

Cyclopentane (057)

Version 1

Revision Date 03/31/2008

Print Date 03/31/2008

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Cyclopentane
MSDS Number : 000000011347
Product Use Description : Solvent

Company : Honeywell International Inc.
1953 South Harvey Street
Muskegon, MI 49442

For more information call : 1-800-368-0050
(Monday-Friday, 9:00am-5:00pm)

In case of emergency call : Medical: 1-800-498-5701
: **Transportation: 1-800-424-9300 or 703-527-3887**
: (24 hours/day, 7 days/week)

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview**

Form : liquid, clear

Color : colourless

Odor : strong hydrocarbon-like

Hazard Summary : Extremely flammable. In use, may form flammable/explosive vapour-air mixture. Harmful or fatal if swallowed. May be harmful if absorbed through skin. May be fatal if inhaled. Aspiration hazard if swallowed - can enter lungs and cause damage. Irritating to eyes, respiratory system and skin. Causes headache, drowsiness or other effects to the central nervous system. Repeated exposure may cause skin dryness or cracking. Do not swallow. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing.

Potential Health Effects

Skin : Irritating to skin.
May be harmful if absorbed through skin.
May cause systemic poisoning with symptoms paralleling those of inhalation.
Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering.

Eyes : Irritating to eyes.

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- Causes itching, burning, redness and tearing.
- Ingestion** : Harmful or fatal if swallowed.
 Aspiration hazard if swallowed - can enter lungs and cause damage.
 Causes headache, drowsiness or other effects to the central nervous system.
 Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
- Inhalation** : May be fatal if inhaled.
 Causes respiratory tract irritation.
 Causes headache, drowsiness or other effects to the central nervous system.
 Inhalation of high vapour concentrations can cause CNS-depression and narcosis.
 May cause lung damage.
- Chronic Exposure** : Repeated and prolonged exposure to solvents may cause brain and nervous system damage.
 May cause lung damage.
 Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering.
- Aggravated Medical Condition** : Respiratory disorders
 Neurological disorders
 Skin 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 %
Cyclopentane	287-92-3	100.00

SECTION 4. FIRST AID MEASURES

- Inhalation** : Call a physician immediately. Remove to fresh air. If not

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- breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present.
- 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. Call a physician immediately. Never give anything by mouth to an unconscious person.

Notes to physician

- Treatment : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

- Flash point : -7 °C (19 °F)
- Ignition temperature : 361 °C (682 °F)
- Lower explosion limit : 1.5 %(V)
- Upper explosion limit : not determined
- Suitable extinguishing media : Foam
Carbon dioxide (CO₂)
Dry chemical
- Extinguishing media which shall not be used for safety reasons : Water may be ineffective.
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.
Cool closed containers exposed to fire with water spray.
Do not allow run-off from fire fighting to enter drains or water courses.
In case of fire hazardous decomposition products may be produced such as:

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Carbon monoxide
Carbon dioxide (CO₂)

Special protective equipment for fire-fighters : In the event of fire and/or explosion do not breathe fumes. Wear self-contained breathing apparatus and protective suit. No unprotected exposed skin areas.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Immediately evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Wear personal protective equipment. Unprotected persons must be kept away. Ensure adequate ventilation. Remove all sources of ignition. Vapors may travel to areas away from work site before igniting/flashing back to vapor source. Do not swallow. Do not breathe vapours or spray mist. 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 : Handle with care. Wear personal protective equipment. Use only in well-ventilated areas. Keep container tightly closed. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep away from fire, sparks and heated surfaces. Take precautionary measures against static discharges.

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Ensure all equipment is electrically grounded before beginning transfer operations.
 No sparking tools should be used.
 Use explosion-proof equipment.
 Do not smoke.
 Do not swallow.
 Do not breathe vapours or spray mist.
 Avoid contact with skin, eyes and clothing.

Advice on protection against fire and explosion : Vapours may form explosive mixtures with air.
 Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits.
 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.
 Container hazardous when empty.
 Keep product and empty container away from heat and sources of ignition.
 Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
 Take measures to prevent the build up of electrostatic charge.
 To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded.
 Electrical equipment should be protected to the appropriate standard.
 No sparking tools should be used.
 Use explosion-proof equipment.
 No smoking.

Storage

Requirements for storage areas and containers : Storage rooms must be properly ventilated.
 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 in area designed for storage of flammable liquids. Protect from physical damage.
 Store away from incompatible substances.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective measures : Ensure that eyewash stations and safety showers are close to the workstation location.
 Do not swallow.

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- Do not breathe vapours or spray mist.
Avoid contact with skin, eyes and clothing.
- 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 and boots
Flame retardant antistatic protective clothing
If splashes are likely to occur, wear:
Protective suit
- Respiratory protection** : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
For rescue and maintenance work in storage tanks use self-contained breathing apparatus.
Use NIOSH approved respiratory protection.
- Hygiene measures** : Handle in accordance with good industrial hygiene and safety practice.
When using, do not eat, drink or smoke.
Wash hands before breaks and immediately after handling the product.
Keep working clothes separately.
Remove and wash contaminated clothing before re-use.
Do not swallow.
Do not breathe vapours or spray mist.
Avoid contact with skin, eyes and clothing.

Exposure Guidelines

Cyclopentane	287-92-3	ACGIH	TWA	600 ppm	
		NIOSH	REL	600 ppm	1,720 mg/m3
		OSHA Z1A	TWA	600 ppm	1,720 mg/m3
		US CA OEL	TWA PEL	600 ppm	1,720 mg/m3

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	: liquid, clear
Color	: colourless
Odor	: strong hydrocarbon-like
Molecular Weight	: 70.15 g/mol
pH	: not applicable
Freezing point	: -93.9 °C (-137.0 °F)
Boiling point/boiling range	: 49.3 °C (120.7 °F)
Vapor pressure	: 533 hPa at 20 °C (68 °F)
Relative vapour density	: 2.4 (Air = 1.0)
Density	: 0.745 g/cm ³ at 20 °C (68 °F)
Water solubility	: insoluble
Viscosity, dynamic	: 0.44 mPa.s at 20 °C (68 °F)

SECTION 10. STABILITY AND REACTIVITY

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

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SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity : LD50 rat
Dose: 11,400 mg/kg

Acute inhalation toxicity : LC50 rat
Dose: 106 mg/l

SECTION 12. ECOLOGICAL INFORMATION

Additional ecological information : We have no quantitative data concerning the ecological effects of this product.

SECTION 13. DISPOSAL CONSIDERATIONS

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

SECTION 14. TRANSPORT INFORMATION

DOT UN-Number : 1146
 Proper shipping name : CYCLOPENTANE
 Class : 3
 Packing group : II
 Hazard Label : 3

IATA UN Number : 1146
 Description of the goods : CYCLOPENTANE
 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 1146
 Description of the goods : CYCLOPENTANE
 Class : 3
 Packaging group : II

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Hazard Label	: 3
EmS Number	: F-E
Marine pollutant	: no

SECTION 15. REGULATORY INFORMATION
Inventories

- | | |
|---|--|
| EU. EINECS | : On the inventory, or in compliance with the inventory |
| US. Toxic Substances Control Act | : On TSCA Inventory |
| Australia. Industrial Chemical (Notification and Assessment) Act | : On the inventory, or in compliance with the inventory |
| Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133) | : All components of this product are on the Canadian DSL list. |
| Japan. Kashin-Hou Law List | : On the inventory, or in compliance with the inventory |
| Korea. Toxic Chemical Control Law (TCCL) List | : On the inventory, or in compliance with the inventory |
| Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act | : On the inventory, or in compliance with the inventory |
| China. Inventory of Existing Chemical Substances | : On the inventory, or in compliance with the inventory |
| Switzerland. Consolidated Inventory | : On the inventory, or in compliance with the inventory |
| New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand | : On the inventory, or in compliance with the inventory |

National regulatory information

SARA 311/312 Hazards : Acute Health Hazard

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Fire Hazard

CERCLA Reportable Quantity : 100 lbs**California Prop. 65** : This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.**Massachusetts RTK** : Cyclopentane 287-92-3**New Jersey RTK** : Cyclopentane 287-92-3**Pennsylvania RTK** : Cyclopentane 287-92-3**WHMIS Classification** : B2**SECTION 16. OTHER INFORMATION**

	HMIS III	NFPA
Health Hazard	: 1	1
Flammability	: 4	3
Physical Hazard	: 0	
Instability	:	0