
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
Rinse mouth

Fire  
In case of fire: Use CO2, dry chemical, or foam for extinction

Storage  
Store in a well-ventilated place. Keep container tightly closed  
Store locked up

Disposal  
Dispose of contents/container to an approved waste disposal plant  
Hazards not otherwise classified (HNOC)  
None identified

3. Composition / information on ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexanol</td>
<td>108-93-0</td>
<td>98</td>
</tr>
</tbody>
</table>

4. First-aid measures

Eye Contact  
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Obtain medical attention.

Skin Contact  
Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Inhalation  
Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Obtain medical attention.
Ingestion
Do not induce vomiting. Obtain medical attention.

Most important symptoms/effects
Breathing difficulties. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

Notes to Physician
Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable Extinguishing Media
No information available

Flash Point
67 °C / 152.6 °F

Method
No information available

Autoignition Temperature
300 °C / 572 °F

Explosion Limits
Upper
No data available

Lower
1.2 vol %

Sensitivity to Mechanical Impact
No information available

Sensitivity to Static Discharge
No information available

Specific Hazards Arising from the Chemical
Combustible material. Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products
Carbon monoxide (CO) Carbon dioxide (CO₂)

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

Personal Precautions
Use personal protective equipment. Remove all sources of ignition. Avoid contact with skin, eyes and clothing.

Environmental Precautions
Avoid release to the environment. See Section 12 for additional ecological information.

Methods for Containment and Clean Up
Remove all sources of ignition. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling
Use only under a chemical fume hood. Use explosion-proof equipment. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition.

Storage
Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from heat and sources of ignition.

8. Exposure controls / personal protection

Exposure Guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexanol</td>
<td>TWA: 50 ppm Skin</td>
<td>(Vacated) TWA: 50 ppm Skin</td>
<td>IDLH: 400 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Vacated) TWA: 200 mg/m³ Skin</td>
<td>TWA: 50 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 200 mg/m³</td>
<td>TWA: 200 mg/m³</td>
</tr>
</tbody>
</table>
## 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Component</th>
<th>Quebec</th>
<th>Mexico OEL (TWA)</th>
<th>Ontario TWA/EV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexanol</td>
<td>TWA: 50 ppm</td>
<td>TWA: 50 ppm</td>
<td>TWA: 50 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA: 206 mg/m³ Skin</td>
<td>TWA: 200 mg/m³ Skin</td>
<td></td>
</tr>
</tbody>
</table>

### Legend

- **ACGIH** - American Conference of Governmental Industrial Hygienists
- **OSHA** - Occupational Safety and Health Administration
- **NIOSH IDLH** - The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

#### Engineered Measures

Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

#### Personal Protective Equipment

**Eye/face Protection**

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 and body protection**

Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection**

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

### Physical State

Liquid

### Appearance

Clear

### Odor

Strong

### Odor Threshold

No information available

### pH

6.5

### Melting Point/Range

23 °C / 73.4 °F

### Boiling Point/Range

161 °C / 321.8 °F @ 760 mmHg

### Flash Point

67 °C / 152.6 °F

### Evaporation Rate

No information available

### Flammability (solid, gas)

No information available

### Flammability or explosive limits

Upper

No data available

Lower

1.2 vol %

### Vapor Pressure

No information available

### Vapor Density

No information available

### Relative Density

0.960

### Solubility

No information available

### Partition coefficient; n-octanol/water

No data available

### Autoignition Temperature

300 °C / 572 °F

### Decomposition temperature

No information available

### Viscosity

No information available

### Molecular Formula

C₆ H₁₂ O

### Molecular Weight

100.16

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## 10. Stability and reactivity

### Reactive Hazard

None known, based on information available

### Stability

Hygroscopic.

### Conditions to Avoid

Incompatible products. Exposure to moisture. Keep away from open flames, hot surfaces and sources of ignition.

### Incompatible Materials

Strong oxidizing agents, Strong acids, Strong bases

### Hazardous Decomposition Products

Carbon monoxide (CO), Carbon dioxide (CO₂)

### Hazardous Polymerization

Hazardous polymerization does not occur.
11. Toxicological information

Acute Toxicity

Product Information  No acute toxicity information is available for this product
Component Information  Toxicologically Synergistic Products
  No information available
Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation
  Irritating to eyes, respiratory system and skin

Sensitization
  No information available

Carcinogenicity
  The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexanol</td>
<td>108-93-0</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects  Not mutagenic in AMES Test

Reproductive Effects  No information available.

Developmental Effects  No information available.

Teratogenicity  No information available.

STOT - single exposure
  Respiratory system

STOT - repeated exposure  None known

Aspiration hazard  No information available

Symptoms / effects, both acute and delayed  Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting delayed

Endocrine Disruptor Information  No information available

Other Adverse Effects  See actual entry in RTECS for complete information.

12. Ecological information

Ecotoxicity
  Do not empty into drains.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexanol</td>
<td>29.2 mg/L EC50 = 72 h 29 mg/L EC50 = 96 h</td>
<td>1100 mg/L LC50 96 h 1033 mg/L LC50 96 h 704 mg/L LC50 96 h</td>
<td>EC50 = 42.5 mg/L 10 min EC50 = 83 mg/L 5 min EC50 = 955 mg/L 17 h</td>
<td>578 mg/L EC50 = 24 h 500 mg/L EC50 &gt; 24 h</td>
</tr>
</tbody>
</table>

Persistence and Degradability  No information available

Bioaccumulation/ Accumulation  No information available.

Mobility  .

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexanol</td>
<td>1.25</td>
</tr>
</tbody>
</table>

13. Disposal considerations

Waste Disposal Methods  Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information
15. Regulatory information

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDLS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexanol</td>
<td>X</td>
<td>X</td>
<td></td>
<td>203-630-6</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b)

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA 12(b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexanol</td>
<td>Section 4</td>
</tr>
</tbody>
</table>

SARA 313

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexanol</td>
<td>108-93-0</td>
<td>98</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazardous Categorization

- Acute Health Hazard: Yes
- Chronic Health Hazard: No
- Fire Hazard: Yes
- Sudden Release of Pressure Hazard: No
- Reactive Hazard: No

Clean Water Act: Not applicable

Clean Air Act: Not applicable

OSHA Occupational Safety and Health Administration: Not applicable

CERCLA: Not applicable

California Proposition 65: This product does not contain any Proposition 65 chemicals

State Right-to-Know

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclohexanol</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. Department of Transportation

- Reportable Quantity (RQ): N
- DOT Marine Pollutant: N
- DOT Severe Marine Pollutant: N
U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade
No information available

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class
- B3  Combustible liquid
- D1B  Toxic materials
- D2B  Toxic materials

16. Other information

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date
18-Jul-2014
Revision Date
18-Jul-2014
Print Date
18-Jul-2014
Revision Summary
This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Disclaimer
The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of SDS