



MATERIAL SAFETY DATASHEET
FICHE SIGNALÉTIQUE

IN CASE OF EMERGENCY / EN CAS D'URGENCE: SARNIA (519)339-3711 - FORT SASKATCHEWAN (780)998-8282 - VARENNES (450)652-1000

PREPARATION INFORMATION / RENSEIGNEMENTS SUR LA PRÉPARATION:

Prepared for use in Canada by: / Pour utilisation au Canada, préparé par:
EH&S Product Regulatory Management Department
Dow Chemical Canada Inc. P.O. Box 1012, Sarnia, Ontario N7T 7K7 (800) 331 - 6451

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION Page: 1

IN CASE OF EMERGENCY: Fort Saskatchewan, Alberta: (780) 998-8282
Sarnia, Ontario: (519) 339-3711
Varenes, Quebec: (450) 652-1000

Product: DOWANOL\* PMA GLYCOL ETHER ACETATE

Product Code: 22477

Effective Date: 08/16/02 Date Printed: 12/26/02 MSD: 001582

Dow Chemical Canada Inc.
P.O. Box 1012, Sarnia, Ontario N7T 7K7

Prepared for use in Canada by the EH&S ProductRegulatory
Management Department; Phone: (450) 652-1015

2. COMPOSITION/INFORMATION ON INGREDIENTS

1-methoxy-2-acetoxypropane CAS# 000108-65-6 99% min.
2-methoxy-1-acetoxypropane CAS# 070657-70-4 <0.5%

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

\*\*\*\*\*
\* Colorless liquid. Sweet ether odor. Combustible. Vapor explosion \*
\* hazard. \*
\*\*\*\*\*

POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data.)

EYE: May cause slight eye irritation. May cause slight
corneal injury.

SKIN: Prolonged contact is essentially nonirritating to skin.
Repeated contact may cause skin irritation with local redness.
Prolonged skin contact with very large amounts may cause
dizziness or drowsiness. Did not cause allergic skin reactions
when tested in guinea pigs.

INGESTION: Single dose oral toxicity is considered to be low.
Small amounts swallowed incidental to normal handling
operations are not likely to cause injury; swallowing
amounts larger than that may cause injury.

(Continued on page 2 , over)

\* OR (R) INDICATES A TRADEMARK OF THE DOW CHEMICAL COMPANY

Product: DOWANOL\* PMA GLYCOL ETHER ACETATE  
Product Code: 22477

Effective Date: 08/16/02      Date Printed: 12/26/02      MSD: 001582

---

INHALATION: Single exposure to vapors is not likely to be hazardous.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: Observations in animals include irritation to the upper respiratory tract, liver or kidney effects.

CANCER: No relevant information found.

TERATOLOGY (BIRTH DEFECTS): Birth defects are unlikely. Exposures having no adverse effects on the mother should have no effect on the fetus.

REPRODUCTIVE EFFECTS: No relevant information found.

#### 4. FIRST AID

EYE: Flush eyes with plenty of water.

SKIN: Wash off in flowing water or shower.

INGESTION: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

INHALATION: Remove to fresh air if effects occur. Consult a physician.

NOTE TO PHYSICIAN: No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

#### 5. FIRE FIGHTING MEASURES

##### FLAMMABLE PROPERTIES

FLASH POINT: 114F, 46C

METHOD USED: Setaflash closed-cup, ASTM D3278

AUTOIGNITION TEMPERATURE: 333C

##### FLAMMABILITY LIMITS

LFL: 1.5 vol% @ 200C

UFL: 7.0 vol% @ 200C

HAZARDOUS COMBUSTION PRODUCTS: During a fire, smoke may contain the original material in addition to unidentified toxic and/or irritating compounds. Hazardous combustion products may include

(Continued on page 3)

\* OR (R) INDICATES A TRADEMARK OF THE DOW CHEMICAL COMPANY

Product: DOWANOL\* PMA GLYCOL ETHER ACETATE

Product Code: 22477

Effective Date: 08/16/02

Date Printed: 12/26/02

MSD: 001582

---

and are not limited to: carbon monoxide, carbon dioxide.

OTHER FLAMMABILITY INFORMATION: Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Spills of these organic liquids on hot fibrous insulations may lead to the lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

EXTINGUISHING MEDIA: Water fog or fine spray, carbon dioxide, dry chemical, foam. Alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively.

MEDIA TO BE AVOIDED: Do not used direct water stream.

FIRE FIGHTING INSTRUCTIONS Keep people away. Isolate fire area and deny unnecessary entry. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Burning liquids may be extinguished by dilution with water. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Do not use direct water stream. May spread fire. Eliminate ignition sources. Stay upwind. Keep out of low areas where gases (fumes) can accumulate.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTING: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES (See Section 15 for Regulatory Information)

PROTECT PEOPLE: Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. For large spills, warn public of downwind explosion hazard. Check area with explosion meter before reentering area. Ground and bond all containers and handling equipment.

PROTECT THE ENVIRONMENT: Vapor explosion hazard, keep out of sewers.

(Continued on page 4 , over)

\* OR (R) INDICATES A TRADEMARK OF THE DOW CHEMICAL COMPANY

Product: DOWANOL\* PMA GLYCOL ETHER ACETATE  
Product Code: 22477

Effective Date: 08/16/02      Date Printed: 12/26/02      MSD: 001582

---

CLEANUP: Pump with explosion-proof equipment. Absorb with material such as dirt or sand. If available, use foam to smother or suppress.

#### 7. HANDLING AND STORAGE

HANDLING: Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. No smoking, open flames or sources of ignition in handling and storage area. Never use air pressure for transferring product. Electrically ground all equipment.

STORAGE: Use of non-sparking or explosion proof equipment may be necessary, depending upon the type of operation. Minimize sources of ignition, such as static buildup, heat, spark or flame. Keep containers tightly closed when not in use. Store in carbon steel, stainless steel, Teflon.

#### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

##### PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION: Use chemical goggles.

SKIN PROTECTION: When prolonged or frequently repeated contact could occur use protective clothing impervious to this material. Selection of specific items such as gloves, boots, apron, or full-body suit will depend on operation. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly.

RESPIRATORY PROTECTION: If respiratory irritation is experienced, use an approved air-purifying respirator.

EXPOSURE GUIDELINE(S): Propylene glycol monomethyl ether acetate (DOWANOL PMA): AIHA WEEL is 100 ppm TWA.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Colorless liquid.

(Continued on page 5)

\* OR (R) INDICATES A TRADEMARK OF THE DOW CHEMICAL COMPANY

Product: DOWANOL\* PMA GLYCOL ETHER ACETATE

Product Code: 22477

Effective Date: 08/16/02

Date Printed: 12/26/02

MSD: 001582

---

ODOR: Sweet, ether odor.

VAPOR PRESSURE: 3.7 mmHg @ 20C

VAPOR DENSITY: 4.6

BOILING POINT: 295F, 145.8C

SOLUBILITY IN WATER: 19.8 g/100g H<sub>2</sub>O

SPECIFIC GRAVITY: 0.966 25/25C

VOLATILE ORGANIC COMPOUNDS (VOC) CONTENT: 966 g/L or 8.03 lb/gal  
as per Rule 443.1 of California SCAQMD.

#### 10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable under recommended storage conditions.  
See Storage Section.

CONDITIONS TO AVOID: Avoid static discharge. Flammable vapors  
can be released at elevated temperatures.

INCOMPATIBILITY WITH OTHER MATERIALS: Avoid contact with  
oxidizing materials.

HAZARDOUS DECOMPOSITION PRODUCTS: Does not normally decompose.  
Hazardous decomposition products depend upon temperature, air  
supply and the presence of other materials.

HAZARDOUS POLYMERIZATION: Will not occur.

#### 11. TOXICOLOGICAL INFORMATION (See Section 3 for Potential Health Effects. For detailed toxicological data, write or call the address or non-emergency number shown in Section 1)

SKIN: The LD<sub>50</sub> for skin absorption in rabbits is >5000 mg/kg.

INGESTION: The oral LD<sub>50</sub> for female rats is 8532 mg/kg. The  
oral LD<sub>50</sub> for male rats is >10,000 mg/kg.

MUTAGENICITY: In vitro mutagenicity studies were negative.

#### 12. ECOLOGICAL INFORMATION (For detailed Ecological data, write or call the address or non-emergency number shown in Section 1)

##### ENVIROMENTAL FATE

MOVEMENT & PARTITIONING: Bioconcentration potential is low  
(BCF less than 100 or Log Pow less than 3). Potential  
for mobility in soil is very high (Koc between 0 and 50).  
Henry's Law Constant (H) is estimated to be 4.22E-06 atm.m<sup>3</sup>/

(Continued on page 6 , over)

\* OR (R) INDICATES A TRADEMARK OF THE DOW CHEMICAL COMPANY

Product: DOWANOL\* PMA GLYCOL ETHER ACETATE  
Product Code: 22477

Effective Date: 08/16/02      Date Printed: 12/26/02      MSD: 001582

---

mole. Soil organic carbon/water partition coefficient (Koc) is estimated to be 1.7. Measured log octanol/water partition coefficient (log Pow) is 0.56.

DEGRADATION & PERSISTENCE: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. The 10-Day Biochemical Oxygen Demand (BOD10) is 1.04 p/p. The 20-Day Biochemical Oxygen Demand (BOD20) is 1.12 p/p. Biodegradation reached in Modified Zahn-Wellens/EMPA test (OECD Test No. 302B) after 28 days: 100%. Theoretical Oxygen Demand (ThOD) is calculated to be 1.82 p/p. Material is ultimately biodegradable. Reaches more than 70% mineralization in OECD test(s) for inherent biodegradability. Biodegradation reached in Modified OECD Screening Test (OECD Test No. 301 E) after 28 days: 70%. Biodegradation reached in Manometric Respirometry Test (OECD Test No. 301 F) after 28 days: 83%.

ECOTOXICITY: Material is practically non-toxic to aquatic organisms on an acute basis (LC50 or EC50 >100 mg/L in the most sensitive species tested). Acute LC50 for fathead minnow (*Pimephales promelas*) is 161 mg/L. Acute LC50 for water flea (*Daphnia magna*) is 408 mg/L to >500 mg/L. Acute LC50 for rainbow trout (*Oncorhynchus mykiss*) is 100-180 mg/L.

### 13. DISPOSAL CONSIDERATIONS (See Section 15 for Regulatory Information)

DISPOSAL: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. THE DOW CHEMICAL COMPANY HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2 (Composition/Information On Ingredients).

FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: recycler, reclaimer, incinerator or other thermal destruction device.

As a service to its customers, Dow can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums.

(Continued on page 7)

\* OR (R) INDICATES A TRADEMARK OF THE DOW CHEMICAL COMPANY

Product: DOWANOL\* PMA GLYCOL ETHER ACETATE  
Product Code: 22477

Effective Date: 08/16/02      Date Printed: 12/26/02      MSD: 001582

---

Telephone Dow's Customers Information Center at  
800-258-2436 or 989-832-1556 for further details.

#### 14. TRANSPORT INFORMATION

DEPARTMENT OF TRANSPORTATION (D.O.T.): For DOT regulatory information, if required, consult transportation regulations, product shipping papers or contact your Dow representative.

#### CANADIAN TDG INFORMATION:

For TDG regulatory information, if required, consult transportation regulations, product shipping papers, or your Dow representative.

#### 15. REGULATORY INFORMATION (Not meant to be all-inclusive--selected regulations represented)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

#### U.S. REGULATIONS

=====

SARA 313 INFORMATION: To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

-----

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard  
A delayed health hazard  
A fire hazard

(Continued on page 8 , over)

\* OR (R) INDICATES A TRADEMARK OF THE DOW CHEMICAL COMPANY

Product: DOWANOL\* PMA GLYCOL ETHER ACETATE  
Product Code: 22477

Effective Date: 08/16/02      Date Printed: 12/26/02      MSD: 001582

-----

## REGULATORY INFORMATION (CONTINUED)

-----

## TOXIC SUBSTANCES CONTROL ACT (TSCA):

All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

-----

-----

STATE RIGHT-TO-KNOW: This product is not known to contain any substances subject to the disclosure requirements of

New Jersey  
Pennsylvania

-----

## OSHA HAZARD COMMUNICATION STANDARD:

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

## CANADIAN REGULATIONS

=====

WHMIS INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is:

B3 - combustible liquid with a flash point between 37.8C and 93.3C  
Refer elsewhere in the MSDS for specific warnings and safe handling information. Refer to the employer's workplace education program.

- - - - -

CPR STATEMENT: This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

- - - - -

HAZARDOUS PRODUCTS ACT INFORMATION: This product contains the following ingredients which are Controlled Products and/or on the Ingredient Disclosure List (Canadian HPA section 13 and 14):

| COMPONENTS:                | CAS #            | AMOUNT(%w/w) |
|----------------------------|------------------|--------------|
| 1-methoxy-2-acetoxypropane | CAS# 000108-65-6 | 99% min.     |
| 2-methoxy-1-acetoxypropane | CAS# 070657-70-4 | <0.5%        |

(Continued on page 9)

\* OR (R) INDICATES A TRADEMARK OF THE DOW CHEMICAL COMPANY



Product: DOWANOL\* PMA GLYCOL ETHER ACETATE  
Product Code: 22477

Effective Date: 08/16/02      Date Printed: 12/26/02      MSD: 001582

---

## REGULATORY INFORMATION (CONTINUED)

## 16. OTHER INFORMATION

## NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

|              |   |
|--------------|---|
| Health       | 1 |
| Flammability | 2 |
| Reactivity   | 0 |

MSDS STATUS: Revised Section 2.

PRODUCT USE: Active solvent.

\* OR (R) INDICATES A TRADEMARK OF THE DOW CHEMICAL COMPANY  
The Information Herein Is Given In Good Faith, But No Warranty,  
Express Or Implied, Is Made. Consult The Dow Chemical Company  
For Further Information.