



MATHESON

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Safety Data Sheet

Material Name: VINYL METHYL ETHER

SDS ID: MAT25010

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

VINYL METHYL ETHER

Synonyms

MTG MSDS 135; METHYL VINYL ETHER; METHOXYETHYLENE; MVE; VINYL METHYL ETHER, INHIBITED; METHOXYETHENE; ETHER, METHYL VINYL; 1-METHOXYETHYLENE; UN1087; C₃H₆O

Chemical Family

ethers, aliphatic

Product Use

Industrial and Specialty Gas Applications.

Restrictions on Use

None known.

Details of the supplier of the safety data sheet

MATHESON TRI-GAS, INC.

150 Allen Road, Suite 302

Basking Ridge, NJ 07920

General Information: 1-800-416-2505

Emergency #: 1-800-424-9300 (CHEMTREC)

Outside the US: 703-527-3887 (Call collect)

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.

Flammable Gases - Category 1

Gases Under Pressure - Liquefied gas

Skin Corrosion/Irritation - Category 1

Serious Eye Damage/Eye Irritation - Category 1

Specific target organ toxicity - Single exposure - Category 3

GHS Label Elements

Symbol(s)



Signal Word

Danger

Hazard Statement(s)

Extremely flammable gas.

Contains gas under pressure; may explode if heated.

May cause drowsiness and dizziness.

Precautionary Statement(s)

Prevention

Keep away from heat, sparks, open flame, and hot surfaces - No smoking.

Avoid breathing gas.

Use only outdoors or in a well-ventilated area.

Response



Safety Data Sheet

Material Name: VINYL METHYL ETHER**SDS ID: MAT25010**

Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

Eliminate all ignition sources if safe to do so.

IF INHALED.

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

Storage

Protect from sunlight.

Store in a well-ventilated place.

Keep container tightly closed.

Store locked up.

Disposal

Dispose in accordance with all applicable regulations.

Other Hazards

May form peroxides during prolonged storage.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
107-25-5	VINYL METHYL ETHER	100
Not Available	INHIBITORS	<0.1

Section 4 - FIRST AID MEASURES**Inhalation**

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

Skin

If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115°F; 41-46°C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.

Eyes

Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion

If swallowed, get medical attention.

Most Important Symptoms/Effects**Acute**

central nervous system depression, frostbite

Delayed

no information on significant adverse effects.

Indication of any immediate medical attention and special treatment needed

For inhalation, consider oxygen.

Section 5 - FIRE FIGHTING MEASURES**Extinguishing Media****Suitable Extinguishing Media**

carbon dioxide, regular dry chemical, Large fires: water spray or fog.

Unsuitable Extinguishing Media

Do not direct water at source of leak or safety devices; icing may occur.

Special Hazards Arising from the Chemical



Safety Data Sheet

Material Name: VINYL METHYL ETHER**SDS ID: MAT25010**

Severe fire hazard. Vapor/air mixtures are explosive above flash point. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back.

Hazardous Combustion Products

Oxides of carbon

Fire Fighting Measures

Move container from fire area if it can be done without risk. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Stop leak if possible without personal risk. Let burn unless leak can be stopped immediately. For smaller tanks or cylinders, extinguish and isolate from other flammables. Evacuation radius: 800 meters (1/2 mile). Do not attempt to extinguish fire unless flow of material can be stopped first. Flood with fine water spray. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Evacuate if fire gets out of control or containers are directly exposed to fire. Evacuation radius: 500 meters (1/3 mile). Consider downwind evacuation if material is leaking. Stop flow of gas.

Special Protective Equipment and Precautions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8.

Methods and Materials for Containment and Cleaning Up

Avoid heat, flames, sparks and other sources of ignition. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Do not direct water at spill or source of leak. Avoid allowing water runoff to contact spilled material. Remove sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering.

Environmental Precautions

Avoid release to the environment.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Keep away from heat, sparks, open flame, and hot surfaces - No smoking. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling.

Conditions for Safe Storage, Including any Incompatibilities

Protect from sunlight.

Store in a well-ventilated place.

Keep container tightly closed.

Store locked up.

Store and handle in accordance with all current regulations and standards. Grounding and bonding required. Protect from sunlight. Store in a well-ventilated area. Store in a tightly closed container. Keep separated from incompatible substances. Keep locked up. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Containers must have overpressure release device. Avoid heat, flames, sparks and other sources of ignition. Monitor inhibitor content. Avoid exposure to low temperatures or freezing. May form peroxides during prolonged storage. Avoid contact with light. Store in a cool, dry place. Check peroxide content before use. Do not evaporate or distill to dryness. Store under an inert atmosphere.



Safety Data Sheet

Material Name: VINYL METHYL ETHER**SDS ID: MAT25010****Incompatible Materials**

Acids, halogens, metal salts, oxidizing materials, combustible materials, reducing agents

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**Component Exposure Limits**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

There are no biological limit values for any of this product's components.

Engineering Controls

Provide local exhaust ventilation system. Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits.

Individual Protection Measures, such as Personal Protective Equipment**Eye/face protection**

For the gas: Eye protection not required, but recommended. For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin Protection

For the gas: Protective clothing is not required, but recommended. For the liquid: Wear appropriate protective, cold insulating clothing.

Respiratory Protection

Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use. Any chemical cartridge respirator with organic vapor cartridge(s). Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s). Any air-purifying respirator with a full facepiece and an organic vapor canister. Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Glove Recommendations

Wear insulated gloves.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	colorless gas	Physical State	gas
Odor	sweet odor ,pleasant odor	Color	colorless
Odor Threshold	Not available	pH	Not available
Melting Point	-122 °C (-188 °F)	Boiling Point	6 °C (43 °F)
Boiling Point Range	Not available	Freezing point	Not available
Evaporation Rate	84.4 (Butyl acetate = 1)	Flammability (solid, gas)	Flammable gas
Autoignition Temperature	287 °C (549 °F)	Flash Point	-56 °C Open Cup (-69 °F)



Safety Data Sheet

Material Name: VINYL METHYL ETHER**SDS ID: MAT25010**

Lower Explosive Limit	2.6 %	Decomposition temperature	Not available
Upper Explosive Limit	39 %	Vapor Pressure	1052 mmHg @ 20 °C
Vapor Density (air=1)	2	Specific Gravity (water=1)	0.7725 at 0 °C
Water Solubility	0.82 % (@ 25 °C)	Partition coefficient: n-octanol/water	Not available
Viscosity	Not available	Kinematic viscosity	Not available
Solubility (Other)	Not available	Density	Not available
Henry's Law Constant	0.0067 atm-m ³ /mole	KOC	22 (Estimated)
Physical Form	compressed gas	Volatility	100 %
Molecular Formula	C-H ₃ -O-C-H-C-H ₂	Molecular Weight	58.09
Critical Temperature	172 °C		

Solvent Solubility**Soluble**

alcohol, ether, acetone, Benzene, organic solvents

Slightly Soluble

polyhydroxy organic compounds

Insoluble

glycerol

Section 10 - STABILITY AND REACTIVITY

Chemical Stability

Polymerizes with evolution of heat. Avoid contact with light. May form explosive peroxides. Avoid prolonged storage or contact with air, light or storage and use above room temperature.

Possibility of Hazardous Reactions

Polymerizes with evolution of heat. Avoid contact with heat, air, light or moisture and monitor inhibitor content.

Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat.

Incompatible Materials

Acids, halogens, metal salts, oxidizing materials, combustible materials, reducing agents

Hazardous decomposition products

Oxides of carbon

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure**Inhalation**

irritation, headache, drowsiness, dizziness, loss of coordination, blurred vision, convulsions

Skin Contact

frostbite

Eye Contact

frostbite, blurred vision



Safety Data Sheet

Material Name: VINYL METHYL ETHER**SDS ID: MAT25010****Ingestion**

frostbite, nausea, vomiting, diarrhea

Acute and Chronic Toxicity**Component Analysis - LD50/LC50**

The components of this material have been reviewed in various sources and the following selected endpoints are published:

VINYL METHYL ETHER (107-25-5)

Oral LD50 Rat 4900 mg/kg

Dermal LD50 Rabbit >8 g/kg

Inhalation LC50 Rat >47.9 mg/L 4 h (no deaths occurred)

Product Toxicity Data**Acute Toxicity Estimate**

Dermal	> 2000 mg/kg
Inhalation - Gas	> 20000 ppm
Oral	> 2000 mg/kg

Immediate Effects

central nervous system depression, frostbite

Delayed Effects

no information on significant adverse effects.

Irritation/Corrosivity Data

No data available.

Respiratory Sensitization

No data available.

Dermal Sensitization

No data available.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA

Germ Cell Mutagenicity

No data available.

Tumorigenic Data

No data available

Reproductive Toxicity

No data available.

Specific Target Organ Toxicity - Single Exposure

central nervous system

Specific Target Organ Toxicity - Repeated Exposure

no information on significant adverse effects.

Aspiration hazard

Not applicable.

Medical Conditions Aggravated by Exposure

skin disorders and allergies

Section 12 - ECOLOGICAL INFORMATION**Component Analysis - Aquatic Toxicity**

No LOLI ecotoxicity data are available for this product's components.

Persistence and Degradability

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Safety Data Sheet

Material Name: VINYL METHYL ETHER**SDS ID: MAT25010**

No data available.

Bioaccumulative Potential

Bioconcentration potential in aquatic organisms is low based on a BCF value of 3.

Mobility

Expected to have high mobility in soil.

Section 13 - DISPOSAL CONSIDERATIONS**Disposal Methods**

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262.

Hazardous Waste Number(s): D001, D003.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

Section 14 - TRANSPORT INFORMATION**US DOT Information:****Shipping Name:** VINYL METHYL ETHER, STABILIZED**Hazard Class:** 2.1**UN/NA #:** UN1087**Required Label(s):** 2.1**IMDG Information:****Shipping Name:** VINYL METHYL ETHER, STABILIZED**Hazard Class:** 2.1**UN#:** UN1087**Required Label(s):** 2.1**International Bulk Chemical Code**

This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

Section 15 - REGULATORY INFORMATION**U.S. Federal Regulations**

None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories

Flammable; Gas Under Pressure; Skin Corrosion/Irritation; Serious Eye Damage/Eye Irritation; Specific Target Organ Toxicity

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
VINYL METHYL ETHER	107-25-5	No	Yes	No	Yes	Yes

Not listed under California Proposition 65**Canada Regulations****Canadian WHMIS Ingredient Disclosure List (IDL)**

The components of this product are either not listed on the IDL or are present below the threshold limit listed on the IDL.

WHMIS Classification

AB

Component Analysis - Inventory

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Safety Data Sheet

Material Name: VINYL METHYL ETHER**SDS ID: MAT25010****VINYL METHYL ETHER (107-25-5)**

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW	VN - NCI (Draft)
Yes	NSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No

Section 16 - OTHER INFORMATION

NFPA Ratings

Health: 1 Fire: 4 Reactivity: 2

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes

Updated: 05/01/2015

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX - Mexico; NDSL - Non-Domestic Substance List (Canada); NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL - Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH - Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TCCA - Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW - Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN NCI (Draft) - Vietnam National Chemicals Inventory (NCI) (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada) .

Other Information**Disclaimer:**

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SDS ID: MAT25010

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