

Material Safety Data for: Glycol Ether PM Acetate

1. PRODUCT IDENTIFICATION

Name propylene glycol monomethyl ether acetate
Synonyms 1-methoxy-2-propyl acetate, acetic acid, 1-methoxy-2-methylethyl ester, 1-methoxy-2-acetoxypropane
CAS# 108-65-6
Product Uses solvent in coatings, cleaners, etc.

2. INGREDIENTS

	%	TWAEV / TLV mg/m ³	LD ₅₀ ORAL	(mg/kg) SKIN	LC ₅₀ ppm INHALATION
propylene glycol monomethyl ether acetate	100%	not listed	8530	>2000	5320

3. (a) HAZARDS SUMMARY

Hazards, Quick Guide: combustible liquid, heavy vapour travels, distant ignition and flashback are possible

Canada – WHMIS

Key:

B 3

B 2 – Flash Point <38°C, **B 3** – Flash Point >38°C & <93°C

D 1 – Immediately Toxic, **D 2** – Chronic Toxicity

C – Oxidising Substance, **E** – Corrosive

U.S.A. – HMIS

Key:

Health – 1, Fire – 2, Reactivity – 0

0=minimal, 1=slight, 2=moderate, 3=serious, 4=severe

3. (b) HAZARDS – TOXICITY

Effects, Acute Exposure

Skin Contact	little to no effect
Skin Absorption	yes; no toxic effects likely by this route
Eye Contact	may be slightly irritating
Inhalation level	headache, dizziness, drowsiness, intoxication, but only at high vapour/mist titre at which level
Ingestion	respiratory irritation should act as adequate warning not known – low toxicity expected

Effects, Chronic Exposure

General	prolonged exposure may cause dermatitis
Sensitising	not a sensitiser in humans or animals
Carcinogen/Tumorigen	not considered a tumorigen or a carcinogen in humans or animals
Reproductive Effect	no known effect in humans or animals

NOTE: Commercial Glycol Ether PM Acetate is >99% the alpha isomer. Teratogenicity & fetotoxicity are only ascribed to the beta isomer.

Mutagen	no known effect on humans or animals
Synergistic With	not known
LD ₅₀ (oral)	8530mg/kg (rat, female), 9600mg/kg (rat, male)
LD ₅₀ (skin)	>2000, >5000 & >19,200mg/kg (rabbit)
LC ₅₀ (inhalation)	5320ppm (rat); [>490ppm (dogs & rabbits) – <u>beta isomer</u> only]

Please ensure that this MSDS is given to, and explained to people using this product.

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4. FIRST AID

SKIN: Wash with plenty of water. Remove contaminated clothing and do not reuse until thoroughly laundered.
 EYES: Wash eyes with plenty of water, holding eyelids open. Seek medical assistance promptly if there is irritation.
 INHALATION: Remove from contaminated area promptly. **CAUTION: Rescuer must not endanger himself!** If breathing stops, administer artificial respiration and seek medical aid promptly.
 INGESTION: Give plenty of water to dilute product. Do not induce vomiting (NOTE below). Keep victim quiet. If vomiting occurs, lower victim's head below hips to prevent inhalation of vomited material. Seek medical help promptly.
Inadvertent inhalation of vomited material may seriously damage the lungs. The danger of this is greater than the risk of poisoning through absorption of this relatively low-toxicity substance. The stomach should only be emptied under medical supervision, and after the installation of an airway to protect the lungs.

5. PHYSICAL PROPERTIES

Odour & Appearance	clear, colourless, hygroscopic liquid with mild, pleasant fruity odour
Odour Threshold	not known
Vapour Pressure	3.9mmHg / 0.52kPa (25°C / 77°F)
Evaporation Rate (<i>Butyl Acetate = 1</i>)	0.33
Vapour Density (air = 1)	4.6
Boiling Point	145°C / 294°F
Freezing Point	-66°C / -87°F
Specific Gravity	0.968 (20/20°C)
Water Solubility	198 grams per litre (25°C / 77°F)
Also soluble in	most organic solvents
Viscosity	1.31centipoise (25°C / 77°F)
pH	none – (<i>does not liberate hydrogen ions when dissolved</i>)
Conversion Factor	1ppm = 5.41g/m ³
Molecular Weight	132grams per mole

6. FLAMMABILITY & FIRE FIGHTING

Flash Point	42°C / 108°F (closed cup)
Autoignition Temperature	272°C / 522°F
Flammable Limits	1.3% – 13.1% (<i>both at elevated temperature</i>)
Combustion Products	carbon monoxide, nitrogen oxides, smoke, part oxidised hydrocarbon fragments including formaldehyde, acetaldehyde plus other toxic & irritating compounds
Fire Fighting Precautions	foam, dry chemical, water fog or spray; fire fighters must wear SCBA
Static Charge Accumulation	cannot accumulate a static charge on agitation or pumping

7. STABILITY / REACTIVITY

Dangerously Reactive With	strong oxidising agents; alkali metals (<i>e.g.: Na</i>), alkaline earth metals (<i>eg: Ca</i>), metal hydrides, halogens (<i>chlorine etc</i>); hypochlorites – may form explosive alkyl hypochlorites
Also Reactive With	strong acids (<i>flammable products</i>); strong alkalies (<i>generate heat</i>); attacks & softens PVC (<i>polyvinyl chloride</i>)
Stability	stable; will not polymerize
Decomposes in Presence of	copper, aluminium, zinc and their alloys may accelerate the decomposition of PM Acetate
Decomposition Products	apart from Hazardous Combustion Products, hydrogen gas
Sensitive to Mechanical Impact	no

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8. PROTECTIVE EQUIPMENT / EXPOSURE CONTROL

ACGIH TLV	not listed
OSHA PEL	not listed
STEL	not listed
Ventilation	general ventilation adequate – no special ventilation is required
Hands	not required – nitrile gloves may be used – <i>consult supplier to confirm suitability</i>
Eyes	safety glasses with side shields – <i>always protect the eyes</i>
Clothing	no special protective clothing required

9. HANDLING & STORAGE

Store in a cool, dry environment, away from sources of ignition, heat and oxidising agents and substances listed in Part 7. Non-sparking bronze or aluminium hand tools are recommended. Electrical and mechanical equipment (including lighting, switchgear and forklift trucks) used with or around this product should be explosion-proof due to relatively low flash point

Explosive peroxides may form on prolonged storage in contact with oxygen (air). These peroxides concentrate on distillation and may explode if distillation continues to dryness. ***Never distil this product to dryness!*** If prolonged storage of a part container is anticipated, flush headspace with dry nitrogen gas prior to sealing. Empty containers may contain a flammable / explosive vapour. Always ensure that containers, whether empty or full, or part full, are tightly sealed unless in use.

Avoid breathing product vapour. Use with adequate ventilation. If dealing with a spill, and ventilation is impossible or impractical, wear an organic vapour respirator.

Never cut, drill, weld or grind on or near this container. Avoid contact with skin and wash work clothes frequently. An eye bath and safety shower must be available near the workplace.

10. SPILL PROCEDURES

Summer Fire Potential: in summer, blanket spill with foam as a precaution against accidental ignition. Take care to avoid sparks – do not operate (turn on OR off) electrical appliances near spill, unless explosion proof.

Leak Precaution	dyke to control spillage and prevent environmental contamination
Handling Spill	ventilate contaminated area; recover free liquid with suitable pumps; absorb residue on an inert sorbent, sweep & pick up using plastic or aluminium shovel, & store in closed containers for recycling or disposal

11. DISPOSAL

Waste Disposal approved	do not flush to sewer , recycle solvent if possible, but never distil to dryness; may be incinerated in facility with flue gas scrubbing & monitoring
Containers	Drums should be reused. Recondition and pressure test by a licensed reconditioner prior to re-use. Pails must be vented and thoroughly dried prior to crushing and recycling. IBCs (intermediate bulk containers): polyethylene bottle must be pressure tested & recertified at 30 months. Replace at 60 months (5yrs). Steel containers must be inspected, pressure tested & recertified every 5 years. <i>Never cut, drill, weld or grind on or near this container, even if empty</i>

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12. ENVIRONMENTAL INFORMATION

Bioaccumulation	this product is rapidly eliminated or metabolised and is not a bioaccumulator
Biodegradation	this product degrades readily and rapidly in the presence of oxygen – hydrolysis occurs rapidly, followed biodegradation – over 95% in 6 days; in BOD testing, 100% biodegradation in 8 days
Abiotic Degradation	unknown
Mobility in soil, water	this product is water soluble and moves readily in soil and water
Aquatic Toxicity	
LC ₅₀ (Fish, 96hr)	161mg/litre (pimephales promelas); 100-180mg/litre (salmo gairdneri)
EC ₅₀ (Crustacea, 48hr)	>500mg/litre (daphnia magna)

13. TRANSPORT REGULATIONS

<i>Canada TDG</i>	PIN	UN-1993
	Shipping Name	FLAMMABLE LIQUIDS N.O.S. (propylene glycol methyl ether acetate)
	Class	3
<i>U.S.A. 49 CFR</i>	Packing Group	III
	PIN	UN-1993
	Shipping Name	FLAMMABLE LIQUIDS N.O.S. (propylene glycol methyl ether acetate)
	Class	3
	Packing Group	III
Marine Pollutant		not a marine pollutant

14. EMERGENCY INFORMATION

<i>Canada</i>	Call CANUTEC (collect)	(613) 996-6666
<i>U.S.A.</i>	Call CHEMTREC	(800) 424-9300

15. REGULATIONS

Canada DSL	on inventory
U.S.A. TSCA	on inventory
Europe EINECS	on inventory (EC# 203-603-9)

16. PREPARATION INFORMATION

Prepared for Megaloid Laboratories by Peter Bursztyn, (705) 734-1577

File Name: **PM Acetate**

With data from RTECS, Haz. Substance Data Base, Cheminfo (CCOHS), IUCLID Datasheets (European Chem. Substance Info. System), & others, as available
Preparation Date: **August 2003** Revision Date: **June 2006, June 2009**

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