SAFETY DATA SHEET

1. Identification

Product Name: Cyclopentyl bromide

Cat No.: AC111600000; AC111600010; AC111600500; AC111602500

Synonyms: Bromocyclopentane

Recommended Use: Laboratory chemicals.

Uses advised against: No Information available

2. Hazard(s) identification

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

Flammable liquids

Category 3

Label Elements

Signal Word
Warning

Hazard Statements
Flammable liquid and vapor

Precautionary Statements

Prevention
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
Wear protective gloves/protective clothing/eye protection/face protection

Skin
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

Fire
In case of fire: Use CO2, dry chemical, or foam for extinction

Storage
Store in a well-ventilated place. Keep cool

Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
None identified

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### 3. Composition / information on ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclopentane, bromo-</td>
<td>137-43-9</td>
<td>98</td>
</tr>
</tbody>
</table>

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### 4. First-aid measures

**Eye Contact**
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

**Skin Contact**
Obtain medical attention. Wash off immediately with plenty of water for at least 15 minutes.

**Inhalation**
Move to fresh air. If breathing is difficult, give oxygen. Obtain medical attention.

**Ingestion**
Do not induce vomiting. Obtain medical attention.

**Most important symptoms/effects**
Breathing difficulties. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

**Notes to Physician**
Treat symptomatically

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### 5. Fire-fighting measures

**Suitable Extinguishing Media**
Carbon dioxide (CO₂). Dry chemical. Chemical foam.

**Unsuitable Extinguishing Media**
No information available

**Flash Point**
35 °C / 95 °F

**Autoignition Temperature**
No information available

**Explosion Limits**
Upper: No data available
Lower: No data available

**Sensitivity to Mechanical Impact**
No information available

**Sensitivity to Static Discharge**
No information available

**Specific Hazards Arising from the Chemical**
Keep product and empty container away from heat and sources of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors.

**Hazardous Combustion Products**
Carbon monoxide (CO) Carbon dioxide (CO₂) Hydrogen halides
Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### 6. Accidental release measures

**Personal Precautions**
Remove all sources of ignition. Ensure adequate ventilation. Use personal protective equipment.

**Environmental Precautions**
See Section 12 for additional ecological information.

**Methods for Containment and Clean Up**
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

### 7. Handling and storage

**Handling**
Avoid contact with skin and eyes. Do not breathe dust. Do not breathe vapors or spray mist. Take precautionary measures against static discharges. Use explosion-proof equipment. Use only non-sparking tools. Ensure adequate ventilation. Wear personal protective equipment.

**Storage**
Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from heat and sources of ignition. Flammables area.

### 8. Exposure controls / personal protection

**Exposure Guidelines**
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Engineering Measures**
Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting/equipment.

**Personal Protective Equipment**

- **Eye/face Protection**
  Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

- **Skin and body protection**
  Wear appropriate protective gloves and clothing to prevent skin exposure.

- **Respiratory Protection**
  Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

- **Hygiene Measures**
  Handle in accordance with good industrial hygiene and safety practice.

### 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Amber</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>137 - 139 °C / 278.6 - 282.2 °F @ 760 mmHg</td>
</tr>
</tbody>
</table>
### Flash Point
35 °C / 95 °F

### Evaporation Rate
No information available

### Flammability (solid,gas)
No information available

### Flammability or explosive limits
- **Upper:** No data available
- **Lower:** No data available

### Vapor Pressure
No information available

### Vapor Density
5.1

### Specific Gravity
1.390

### Solubility
No information available

### Partition coefficient; n-octanol/water
No data available

### Autoignition Temperature
No information available

### Decomposition Temperature
No information available

### Viscosity
No information available

### Molecular Formula
C5 H9 Br

### Molecular Weight
149.03

### 10. Stability and reactivity

#### Reactive Hazard
None known, based on information available

#### Stability
Stable under normal conditions.

#### Conditions to Avoid
Incompatible products. Heat, flames and sparks.

#### Incompatible Materials
Strong oxidizing agents, Strong bases

#### Hazardous Decomposition Products
Carbon monoxide (CO), Carbon dioxide (CO₂), Hydrogen halides

#### Hazardous Polymerization
Hazardous polymerization does not occur.

#### Hazardous Reactions
None under normal processing.

### 11. Toxicological information

#### Acute Toxicity

- **Product Information:** No acute toxicity information is available for this product
- **Component Information:** No information available
- **Toxicologically Synergistic Products:** No information available

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

- **Irritation:** No information available
- **Sensitization:** No information available

#### Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclopentyl bromide</td>
<td>137-43-9</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Mutagenic Effects</td>
<td></td>
<td>No information available</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reproductive Effects</td>
<td></td>
<td>No information available</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developmental Effects</td>
<td></td>
<td>No information available</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teratogenicity</td>
<td></td>
<td>No information available</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STOT - single exposure</td>
<td></td>
<td>None known</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STOT - repeated exposure</td>
<td></td>
<td>None known</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Aspiration hazard  No information available

Symptoms / effects, both acute and delayed
Endocrine Disruptor Information  No information available

Other Adverse Effects  The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity
Do not empty into drains.

Persistence and Degradability  No information available
Bioaccumulation / Accumulation  No information available.

Mobility  No information available.

13. Disposal considerations

Waste Disposal Methods
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT
- UN-No: UN1993
- Proper Shipping Name: FLAMMABLE LIQUIDS, N.O.S.
- Proper technical name: (CYCLOPENTYL BROMIDE)
- Hazard Class: 3
- Packing Group: III

TDG
- UN-No: UN1993
- Proper Shipping Name: FLAMMABLE LIQUIDS, N.O.S.
- Hazard Class: 3
- Packing Group: III

IATA
- UN-No: 1993
- Proper Shipping Name: FLAMMABLE LIQUID, N.O.S.*
- Hazard Class: 3
- Packing Group: III

IMDG/IMO
- UN-No: 1993
- Proper Shipping Name: FLAMMABLE LIQUIDS, N.O.S.
- Hazard Class: 3
- Packing Group: III

15. Regulatory information

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclopentane, bromo-</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>205-294-6</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
</tr>
</tbody>
</table>

Legend:
- X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
Cyclopentyl bromide

Revision Date 20-Jul-2016

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable
SARA 313 Not applicable

SARA 311/312 Hazard Categories
Acute Health Hazard No
Chronic Health Hazard No
Fire Hazard Yes
Sudden Release of Pressure Hazard No
Reactive Hazard No

CWA (Clean Water Act) Not applicable
Clean Air Act Not applicable
OSHA Occupational Safety and Health Administration Not applicable
CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

U.S. Department of Transportation
Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class B2 Flammable liquid
16. Other information

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Revision Date 20-Jul-2016
Print Date 20-Jul-2016
Revision Summary
This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS