

CYCLOHEXANONE 20157

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Ashland	Regulatory Information Number	1-800-325-3751
P.O. Box 2219	Telephone	614-790-3333
Columbus, OH 43216	Emergency telephone	1-800-ASHLAND (1-800-274-5263)

Product name	CYCLOHEXANONE
Product code	20157
Product Use Description	No data

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: liquid,, colourless

WARNING! COMBUSTIBLE LIQUID AND VAPOR. MAY AFFECT THE CENTRAL NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. MAY BE HARMFUL IF INHALED. ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. MAY BE HARMFUL IF SWALLOWED. CAUSES EYE IRRITATION. MAY CAUSE SKIN AND RESPIRATORY TRACT IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE DERMATITIS AND BURNS. HARMFUL IF ABSORBED THROUGH THE SKIN.

Potential Health Effects

Exposure routes

Inhalation, Skin absorption, Skin contact, Eye Contact, Ingestion

Eye contact

Can cause severe eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes. Can injure eye tissue.

Skin contact

Can cause skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, and drying and cracking of skin, burns and other skin damage. Passage of this material into the body through the skin is possible, and may add to toxic effects from breathing or swallowing.

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Ingestion

Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. This material can get into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.

Inhalation

Breathing of vapor or mist is possible. Breathing this material may be harmful. Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8.).

Aggravated Medical Condition

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: Skin, lung (for example, asthma-like conditions), Liver, kidney

Symptoms

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness), respiratory depression (slowing of the breathing rate), respiratory failure

Target Organs

Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals: kidney damage, liver damage

Carcinogenicity

This material is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA).

Reproductive hazard

This material (or a component) has been shown to cause harm to the fetus in laboratory animal studies. The relevance of these findings to humans is uncertain.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Concentration
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Components	CAS-No.	Concentration
CYCLOHEXANONE	108-94-1	<=100%

4. FIRST AID MEASURES**Eyes**

If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

Skin

Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

Ingestion

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Inhalation

If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen.

Notes to physician

Hazards: This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity (See Section 2 - Swallowing) when deciding whether to induce vomiting.

Treatment: No information available.

5. FIRE-FIGHTING MEASURES**Suitable extinguishing media**

Dry chemical, Alcohol-resistant foam, Carbon dioxide (CO₂)

Hazardous combustion products

May form: carbon dioxide and carbon monoxide

Precautions for fire-fighting

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If product is heated above its flash point it will produce vapors sufficient to support combustion. Vapors are heavier than air and may travel along the ground and be ignited by heat, pilot lights, other flames and ignition sources at locations near the point of release. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA).

Flammability Class for Flammable Liquids

Combustible Liquid Class II

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

For personal protection see section 8. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for disposal.

Environmental precautions

Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

Methods for cleaning up

Absorb liquid on vermiculite, floor absorbent or other absorbent material.

7. HANDLING AND STORAGE

Handling

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Static ignition hazard can result from handling and use. Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Special precautions may be necessary to dissipate static electricity for non-conductive containers. Use proper bonding and grounding during product transfer as described in National Fire Protection Association document NFPA 77. Warning. Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition

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sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions.

Storage

Store in a cool, dry, ventilated area away from sources of heat, moisture, and incompatible substances.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Exposure Guidelines**

CYCLOHEXANONE		108-94-1
ACGIH	time weighted average	20 ppm
ACGIH	Short term exposure limit	50 ppm
NIOSH	Recommended exposure limit	25 ppm
	(REL):	
NIOSH	Recommended exposure limit	100 mg/m ³
	(REL):	
OSHA Z1	Permissible exposure limit	50 ppm
OSHA Z1	Permissible exposure limit	200 mg/m ³

General advice

These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

Exposure controls

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Eye protection

Chemical splash goggles and face shield (8" min.) in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. (Consult your industrial hygienist.)

Skin and body protection

Wear resistant gloves (consult your safety equipment supplier). To prevent skin contact, wear impervious clothing and boots.

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Respiratory protection

If workplace exposure limit(s) of product or any component is exceeded (see exposure guidelines), a NIOSH-approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH respirators (negative pressure type) under specified conditions (see your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid
Form	liquid
Colour	colourless
Odour	acetone-like, mint-like
Boiling point/boiling range	155.60 °C / 312.1 °F @ 760.00 mmHg
Melting point/range	-24 °F / -31 °C
pH	No data
Flash point	110.98 °F / 43.88 °C, Closed Cup
Evaporation rate	0.38 (n-Butyl Acetate)
Explosion limits	1.1 %(V) 9.4 %(V)
Vapour pressure	0.66 kPa @ 79.5 °F / 26.4 °C
Vapour density	3.4 (AIR=1)
Density	(+/- 0.01) 0.9475 g/cm ³ @ 68 °F / 20 °C 7.88 lb/gal @ 68 °F / 20 °C
Solubility	slightly soluble in water
Partition coefficient: n-octanol/water	No data
log Pow	0.81
Autoignition temperature	788 °F / 420 °C

10. STABILITY AND REACTIVITY**Stability**

Stable.

Conditions to avoid

None known.

Incompatible products

Avoid contact with:, Strong acids, strong bases, Strong oxidizing agents

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Hazardous decomposition products

carbon dioxide and carbon monoxide

Hazardous reactions

Product will not undergo hazardous polymerization.

Thermal decomposition

No data

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity

CYCLOHEXANONE	LD 50 Rat: 1,535 mg/kg
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Acute inhalation toxicity

CYCLOHEXANONE	LC 50 Rat: 8000 ppm, 4 h
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Acute dermal toxicity

CYCLOHEXANONE	LD 50 Rabbit: 948 mg/kg
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12. ECOLOGICAL INFORMATION

Aquatic toxicity

Acute and Prolonged Toxicity to Fish

No data

Acute Toxicity to Aquatic Invertebrates

No data

Environmental fate and pathways

No data

13. DISPOSAL CONSIDERATIONS

Waste disposal methods

Dispose of in accordance with all applicable local, state and federal regulations.
For assistance with your waste management needs - including disposal, recycling and

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waste stream reduction, contact Ashland Distribution's Environmental Services Group at 800-637-7922.

14. TRANSPORT INFORMATION

MDG :
UN1915, CYCLOHEXANONE (CYCLOHEXANONE,) 3, III
ATA_P :
UN1915, Cyclohexanone (CYCLOHEXANONE,) 3, III
ATA_C :
UN1915, Cyclohexanone (CYCLOHEXANONE,) 3, III
CFR_ROAD :
UN1915, Cyclohexanone (CYCLOHEXANONE,) 3, III
CFR_RAIL :
UN1915, Cyclohexanone (CYCLOHEXANONE,) 3, III
CFR_INTR :
UN1915, Cyclohexanone (CYCLOHEXANONE,) 3, III
MDG_ROAD :
UN1915, CYCLOHEXANONE (CYCLOHEXANONE,) 3, III
MDG_RAIL :
UN1915, CYCLOHEXANONE (CYCLOHEXANONE,) 3, III

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

15. REGULATORY INFORMATION

California Prop. 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

SARA Hazard Classification Fire Hazard
 Acute Health Hazard
 Chronic Health Hazard

Reportable quantity - Product

ASHLAND
SAFETY DATA SHEET

Page: 9
Revision Date: 11/12/2009
Print Date: 1/11/2011
MSDS Number: R0000746
Version: 1.7

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US. EPA CERCLA Hazardous Substances (40 CFR 302)

5000 lbs

Reportable quantity - Components

CYCLOHEXANONE

108-94-1

5000 lbs

	Health	Flammability	Reactivity	Other
HMIS	2	2	0	
NFPA	1	2	0	

16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).