



# Material Safety Data Sheet

MSDS No.: BE126  
 Variant: U.S.A.-EN  
 Version No: 1.5  
 Validation Date: 10/13/2006

## ARCOSOLV® PM ACETATE

### SECTION 1: IDENTIFICATION

**Product Name:** ARCOSOLV® PM ACETATE

**Product Number:** 000000000000499209

**Internal ID:** 3680

**Chemical Family:** Propylene Glycol Ether Esters

**CAS Number:** 108-65-6 Mixture

**Chemical Name:** 1-Methoxy-2-Propanol Acetate

**Synonyms:** 1-Methoxy-2-Propanol Acetate, PM Acetate

**Company**

Lyondell Chemical Company  
 One Houston Center, Suite 700  
 1221 McKinney St.  
 P.O. Box 2583  
 Houston Texas 77252-2583

**Business Contact**

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

REC'D NOV 20 2008

**Distributed By:**  
**SAL Chemical**  
**3036 Birch Drive**  
**Weirton, WV 26062**  
**Phone: 304-748-8200**  
**Fax: 304-797-8751**

**24 Hour Emergency Contact**

CHEMTREC 800 424-9300  
 LYONDELL 800-245-4532

### SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component Name</u>	<u>CAS #</u>	<u>EU Inventory</u>	<u>Concentration Wt.%*</u>	<u>Risk</u>	<u>Symbol</u>
1-Methoxy-2-propanol acetate	108-65-6	203-603-9	99.0 <= 100.0	R10, R36	Xi
2-Methoxy-1-propanol acetate	70657-70-4	274-724-2	< 0.5	R61, R10, R37	T

\* Concentration of gaseous products or materials is given in Mole %  
 Compositions given are typical values not specifications.

### SECTION 3: HAZARD IDENTIFICATION

**Emergency Overview**

This material is HAZARDOUS by OSHA Hazard Communication definition.

**Hazards**

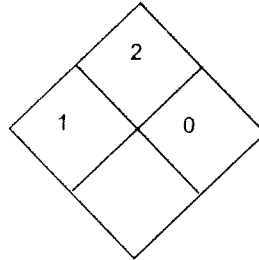
Moderately combustible liquid. May form reactive peroxides. May be irritating to the eyes, skin, and respiratory system.



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NFPA®



HMIS®

Health	2
Flammability	2
Physical Hazard	0

**Physical State**

Liquid.

**Color**

Colorless.

**Odor**

Aromatic, fruity odor.

**Odor Threshold**

No Data Available.

**Potential Health Effects**

**Routes of Exposure**

Eye. Inhalation. Skin.

**Signs and Symptoms of Acute Exposure**

Moderate health hazard. Moderate eye irritant. Mucous membrane irritant. Slight inhalation hazard. Slight ingestion hazard. Slight skin absorption hazard.

• *1-Methoxy-2-propanol acetate* 108-65-6  
Moderate eye irritant. Mucous membrane irritant.

• *2-Methoxy-1-propanol acetate* 70657-70-4  
Moderate eye irritant. Mucous membrane irritant.

**Skin**

No significant signs or symptoms indicative of any health hazard are expected to occur as a result of skin contact. Possible systemic toxicity by skin absorption.

**Inhalation**

Prolonged overexposure to either vapor or mist may cause coughing, shortness of breath, dizziness and drunkenness.

**Eye**

May cause moderate irritation, including burning sensation, tearing, redness or swelling.

**Ingestion**

Ingestion may cause gastrointestinal discomfort with any or all of the following symptoms: nausea, vomiting, lethargy, or diarrhea.

**Chronic Health Effects**

Repeated or prolonged exposure may irritate the mucous membranes.

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- *1-Methoxy-2-propanol acetate 108-65-6*  
Repeated or prolonged exposure may irritate the mucous membranes.

- *2-Methoxy-1-propanol acetate 70657-70-4*  
Damages developing fetus. See section 11.

**Conditions Aggravated by Exposure**

Any pre-existing disorders or diseases of the eye. This material may affect mucous tissue and/or aggravate mucous membrane dysfunction.

**SECTION 4: FIRST AID MEASURES**

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**General**

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 3 of this MSDS., After adequate first aid, no further treatment is required unless symptoms reappear.

**Skin**

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.

**Inhalation**

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

**Eye**

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.

**Ingestion**

If large quantity swallowed, give lukewarm water (pint/ 1/2 litre) if victim completely conscious/alert. Do not induce vomiting. Risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention.

**Note to Physician**

Treat burns or allergic reactions conventionally after decontamination. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. If pain, blinking, tears, or redness continue, patient should contact ophthalmologist.

**SECTION 5: FIRE FIGHTING MEASURES**

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**Flammable Properties****Classification**

OSHA/NFPA Class II combustible liquid.

**Flash Point:**

~ 47 °C (116.6 °F) (TCC)

**Auto-Ignition Temperature**

~ 272 °C (521.6 °F)

**Lower Flammable Limit**

~ 1.5 vol%

**Upper Flammable Limit**

~ 10 vol%

**Extinguishing Media**



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**Suitable:** SMALL FIRE: Use dry chemicals, CO<sub>2</sub>, water spray or alcohol-resistant foam. LARGE FIRE: Use water spray, water fog or alcohol-resistant foam.

**Unsuitable:** Do not use solid water stream.

### Protection of Firefighters

**Protective Equipment/Clothing:** Do not enter fire area without proper protection. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters protective clothing will only provide limited protection.

**Fire Fighting Guidance:** 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.

**Hazardous Combustion Products:** Carbon Monoxide and other toxic vapors.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### **Release Response**

Flammable liquid. Release can cause fire or explosion. Liquids/vapors may ignite. Evacuate/limit access. Equip responders with proper protection. 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**

For industrial use only. Keep container tightly closed when not in use. The potential for peroxide formation is enhanced when these solvents are used in processes such as distillation. 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**

Store only in tightly closed, properly vented containers away from heat, sparks, open flame and strong oxidizing agents. 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 ARCOSOLV® PM Acetate, ARCOSOLV® 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.

## SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION





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### Engineering Controls

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

### Personal Protection

**Inhalation** A respiratory protection program that meets OSHA's 29 CFR 1910.134 or ANSI Z88.2 requirements must be followed whenever workplace conditions warrant respirator use. No occupational exposure limits have been developed for this material. Where exposure through inhalation may occur from use, approved respiratory protection equipment is recommended.

**Skin** Wear chemical resistant gloves such as: Neoprene. 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.

**Eye** 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.

### Additional Remarks

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 available in the immediate vicinity of any potential exposure. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing/wash thoroughly before reuse.

### Occupational Exposure Limits

Component Name	Source / Date	Value	Type	Notation
1-Methoxy-2-propanol acetate	US (ACGIH) / 2004	N/L		
	US (OSHA) / 2003	N/L		
	WEEL / 2006	100 ppm	8 HRS/TWA	
2-Methoxy-1-propanol acetate	US (ACGIH) / 2004	N/L		
	US (OSHA) / 2003	N/L		

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Liquid. Colorless.

**Odor:** Aromatic, fruity odor.

**Odor Threshold:** No Data Available.

**pH:** Not applicable.

**Boiling Point/Boiling Range:** ~ 140 °C (284 °F) @ 760 mm Hg

**Freezing Point/Melting Point:** No Data Available.

**Flash Point:** ~ 47 °C (116.6 °F) (TCC)

**Auto-ignition:** ~ 272 °C (521.6 °F)

**Flammability:** OSHA/NFPA Class II combustible liquid.

**Lower Flammable Limit:** ~ 1.5 vol%



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**Upper Flammable Limit:** ~ 10 vol%

**Explosive Properties:** No Data Available.

**Oxidizing Properties:** No Data Available.

**Vapor Pressure:** ~ 3.8 mm Hg @ 25 °C (77 °F)

**Evaporation Rate:** ~ 0.3 (butyl acetate = 1)

**Relative Density:** ~ 0.96 @ 25 °C (77 °F)

**Relative Vapor Density:** ~ 4.6 @ 15 - 32 °C (59 - 89.6 °F) (Air = 1.0)

**Viscosity:** ~ 1 mPa.s @ 25 °C (77 °F) (Brookfield).

**Solubility (Water):** Appreciable (10 Percent or more).

**Partition Coefficient (Kow):** No Data Available.

**Additional Physical and Chemical Properties:** Hygroscopic. Additional properties may be listed in Sections 3 and 5.

**SECTION 10: STABILITY AND REACTIVITY**

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**Chemical Stability**

This material is stable when properly handled and stored.

**Conditions to Avoid**

Extended contact with air or oxygen. The potential for peroxide formation is enhanced when these solvents are 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.

**Substances 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.

**Decomposition Products**

Carbon Monoxide and other toxic vapors.

**Hazardous Polymerization**

Not expected to occur.

**Reactions with Air and Water**

May react with oxygen to form peroxides.

**SECTION 11: TOXICOLOGICAL INFORMATION**

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**PRODUCT INFORMATION**

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**Product Summary**

See component summary.

**COMPONENT INFORMATION**

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**ARCOSOLV® PM ACETATE**

- *1-Methoxy-2-propanol acetate* 108-65-6

**Acute Toxicity - Lethal Doses**

LD50 (Oral) Rat 8,532 MG/KG BWT

LD50 (Skin) Rat &gt; 5,000 MG/KG

**Target Organ Effects**

Eye. Skin.

**Repeated Dose Toxicity**

No known chronic health effects.

- *2-Methoxy-1-propanol acetate* 70657-70-4

**Target Organ Effects**

Eye. Damages developing fetus.

**Repeated Dose Toxicity**

2-Methoxy-1-propanol has been shown to cause developmental effects in offspring of female rabbits exposed to 0, 145, 225, 350, and 545 ppm by inhalation during pregnancy. 145 ppm was the no observed effect level (NOEL) in this study. The acetate of 2-methoxy-1-propanol also has been tested for developmental effects. Information for the acetate is pertinent since the acetate portion of this molecule is quickly removed in a living organism to yield 2-methoxy-1-propanol. The offspring of rats exposed to concentrations of 0, 110, 550, or 2,700 ppm developed vertebral incisions at the highest exposure level, in the presence of maternal toxicity. Rabbits exposed to 0, 36, 145, or 550 ppm of 2-methoxy-1-propanol acetate bore offspring that showed malformations of sternum, paws, major blood vessels and the heart at the highest exposure level. A concentration of 145 ppm was the no observed effect level (NOEL) for adverse developmental effects from the acetate of 2-methoxy-1-propanol.

**Reproductive Effects**

Damages developing fetus.

**Carcinogenicity**

Not listed by IARC, NTP, or OSHA.

**SECTION 12: ECOLOGICAL INFORMATION**

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**PRODUCT INFORMATION**

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**Ecotoxicity**

See component summary.

**Environmental Fate and Pathway**

See component summary.

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**COMPONENT INFORMATION**

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- *1-Methoxy-2-propanol acetate* 108-65-6

**Ecotoxicity**

No Data Available.



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### Acute toxicity to fish

LC50 / 96 HOURS fish. 161 mg/l

NOEC / 96 HOURS fish. 100 mg/l

### Acute toxicity to aquatic invertebrates

EC0 / 48 HOURS Daphnia magna. 500 mg/l

EC50 / 48 HOURS Daphnia magna. > 500 mg/l

### Environmental Fate and Pathway

It may enter soil and may contaminate water.

### Persistence and Degradability

Biodegradation: This material is expected to be inherently biodegradable.

- 2-Methoxy-1-propanol acetate 70657-70-4

### Ecotoxicity

No Data Available.

### Environmental Fate and Pathway

No Data Available.

## SECTION 13: DISPOSAL CONSIDERATIONS

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.

## SECTION 14: TRANSPORT INFORMATION

### Special Requirements

If you reformulate or further process this material, you should consider re-evaluation of the regulatory status of the components listed in the composition section of this sheet, based on final composition of your product.

Proper Shipping Name Esters, n.o.s. (1-Methoxy-2-Propanol Acetate)

ID No. UN3272

Hazard Class 3

PG III

## SECTION 15: REGULATORY INFORMATION

### Regulatory Status

Country	Inventory	
Australia	AICS	X
Canada	DSL	X

X = All components are included or are otherwise exempt from inclusion on this inventory.





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Canada	NDSL	
China	IECS	X
European Union	EINECS	X
European Union	ELINCS	
European Union	NLP	
Japan	ENCS	X
Korea	ECL	X
Philippines	PICCS	X
United States	TSCA	X

C = Contact Lyondell/Equistar by e-mail at [product.safety@lyondell.com](mailto:product.safety@lyondell.com) or [product.safety@equistarchem.com](mailto:product.safety@equistarchem.com) for additional information.

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

### SARA 302/304

No chemicals in this material with known CAS numbers are subject to the reporting requirements of CERCLA.

### SARA 311/312

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

Immediate (Acute) Health Hazard.  
Fire Hazard.

### SARA 313

This material does not contain any chemical components with known CAS numbers that exceed the De Minimis reporting levels established by SARA Title III, Section 313 and 40 CFR 372.

#### Component

#### Reporting Threshold

### State Reporting

This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins under California Proposition 65 at levels which would be subject to the proposition.

Massachusetts Substances List (MSL) - Extraordinarily hazardous substances must be identified when present in materials at levels greater than state specified criterion. The criterion is  $\geq 0.0001\%$ . Hazardous Substances (MSL-HS) on the MSL must be identified when present in materials at greater than the state specified criterion. The criterion is  $\geq 1\%$ . Components with CAS numbers present in this material, at levels specified in Section 2 - Composition do not require reporting under the statute.

Special Hazardous Substances (PA-SHS) must be identified when present in materials at levels greater than the state specified criterion. The criterion is  $\geq 0.01\%$ . Hazardous Substances (PA-HS) must be identified when present in materials at levels greater than the state specified criterion. The criterion is  $\geq 1\%$ . Environmental Hazards (PA-EH) must be identified when present in materials at levels greater than the state specified criterion. The criterion is  $\geq 0.01\%$ . Components with CAS numbers present in this material, at levels specified in Section 2 - Composition, do not require reporting under the statute.

## SECTION 16: OTHER INFORMATION

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**ARCOSOLV® PM ACETATE****Latest Revision(s)**

Revised Section(s): 14 Date of Revision: December 4 2001 Revised Section(s): 11 12 Date of Revision: March 3 2005 Revised Section(s): 2 8 12 Date of Revision: September 25 2006

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**Numerical Data Presentation**

The presentation of numerical data, such as that used for physical and chemical properties and toxicological values, is expressed using a comma (,) to separate digits into groups of three and a period (.) as the decimal marker. For example, 1,234.56 mg/kg = 1 234,56 mg/kg

**Language Translations**

This document may be available in languages other than English.

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