

Safety Data Sheet

Cyclohexane ACS

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Cyclohexane ACS

Synonyms/Generic Names: Hexahydro-benzene, Hexamethylene, Hexanaphthene

Product Number: 1750

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI. 53925

For More Information Call: 920-623-2140 (Monday-Friday 8:00-4:30)

In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

OSHA Hazards: Flammable liquid, Irritant

Target Organs: Lungs, Central Nervous System

Signal Words: Danger

Pictograms:



GHS Classification:

Flammable liquids	Category 2
Skin irritation	Category 2
Serious eye damage/eye irritation	Category 2B
Specific target organ toxicity-single exposure	Category 3
Aspiration hazard	Category 1
Acute aquatic toxicity	Category 1

GHS Label Elements, including precautionary statements:

Hazard Statements:

H225	Highly flammable liquid and vapor.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H320	Causes eye irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.

Precautionary Statements:

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P240	Ground/Bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331	Do NOT induce vomiting.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P370+P378	In case of fire: Use appropriate media to extinguish.
P391	Collect spillage.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local regulations.

Potential Health Effects

Eyes	Causes eye irritation.
Inhalation	May be harmful if inhaled. Causes respiratory tract irritation. Vapors may cause drowsiness and dizziness.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Ingestion	May be harmful if swallowed. Aspiration hazard if swallowed – can enter lungs and cause damage.

NFPA Ratings

Health	3
Flammability	3
Reactivity	0
Specific hazard	Not Available

HMIS Ratings

Health	3
Fire	3
Reactivity	0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Cyclohexane	>99	110-82-7	203-806-2	C ₆ H ₁₂	84.16 g/mol

4. FIRST-AID MEASURES

Eyes	Rinse with plenty of water for at least 15 minutes and seek medical attention.
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Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention.
Ingestion	Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Product is flammable. Use dry chemical, alcohol-resistant foam, or carbon dioxide to extinguish fire. Use appropriate media for adjacent fire. Cool containers with water.
Special protective equipment and precautions for firefighters	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
Specific hazards arising from the chemical	Emits toxic fumes (carbon oxides) under fire conditions. (See also Stability and Reactivity section).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Neutralize spill. Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation and avoid inhalation of vapors/mists. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of aerosols. Keep away from sources of ignition.

Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls:

Component	Exposure Limits	Basis	Entity
Cyclohexane	100 ppm 344 mg/m ³	TLV	NIOSH
	300 ppm 1050 mg/m ³	PEL	OSHA
	300 ppm	REL	ACGIH

	1050 mg/m ³		
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TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

Personal Protection

Eyes	Wear chemical safety glasses or goggles. Use face shield if splashing is likely to occur.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear nitrile or rubber gloves, apron or lab coat. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Other	Not Available

Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Clear, colorless liquid.
Odor	Mildly sweet odor.
Odor threshold	25 ppm
pH	Not Available
Melting point/freezing point	7.0 °C (44.6°F)
Initial boiling point and boiling range	82°C (179.6°F)
Flash point (Closed cup)	-20 °C (-4.0°F)
Evaporation rate	Not Available
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limit	LEL: 1% (v/v) UEL: 9% (v/v)
Vapor pressure	102.7 hPa (68°F (20°C))
Vapor density	2.9
Relative Density	0.779 (77°F (25°C))
Solubility (ies)	Insoluble (water)
Partition coefficient: n-octanol/water	log Pow: 3.44
Auto-ignition temperature	245°C (473°F)
Decomposition temperature	Not Available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Heat, flames, sparks. Extremes of temperature and direct sunlight.
Incompatible Materials	Strong oxidizing agents.
Hazardous Decomposition Products	Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Cyclohexane

Skin	LD50 – Rabbit - >2,000 mg/kg
Eyes	LC50 – Rat – 34,000 mg/L – 4h
Respiratory	Not Available
Ingestion	LD50 – Rat – 12,705 mg/kg

Carcinogenicity

IARC	No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs & Symptoms of Exposure

Skin	Irritation, redness, itching.
Eyes	Irritation, redness, watering eyes.
Respiratory	Not a respiratory sensitizer
Ingestion	Nausea, vomiting, diarrhea, dizziness, drowsiness.

Chronic Toxicity	Drying, cracking of exposed skin. Damage to specific organs.
Teratogenicity	Not Available
Mutagenicity	Not Available
Embryotoxicity	Not Available
Specific Target Organ Toxicity	May be fatal if swallowed and enters airways.
Reproductive Toxicity	Not Available
Respiratory/Skin Sensitization	Not Available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Cyclohexane

Aquatic Vertebrate	LC50 - Pimephales promelas (fathead minnow) - 4.53 mg/l - 96 h
Aquatic Invertebrate	EC50 - Daphnia magna (Water flea) - 0.9 mg/l - 48 h
Terrestrial	Not Available
Algae	EC50 - Pseudokirchneriella subcapitata (green algae) - 3.4 mg/l - 72 h

Persistence and Degradability	Not readily biodegradable.
Bioaccumulative Potential	Not Available
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Very toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

Waste Product or Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residue.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

US DOT	UN1145, Cyclohexane, 3, pg II
TDG	UN1145, CYCLOHEXANE, 3, pg II
IMDG	UN1145, CYCLOHEXANE, 3, pg II
Marine Pollutant	No
IATA/ICAO	UN1145, Cyclohexane, 3, pg II

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA Active inventory.
DSL / NDSL	All ingredients are listed on the DSCL inventory.
California Proposition 65	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Fire Hazard, Acute Health Hazard
SARA 312	Fire Hazard, Acute Health Hazard
SARA 313	Listed: Cyclohexane
WHMIS Canada	Class B2: Flammable and combustible liquid- Flammable liquid Class D2B: Poisonous and infectious material- Other effects- Toxic

16. OTHER INFORMATION

Revision	Date
Revision 1	07/13/2012
Revision 2	08/16/2013
Revision 3	02/18/2015
Revision 4	03/26/2020

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