

**1. IDENTIFICATION OF THE SUBSTANCE/ PREPARATION AND OF THE COMPANY/ UNDERTAKING**

**1.1. Product name:** PPG 5021

**1.2. Relevant identified uses of the substance or mixture and uses advised against**

- A. Relevant identified uses: Not available
- B. Uses advised against: Not applicable

**1.3. Details of the supplier of the safety data sheet**

- A. Name of manufacture/supplier: Korea Kumho Petrochemical Co., Ltd.
- B. Address: 45-25 Seongam-dong Nam-gu Ulsan, Korea
- C. Dept. : Quality Assurance Team
- D. Telephone: +82-52-279-8852
- E. Fax: +82-52-279-8840
- F. Email:
- G. Website: www.kkpc.com

**1.4. Emergency telephone numbers**

- A. Telephone number:

**2. HAZARD IDENTIFICATION**

**2.1. Classification of the substance or mixture**

- A. Classification(in accordance with EC No. 1272/2008):
  - This product is not classified as hazardous according to the Regulation (EC) No 1272/2008
- B. Classification(in accordance with 1999/45/EC):
  - This product is not classified as hazardous according to the Directive 67/548/EEC and 1999/45/EC.

**2.2. Label elements**

- **Symbol(s)** : Not applicable
- **Signal word**: Not applicable
- **Hazard statement(s)**: Not applicable
- **Precautionary statement(s)**: Not applicable

**2.3. Other hazards**

- NFPA rating: (0-4 steps) : Health=0, Flammability=0, Reactivity=0

**3. COMPOSITION/INFORMATION ON INGREDIENTS****3.1. Mixture**

Information on ingredients

Chemical name	Registration number	Synonym	CAS No.	WT(%)	Classification 1272/2008/EC
'Methyloxirane polymer with oxirane, ether with 1,2,3-propanetriol (3:1)	-	-	9082-00-2 / KE-24605	99.9	-
Additives	-	-	proprietary	0.1	-

**4. FIRST AID MEASURES****4.1. Description of first aid measures**

## A. Ingestion:

- Do not induce vomiting.
- Do not feed anything if that is not conscious.
- Give 2~4 cups water or milk if conscious.
- Get medical attention.

## B. Eye Contact:

- Immediately flush eyes with plenty of water at least 15minutes.
- If irritation persists, get a doctor's examination.

## C. Skin Contact:

- Wash the contaminated skin area with running water.
- If irritation persists, get a doctor's attention.

## D. Inhalation:

- Remove exposed person to fresh air immediately.
- Take Artificial respiration if not breathing.
- Use respirator when breathing is difficult.
- Get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**

- Not available

**4.3. Indication of any immediate medical attention and special treatment needed**

- Treatment may vary with condition of victim and specifics of incident.

## **5. FIRE FIGHTING MEASURES**

### **5.1. Extinguishing media**

- Suitable extinguishing media: carbon dioxide, dry chemical, foam.
- Unsuitable extinguishing media: Do not use direct water.
- Large Fire: Alcohol-resistant foam.

### **5.2. Special hazards arising from the substrate or mixture**

- Thermal decomposition products :
  - Carbon dioxide, carbon monoxide
- Fire and Explosion Hazards :
  - There is potential for caused by the fire that irritating or toxic gases.
  - Vapors are heavier than air.
  - Containers may rupture or explode if exposed.

### **5.3. Advice for fire-fighters**

- Wear appropriate personal protective equipment(see section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION).
- Use water spray to keep fire-exposed containers cool.
- Move container from fire area if it can be done without risk.
- Suppression using water can be spread fire.
- Avoid inhalation of substance itself or combustion.
- Stay upwind and keep out of low areas.

## **6. ACCIDENTAL RELEASE MEASURES**

### **6.1. Personal precautions, protective equipment and emergency procedures**

- Perform in accordance with 「See section 8 . EXPOSURE CONTROLS / PERSONAL PROTECTION」 . Put on appropriate personal protective equipment.
- Avoid contact with eyes and skin.
- Avoid inhalation of substance itself or combustion.
- Evacuation against the wind.
- Avoid contact with heat, sparks, flame or other ignition sources.

### **6.2. Environmental precautions**

- Avoid dispersal of spilt material and runoff and contact with waterways, drains and sewers. If large spills, advise emergency services.

**6.3. Methods and material for containment and cleaning up****A. For small spills.**

- Remove all sources of ignition.
- Absorb for use sand or other non-combustible material.
- Ventilate leak areas and clearing leak area.

**B. For large spills.**

- Remove all sources of ignition.
- Dike to prevent flowing into the nearby river and reservoir.
- Avoid entering to sewers or water system.
- Absorb for use sand or other non-combustible material.
- Appropriate container for disposal of spilled material collected

**6.4. Reference to other sections:**

- Refer to "Section 8 Exposure controls/personal protection" and "Section 13 Disposal consideration" as appropriate.

**7. HANDLING AND STORAGE****7.1. Precautions for safe handling**

- Perform in accordance with 「See section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION」. Put on appropriate personal protective equipment.
- Handle in a well-ventilated place.
- Avoid contact with heat, sparks, flame or other ignition sources.
- Remove all sources of ignition.
- Wash thoroughly after handling.

**7.2. Conditions for safe storage, including any incompatibilities**

- Do not store where the moisture.
- Store in a cool, dry, location and avoid heat.

**7.3. Specific end use(s) : Not available****8. EXPOSURE CONTROLS / PERSONAL PROTECTION****8.1. Control parameters**

Chemical name	European Union (EU) First List of Indicative Occupational Exposure Limit Values (IOELVs)
Polypropylene Glycol	Not estimated

Additives	Not estimated
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**8.2. Exposure controls****A. Appropriate engineering controls:**

A system of local and/or general exhaust is recommended to keep employee exposures above the Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. The use of local exhaust ventilation is recommended to control emissions near the source.

**B. Individual protection measures, such as personal protective equipment:**

- Use the respirator be given official approval by Korea Occupational Safety & Health Agency Under conditions of frequent use or heavy exposure, Respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.

## ※ When take shelter

- Any chemical cartridge respirator with organic vapour cartridge(s).
- Any chemical cartridge respirator with a full facepiece and organic vapour cartridge(s).
- Any air-purifying respirator with a full facepiece and an organic vapour canister.

## ※ For Unknown Concentration or Immediately Dangerous to Life or Health

- Self-contained breathing apparatus (pressure-demand or other positive-pressure mode in combination), supplied-air respirator with full facepiece.

- Eye Protection : Wear primary eye protection such as splash resistant safety goggles with a secondary protection faceshield. Provide an emergency eye wash station and quick drench shower in the immediate work area.

- Hand Protection : Wear chemical resistant protected gloves if there is hazard potential for direct skin contact. Wear heat resistant protected gloves to withstand the temperature of molten product.

-Body Protection : Wear chemical resistant protected clothing if there is hazard potential for direct contact.

**C. Environmental Exposure Controls: Not available****8.3. DNEL, PNEC, OEL, EQS and DMEL values : Not available**

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

### **9.1. General information**

- A. Appearance : State – liquid
- B. Odour : Mild odor
- C. Odour threshold : Not available

### **9.2. Important health, safety and environmental information:**

- A. pH: Not available
- B. Boiling point/boiling range: Not available
- C. Melting point: Not available
- D. Flash point: 239℃
- E. Flammability(solid, gas): Not available
- F. Explosive properties: Not available
- G. Oxidizing properties: Not available
- H. Vapour pressure: >1.0
- I. Relative density: 1.005~1.010
- J. Solubility: Insoluble
- K. Water solubility: Not available
- L. Partition coefficient: : Not available
- M. Viscosity: 1300~1700cps at 25℃
- N. Vapour density: Not available
- O. Evaporation rate: Not available

### **9.3. Other information:**

- A. Autoignition Temperature: Not available
- B. Molecular weight : Not available
- C. Specific gravity : Not available

## **10. STABILITY AND REACTIVITY**

### **10.1. Reactivity**

- Not available

### **10.2. Stability**

- This material is stable under recommended storage and handling conditions.

### **10.3. Possibility of Hazardous Reaction**

- will not occur.

**10.4. Conditions to avoid**

- High temperature.

**10.5. Incompatible materials**

- Strong acids, strong oxidizing agents, alkali or alkaline substances (copper, zinc or brass)

**10.6. Hazardous decomposition products**

- Carbon monoxide, carbon dioxide

**11. TOXICOLOGICAL INFORMATION**

**11.1. Potential acute health effects**

- A. Inhalation : Not applicable
- B. Ingestion : Not applicable
- C. Eye contact : Not applicable
- D. Skin contact : Not applicable

**11.2. Toxicity and irritation:**

- A. Acute toxicity: Not available
- B. Skin corrosion/irritation: Not available
- C. Eye corrosion/irritation: Not available
- D. Respiratory sensitization: Not available
- E. Skin Sensitization: Not available
- F. Carcinogenicity: Not available
- G. Mutagenicity: Not available
- H. Reproductive toxicity: Not available
- I. Specific target organ toxicity(single exposure): Not available
- J. Specific target organ toxicity(repeated exposure): Not available
- K. Aspiration hazard: Not available

**12. ECOLOGICAL INFORMATION**

**12.1. Ecotoxicity:**

- A. Acute aquatic toxicity
  - Fish: Not available
  - Invertebrate: Not available
  - Algae: Not available

**12.2. Mobility in soil:** Not available

**12.3. Persistence/degradability:** Not available

**12.4. Bioaccumulative potential:** Not available

**12.5. Results of PBT assessment:** Not available

**12.6. Other adverse effects:** Not available

### **13. DISPOSAL CONSIDERATIONS**

#### **13.1. Waste treatment methods**

- The user of this product must properly characterize the waste/container generated from the use of this product in accordance with all applicable federal, state and/or local laws and regulations in order to determine the proper disposal of the waste in accordance with all applicable federal, state and/or local laws and regulations.
- The user of this product must disposal by oneself or entrust to waste disposer or person who other's waste recycle and dispose, person who establish and operate waste disposal facilities.
- Dispose of waste in accordance with local regulation.

**13.2. Additional information:** Not available

### **14. TRANSPORTATION INFORMATION**

**14.1. UN number:** Not regulated for transport of dangerous goods.

**14.2. UN proper shipping name:** Not applicable

**14.3. Transport hazard class(es):** Not applicable

**14.4. Packing group:** Not applicable

**14.5. Environmental hazard:** Not applicable

**14.6. Special precautions for user related to transport or transportation measures:**

- EmS FIRE SCHEDULE : Not applicable
- EmS SPILLAGE SCHEDULE : Not applicable



## **15. REGULATORY INFORMATION**

### **15.1. Safety, health and environmental regulation / legislation specific for the substance or mixture**

- **Labelling in accordance with 1999/45/EC**
  - **Hazard Symbol or Symbols:** Not applicable
  - **Risk Phrases:** Not applicable
  - **Safety Phrases:** Not applicable
- **Regulatory information on labelling according to 1272/2008 Regulation (EC)Symbol(s)**
  - **Symbol(s):** Not applicable
  - **Signal word:** Not applicable
  - **Hazard statement(s):** Not applicable
  - **Precautionary statement(s):** Not applicable

### **15.2. Chemical Safety Assessment:** Not conducted

## **16. OTHER INFORMATION**

### **16.1. Full text of H-Statements referred to under section 3:** Not applicable

### **16.2. Full text of R-phrases referred to under sections 2 and 3:** Not applicable

### **16.3. Update history:**

Date of issue: 2010.03.03

Date of revision: 5th, 2019. 11. 29

### **16.4. Others**

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