# 安全資料表
**(Safety Data Sheet)**



**Number：29**

## Section 1: Product and Company Identification

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| **Product Name：**Dipropylene glycol methyl ether |
| **Other Name：**- |
| **Recommended use and Restrictions on use:** Solvent；Hydraulic Braking Oil |
| **Manufacturer or Supplier Name :** Shiny Chemical Industrial Co., Ltd.<br>**Address :** No.5, Yeong Gong 1st Rd., Yeong An Dist., Kaohsiung City 82841, Taiwan, R.O.C.<br>**Telephone：**+886-7- 8619171 # 711~714 |
| **Emergency Phone No：**+886-7- 8619171#711~714<br>**Fax：**+886-7- 6222620 |

## Section 2 : Hazards Identification

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| **Hazard Material Category：**Flammable Liquids: Category NO.4<br>**Label Content：-**<br>**Label Statements ：-**<br>**Signal Words：Warning**<br>**Hazard Statements:**<br>1. Combustible liquid<br>**Precautionary Statements：**<br>1. Do not breathe gas/fumes/vapor/mist.<br>2. Take off the contaminated clothes.<br>3. Wear eye protect or face protect equipment. |
| **Other Hazards：-** |

## Section 3 : Composition/Information on Ingredients

**Pure Materials**

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| **Chemical Name：**(Dipropylene glycol methyl ether) |
| **Synonymous：**Dipropylene glycol monomethyl ether, 1-(2-Methoxy-2-methylethoxy)-2-propanol, 1,4dimethyl-3,6-dioxa-1-heptanol, Arcosolv DPM, DPGME, Dowanol DPM glycol ether, Glycol ether DPM, Propasol solvent DM, HCAR Solvent 2lm |
| **CAS No.：**34590-94-8 |
| **% By Weight：**100% |

## Section 4 : First Aid Measures

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| **The First Aid Measures for Different Exposure Routes：** |
| **Inhalation：**<br>1. Remove the pollutant sources, or move affected person to breath fresh air.<br>2. Seek medical attention immediately. |

**Skin Contact：**

1. Wash thoroughly with warm water at least 5 minutes until the pollutants cleaned.
2. If the irritation feeling did not release, wash the affected area again and again.
3. Seek medical attention immediately.
4. Clean the pollutant clothes, shoes and paper ornaments before discard or use them again.

**Eye Contact：**

1. Hold eye lid open, flush eyes with warm water gently at least 5 minutes until the pollutant cleaned.
2. If the irritation feeling did not release, wash the affected area again and again.
3. Seek medical attention immediately.

**Ingestion：**

1. If the patient is going to lose of conscious, unconsciousness, or seizure, do not feed anything orally.
2. Do not induce vomiting, instructs the patient to drink 240~300 ml water.
3. If the patient spontaneous vomiting, instruct the patient to bent down to decrease the inhalation risk, also instruct the patient to gargle and keep drink.
4. Seek medical attention immediately.

**The Most Important Symptoms and Hazardous Effects:-**

**The Protection of First-Aiders:** Apply appropriate personal protective equipment such as class C clothing to conduct first aid in a safety area.

**Notes to Physicians:** Consider Gastric lavage while swallow the chemical material.

## Section 5: Fire Fighting Measures

**Suitable Fire Extinguishing Media：**

Carbon dioxide, Chemical-resistant powder, alcohol-resistant foam, Polymer foam, water spray or mist

**Specific Hazards May be Encountered During Fire-fighting:-**

**Specific Fire-Fighting Method:**

1. The firemen should wear the respirators, chemical resistant clothes and positive pressure self-contain air breathing apparatus(self-contain air breathing apparatus SCBA)。
2. Move the container away from the firing place under the safety condition.
3. Cool down the temperature of the vessels, disperse the vapor, and do not use water in the vessels.

**Specific Equipment for the Protection of Fire-Fighters:-**

## Section 6: Accidental Release Measures

**Personal Precautions：**

1. Confine members to enter the pollutant area before the area cleaned thoroughly.
2. Make sure the trained people to finish the clean mission.
3. Wear the adequate personal protective equipment.

**Environment Needing Attention：**

**1.** Ventilate the area.
**2.** Put off or remove all firing sources.
**3.** Inform the Government's environmental health and safety-related units.

**Spill Cleanup Measure：**

1. Do not touch the leakage.
2. Avoid the leakage flowing to the sewer and drainage system or airtight space.
3. Trying to stop or decrease the leakage under the safety circumstance.
4. Absorb leakage substances with sands, dirt or other materials which do not react with the leakage substances and to contain it.
5. Remove the liquid with Hg or vacuum equipment, and store in the well labeled vessel which is sealed closely.
6. A small amount of leakage: Absorb the leakage substance with the materials which do not react with it. The pollutant absorbing materials is as dangerous as the leaking substance; discard them in the covered and labeled vessels. Pour the leakage area with water. The small amount of leakage can be diluted with large amount of water.
7. A large amount of leakage: Contact with the fire bureau, emergency processing units and the supplier for help.

## Section 7：Handling and Storage Methods

**Handling：**

1. The chemical substance is flammable and toxic liquid, while handling, start the engineer control and make the best use of personal protective apparatus；the workers should know the danger of the substance and be well trained to use the substance safely.
2. Remove all ignition sources and keep away from heat and incompatible materials.
3. Set up the “No Smoking” sign in the working area.
4. The empty barrels, vessels and pipe line may remain the dangerous residual. Do not precede welding, cutting, drilling or other task which could heat these things mentioned above until they are cleaned.
5. Avoid making mist or vapor, operating at the well ventilated area and

applying the minimum dose, separating the operation area and storage area.

6. Do not use the chemical substance with incompatible materials (such as strong oxidative reagent) to avoid increasing the risk of firing and explosion.
7. Store the chemical substance in the vessels composed of compatible substances, be careful not to spill out while packaging
8. Do not pour the contaminated liquid back to the vessels.
9. Label the vessels, and keep them well sealed which will not be damaged.

**Storage：**

1. Stored at the cool, dry, well ventilation and free of direct sunlight, keep away from heating source, firing source and incompatible substances.
2. Storage area should be separated from the working area; keep away from the lift, building, room entrance or the main storage avenue.
3. Around the storage area should set the adequate fire-extinguish devices and leakage processing devices.
4. Examine the new vessels are well labeled and not broken.
5. Te empty barrel may have hazardous residual, keep them sealed closely and keep them away from the storage area.
6. Follow the chemical manufacture or supplier's instruction to store at the right temperature. If necessary, install the temperature detection warning devices to detect the temperature.
7. The storage tank should be built on the ground, and the base should be blocked in case of leakage. Build the anti-liquid embankment around the tank to contain the entire capacity of leakage.

## Section 8: Exposure Controls and Personal Protection

**Engineering Controls：**

1. General (Dilution)ventilation system
2. If some mist produced in heating procession, take advantage of ventilation system.
3. Provide fresh air to complement the air expelled by the exhaust system.

**Guideline Information**

| TWA | STEL | CEILING | BEIs |
|---|---|---|---|
| 100ppm(skin) | 125ppm(skin) | - | - |

**Personal Protective Equipment：**

**Respiratory Protection：**

1. Below 600ppm：Ventilation type of respiratory protective apparatus (SAR), Air respirator(self-contain breathing protection apparatus SCBA).
2. Unknown concentration or IDLH：Positive pressure self-contain air

breathing apparatus (self-contain breathing protection apparatus SCBA) Use together with positive pressure full face type of self-contain air breathing apparatus and Auxiliary type of positive pressure breathing apparatus (self-contain breathing protection apparatus SCBA)

3. Life Saving: Gas mask with organic vapor filter, Life-saving type self-contain breathing apparatus. (Self Contain Breathing Apparatus SCBA).

**Hand Protection Description：**

Anti-leaking glove：Butyl rubber is better(durable more than 8 hours), the second choice is Chloroprene rubber (durable for more than 4 hours).

**Eye/Face Protection：**1.Chemical anti-spam spectacle.

**Skin and Body Protection Description：-**

**Hygiene Practices：**

1. Taking off the clothes of pollution quickly after finishing the work, do not dress or abandon before cleaning, and the laundry must be informed the danger of the pollutants.
2. Forbid smoking or diet in the workplace.
3. After dealing with the material, washing hands thoroughly. Keep the working place clean.

## Section 9： Physical and Chemical Properties

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| **Physical State/Appearance:** Colorless liquid | **Odor：**Light ether taste, slightly eye irritant |
| **Odor Threshold：** 35ppm | **Melting Point：**-83℃ |
| **pH ：**- | **Boiling Point/Range：**190 ℃ |
| **Flammability：**- | **Flash Point：**86℃ |
| **Decompose Temperature:**- | **Test Method：**Close cup |
| **Auto-ignition Temperature：**- | **Explosion limits：**1.1 ％ @200℃~ 3.0% |
| **Vapor Pressure：**0.38 @25℃ mmHg | **Vapor Density：**5.11(Air=1) |
| **Density：**0.948(水=1) | **Solubility：**Entirely water-soluable |
| **Log Kow：**( log Kow )：- | **Evaporation Rate：**0.02( Butyl acetate ＝1 ) |

## Section 10：Stability and Reactivity

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| **Chemical Stability:** Stable in normal environment |
| **Possible Danger Reacts Under the Special State:** Contact to strong Oxidants will increase the risk of fire explosion. |
| **Conditions to Avoid:** Air, Sunlight, temperature higher than 86℃. |
| **Incompatible with Other Materials:** Strong Oxidants. |

**Hazardous Decomposition Products:** —

## Section 11：Toxicological Information

**Exposure Route:** Skin, inhalation, ingestion, eye.

**Signs/Symptoms:**
Irritation to nose and throat, headache, nausea, dizzy, drowsiness, motion uncoordinated, unconsciousness.

**Acute Toxicity：**

**Skin Contact：**

1. Long term exposed to the undiluted solution will not have the irritation feeling.
2. Skin absorption is one of the pathways, if exposed to the chemical substance for a long time or wide area; the symptoms may be similar to inhale.

**Inhalation：**

1. High concentration of vapor and mist drops may cause the irritation of nose and throat; if exposed to the concentration over 100 ppm, the affected person will feel unpleasant and irritation. The threshold of human irritation is 74 ppm.
2. The vapor concentration is impossible to be over 500 ppm unless the mist drops formed; the concentration which can influence central nervous system is over 1000 ppm, the classical adverse effect includes: headache, nausea, dizzy, drowsiness, motion uncoordinated, unconsciousness.

**Ingestion：**

**1.** In animal model, the toxicity of DPGHE is low. In common use, it is impossible to swallow too much to induce the toxicity.

**2.** Swallow large doses may affect the central nervous system, and cause the similar symptoms as inhalation.

**Eyes Contact:**

**1.** Highly concentration of vapor and mist drops will cause slightly and temporarily irritation.

LD50(Animal model, Absorption pathway)：5.22 g/kg(Rats, Swallow)

LC50(Animal model, Absorption pathway)：

500mg/24H(Rabbit, Eyes)：induce slightly irritation

**Chronic Toxicity or Long Term Effects on Humans:**-

## Section 12: Ecological Information

**Eco toxicity:** LC50（fish）： -
EC50（aquatic invertebrate）：-
BCF：-

**The Persistence and Degradability:**

1. BOD (5/20 days) of absorbing DPGME is 0/31 %, it shows it’s degrade

duration needs a domestication period.
2. DPGME is mainly decomposed by biodegrade in water, photolysis, hydrolysis and evaporation is not important.
3. Its half-life in air is about 3.4 hours, except for photolysis; it can also be removed by rain washed.

Half-life ( Air) : -
Half-life ( Water surface) : -
Half-life ( Groundwater) : -
Half-life ( Soil) :--

**Bio-accumulative Potential：** —

**Mobility in Soil：** DPGME is easy to infiltrate to groundwater with it is highly mobility in soil. DPGME can be biodegraded in wet soil, or be evaporated in the dry soil surface.

**Other Adverse Effects：** —

## Section 13: Disposal Considerations

**Methods of waste Disposal:**

1. Consult the relevant regulation to deal with.
2. Deal with the waste according to the storage conditions.
3. Adopt specific incineration or sanitary landfills methods to deal with.

## Section 14: Transport Information

**United Nations Number(UN No):**

**UN Proper Shipping Name:**-

**Transport Hazard Class (es)：** -

**Packaging Group** : -

**Ocean Pollutant(Yes/No):** No

**Specific Transport Measures and Precautionary Conditions:**-

## Section 15: Regulatory Information

**Applicable Regulation:**

1. Hazardous substances concentration standard of the air in the labor working areas.
2. Industrial waste storage and disposal facility standards.
3. The general rules of labeling hazardous materials and harmful substances.

## Section 16: Additional Information

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|---|---|
| **References** | 1.CHEMINFO Database, CCINFO CD, 2005-3<br>2.RTECS Database, TOMES PLUS CD, Vol.65, 2005<br>3.HSDB Database, TOMES PLUS CD, Vol.65, 2005<br>4.ChemWatch Database, 2005-1 |
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| **Notes** | The sign "-" stands for no relevant data at present, and the sign "/ "stands for this column is not applicable to the material. |