**SAFETY DATA SHEET**

**Date Printed**: 01 August 1994  
**Date Updated**: 01 April 2015  
**Version**: Rev. 21  
**Regulation**: In accordance with Regulation (EU) 453/2010 (REACH), Annex II

### 1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

#### 1.1 Product identifier

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>Applicable Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene propylene Copolymer</td>
<td>9010-79-1</td>
<td>None</td>
<td>KEP020P, KEP070P, KEP110, KEP2060, KEP111, KEP300V</td>
</tr>
</tbody>
</table>

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

**Relevant identified uses**: Parts of automobile, Cables, Roofing Sheet, General industrial parts etc.

**Uses advised against**: No information

#### 1.3 Details of the supplier of the Safety Data Sheet

- **Company name**: KUMHO POLYCHEM CO., LTD.
- **Address**: #144-6, Weoulha-dong, Yeosu-City, Cheonranam-Do, Korea
- **Contact Telephone**: +82-61-688-2825
- **Fax**: +82-61-688-2850
- **Email Address**: spkg09@polychem.co.kr

#### 1.4. Emergency Telephone

: +82-61-688-2700 (Fax: +82-61-688-2899)

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

KEP Ethylene Propylene Rubber is not classified according to Regulation (EC) No 1272/2008 [CLP] and Directive 67/548/EEC.

#### 2.2 Label elements

- **Hazard pictograms**: Not applicable
- **Signal word**: Not applicable
- **Hazard statements**: Not applicable
- **Additional precautionary statements**: Not applicable

#### 2.3 Other hazards

: No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

<table>
<thead>
<tr>
<th>Other Name/s</th>
<th>Ethylene propylene 5-ethyldiene-2-norbornene terpolymer</th>
<th>Ethylene propylene Copolymer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content(%)</td>
<td>2-norbornene, 5-ethyldiene polymer with ethylene and propene</td>
<td>1-propene, polymer with ethene</td>
</tr>
</tbody>
</table>

* Monomers of the polymers have been registered under EU REACH regulation in compliance with the Article 6 of the regulation. Below is the information on the Registration.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>EU REACH Registration No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene</td>
<td>74-85-1</td>
<td>200-815-3</td>
<td>01-2119462827-27-0116</td>
</tr>
<tr>
<td>Propylene</td>
<td>115-07-1</td>
<td>204-062-1</td>
<td>01-2119447103-50-0113</td>
</tr>
<tr>
<td>5-Ethyldiene-2-norbornene</td>
<td>16219-75-3</td>
<td>240-347-7</td>
<td>01-2119494722-31-0002</td>
</tr>
</tbody>
</table>
4. FIRST-AID MEASURES

4.1 Description of first aid measures

After eye contact:
- If in an eye, remove in the same manner as one would when any solid object enters the eye since the product is an inert solid.

After skin contact:
- If the skin is in contact with the heated product, immediately immerse in or flush the affected area with a large amount of cold water to dissipate heat. Cover with clean cotton sheet or gauze and get prompt medical attention.
  - No attempt should be made to remove the heated product from the affected skin or to remove the contaminating clothing as the damaged flesh can easily be torn.

After inhalation:
- Using proper respiratory protection, immediately remove the affected victim from exposure.
  - Administer artificial respiration if breathing has stopped.
  - Keep the affected victim at rest.
  - Call for prompt medical attention

After ingestion:
- First aid is normally not required

4.2 Most important symptoms and effects

Acute effects
None known.

Delayed effects
None known.

4.3 Indication of immediate medical attention and notes for physician
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media:
- Foam
- Carbon dioxide
- Water spray

Unsuitable Extinguishing Media:
- No information available

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products:
- Due to thermal decomposition and incomplete combustion gases such as black smoke, carbon monoxide and other toxic gases, danger based on inhalation of such gases may occur.

5.3 Advice for firefighters
- Depending on the situation, protective equipment such as chemical cartridge respirator for fire-fighting and protective clothing shall be worn.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
- Wear protective gloves.

6.2 Environmental precautions
- Pay attention so that product does not flow into the sewage or public water area.

6.3 Methods and material for containment and cleaning up
- Sweep up the scattered product and recover into a suitable container.

6.4 Reference to other sections
- See also sections 8 and 13 of the Safety Data Sheet.

### 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling
- Do not handle until all safety precautions have been read and understood.

#### 7.2 Conditions for safe storage, including any incompatibilities
- Keep away from heat, direct sunlight and ultraviolet rays. Exposure to direct sunlight and ultraviolet rays cause the polymer to generate light-induced crosslinked gel in the product.
- Avoid wetting and abrupt temperature change when storing this material.
- Please store product at room temperature, and keep it dry. Especially, high ethylene type EP(D)M should be stored in a warm room for more than 48 hours prior to use and process.

#### 7.3 Specific end use(s)
- None

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### 8.1 Control parameters

**Occupational Exposure Limits**:

- ACGIH regulation: No information available
- Biological exposure index: No information available
- OSHA regulation: No information available
- NIOSH regulation: No information available
- EU regulation: No information available

**Occupational Exposure Controls**:

<table>
<thead>
<tr>
<th>Exposure route of relevance</th>
<th>DNELs, DMELs, PNECs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Industrial</td>
</tr>
<tr>
<td></td>
<td>Long term, local effects</td>
</tr>
<tr>
<td>Human: oral</td>
<td>-</td>
</tr>
<tr>
<td>Human: inhalation</td>
<td>-</td>
</tr>
<tr>
<td>Human: dermal</td>
<td>-</td>
</tr>
<tr>
<td>Environment: water</td>
<td>-</td>
</tr>
<tr>
<td>Environment: air</td>
<td>-</td>
</tr>
<tr>
<td>Environment: soil</td>
<td>-</td>
</tr>
<tr>
<td>Environment: sediment</td>
<td>-</td>
</tr>
<tr>
<td>Environment: STP</td>
<td>-</td>
</tr>
<tr>
<td>Environment: oral</td>
<td>-</td>
</tr>
</tbody>
</table>

#### 8.2 Exposure controls

**Appropriate engineering controls**:
- Since volatile matters will be generated at the time of mixing, processing and molding work, install equipment to wash the hands and eyes nearby.
Individual protection measures, such as personal protective equipment:

**Respiratory protection:**
- Use a protective mask as required

**Eye protection:**
- Install equipment to wash the hands and eyes nearly.
- Wear protective glasses as required

**Hand protection:**
- Use protective gloves as required.

**Body protection:**
- Use work clothes and safety shoes as required.

**Environmental exposure controls:**
- Prevent entry into waterways, sewers, basements or confined areas.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**9.1 Information on basic physical and chemical properties**

- **Appearance**
  - Description: Solid
  - Color: White or yellow-Green
- **Odor:** Slight Odor
- **Odor threshold:** Not applicable
- **pH:** Not applicable
- **Melting point/freezing point:** Not applicable
- **Initial boiling point and boiling range:** Not applicable
- **Flashing point:** 250 °C
- **Evaporation rate:** Not applicable
- **Flammability (solid, gas):** Not applicable
- **Upper/lower flammability or explosive limits:** Not applicable
- **Vapor pressure:** Not applicable
- **Solubility (ies):** Insoluble in water
- **Vapor density:** Not applicable
- **Specific gravity:** 0.86 ~ 0.89
- **Partition coefficient: n-octanol/water:** Not applicable
- **Auto ignition temperature:** Not applicable
- **Decomposition temperature:** 250 °C
- **Viscosity:** Not applicable
- **Explosive properties:** Not applicable
- **Oxidizing properties:** Not applicable
- **Molecular weight:** 100,000 ~ 600,000

**9.2 Other information:** No information available

### 10. STABILITY AND REACTIVITY

**10.1 Reactivity/Chemical stability/Possibility of hazardous reactions**
- Polymerization does not occur.
- Stable at normal temperature and pressure.
10.2 Conditions to avoid: Not applicable
10.3 Incompatible materials: Not applicable
10.4 Hazardous decomposition products: Not applicable

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicology effects

- Acute toxicity:
  - Oral: Not applicable
  - Dermal: Not applicable
  - Inhalation: Not applicable

- Skin Corrosion/Irritation: Not applicable
- Serious Eye Damage/Irritation: Not applicable
- Respiratory sensitization: Not applicable
- Skin Sensitization: Not applicable
- Carcinogenicity: Not applicable
- Mutagenicity: Not applicable
- Reproductive toxicity: Not applicable
- Specific target organ toxicity (single exposure): Not applicable
- Specific target organ toxicity (repeat exposure): Not applicable
- Aspiration Hazard: Not applicable

12. ECOLOGICAL INFORMATION

12.1 Toxicity

- Acute toxicity: No information available
- Chronic toxicity: No information available

12.2 Persistence and degradability: No information available

12.3 Bioaccumulative potential: No information available

12.4 Mobility in soil: No information available

12.5 Results of PBT and vPvB assessment: No information available

12.6 Other adverse effects: No information available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

- Disposal Methods
  - Observe all regulations made by administration

- Precautions for disposal
  - Observe all regulations made by administration

14. TRANSPORT INFORMATION

14.1 UN number: Not applicable to the criteria for classification
14.2 UN proper shipping name: Not applicable to the criteria for classification
14.3 Transport hazard class: Not applicable to the criteria for classification
14.4 Packing group: Not applicable to the criteria for classification
14.5 Environmental hazards: Not applicable to the criteria for classification
14.6 Special precautions for user

- in case of fire : Not applicable
- in case of leakage : Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not applicable

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

<table>
<thead>
<tr>
<th>EU Regulatory Information</th>
<th>Ethylene propylene 5-ethylidene-2-norbornene terpolymer</th>
<th>Ethylene propylene Copolymer</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU classification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annex I of Directive 67/548/EEC :</td>
<td></td>
<td></td>
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<tr>
<td>Classification :</td>
<td>Not regulated</td>
<td>Not regulated</td>
</tr>
<tr>
<td>Risk phrases :</td>
<td>Not regulated</td>
<td>Not regulated</td>
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<td>Safety phrases :</td>
<td>Not regulated</td>
<td>Not regulated</td>
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<tr>
<td>EU CLP 2008 :</td>
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<td></td>
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<tr>
<td>Classification :</td>
<td>Not regulated</td>
<td>Not regulated</td>
</tr>
<tr>
<td>Hazard statement codes :</td>
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<td>Not regulated</td>
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<tr>
<td>Precautionary statement codes :</td>
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<td>Not regulated</td>
</tr>
<tr>
<td>EU SVHC list :</td>
<td>Not regulated</td>
<td>Not regulated</td>
</tr>
<tr>
<td>EU Authorisation List :</td>
<td>Not regulated</td>
<td>Not regulated</td>
</tr>
<tr>
<td>EU Restriction list :</td>
<td>Not regulated</td>
<td>Not regulated</td>
</tr>
<tr>
<td>Foreign Regulatory Information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Korea management information :</td>
<td>Existing Chemical Substance (KE-13881)</td>
<td>Existing Chemical Substance (KE-29433)</td>
</tr>
</tbody>
</table>

15.2 Chemical safety assessment :

- No chemical safety assessment has been carried out for this substance by the supplier.

16. OTHER INFORMATION

Product safety data sheet was prepared for KEP Ethylene Propylene Rubber in accordance with Regulation (EU) 453/2010 (REACH), Annex II

16.1 Indication of changes:

Version : Rev. 21
Revision date : 1 April 2015

16.2. Abbreviations and acronyms:

CLP = Classification Labelling Packaging Regulation ; Regulation (EC) No 1272/2008
CAS No. = Chemical Abstracts Service number
DNEL = Derived No Effect Level
EC Number = EINECS and ELINCS Number (see also EINECS and ELINCS)
EU = European Union
OSHA = European Agency for Safety and Health at work
PBT = Persistent, Bioaccumulative and Toxic substance
PNEC(s) = Predicted No Effect Concentration(s)
SVHC = Substances of Very High Concern
vPvB = Very Persistent and Very Bioaccumulative

16.3 Key literature reference and sources for data:

- HSDB (Hazardous Substances Data Bank)
- ICSC (International Chemical Safety Cards)
- NLM (United States National Library of Medicine)
- IUCLID (International Uniform Chemical Information Database)
16.4 Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]: Not applicable

16.5 Relevant R-phrases and/or H-statements (number and full text): Not applicable

16.6 Training advise:
- Do not handle until all safety precautions have been read and understood.

16.7 Further information: No information available

This safety data sheet (SDS) is based on the legal provisions of the REACH Regulation, as amended. Its contents are intended as a guide to the appropriate precautionary handling of the material. It is the responsibility of recipients of this SDS to ensure that the information contained therein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. Information and instructions provided in this SDS are based on the current state of scientific and technical knowledge at the date of issue indicated. It should not be construed as any guarantee of technical performance, suitability for particular applications, and does not establish a legally valid contractual relationship.