Revision Date 01.08.2024

MATERIAL SAFETY DATA SHEET
DIMETHYL ETHER

CHEMICAL PRODUCT

Material Identification

Corporate MSDS Number	: TAB-001126
Formula	: CH3OCH3
Molecular Weight	: 46.069
Product Use	: Propellant/Blowing Agent

COMPANY IDENTIFICATION

TABRIGAS Egypt
Port Said Free Zone area – Egypt
Sunday – Thursday (9:00 – 17:00)
00 202 2734 22 77 / 78 / 79
info@tabrigas.com
www.tabrigas.com

TRADE NAMES & SYNONYMS

Dimethyl Ether
E170

COMPOSITION/INFORMATION ON INGREDIENTS

Components

Material	CAS Number	%
Dimethyl Ether	115-10-6	100 %

HAZARDS IDENTIFICATION

Emergency Overview

Rapid evaporation of the liquid may cause frostbite. Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing. May cause cardiac arrhythmia. Potential Health Effects

Skin

Dimethyl ether: Contact with liquid or refrigerated gas can cause cold burns and frostbite.

Eyes

Dimethyl ether: Contact with liquid or refrigerated gas can cause cold burns and frostbite.

Inhalation

Dimethyl ether : 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, in coordination, drowsiness, or unconsciousness, irregular heartbeat with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting, dizziness or weakness.

Carcinogenicity : None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

FIRST-AID MEASURES

Inhalation

If inhaled Immediately move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Skin Contact

Flush skin with water after excessive contact. Treat for frostbite if necessary by gently warming the affected area.

Eye Contact

In case of contact, immediately flush your eyes with plenty of water for at least 15 minutes. Call a Physician.

Ingestion

Ingestion is not considered a potential route of exposure.

General advice:

Never give anything by mouth to an unconscious person. When symptoms persist or in all cases of doubt seek medical advice

.

Notes to physician:

Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, that may be used in situations of emergency life support should be used with special caution.

FIRE FIGHTING MEASURES

Flammable Properties

Flashpoint	: -41 °C (-42 °F)
Method	: Tag open cup – TOC
Lower explosion limit	: 3.4 vol%

Upper explosion limit	: 18.0 vol%
Fire and Explosion Hazard	: Vapors may form explosive mixtures with air. Vapors are heavier than air and may spread along floors. Vapors or gases may travel considerable distances to the ignition source and flash back. Hazardous thermal decomposition products: Carbon oxides

Suitable extinguishing media: Water spray, Foam, Dry chemical, Carbon dioxide (CO2)

Firefighting Instructions:

In the event of a fire, wear a self-contained breathing apparatus. Fire and Explosion Hazards: Extremely flammable. Vapors are heavier than air and may travel to source of ignition and flash back. Avoid high temperature and static charges. Cylinders are equipped with pressure and temperature relief devices, but may still rupture under fire conditions. Explosion is possible. Use water spray to cool unopened containers. Stop the flow of gas. Do not put out the fire unless the leak can be stopped immediately. Use water spray or fog to protect the firefighters and to cool the container.

ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

Review sections 5 and 7 of the SDS before proceeding with clean-up. Use personal protective equipment. Close DME (Dimethyl Ether) source valves and guard against sparks or ignition sources. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ventilate areas, especially low or enclosed places where heavy vapors might collect. Comply with Federal, State, and Local regulations on reporting releases

Accidental Release Measures

Wear a self-contained breathing apparatus (SCBA).

HANDLING AND STORAGE

Handling (Personnel)

Provide sufficient air exchange and/or exhaust in work rooms. Avoid contact with skin, eyes, and clothing. Avoid breathing vapors or mist

Storage

Do not drag, slide, or roll cylinders. Never attempt to lift the cylinder by its cap. Use a check valve or trap in the discharge line to prevent hazardous backflow into the cylinder. Keep containers tightly closed in a cool, well-ventilated place. Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use. Store in the original container. Protect from contamination. Keep away from Combustible Material Oxidizing agents

Storage temperature : < 50 °C (< 122 °F)

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Normal ventilation for standard manufacturing procedures is generally adequate. Use local exhaust when large amounts are released or when exposure or flammable limits in the air might be exceeded mechanical ventilation should be used in low or enclosed places. Ground all equipment and cylinders before use. Use explosion-proof electrical equipment rated Class I, Group C of the National Electrical Code in Division I locations. In Division locations, all spark producing electrical equipment must be explosion-proof and rated Class I, Group C. Non-sparking motors need not be explosion-proof. Equipment should be clean and dry and purged with nitrogen before being put into service.

Personal Protective Equipment

Under normal manufacturing conditions, no respiratory protection is required when using this product.

Hand protection:

Additional protection: Impervious gloves

Eye protection:

`Safety glasses with side-shields Additionally wear a face shield where the possibility exists for face contact due to splashing, spraying, or airborne contact with this material.

Skin and body protection:

When handling this product, fire protective clothing (NOMEX) with antistatic control should be worn. Wear protective clothing which covers any other exposed areas of the arms, legs, and torso.

Exposure Guidelines

Applicable Exposure Limits
Dimethyl ether
AEL * (CHEMOURS) : 1,000 ppm 8 & 12 hr. TWA

* AEL is CHEMOURS's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits lower than the AEL are in effect, such limits shall take precedence.

PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

Form	: Liquefied gas
Color	: colorless
Odor	: slight, ether-like
pH	: not applicable
Melting point	: -141.5 °C (-222.7 °F) at 1,013 hPa
Boiling point	: -24.8 °C (-12.6 °F) at 1,013 hPa
Vapor Pressure	: 5,915.7 hPa at 25 °C (77 °F)
	: 11,486.7 hPa at 50 °C (122 °F)
Density	: 0.667 g/cm3 at 20 °C (68 °F) (as liquid)

Water solubility	: 350 g/l at 25 °C (77 °F) at 4,450 hPa
Partition coefficient	: POW: 0.07 at 25 °C (77 °F) nocturnal/water
Vapor density	: 1.6 (Air = 1.0)

STABILITY AND REACTIVITY

Conditions to avoid	: Temperature > 50 °C (> 122 °F) Heat, flames and sparks.
Incompatibility	: Incompatible products Oxygen, oxidizers, Carbon monoxide, acetic acid, organic, Acid anhydrides
Hazardous decomposition	: If heated with peroxides present, violent decomposition can occur. Products
Hazardous reactions	: Polymerization will not occur.

TOXICOLOGICAL INFORMATION

CHEMOURS™ DYMEL® A propellant

Further information : May cause cardiac arrhythmia. Rapid evaporation of the liquid may cause frostbite.

Dimethyl ether

Dermal	: not applicable
Oral	: not applicable
Inhalation 4 h LC50	: 164000 ppm, rat Respiratory Effects Anesthetic Effects Central nervous system depression narcosis Cardiac Irregularities Coma
Inhalation	: Dog cardiac sensitization
Skin irritation	: No skin irritation, not tested on animals Not expected to cause skin irritation based on expert review of the properties of the substance.
Eye irritation	: No eye irritation, not tested on animals Not expected to cause eye irritation based on expert review of the properties of the substance.
Skin sensitization	: Not tested on animals Not expected to cause sensitization based on expert review of the properties of the substance. There are no reports of human skin sensitization. There are no reports of human respiratory sensitization.

Repeated dose toxicity: Inhalation rat No toxicologically significant effects were found.

Carcinogenicity : Animal testing did not show any carcinogenic effects.

Mutagenicity : Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Did not cause genetic damage in insects.

Reproductive toxicity: Evidence suggests the substance is not a reproductive toxin in animals.

Teratogenicity : Animal testing showed no developmental toxicity.

ECOLOGICAL INFORMATION

Ecotoxicological Information

Aquatic Toxicity

Dimethyl ether

96 h LC50	: Poe cilia reticulate (guppy) > 4,000 mg/l
96 h EC50	: Pseudokirchneriella subcapitata (green algae) 154.917 mg/l
48 h EC50	: Daphnia > 4,000 mg/l
48 h LC50	: Daphnia 755.549 mg/l
	: Due to its physical properties, there is no potential for adverse effects.
Physico-chemical	: The product can be degraded by abiotic (e.g. chemical or photolytic) processes removability

DISPOSAL CONSIDERATIONS

Waste Disposal : Contaminated DME (Dimethyl Ether) may be incinerated or removed to a permitted waste disposal facility. Comply with applicable Federal, State/Provincial, and Local Regulations. Maybe an RCRA Hazardous waste due to the ignitability characteristic.

TRANSPORTATION INFORMATION

Shipping Information

DOT UN number	: 1033
Proper shipping name	: Dimethyl ether
Class	: 2.1
Labeling No.	: 2.1
IATA_C UN number	: 1033
Proper shipping name	: Dimethyl ether
Class	: 2.1
Labeling No.	: 2.1
IMDG UN number	: 1033
Proper shipping name	: Dimethyl ether
Class	: 2.1
Labeling No.	: 2.1

Shipping Containers

Tank Cars.
Tank Trucks.
Cylinders.

OTHER INFORMATION

NFPA	HMIS	
NPCA-HMIS Rating		
Health :	2	1
Flammability :	4	4

Revision Date 01.08.2024

Reactivity : 1 1

Personal Protection rating to be supplied by user depending on use conditions

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or any process.

End of MSDS
(Version August 2024)