

**Cyclohexane (BDH1111-19L, BDH1111-204L, BDH1111-4LG)**

Version 1

Revision Date 03/23/2009

Print Date 01/13/2011

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Cyclohexane (BDH1111-19L, BDH1111-204L, BDH1111-4LG)  
MSDS Number : 000000011713  
Product Use Description : Solvent

Manufacturer : Honeywell  
1953 South Harvey Street  
Muskegon, MI 49442

Manufactured for : VWR International LLC  
1310 Goshen Parkway  
West Chester, PA 19380

For more information call : (Monday-Friday, 8.00am-5:00pm)  
1-800-932-5000

In case of emergency call : (24 hours/day, 7 days/week)  
1-800-424-9300(USA Only)  
**For Transportation Emergencies:**  
1-800-424-9300 (CHEMTREC - Domestic)  
1-613-966-6666 (CANUTEC - Canada)

**SECTION 2. HAZARDS IDENTIFICATION****Emergency Overview**

Form : liquid, clear

Color : colourless

Odor : mild sweet

Hazard Summary : Extremely flammable. In use, may form flammable/explosive vapour-air mixture. Aspiration hazard if swallowed - can enter lungs and cause damage. May be harmful if inhaled. Irritating to eyes, respiratory system and skin. May cause irritation of the gastrointestinal tract. Repeated exposure may cause skin dryness or cracking.

**Potential Health Effects**

Skin : Irritating to skin.  
Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering.


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- Eyes** : Irritating to eyes.  
Causes itching, burning, redness and tearing.
- Ingestion** : Aspiration hazard if swallowed - can enter lungs and cause damage.  
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
- Inhalation** : Causes respiratory tract irritation.  
Causes headache, drowsiness or other effects to the central nervous system.  
Vapours may cause drowsiness and dizziness.  
Inhalation of high vapour concentrations can cause CNS-depression and narcosis.  
High concentration of vapours may induce unconsciousness.
- Chronic Exposure** : Repeated and prolonged exposure to solvents may cause brain and nervous system damage.  
Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering.
- Aggravated Medical Condition** : Eye disorders  
Skin disorders  
Respiratory disorders  
Neurological disorders
- Target Organs** : Eyes  
Skin  
Respiratory system  
Central nervous system

**Carcinogenicity**

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS-No.	Weight %
Cyclohexane	110-82-7	100.00

**SECTION 4. FIRST AID MEASURES**

- Inhalation** : Remove to fresh air. If not breathing, give artificial respiration.  
If breathing is difficult, give oxygen. Use oxygen as required,


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- provided a qualified operator is present. Call a physician.
- Skin contact** : Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician.
- Eye contact** : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician.
- Ingestion** : Do not induce vomiting without medical advice. If a person vomits when lying on his back, place him in the recovery position. Never give anything by mouth to an unconscious person. Call a physician.

**Notes to physician**

- Treatment** : Treat symptomatically.

**SECTION 5. FIRE-FIGHTING MEASURES**

- Flash point** : -20 °C (-4 °F)  
closed cup
- Ignition temperature** : 245 °C (473 °F)
- Lower explosion limit** : 1.3 %(V)
- Upper explosion limit** : 8.4 %(V)
- Suitable extinguishing media** : Carbon dioxide (CO<sub>2</sub>)  
Dry chemical  
Foam  
Cool closed containers exposed to fire with water spray.
- Extinguishing media which shall not be used for safety reasons** : Do not use a solid water stream as it may scatter and spread fire.
- Specific hazards during fire fighting** : Extremely flammable.  
Vapours may form explosive mixtures with air.  
Vapours are heavier than air and may spread along floors.  
Vapors may travel to areas away from work site before igniting/flashing back to vapor source.  
In case of fire hazardous decomposition products may be produced such as:  
Carbon monoxide




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Carbon dioxide (CO<sub>2</sub>)

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus and protective suit.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions : Wear personal protective equipment. Unprotected persons must be kept away.  
Immediately evacuate personnel to safe areas.  
Keep people away from and upwind of spill/leak.  
Ensure adequate ventilation.  
Remove all sources of ignition.  
Do not swallow.  
Avoid breathing vapors, mist or gas.  
Avoid contact with skin, eyes and clothing.
- Environmental precautions : Prevent further leakage or spillage if safe to do so.  
Discharge into the environment must be avoided.  
Do not flush into surface water or sanitary sewer system.  
Prevent product from entering drains.  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Methods for cleaning up : Ventilate the area.  
No sparking tools should be used.  
Use explosion-proof equipment.  
Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13).

**SECTION 7. HANDLING AND STORAGE**
**Handling**

- Handling : Wear personal protective equipment.  
Use only in well-ventilated areas.  
Keep container tightly closed.  
Do not smoke.  
Do not swallow.  
Avoid breathing vapors, mist or gas.  
Avoid contact with skin, eyes and clothing.
- Advice on protection against fire and explosion : Keep away from fire, sparks and heated surfaces.  
Take precautionary measures against static discharges.  
Ensure all equipment is electrically grounded before beginning

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transfer operations.  
Use explosion-proof equipment.  
Keep product and empty container away from heat and sources of ignition.  
No sparking tools should be used.  
No smoking.

**Storage**

Requirements for storage areas and containers : Store in area designed for storage of flammable liquids.  
Protect from physical damage.  
Keep containers tightly closed in a dry, cool and well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Keep away from heat and sources of ignition.  
Keep away from direct sunlight.  
Store away from incompatible substances.  
Container hazardous when empty.  
Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Protective measures : Ensure that eyewash stations and safety showers are close to the workstation location.

Engineering measures : Use with local exhaust ventilation.  
Prevent vapor buildup by providing adequate ventilation during and after use.

Eye protection : Do not wear contact lenses.  
Wear as appropriate:  
Safety glasses with side-shields  
If splashes are likely to occur, wear:  
Goggles or face shield, giving complete protection to eyes

Hand protection : Solvent-resistant gloves  
Gloves must be inspected prior to use.  
Replace when worn.

Skin and body protection : Wear as appropriate:  
Solvent-resistant apron  
Flame retardant antistatic protective clothing  
If splashes are likely to occur, wear:  
Protective suit



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**Respiratory protection** : In case of insufficient ventilation wear suitable respiratory equipment.  
For rescue and maintenance work in storage tanks use self-contained breathing apparatus.  
Use NIOSH approved respiratory protection.

**Hygiene measures** : When using, do not eat, drink or smoke.  
Wash hands and face before breaks and immediately after handling the product.  
Keep working clothes separately.  
Remove and wash contaminated clothing before re-use.  
Do not swallow.  
Avoid breathing vapors, mist or gas.  
Avoid contact with skin, eyes and clothing.

**Exposure Guidelines**

Cyclohexane	110-82-7	ACGIH	TWA		100 ppm
		NIOSH	REL	300 ppm	1,050 mg/m3
		US CA OEL	TWA PEL	300 ppm	1,050 mg/m3
		OSHA Z1	PEL	300 ppm	1,050 mg/m3
		OSHA Z1A	TWA	300 ppm	1,050 mg/m3

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**Form** : liquid, clear

**Color** : colourless

**Odor** : mild sweet

**Molecular Weight** : 84.16 g/mol

**pH** : not applicable

**Melting point/range** : 6.54 °C (43.77 °F)

**Boiling point/boiling range** : 80.72 °C (177.30 °F)

**Vapor pressure** : 104 hPa  
at 20 °C (68 °F)



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Vapor pressure	:	129 hPa at 25 °C (77 °F)
Relative vapour density	:	2.9 (Air = 1.0)
Density	:	0.78 g/cm <sup>3</sup> at 20 °C (68 °F)
Water solubility	:	insoluble

**SECTION 10. STABILITY AND REACTIVITY**

Conditions to avoid	:	Heat, flames and sparks. Keep away from direct sunlight.
Materials to avoid	:	Strong oxidizing agents Acids
Hazardous decomposition products	:	In case of fire hazardous decomposition products may be produced such as: Carbon monoxide Carbon dioxide (CO <sub>2</sub> )
Hazardous reactions	:	Hazardous polymerisation does not occur. Stable under recommended storage conditions.

**SECTION 11. TOXICOLOGICAL INFORMATION**

Acute oral toxicity	:	LD50 rat Dose: 12.7 g/kg
Acute dermal toxicity	:	LD50 rabbit Dose: > 180 g/kg
Acute inhalation toxicity	:	LC50 rat Dose: 13.9 mg/l Exposure time: 4 h
Repeated dose toxicity	:	Inhalation rabbit (786 ppm; 6 hours/day for 50 days; NOEL: 434 ppm), Based on experimental results, may cause adverse health effects on the following:, Liver, Kidney
Genotoxicity in vitro	:	Ames test negative


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**SECTION 12. ECOLOGICAL INFORMATION**

- Toxicity to fish** : static test LC50  
 Species: Pimephales promelas (fathead minnow)  
 Dose: 117 mg/l  
 Exposure time: 96 h
- Additional ecological information** : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**SECTION 13. DISPOSAL CONSIDERATIONS**

Waste Information: Observe all Federal, State, and Local Environmental regulations.

**SECTION 14. TRANSPORT INFORMATION**

- DOT** UN-Number : 1145  
 Proper shipping name : CYCLOHEXANE  
 Class : 3  
 Packing group : II  
 Hazard Label : 3
- IATA** UN Number : 1145  
 Description of the goods : CYCLOHEXANE  
 Class : 3  
 Packaging group : II  
 Hazard Label : 3  
 Packing instruction (cargo aircraft) : 307  
 Packing instruction (passenger aircraft) : 305  
 Packing instruction (passenger aircraft) : Y305
- IMDG** Substance No. : UN 1145  
 Description of the goods : CYCLOHEXANE  
 Class : 3  
 Packaging group : II  
 Hazard Label : 3  
 EmS Number : F-E  
 Marine pollutant : no