

Safety Data Sheet

1. Product and company identification

Product name : PGMEA
Name of manufacturer : KANTO CHEMICAL CO., INC.
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SDS No. : GE00058

2. Summary of danger and Hazard

GHS classification

Physical and chemical hazard

Flammable liquids : Category 3
Pyrophoric liquids : Out of category

Human health hazard

Acute toxicity(oral) : Out of category
Acute toxicity(dermal)
: Out of category

Skin corrosion • Irritation

: Out of category

Serious eye damage • Eye irritation

: Category 2B

Skin sensitization : Out of category

Reproductive toxicity

: Out of category

Specific target organ systemic toxicity(single exposure)

: Category 3 (respiratory tract irritation) 、 Category 3 (anesthetic action)

Environmental hazard

Hazardous to the aquatic environment-acute hazard

: Out of category

Hazardous to the aquatic environment-chronic hazard

: Out of category

Pictogram or symbol



Signal word : Warning

Hazard statement : Flammable liquid and vapor
Causes eye irritation

May cause respiratory irritation
May cause drowsiness and dizziness

Cautions

- Safety measurements : Keep away from ignition sources such as heat, sparks, or open flame.
Keep containers tightly closed.
Ground container and receiving equipment in case of transport and stirring.
Use explosion-proof apparatus.
Use only non-sparking tools.
Avoid breathing dust, mist, and vapor.
Use only in a well-ventilated area.
Wear appropriate protective gloves, glasses, clothing, face shield, or mask.
- First-aid measures : If inhaled : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical treatment if you feel unwell.

If in eyes : Rinse cautiously with water for several minutes. Get medical treatment.
If on skin : Remove contaminated clothing and the substance. Get medical treatment, if you feel unwell.
Wash hands thoroughly after handling.
- Storage : Tightly container closed and store in a well-ventilated area.
Store locked up.
- Disposal : Dispose of contents and containers appropriately in accordance with related regulations.

3. Composition/Information on ingredients

- Substance/Mixture : Substance
Chemical name or commercial name : 2-Acetoxy-1-methoxypropane
Synonyms : Propylene glycol monomethyl ether acetate
Ingredients and composition : 2-Acetoxy-1-methoxypropane min. 99.5%
Chemical formula : CH₃OCH₂CH(OCOCH₃)CH₃
CAS No. : 108-65-6
TSCA Inventory : Registered
EINECS No. : 2036039
Dangerous and hazardous ingredients : 2-Acetoxy-1-methoxypropane

4. First aid measures

- Inhalation : Remove the victim to fresh air, and make him blow his nose and gargle.
- Skin contact : Wash the affected areas under running water.
- Eye contact : Wash the affected areas under running water for at least 15 minutes.
If necessary, get medical treatment.

Ingestion : Give the victim water or salt water and make him vomit. Get medical attention.

Protection for first aid person

: Savers wear proper protective equipment like rubber gloves, goggles.

5. Fire fighting measures

Extinguishing media : Dry chemical powder, carbon dioxide, dry sand

Prohibited extinguishing media

: Water spray

Particular fire fighting : Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area.

Dry chemical powder, carbon dioxide or dry sand should be used for small fires. Foam extinguisher is effective for a large scale fire.

Protection for firefighters

: Wear breathing apparatus.

6. Accidental release measures

Cautions for personnel : Wear proper equipment and avoid contact with skin and inhalation of vapor. Keep personnel removed from and upwind of fire. Shut off all sources of ignition. Keep away personnel except for authorized ones from spillage area by stretching ropes.

Cautions for environment : Attention should be given not to cause damage to the environment by flowing of spillage to rivers. In case of the dilution of copious water, do not cause damage to the environment by untreated wastewater.

Removal measure : Absorb spill with inert material (e.g., diatomaceous earth, sand) and flush residual area with copious amounts of water.

Prevention of second accident

: Remove nearby sources of ignition and prepare extinguishing media.

7. Cautions of handling and storage

Handling

Engineering measures : Wear proper equipment not to contact with skin or inhale the vapor. Fire is strictly prohibited.

Ventilate well at working places.

Cautions for safety handling

: Use with an enclosed system or a local exhaust ventilation.

Cautions : Do not contact with oxidizing substances.

Storage

Adequate storage condition

: Store in a dark, cool place and tightly closed.

Safety adequate container materials

: Glass, fluorine resin, stainless steel

Do not use polyvinyl chloride resin, polystyrene.

8. Exposure control/Personal protection

Engineering measures : Use only with adequate ventilation and in closed systems.

Control parameters

ACGIH(2015) : Not established

Protective equipment

Respiration protective equipment
: If necessary, wear chemical cartridge respirator with an organic vapor cartage

Hands protective equipment
: Impervious protective gloves

Eyes protective equipment
: Safety goggles

Skin and body protective equipment
: Protective clothing, protective boots

9. Physical and chemical properties

Appearance : Liquid

Color : Colorless

Odor : Aromatic odor

Boiling point : 146.0°C

Melting point : below -87°C

Flash point : 48.5°C

Auto-ignition point : 315°C

Explosion characteristics

Explosion limit : upper : 7.0vol% lower : 1.5vol%

Vapor pressure : 5hPa(20°C)

Vapor density : 4.6

Specific gravity : 0.968g/cm³ (20°C)

Solubility

Solubility in solvents : Water ; 18.5% (20°C)
Organic solvents ; Freely soluble in ethanol, diethyl ether, ketones, etc.

log Pow : 0.43

Other data : Viscosity : 1.2cP(20°C)

10. Stability and reactivity

Stability : Stable under normal usage.

Reactivity : May react with oxidizing substances.

Incompatible conditions : Light, heat

Incompatible materials : Oxidizing substances

Hazardous decomposition products
: Carbon monoxide

11. Toxicological information

Acute toxicity : Oral : Out of category
Dermal : Out of category

- Inhalation(vapor) : Not possible to classify because of insufficient data.
- Inhalation(dust, mist) : Not possible to classify because of insufficient data.
- rat oral LD50=8532mg/kg
- rat skin LD50>5g/kg
- Skin corrosiveness : Out of category
- Since the result of primary skin irritation test with rabbit was the index 0 (no irritation), it was set into out of category.
- Serious eye damage, eye irritation : Causes eye irritation(category 2B)
- Moderate conjunctival redness, mild conjunctival chemosis, mild iritis and cornea opacity were caused after applied to rabbit eyes, their average scores were 0.8, 0.5, 0.1, 0.2, respectively. But all lesions were disappeared four days later, the substance was determined to have mild irritation. So it was set into category 2B.
- Respiratory sensitization or Skin sensitization : Respiratory sensitization : Not possible to classify because of insufficient data.
- Skin sensitization : Out of category
- Based on the descriptions that several tests with guinea pig indicated no skin sensitization.
- Mutagenicity : Not possible to classify because of insufficient data.
- Carcinogenic effects : Not possible to classify because of insufficient data
- Effects on the reproductive system : Out of category
- Significant suppression of body weight of both male and female parent animals at high dose group was recognized at combined test of repeated oral administration toxicity and reproduction with rats. But no significant changes were recognized about the each index of sexual functions, reproductive capacity of parent animals, and offspring development, compared with control group.
- Oral administration test with pregnant rats at the organogenesis period, no effect to offspring development including mutagenicity was recognized. Based on the results, it was set into out of category.
- Specific target organ systemic toxicity single exposure : May cause respiratory irritation(category 3) • May cause drowsiness and dizziness(category 3)
- Lethargy was observed at each dose of 500-10000mg/kg with rat oral administration test. At dermal administration test with rabbit, main symptom was anesthetic property. And degeneration on olfactory epithelium of nasal cavity as acute change for two weeks was occurred more than the concentration of 1.62mg/l, (adjusted volume for 90 days : 0.25mg/l)
- Lesion changed severely and extensively with the increase in exposure concentration, and inflammatory secretion was appeared at internal nasal cavity of same animals. Based on the results, it was set into category 3(respiratory tract irritation • anesthetic action).
- Specific target organ systemic toxicity repeated exposure : Not possible to classify because of insufficient data.
- Aspiration hazard : Not possible to classify because of insufficient data.

12. Ecological information

Ecotoxicity

Fish toxicity : Acute aquatic toxicity : Out of category
Chronic aquatic toxicity : Out of category
Daphnia magna EC50=370mg/L/48H

Persistence and degradability

: Not available

Bioaccumulative potential : Not available

13. Disposal consideration

Residual disposal : Burn in a chemical incinerator equipped with an afterburner and a scrubber. Or entrust approved waste disposal companies with the disposal.

Containers : In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

14. Transport information

UN class : Class 3(Flammable liquids) P. G. III

UN number : 1993

Marine regulation information

UN No. : 1993

Proper shipping name : FLAMMABLE LIQUID, N. O. S.

Class : 3

Sub risk : -

Packing group : III

Marine pollutant : Not applicable

Aviation regulation information

UN No. : 1993

Proper shipping name : Flammable liquid, n. o. s.

Class : 3

Sub risk : -

Packing group : III

15. Regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information

References

Dictionary of Organic Compounds, The society of Synthetic Organic Chemistry, Kodansha Ltd. (1985)

Dangerous Properties of Industrial Materials, 6th ed. N. I. Sax Van Nostrand Reinhold Company (1984)

Handbook of 15710 Chemical Products, The Chemical Daily Co. (2010)

The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully. The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements. The information herein is only provision of information, and it does not represent a guarantee the properties of the product. The Safety Data Sheet (SDS) is prepared based on JIS Z7253, and it has the same required elements on the Material Safety Data Sheet (MSDS) which is prepared based on JIS Z7250:2010.