Product Safety Summary Sheet

DuPont™ Dimethyl Ether

Chemical Identification, Product Identification or Common Name:
CAS number: 115-10-6
CAS name: Methane, 1,1’-oxybis-
EC Number: 204-065-8
EINECS Name: Dimethyl ether

Product Uses and Applications:
Dimethyl ether is used in industrial applications as an intermediate in the preparation and manufacturing of other basic organic chemicals, as a catalyst in industrial polymerization processes, as an alternative fuel, as a foam expansion agent, and as an aerosol propellant for a variety of products that include adhesives, sealants, foam in a can, coatings, paints, automotive care products, topical skin cooling sprays, over the counter treatments, hairspray, sun screen and a variety of other personal care and household products where its water solubility and strong solvency properties add value.

Physical Properties of the Chemical or Product:
Dimethyl ether is a colorless gas with high water solubility, high vapor pressure, a boiling point of -24.8°C and a melting point of -141.5°C. Dimethyl ether is stable but is extremely flammable and may form potentially explosive mixtures with air, but will not form potentially explosive peroxides.

Exposure Potential:

Workplace exposure:
Dimethyl ether has a low boiling point and will typically vaporize to the atmosphere upon its release. However, because Dimethyl ether is handled as a liquified gas, it can leak as both a gas or a liquid. As a gas leak, there is potential inhalation exposure. As a liquid leak, there is potential frostbite exposure.
Workers should follow the recommended safety measures contained within the (Material) Safety Data Sheet ((M)SDS) and on any product packaging. Employees should be trained in the appropriate work processes and safety equipment to limit exposure to chemical substances. Occupational use of this substance is considered to be safe provided the recommended safety measures given in the (M)SDS are followed.

**Consumer exposure:**
Dimethyl ether is mainly used as a propellant in aerosol products to dispense the contents of the can. The most likely consumer exposure route would be an inhalation exposure if the aerosol product is not used as directed.

**Environmental exposure:**
Dimethyl ether environmental exposure can occur from accidental leaks during manufacture, distribution, handling, or use and when aerosol products are dispensed. Dimethyl ether is not expected to be persistent in the environment and is not bioaccumulative.

**Health Information**
*Note: The information contained in this section may be useful to someone handling the pure undiluted substance such as a manufacturer or transporter. For more information on health hazards and recommended protective equipment, please refer to the (M)SDS.*

Exposures may affect human health as follows:

<table>
<thead>
<tr>
<th>Effect Assessment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity</td>
<td>Inhalation: Misuse or intentional inhalation abuse may cause death without warning symptoms, due to cardiac effects. Other symptoms potentially related to misuse or inhalation abuse are anesthetic effects, light-headedness, dizziness, confusion, incoordination, drowsiness, or unconsciousness, irregular heartbeat with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting, dizziness or weakness. Vapors are heavier than air and can cause suffocation by reducing available oxygen for breathing.</td>
</tr>
<tr>
<td>Irritation</td>
<td>Skin: Not an irritant. Contact with liquid or refrigerated gas can cause cold burns or frostbite. Eye: Not an irritant. Contact with liquid or refrigerated gas can cause cold burns or frostbite.</td>
</tr>
<tr>
<td>Sensitization</td>
<td>Not expected to cause skin sensitization.</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>Not a mutagen.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not carcinogenic.</td>
</tr>
<tr>
<td>Toxicity after repeated exposure</td>
<td>No toxicologically significant effects were found.</td>
</tr>
<tr>
<td>Toxicity for reproduction</td>
<td>No reproductive/developmental toxicity.</td>
</tr>
</tbody>
</table>
Environmental Information

Note: The information in this chapter is intended to provide brief and general information of this substance’s environmental impact. The results in the table below refer to testing performed with the non formulated, undiluted substance. The data does not replace the data given in the (M)SDS. For more information and recommended protective measures, please refer to the (M)SDS.

<table>
<thead>
<tr>
<th>Effect Assessment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Toxicity</td>
<td>Slightly toxic to aquatic organisms.</td>
</tr>
<tr>
<td>Biodegradability</td>
<td>Not readily biodegradable.</td>
</tr>
<tr>
<td>Persistence</td>
<td>Persistent in the atmosphere. It is expected to rapidly volatilize from aquatic and soil compartments.</td>
</tr>
<tr>
<td>Bioaccumulation potential</td>
<td>Not expected to bioaccumulate.</td>
</tr>
</tbody>
</table>

Risk Management

Workplace Management:
Risk management measures for industrial site use include containment through engineering controls and the use of personal protective equipment (PPE) as appropriate. Engineering controls include the use of storage and shipping containers that are rated for the pressures and temperatures to which the material may be subjected, use of appropriate recycle and recovery equipment, and adequate ventilation at both storage and use locations. Always refer to the (Material) Safety Data Sheet ((M)SDS) for guidance on the appropriate personal protective equipment to be used and on the safe handling of this material.

Normal ventilation for standard manufacturing procedures is generally adequate. Local exhaust should be used when the potential for large amounts are released. Mechanical exhaust should be used in low or enclosed places. Under normal manufacturing conditions, no respiratory protection is required when using this product. Safe work practices include maintaining proper storage of material containers at safe temperatures and away from building air ventilation intake locations.

Consumer Risk Management:
Dimethyl ether is mainly used as a propellant in aerosol products to dispense the contents of the can. The most likely consumer exposure route would be an inhalation exposure if the aerosol product is not used as directed. All aerosol products are formulated for safe consumer use when label directions are followed, and when done so, Dimethyl ether vapors will dissipate quickly, mitigating any exposure concerns. Use of aerosol products with adequate ventilation is always recommended.

Regulatory Information:
Always refer to the (Material) Safety Data Sheet ((M)SDS) for guidance on regulatory restrictions that may govern the manufacture, sale, transportation, use and/or disposal of this chemical or product. Regulations may vary by region, country, state, county, city, or local government.
First Aid Information:
For all First Aid or Emergency information, consult the (Material) Safety Data Sheet ((M)SDS).

Information Sources:
Data is compiled from a variety of sources, including publicly available documents, internal data and other sources such as, but not limited to, Chemical Safety Reports and (Material) Safety Data Sheets ((M)SDS).

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