

Glycol Ether PM ACETATE

Version 1.0

Revision Date 09/05/2014

Print Date 02/17/2015

SDS No.: BE126

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Glycol Ether PM ACETATE
CAS Number: 108-65-6
Chemical characterization : Propylene Glycol Ether Esters
Chemical Name : 1-Methoxy-2-Propanol Acetate
Synonyms : PM Acetate, PMA

Use of the Substance/Mixture : Solvent

Company : Lyondell Chemical Company
LyondellBasell Tower, Suite 300
1221 McKinney St.
P.O. Box 2583
Houston Texas 77252-2583

Telephone : Customer Service 888 777-0232
Product Safety 800 700-0946

Emergency telephone : CHEMTREC USA 800-424-9300
LYONDELL 800-245-4532

E-mail address product.safety@lyondellbasell.com

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Flammable liquids

Category 3

GHS Classification Scale (1= severe hazard; 4= slight hazard)

Label elements**Hazard symbols** :**Signal Word** : Warning**Hazard Statements** : H226 Flammable liquid and vapor.

Precautionary Statements : **Prevention**
P210 Keep away from open flames/hot surfaces. - No smoking.
P233 Keep container tightly closed.
P243 Take precautionary measures against static discharge.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Glycol Ether PM ACETATE

Gen. Variant: SDS_US_GHS

Version 1.0

Revision Date 09/05/2014

Print Date 02/17/2015

SDS No.: BE126

Response

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage

P403 + P235 Store in a well-ventilated place. Keep cool.

Other hazards

No additional information available.

3. Composition/information on ingredients**Substances**

Chemical nature : Substance

Ingredients

Chemical Name	CAS-No. EC-No.	Weight %	Component Type
1-Methoxy-2-propanol acetate	108-65-6	>= 99.7 %	A
2-Methoxy-1-propanol acetate	70657-70-4	<0.3 %	C
Butylated Hydroxy Toluene	128-37-0	0.005 - 0.007 %	

Key:

(A) Substance

(C) Impurity

SECTION 4. FIRST AID MEASURES**First aid procedures**

General advice : Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. For specific information refer to the Emergency Overview in Section 2 of this SDS.
After adequate first aid, no further treatment is required unless symptoms reappear.
Consult a physician/doctor if necessary.
Show this material safety data sheet to the doctor in attendance.

If inhaled : If overcome by exposure, remove victim to fresh air immediately.
Give oxygen or artificial respiration as needed.
Obtain emergency medical attention.

Glycol Ether PM ACETATE

Version 1.0

Revision Date 09/05/2014

Print Date 02/17/2015

SDS No.: BE126

Prompt action is essential.

- In case of skin contact : Remove contaminated clothing as needed.
Wash thoroughly with soap and water.
Flush with lukewarm water for 15 minutes.
If sticky, use waterless cleaner first.
Seek medical attention if discomfort persists.
- In case of eye contact : Immediately flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower lids. If pain or irritation persists, promptly obtain medical attention.
- If swallowed : Do not induce vomiting. Risk of damage to lungs exceeds poisoning risk.
Obtain emergency medical attention.

Notes to physician

- Symptoms : May cause moderate irritation, including burning sensation, tearing, redness or swelling.
Prolonged overexposure to either vapor or mist may cause coughing, shortness of breath, dizziness and drunkenness.
Ingestion may cause gastrointestinal discomfort with any or all of the following symptoms: nausea, vomiting, lethargy, or diarrhea.
Repeated or prolonged exposure may irritate the mucous membranes.
- Hazards : Inhalation may cause CNS symptoms like headache, dizziness, fatigue, muscular weakness, drowsiness and lack of coordination.
- Treatment : Treat symptomatically.
Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5. FIRE-FIGHTING MEASURES**Flammable properties**

- Flash point : ~ 113.9 °F (45.5 °C)
at 101.3 hPa (76.0 mm Hg)
Method: ASTM D 3278
- Autoignition temperature : 604 °F (318 °C)
- Lower explosion limit : 1.5 vol%
- Upper explosion limit : 12 vol%

Fire fighting

Glycol Ether PM ACETATE

Gen. Variant: SDS_US_GHS

Version 1.0

Revision Date 09/05/2014

Print Date 02/17/2015

SDS No.: BE126

Suitable extinguishing media : SMALL FIRE: Use dry chemicals, CO₂, water spray or alcohol-resistant foam. LARGE FIRE: Use water spray, water fog or alcohol-resistant foam.

Unsuitable extinguishing media : Do not use solid water stream.

Protective equipment and precautions for firefighters

Specific hazards during fire fighting : When heated above the flash point, releases flammable vapors.
When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined.
Vapors may be heavier than air.
May travel long distances along the ground before igniting and flashing back to vapor source.
Fine sprays/mists may be combustible at temperatures below normal flash point.
Fight fire from a safe distance/protected location.
Heat may build enough pressure to rupture closed containers/spreading fire/increasing risk of burns/injuries.
Use water spray/fog for cooling.
Avoid frothing/steam explosion.
Burning liquid may float on water.
Although water soluble, may not be practical to extinguish fire by water dilution.
Notify authorities immediately if liquid enters sewer/public waters.

Special protective equipment for fire-fighters : Do not enter fire area without proper protection.
Wear positive pressure self-contained breathing apparatus (SCBA).
Structural firefighter's protective clothing will only provide limited protection.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Eliminate all sources of ignition.
Ensure adequate ventilation.
Use personal protective equipment.

Environmental precautions : If necessary, all contaminated waste water must be treated in a municipal or industrial wastewater treatment plant before release to surface water.

Chemical removal by air and water pollution control devices must meet the minimum efficiency requirements needed to reduce exposures to an acceptable level.

Methods for containment / Methods for cleaning up : Flammable liquid.
Release can cause fire or explosion.
Liquids/vapors may ignite.
Evacuate/limit access.
Equip responders with proper protection.

Glycol Ether PM ACETATE

Gen. Variant: SDS_US_GHS

Version 1.0

Revision Date 09/05/2014

Print Date 02/17/2015

SDS No.: BE126

Extinguish all ignition sources.
Stop leak if you can do it without risk.
Slippery walking/spread granular cover or soak up.
Prevent flow to sewer/public waters.
Notify fire and environmental authorities.
Soak up small spills with inert solids.
Use suitable disposal containers.
On water, material is soluble and may float or sink.
Contain/collect rapidly to minimize dispersion.
Disperse residue to reduce aquatic harm.
Report per regulatory requirements.

SECTION 7. HANDLING AND STORAGE**Handling**

Advice on safe handling : For industrial use only.
Keep container tightly closed when not in use.
The potential for peroxide formation is enhanced when this solvent is used in processes such as distillation.
Product contains Butylhydroxytoluene (BHT) to prevent peroxide formation
Use only non-sparking tools.
Properly ground containers before beginning transfer.
When transferring propylene glycol ethers with flash points at or below 60 °C (140 °F) into fixed site vessels, the vessel should be purged and inerted prior to transfer.
Propylene glycol ethers may be transferred into air atmospheres if the temperature of the product and the ambient temperature within the shipping container are both at least 16.7 °C (30 °F) less than the product's flash point. After loading, nitrogen blanketing is required if the contents of the transportation container could exceed a temperature of 16.7 °C (30 °F) less than the product flash point during any subsequent transportation activities.
If the product flash point is less than 16.7 °C (30 °F) above either the ambient temperature of the transportation container or the storage temperature of the product, the container should be purged and inerted with nitrogen prior to loading and nitrogen blanketed after loading.
Handle empty containers with care.
Flammable/combustible residue remains after emptying.
The purging of all empty shipping containers, regardless of the flashpoint, is recommended when received with air atmospheres.
Isolate, vent, drain, wash and purge systems or equipment before maintenance or repair.
Use adequate personal protective equipment.
Observe precautions pertaining to confined space entry.

Storage

Requirements for storage areas and containers : Store only in tightly closed, properly vented containers away from heat, sparks, open flame and strong oxidizing agents.

Glycol Ether PM ACETATE

Gen. Variant: SDS_US_GHS

Version 1.0

Revision Date 09/05/2014

Print Date 02/17/2015

SDS No.: BE126

Storage under nitrogen atmosphere is recommended to minimize possible formation of highly reactive peroxides. Store in properly lined steel/stainless steel to avoid slight discoloration from mild steel/copper. Aluminum (5000 series alloys - U.S. Aluminum Association Standard) showed no corrosion after 30 days contact with PM Acetate, DPM, TPM, PTB, or PM at 71°C (160°F). Some plastics/rubbers are attacked by Glycol Ethers/Ether Esters. This product will absorb water if exposed to air.

8. Exposure controls/personal protection**Control parameters****Ingredients with workplace control parameters**

Consult local authorities for acceptable exposure limits.

Exposure controls**Engineering measures**

Local exhaust and general ventilation must be adequate to meet exposure limit(s).

Personal protective equipment

- Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. No occupational exposure limits have been developed for this material. Where exposure through inhalation may occur from use, approved respiratory protection equipment is recommended.
- Hand protection : Wear chemical resistant gloves such as: Neoprene.
- Eye and face protection : Eye protection such as chemical splash goggles and/or face shield must be worn when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapor.
- Skin and body protection : Depending on the conditions of use, protective gloves, apron, boots, head and face protection should be worn. The equipment must be cleaned thoroughly after each use.
- Hygiene measures : Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use. Emergency eye wash fountains and safety showers should be

Glycol Ether PM ACETATE

Version 1.0

Revision Date 09/05/2014

Print Date 02/17/2015

SDS No.: BE126

available in the immediate vicinity of any potential exposure.
Use good personal hygiene practices.
Wash hands before eating, drinking, smoking, or using toilet facilities.
Take off contaminated clothing and wash before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Physical state : liquid
Color : Colorless.
Odor : Ester-like odor.

Safety data

Flash point : ~ 113.9 °F (45.5 °C)
at 101.3 hPa (76.0 mm Hg)
Method: ASTM D 3278

Lower explosion limit : 1.5 vol%
Upper explosion limit : 12 vol%
Flammability (solid, gas) : Not applicable
Oxidizing properties : Not considered an oxidizing agent.
Autoignition temperature : 604 °F (318 °C)
Molecular weight : 132.15 g/mol
Decomposition temperature : not determined

pH : 6.8
Melting point/freezing point : -85 °F (-65 °C)
Boiling point/boiling range : 295 °F (146 °C)
at 1,013 hPa (760 mm Hg)
Vapor pressure : 0.0079 hPa (0.006 mm Hg)
at 77 °F (25 °C)
Density : ~0.96 g/cm³
at 77 °F (25 °C)
Water solubility : 198 g/l
at 68 °F (20 °C)

Glycol Ether PM ACETATE

Version 1.0

Revision Date 09/05/2014

Print Date 02/17/2015

SDS No.: BE126

	Soluble in water.
Partition coefficient: n-octanol/water	: log Pow: 0.36 at 77 °F (25 °C)
Viscosity, dynamic	: ~1 mPa.s at 77 °F (25 °C) (Brookfield).
Viscosity, kinematic	: 1.1 mm ² /s at 77 °F (25 °C)
Relative vapor density	: ~4.6 at 59 - 90 °F (15 - 32 °C) (Air = 1.0)
Evaporation rate	: 0.3 (butyl acetate = 1)
Explosive properties	: Not explosive

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: May react with oxygen to form peroxides.
Chemical stability	: Stable under recommended storage conditions.
Conditions to avoid	: Extended contact with air or oxygen. The potential for peroxide formation is enhanced when this solvent is used in processes such as distillation. Heat, sparks, open flame, other ignition sources, and oxidizing conditions. Ignition may occur at temperatures below those published in the literature as autoignition or ignition temperatures.
Materials to avoid	: Strong oxidizing agents. Moisture and humidity. May react with oxygen to form peroxides. However, there is no known evidence that it has nearly the peroxide forming potential as, for example, diethyl ether, etc.
Thermal decomposition	: Carbon Monoxide and other toxic vapors.
Hazardous reactions	: Not expected to occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Glycol Ether PM ACETATE

Version 1.0

Revision Date 09/05/2014

Print Date 02/17/2015

SDS No.: BE126

- Product Summary** : The below given information is based on the assessment of the product including impurities.
- Acute toxicity**
- Acute oral toxicity** : Based on acute toxicity values, not classified.
- : LD50: 6,190 mg/kg
Species: Rat
- Acute inhalation toxicity** : Based on acute toxicity values, not classified.
- : LC0: > 23.4 mg/l
Exposure time: 6 HOURS
Species: Rat
- Acute dermal toxicity** : Based on acute toxicity values, not classified.
- : LD50: > 5,000 mg/kg
Species: Rabbit
- : LD50: > 2,000 mg/kg
Species: Rat
- Skin corrosion/irritation** : Based on skin irritation values, not classified.
- Serious eye damage/eye irritation** : Based on eye irritation values, not classified.
May cause moderate irritation, including burning sensation, tearing, redness or swelling.
- Respiratory or skin sensitization** : Respiratory sensitization
Not classified
No study available.
- : Skin sensitization
Not classified
No adverse effect observed.
- Chronic toxicity**
- Carcinogenicity** : Not classified
No adverse effect observed.

Glycol Ether PM ACETATE

Version 1.0

Revision Date 09/05/2014

Print Date 02/17/2015

SDS No.: BE126

Germ cell mutagenicity : Not classified
No adverse effect observed.

Reproductive toxicity

Effects on fertility /
Effects on or via lactation : Not classified
No adverse effect observed.

Effects on Development : Not classified
No adverse effect observed.

**Target Organ Systemic
Toxicant - Single exposure** : Based on single exposure toxicity values, not classified.

: High concentrations may cause central nervous system depression.

**Target Organ Systemic
Toxicant - Repeated
exposure** : Based on repeated exposure toxicity values, not classified.

Aspiration hazard : Based on physico-chemical values or lack of human evidence,
not classified.

12. ECOLOGICAL INFORMATION**Ecotoxicology Assessment**

Acute aquatic toxicity : Based on acute aquatic toxicity values, not classified.

Chronic aquatic toxicity : Not classified, based on readily biodegradability and low acute toxicity.

Toxicity to fish :
Acute toxicity to fish is low.

**Toxicity to daphnia and
other aquatic invertebrates** : Acute toxicity to freshwater and marine invertebrates is very low.

Toxicity to algae : Acute toxicity to aquatic plants very low.

Toxicity to bacteria : Low toxicity to sewage microbes.

**Toxicity to fish (Chronic
toxicity)** : Low chronic toxicity to fish.

Toxicity to daphnia and : Low chronic toxicity to aquatic invertebrates.

Glycol Ether PM ACETATE

Gen. Variant: SDS_US_GHS

Version 1.0

Revision Date 09/05/2014

Print Date 02/17/2015

SDS No.: BE126

**other aquatic invertebrates
(Chronic toxicity)**

Persistence and degradability

Biodegradability : $\geq 83\%$
Rapidly degradable.
(After 28 days in a ready biodegradability test)

Bioaccumulative potential

Bioaccumulation : Bioconcentration factor (BCF): 3.16
Method: (QSAR calculated value)
This material is not expected to bioaccumulate.

Mobility in soil

**Distribution among
environmental
compartments** : Stability in water
Hydrolytically stable.

: Stability in soil
no data available
Low absorption to soil particulates predicted

**Additional advice
Environmental fate and
pathways** : No additional information available.

Results of PBT and vPvB assessment

Not applicable.

Other adverse effects

**Additional ecological
information** : No additional information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Further information : Contaminated product, soil, or water may be hazardous waste.
(See 40 U.S. Code of Federal Regulations (CFR) 261 and 29 CFR 1910).
Landfill solids at permitted sites.
Use registered transporters.
Burn concentrated liquids.
Avoid flame-outs.
Assure emissions comply with applicable regulations.
Dilute aqueous waste may biodegrade.
Avoid overloading/poisoning plant biomass.
Assure effluent complies with applicable regulations.

Glycol Ether PM ACETATE

Version 1.0

Revision Date 09/05/2014

Print Date 02/17/2015

SDS No.: BE126

SECTION 14. TRANSPORT INFORMATION**DOT**

UN number : 3272
Description of the goods : Esters, n.o.s.
 : (1-Methoxy-2-Propanol Acetate)
Class : 3
Packing group : III
Labels : 3

SECTION 15. REGULATORY INFORMATION

If identified components of this product are listed under the TSCA 12(b) Export Notification rule, they will be listed below. All components of this product are listed or are exempt from listing on the TSCA 8(b) inventory.

SARA 302/304

This product contains no known chemicals regulated under SARA 302/304.

SARA 311/312

Based upon available information, this material is classified as the following health and/or physical hazards according to Section 311 & 312:

Fire Hazard.
Immediate (Acute) Health Hazard.

SARA 313

This product contains no known chemicals regulated under SARA 313.

State Reporting

This material is not known to contain a chemical substance known to the State of California to cause cancer, reproductive, or developmental toxicity under California Proposition 65. However, LyondellBasell has not tested for the presence of listed chemical substances.

This product contains no known chemicals regulated by New Jersey's Worker and Community Right to Know Act.

No components are subject to the Massachusetts Right to Know Act.

This product contains no known chemicals regulated by Pennsylvania's Right to Know Act.

Other international regulations**Global Inventory Status**

The ingredients of this product are compliant with the following chemical inventory requirements or exemptions.

Glycol Ether PM ACETATE

Gen. Variant: SDS_US_GHS

Version 1.0

Revision Date 09/05/2014

Print Date 02/17/2015

SDS No.: BE126

*Additional Explanatory Status Statements follow the table, as necessary.

Country/Region	Inventory	Status Description
Australia	AICS	Compliant
Canada	DSL	Compliant
China	IECSC	Compliant
Europe	REACH	See REACH Compliance Statement
Japan	ENCS	Compliant
Korea	KECI	Compliant
New Zealand	NZIoC	Compliant
Philippines	PICCS	Compliant
United States of America	TSCA	Compliant

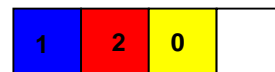
REACH status

If the product has been purchased from any company of the LyondellBasell group of companies registered in the European Union, we confirm that the chemical substance in this product has been pre-registered or, where required under REACH, registered, and that we have the intention to proceed with any required registration in accordance with the deadlines set forth in REACH. (Regulation (EU) No. 1907/2006)

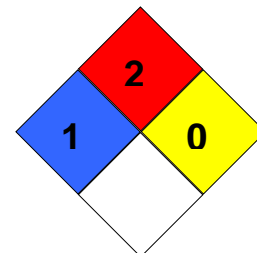
Contact product.safety@lyondellbasell.com for additional global inventory information.

SECTION 16. OTHER INFORMATION**Further information****HMIS Classification**

: Health Hazard: 1
 Flammability: 2
 Physical hazards: 0

**NFPA Classification**

: Health Hazard: 1
 Fire Hazard: 2
 Instability: 0

**Other Information**

HMIS rating scale (0 = minimal hazard; 4 = severe hazard)

NFPA rating scale (0 = minimal hazard; 4 = severe hazard)

Material safety datasheet sections which have been updated:

Updated format Revised Section(s): 1 2 3 8 11 12 15 Revision Date August 31 2014

Glycol Ether PM ACETATE

Version 1.0

Revision Date 09/05/2014

Print Date 02/17/2015

SDS No.: BE126

Disclaimer

This document is generated for the purpose of distributing health, safety, and environmental data.

Information is correct to the best of our knowledge at the date of the SDS publication.

It is not a specification sheet nor should any displayed data be construed as a specification.

Before using a product sold by a company of the LyondellBasell family of companies, users should make their own independent determination that the product is suitable for the intended use and can be used safely and legally. SELLER MAKES NO WARRANTY; EXPRESS OR IMPLIED (INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY WARRANTY) OTHER THAN AS SEPARATELY AGREED TO BY THE PARTIES IN A CONTRACT.

This product(s) may not be used in:

(i) any U.S. FDA Class I, Health Canada Class I, and/or European Union Class I medical devices, without prior notification to Seller for each specific product and application; or (ii) the manufacture of any of the following, without prior written approval by Seller for each specific product and application: U.S. FDA Class II Medical Devices; Health Canada Class II or Class III Medical Devices; European Union Class II Medical Devices; film, overwrap and/or product packaging that is considered a part or component of one of the aforementioned medical devices; packaging in direct contact with a pharmaceutical active ingredient and/or dosage form that is intended for inhalation, injection, intravenous, nasal, ophthalmic (eye), digestive, or topical (skin) administration; tobacco related products and applications, electronic cigarettes and similar devices, and pressure pipe or fittings that are considered a part or component of a nuclear reactor. Additionally, the product(s) may not be used in: (i) U.S. FDA Class III Medical Devices; Health Canada Class IV Medical Devices; European Class III Medical Devices; (ii) applications involving permanent implantation into the body; (iii) life-sustaining medical applications; and (iv) lead, asbestos or MTBE related applications. All references to U.S. FDA, Health Canada, and European Union regulations include another country's equivalent regulatory classification.

Alkylate, Duopac, Duoprime, Filmex, MPDIOL, Polymeg, SAA-100, SAA-101, TBAC, Tebol, T-Hydro, and Tufflo are trademarks owned or used by the LyondellBasell family of companies.

Duopac, Duoprime, Filmex, MPDIOL, Polymeg, Tebol, T-Hydro and Tufflo are registered in the U.S. Patent and Trademark Office.

Language Translations

The information presented in this document has been translated from English by a vendor LyondellBasell believes to be reliable. LyondellBasell and its vendor have made a good-faith effort to verify the accuracy of the translation, but assume no liability or other responsibility for any errors that may have occurred. Please refer to our web site (www.lyondellbasell.com) for the original document written in English.