

SAFETY DATA SHEET

Preparation Date: 5/26/2017

Revision Date: 5/26/2017

Revision Number: G1

1. IDENTIFICATION

Product identifier

Product code: C1480
Product Name: CYCLOPENTANE

Other means of identification

Synonyms: Pentamethylene
CAS #: 287-92-3
RTECS # GY2390000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: Solvent.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000.

Order Online At: <https://www.spectrumchemical.com>

Emergency telephone number Chemtrec 1-800-424-9300

Contact Person: Martin LaBenz (West Coast)

Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

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

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2B
Specific target organ toxicity (single exposure)	Category 3
Aspiration toxicity	Category 1
Flammable liquids	Category 2

Label elements

Danger

Hazard statements

Harmful if inhaled
 Causes skin irritation
 Causes eye irritation
 May cause respiratory irritation. May cause drowsiness or dizziness
 May be fatal if swallowed and enters airways
 Highly flammable liquid and vapor

**Hazards not otherwise classified (HNOC)**

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wash face, hands and any exposed skin thoroughly after handling
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/.../equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep cool
Wear protective gloves
Wear eye/face protection

Precautionary Statements - Response

In case of fire: Use CO₂, dry chemical, or foam to extinguish.
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.
If skin irritation occurs: Get medical advice/attention
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting

Precautionary Statements - Storage

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

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Cyclopentane	287-92-3	100

4. FIRST AID MEASURES**First aid measures****General Advice:**

National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

Skin Contact:	Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention. If skin irritation persists, call a physician.
Eye Contact:	Flush eyes with water for 15 minutes. Get medical attention.
Inhalation:	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
Ingestion:	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed

Symptoms	Aspiration hazard if swallowed - can enter the lungs and cause damage. May be fatal if swallowed and enters airways. Causes skin irritation. Causes eye irritation. Central nervous system effects. Inhalation of high concentrations may cause anesthetic effects. May cause drowsiness or dizziness. Lightheadedness. Ataxia. Somnolence. Fainting. Convulsions. Confusion. May cause digestive (gastrointestinal) tract irritation. May cause nausea and vomiting. It may affect the kidneys. May cause headache. Paresthesia (numbness and tingling of the extremities).
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Indication of any immediate medical attention and special treatment needed

Notes to Physician:	Treat symptomatically.
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Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media:	Carbon dioxide (CO2). Dry chemical. Water spray mist or foam.
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Unsuitable Extinguishing Media:	Do not use a solid (straight) water stream as it may scatter and spread fire.
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Specific hazards arising from the chemical

Hazardous Combustion Products:	Carbon Dioxide, Carbon Monoxide.
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Specific hazards:	Highly flammable. May be ignited by heat, sparks or flames. Container explosion may occur under fire conditions or when heated. Vapor may travel considerable distance to source of ignition and flash back. Vapors may form explosive mixtures with air. Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks). Fire may produce irritating, corrosive and/or toxic gases.
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Special Protective Actions for Firefighters

Specific Methods:	Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out.
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Special Protective Equipment for Firefighters:	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear
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6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not let this chemical enter the environment. Prevent entry into waterways, sewers, basements or confined areas. In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth). In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Keep away from heat and sources of ignition. Store in a segregated and approved area. Store away from incompatible materials.

Incompatible Materials:

Strong oxidizing agents
Chlorine
Bromine
Fluorine

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WHEEL
Cyclopentane	287-92-3	None	600 ppm TWA 1720 mg/m ³ TWA	600 ppm TWA	None

Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Cyclopentane	287-92-3	600 ppm TWA 1720 mg/m ³ TWA	600 ppm TWA	600 ppm TWA	600 ppm TWAEV 1720 mg/m ³ TWAEV

Australia and Mexico

Components	CAS-No.	Australia	Mexico
Cyclopentane	287-92-3	600 ppm TWA 1720 mg/m ³ TWA	None

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

- Eye protection:** Goggles
- Skin and body protection:** Chemical resistant apron
Long sleeved clothing
Gloves
- Respiratory protection:** Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
- Hygiene measures:** Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid	Appearance: Clear.	Color: Colorless.
Odor: Mild. Sweet.	Taste No information available.	Formula: C5-H10
Molecular/Formula weight: 70.13	Flammability: No information available	Flashpoint (°C/°F): -20 °C/ -4 °F
Flash Point Tested according to: Closed cup	Autoignition Temperature (°C/°F): 361 °C/682 °F	Lower Explosion Limit (%): 1.1%
Upper Explosion Limit (%): 8.7%	Melting point/range(°C/°F): -93.4 °C/-136.12 °F	Decomposition temperature(°C/°F): No information available
Boiling point/range(°C/°F): 49.2 °C/120.56 °F	Bulk density: No information available	Density (g/cm3): No information available

Specific gravity:
0.7457-0.751

pH:
No information available

Vapor pressure @ 20°C (kPa):
53

Evaporation rate:
No information available

Vapor density:
2.42

VOC content (g/L):
745-750

Odor threshold (ppm):
No information available

**Partition coefficient
(n-octanol/water):**
log Kow = 3.00

Viscosity:
No information available

Miscibility:
Miscible with Ethanol
Miscible with Ether
Miscible with Acetone
Miscible with Benzene
Miscible with Carbon tetrachloride
Miscible with Petroleum Ether

Solubility:
Insoluble in water

10. STABILITY AND REACTIVITY

Reactivity

It can react vigorously, violently or explosively with oxidizers
When mixed hot with liquid dinitrogen tetraoxide an explosion can result

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Incompatible materials.

Incompatible Materials:
Strong oxidizing agents
Chlorine
Bromine
Fluorine

Hazardous decomposition products: Carbon monoxide. Carbon dioxide. When heated to decomposition it emits acrid smoke and irritating fumes.

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Ingestion. Skin. Inhalation.

Acute Toxicity

Component Information

Cyclopentane

CAS-No.	287-92-3
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LD50/oral/rat = 11400 mg/kg Oral LD50 Rat
LD50/oral/mouse = 12800 mg/kg Oral LD50 Mouse
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = No information available

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = 11400 mg/kg

LD50/oral/mouse =
Value - Acute Tox Oral = 12800 mg/kg

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Causes skin irritation.

Eye Contact: Causes eye irritation.

Inhalation Irritating to respiratory system. Inhalation of high concentrations may cause central nervous system effects characterized by headache, dizziness, lightheadedness, fainting, unconsciousness, coma. It may affect behavior/central nervous system (ataxia, general anesthetic, drowsiness). May cause fatigue. May affect behavior/central nervous system (confusion). It may affect behavior/central nervous system (convulsions, excitement).

Ingestion Causes digestive (gastrointestinal) tract irritation. Ingestion may cause nausea, vomiting. Aspiration hazard if swallowed. May affect behavior/central nervous system (somnolence). May affect behavior/central nervous system (convulsions).

Aspiration hazard May be fatal if swallowed and enters airways.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Prolonged skin contact may cause drying and cracking of the skin. Chronic exposure may affect the peripheral nervous system (peripheral neuropathy with muscle weakness, paresthesia - a sensation of tingling, pricking, or numbness of the skin (known as the feeling of "pins and needles") generally of the hands and feet (extremities). Prolonged or repeated ingestion may affect the kidneys. Chronic

exposure may cause central nervous system effects.

Sensitization: No information available.

Mutagenic Effects: No information available

Carcinogenic effects: Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Cyclopentane	287-92-3	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available

Reproductive Effects: No information available

Developmental Effects: No information available

Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure central nervous system. Respiratory system.

STOT - repeated exposure No information available.

Target Organs: Central nervous system. Peripheral nervous system. Skin.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Cyclopentane - 287-92-3

Water Flea Data: 10.5 mg/L EC50 Daphnia magna 48 h

Persistence and degradability: No information available

Bioaccumulative potential: Potential for bioconcentration in aquatic organisms is low.

Mobility: It is expected to have moderate mobility based upon estimated Koc.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Cyclopentane	287-92-3	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN1146
Proper Shipping Name: Cyclopentane
Hazard Class: 3
Subsidiary Class: No information available
Packing group: II
Emergency Response Guide Number: 128
Marine Pollutant: No data available
DOT RQ (lbs): No information available
Special Provisions: IB2, T7, TP1
Symbol(s): No information available
Description: UN1146, Cyclopentane, 3, II

TDG (Canada)

UN-No: UN1146
Proper Shipping Name: Cyclopentane
Hazard Class: 3
Subsidiary Risk: No information available
Packing Group: II
Marine Pollutant: No Information available
Description: UN1146, Cyclopentane, 3, II

ADR

UN-No: UN1146
Proper Shipping Name: Cyclopentane
Hazard Class: 3
Packing Group: II
Subsidiary Risk: No information available
Description: UN1146, Cyclopentane, 3, II

IMO / IMDG

UN-No: UN1146
Proper Shipping Name: Cyclopentane
Hazard Class: 3
Subsidiary Risk: No information available
Packing Group: II
Marine Pollutant: No information available
EMS: F-E
Description: UN1146, Cyclopentane, 3, II

RID

UN-No: UN1146
Proper Shipping Name: Cyclopentane
Hazard Class: 3
Subsidiary Risk: No information available
Packing Group: II
Description: UN1146, Cyclopentane, 3, II

ICAO

UN-No: UN1146
Proper Shipping Name: Cyclopentane
Hazard Class: 3

Subsidiary Risk: No information available
Packing Group: II
Description: UN1146, Cyclopentane, 3, II

IATA

UN-No: UN1146
Proper Shipping Name: Cyclopentane
Hazard Class: 3
Subsidiary Risk: No information available
Packing Group: II
ERG Code: 3H
Special Provisions No information available
Description: UN1146, Cyclopentane, 3, II

15. REGULATORY INFORMATION

International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Cyclopentane</i>	287-92-3	Present	Present KE-09297	Present	Present (3)-4166	Present	Present	Present 206-016-6

U.S. Regulations

Cyclopentane

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: 0583
Pennsylvania RTK: Present
Minnesota - Hazardous Substance List: Present
California Directors List of Hazardous Substances: Present

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
<i>Cyclopentane</i>	287-92-3	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
<i>Cyclopentane</i>	287-92-3	None	None	None	None	None

U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
<i>Cyclopentane</i>	287-92-3	Not Applicable	01/26/199406/30/1998

Canada

WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component
Cyclopentane
287-92-3 (100)

WHMIS 2015 Hazard Classification
Flammable liquids - Category 2: H225 Highly flammable liquid and vapour.

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

WHMIS 1988 Hazard Class

B2 Flammable liquid

Components

Cyclopentane

WHMIS 1988

B2

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Cyclopentane	1 %

Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Cyclopentane	287-92-3	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Cyclopentane	287-92-3	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Cyclopentane	287-92-3	Not listed

EU Classification

EU GHS - SV - CLP 172/2008

Components	CAS-No.	EU GHS - SV - CLP (172/2008)
Cyclopentane	287-92-3	Flammable liquids - Flam. Liq. 2: H225 Highly flammable liquid and vapour.; Hazardous to aquatic environment - chronic hazard - Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects.601-030-00-2

EU - CLP (1272/2008)

R-phrase(s)

R11 - Highly flammable.

R52 - Harmful to aquatic organisms.

R53 - May cause long-term adverse effects in the aquatic environment.

S -phrase(s)

S 2 - Keep out of the reach of children.

S 9 - Keep container in a well-ventilated place.

S16 - Keep away from sources of ignition - No smoking.

S29 - Do not empty into drains.

S33 - Take precautionary measures against static discharges.

S61 - Avoid release to the environment. Refer to special instructions/safety data sheets.

Product code: C1480

Product name: CYCLOPENTANE

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Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Cyclopentane	287-92-3	F; R11 R52-53	No information	S2 S9 S16 S29 S33 S61

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

F - Highly flammable.

N - Dangerous for the environment.



16. OTHER INFORMATION

Preparation Date: 5/26/2017
Revision Date: 5/26/2017
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet