

MATERIAL SAFETY DATA SHEET

Dimethyl Ether

REVISION DATE: Mar-2009

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PRODUCT NAME: **Dimethyl Ether**

SECTION I PRODUCT IDENTIFICATION

CAS REGISTRY # : 115-10-6
CHEMICAL FAMILY : ETHER
CHEMICAL NAME: DIMETHYL ETHER
CHEMICAL FORMULA: CH₃OCH₃

SECTION II HAZARDOUS COMPONENTS

INGREDIENT	PERCENT	TLV (PPM)
DIMETHYL ETHER	100	1000

**** PHYSICAL HAZARD DUE TO FLAMMABLE NATURE. FLAMMABLE WHEN COMBINED WITH AIR. ****

SECTION III PHYSICAL DATA

BOILING RANGE: -13 F **SPECIFIC GRAVITY (H₂O = 1.00) :** 0.66
VAPOR PRESSURE @ 70 DEG F: 62 PSIG **PERCENT VOLATILE BY VOLUME :** 100%
VAPOR DENSITY (AIR = 1.00): 1.6 **SOLUBILITY IN WATER @ 70 °F:** 7%

EVAPORATION RATE: > 1 (ETHYL ETHER = 1.0)
APPEARANCE & ODOR: CLEAR, COLORLESS LIQUEFIED GAS WITH A SLIGHT ETHEREAL ODOR.

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD) : -42 F (TOC)
LOWER EXPLOSION LIMIT: 3.4% (VOL.) GAS IN AIR
UPPER EXPLOSION LIMIT: 18% (VOL.) GAS IN AIR
EXTINGUISHING MEDIA : DRY CHEMICAL EXTINGUISHER (B-C), WATER

SPECIAL FIRE FIGHTING PROCEDURES

STOP THE RELEASE OF MATERIALS IF POSSIBLE. COOL THE VAPOR SPACE OF THE STORAGE CONTAINER WITH WATER SPRAY. AVOID ACCUMULATION OF UNBURNED MATERIALS. REMOVE PERSONNEL IN GENERAL AREA. OBSERVE MAXIMUM ISOLATION WHEN EXTINGUISHING FIRE. EXPANSION OF LIQUID AND CHANGE OF STATE FROM LIQUID TO VAPOR WILL ALLOW COMBUSTIBLE MIXTURE TO ENCOMPASS A LARGE AREA.

UNUSUAL FIRE AND EXPLOSION HAZARDS

VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND OR MAY BE MOVED BY VENTILATION SYSTEMS AND IGNITED BY PILOT LIGHTS, OTHER FLAMES, SPARKS, HEATERS, SMOKING, ELECTRIC MOTORS, STATIC DISCHARGE, OR OTHER IGNITION SOURCES AT LOCATIONS DISTANT FROM MATERIAL HANDLING POINT.

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SECTION V HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE

INGESTION- LIQUID INGESTION MAY CAUSE FROSTBITE. ASPIRATION HAZARD!

INHALATION- INHALATION OF VAPOR MAY PRODUCE ANESTHETIC EFFECTS AND FEELING OF EUPHORIA. PROLONGED OVEREXPOSURE CAN CAUSE RAPID BREATHING, HEADACHE, DIZZINESS, NARCOSIS, UNCONSCIOUSNESS, AND DEATH FROM ASPHYXIATION, DEPENDING ON CONCENTRATION AND TIME OF EXPOSURE.

SKIN CONTACT- CONTACT WITH EVAPORATING LIQUID CAN CAUSE FROSTBITE.

EYE CONTACT- CAN CAUSE SEVERE IRRITATION, REDNESS, TEARING, BLURRED VISION, AND POSSIBLE FREEZE BURNS.

EMERGENCY FIRST AID PROCEDURES

INGESTION- DO NOT INDUCE VOMITING. CONTACT A PHYSICIAN IMMEDIATELY.

INHALATION- REMOVE TO FRESH AIR. IF BREATHING HAS STOPPED, RESTORE BREATHING AT ONCE. ADMINISTER OXYGEN AND GET MEDICAL HELP.

SKIN CONTACT- FOR LIQUID CONTACT, WARM AREAS GRADUALLY AND GET MEDICAL ATTENTION IF THERE IS EVIDENCE OF TISSUE DAMAGE. FLUSH AREA WITH PLENTY OF WATER. TREAT AS FROSTBITE.

EYE CONTACT- FOR LIQUID CONTACT, IRRIGATE WITH RUNNING WATER FOR MINIMUM OF 15 MINUTES. CONSULT PHYSICIAN IMMEDIATELY IF FROSTBITE OCCURS.

SECTION VI REACTIVITY DATA

STABILITY:	EXPLOSIVE PEROXIDES MAY FORM UPON LONG EXPOSURE TO AIR
HAZARDOUS POLYMERIZATION:	CAN NOT OCCUR
INCOMPATIBILITY (MATERIALS TO AVOID):	OXYGEN, OXIDEZERS, CO, ACETIC ACID, ETC.
HAZARDOUS DECOMPOSITION PRODUCTS:	VIOLENT DECOMPOSITION CAN OCCUR IF HEATED IN THE PRESENCE OF PEROXIDES
CONDITIONS TO AVOID:	HIGH HEAT, SPARK, AND OPEN FLAMES

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

CONTAIN THE SPILL. ELIMINATE SOURCES OF IGNITION. USE WATER SPRAY TO REDUCE VAPORS. FOR SMALL SPILLS, TAKE UP WITH ABSORBENT MATERIAL. IF CONFINED SPACE - USE SELF CONTAINED BREATHING APPARATUS. CONSULT LOCAL FIRE AUTHORITIES.

WASTE DISPOSAL

- (1) MECHANICAL RECOVERY
- (2) BURN UNDER CONTROLLED CONDITIONS.
- (3) DEPOSIT CONTAMINATED ABSORBENT IN DESIGNATED LANDFILL

**** COMPLY WITH ALL STATE AND LOCAL REGULATIONS ****

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SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS.
PROTECTIVE GLOVES: IMPERVIOUS, INSULATED GLOVES RECOMMENDED
EYE PROTECTION: FACESHIELD OR GOGGLES RECOMMENDED
OTHER: IMPERVIOUS CLOTHING FOR PROLONGED OR REPEATED CONTACT

VENTILATION

MECHANICAL: PROVIDE AS NEEDED TO KEEP CONCENTRATION IN AIR BELOW TLV AND LEL
LOCAL EXHAUST: CONTINUOUS VENTILATION RECOMMENDED
SPECIAL: EXPLOSION PROOF FANS AND MOTORS

SECTION IX SPECIAL PRECAUTIONS

WATCH FOR LEAKS AND SPILLS. KEEP CONTAINERS SEALED AND STORE IN COOL, WELL-VENTILATED AREA. BOND AND GROUND DURING LIQUID TRANSFER. PROVIDE MEANS TO CONTROL LEAKS AND SPILLS. PROTECT FROM SOURCES OF IGNITION. PROHIBIT SMOKING IN AREAS OF STORAGE OR USE. AVOID CONCENTRATING PEROXIDES BY DISTILLING.

SECTION X MISCELLANEOUS INFORMATION

TRANSPORT INFORMATION

DIMETHYL ETHER

2.1, FLAMMABLE GAS, UN1033
 LABELED / PLACARDED FLAMMABLE GAS

NPCA - HMIS RATINGS

HEALTH 1
FLAMMABILITY 4
REACTIVITY 1
PERSONAL PROTECTION -

(PERSONAL PROTECTION INFORMATION TO BE SUPPLIED BY THE USER)

REGULATORY INFORMATION

THE INGREDIENTS LISTED IN SECTION 2 ARE REPORTED/INCLUDED IN THE U.S. TSCA INVENTORY AND CANADIAN DOMESTICS SUBSTANCE LIST.

THIS PRODUCT IS DEFINED BY OSHA IN 29 CFR 1910.1200c AS A FLAMMABLE GAS. USE OF THIS PRODUCT MAY REQUIRE COMPLIANCE WITH 29 CFR 1910.119, PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS.