

# SAFETY DATA SHEET

Date Printed : 03 May 2010  
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## 1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

### 1.1 Product identifier

Name of the Product : KEPA1130, KEPA1150

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

Relevant identified uses : Parts of automobile, Cables, 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 : +82-61-688-2823

Fax : +82-61-688-2850

Email Address : jwh3177@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

Not classified according to OSHA 29 CFR 1910.1200

### 2.2 Label elements

Pictogram and symbol : Not applicable

Signal word : Not applicable

Hazard statements : Not applicable

#### Precautionary statements

Precaution : Not applicable

Treatment : Not applicable

Storage : Not applicable

Disposal : Not applicable

2.3 Other hazards : No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Product	Chemical Name	Common Name(Synonyms)	CAS number	EC/List number	Content (%)
KEPA1130	Ethylene propylene copolymer	1-propene, polymer with ethane	9010-79-1	618-455-4	Secret
	Ethylene propylene copolymer	1-propene, polymer with ethylene	106565-43-9	-	Secret
	Maleic anhydride	2,5-Furandione	108-31-6	203-571-6	< 1%
KEPA1150	Ethylene propylene copolymer	1-propene, polymer with ethene	9010-79-1	618-455-4	Secret
	Ethylene-1-octene copolymer	Ethylene-1-octene copolymer	26221-73-8	-	Secret
	Maleic anhydride	2,5-Furandione	108-31-6	203-571-6	< 1%

## 4. FIRST-AID MEASURES

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#### 4.1 Description of first aid measures

**After eye contact :** - In case of contact with substance, immediately flush eyes with running water at least 20 minutes.

**After skin contact :** - In case of contact with substance, immediately flush skin with running water at least 20 minutes.  
- Remove and isolate contaminated clothing and shoes.  
- Wash contaminated clothing and shoes before reuse.  
- Get immediate medical advice/attention.

**After inhalation :** - Specific medical treatment is urgent.  
- Move victim to fresh air.  
- Give artificial respiration if victim is not breathing.  
- Administer oxygen if breathing is difficult.

**After ingestion :** - Do not let him/her eat anything, if unconscious.  
- Get immediate medical advice/attention.

#### 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 :** - Dry sand, dry chemical, alcohol-resistant foam, water spray, regular foam, CO<sub>2</sub>

**Unsuitable Extinguishing Media :** High pressure water streams -

#### 5.2 Special hazards arising from the substance or mixture

- May be ignited by heat, sparks or flames.
- Containers may explode when heated.
- Some of these materials may burn, but none ignite readily.
- Fire will produce irritating and/or toxic gases.
- If inhaled, may be harmful.

#### 5.3 Advice for firefighters

- Dike fire-control water for later disposal; do not scatter the material.
- Move containers from fire area if you can do it without risk.
- Fire involving Tanks; Cool containers with flooding quantities of water until well after fire is out.
- Fire involving Tanks; Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- Fire involving Tanks; Always stay away from tanks engulfed in fire.

### 6. ACCIDENTAL RELEASE MEASURES

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

- Eliminate all ignition sources.
- Stop leak if you can do it without risk.
- Please note that materials and conditions to avoid.
- Ventilate the area.
- Do not touch or walk through spilled material.
- Prevent dust cloud.

#### 6.2 Environmental precautions

- Prevent entry into waterways, sewers, basements or confined areas..

#### 6.3 Methods and material for containment and cleaning up

- Small Spill; Flush area with flooding quantities of water. And take up with sand or other non-combustible absorbent material and place into containers for later disposal.
- Large Spill; Dike far ahead of liquid spill for later disposal.
- With clean shovel place material into clean, dry container and cover loosely; move containers from

spill area.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

- Please note that materials and conditions to avoid.
- Wash thoroughly after handling.
- Please work with reference to engineering controls and personal protective equipment.
- Be careful to high temperature.

### 7.2 Conditions for safe storage, including any incompatibilities

- Store in a closed container.
- Store in cool and dry place.

### 7.3 Specific end use(s)

- None

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

#### Occupational Exposure Limits :

o Korea regulation	: maleic anhydride TWA = 0.4 mg/m <sup>3</sup>
o ACGIH regulation	: maleic anhydride TWA 0.01 mg/m <sup>3</sup> (inhalable fraction and vapor)
o Biological exposure index	: No information available
o OSHA regulation	: maleic anhydride : TWA = 0.25 ppm (1 mg/m <sup>3</sup> )
o NIOSH regulation	: maleic anhydride : TWA = 1 mg/m <sup>3</sup>
o EU regulation	: Not applicable

### 8.2 Exposure controls

#### Appropriate engineering controls :

- Provide local exhaust ventilation system or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

#### Individual protection measures, such as personal protective equipment :

##### Respiratory protection :

- Wear NIOSH or European Standard EN 149 approved full or half face piece (with goggles) respiratory protective equipment when necessary.
- In case exposed to particulate material, the respiratory protective equipments as follow are recommended. ;facepiece filtering respirator or air-purifying respirator, high-efficiency particulate air(HEPA) filter media or respirator equipped with powered fan, filter media of use(dust, mist, fume)
- In lack of oxygen(< 19.5%), wear the supplied-air respirator or self-contained breathing apparatus.oxygen

##### Eye protection :

- Wear facepiece with goggles to protect.
- An eye wash unit and safety shower station should be available nearby work place.
- Wear breathable safety goggles to protect from particulate material causing eye irritation or other disorder.
- An eye wash unit and safety shower station should be available nearby work place.

##### Hand protection :

- Wear chemical resistant gloves.
- Wear appropriate protective gloves by considering physical and chemical properties of chemicals.

##### Body protection :

- Wear appropriate protective chemical resistant clothing.
- Wear appropriate protective clothing by considering physical and chemical properties of chemicals.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

## 9.1 Information on basic physical and chemical properties

### Appearance

<b>Description :</b>	Solid(Pellet)
<b>Color :</b>	White
<b>Odor :</b>	Slight Odor
<b>Odor threshold :</b>	Not available
<b>pH :</b>	Not applicable
<b>Melting point/freezing point :</b>	Not applicable
<b>Initial boiling point and boiling range :</b>	Not applicable
<b>Flash point :</b>	250 °C
<b>Evaporation rate :</b>	Not applicable
<b>Flammability (solid, gas) :</b>	Not available
<b>Upper/lower flammability or explosive limits :</b>	Not applicable
<b>Vapor pressure :</b>	Not applicable
<b>Solubility (ies) :</b>	Insoluble in water
<b>Vapor density :</b>	Not applicable
<b>Specific gravity :</b>	0.86 ~ 0.89
<b>Partition coefficient: n-octanol/water :</b>	Not applicable
<b>Auto ignition temperature :</b>	Not available
<b>Decomposition temperature :</b>	300 °C
<b>Viscosity :</b>	Not applicable
<b>Explosive properties :</b>	Not applicable
<b>Oxidizing properties :</b>	Not applicable
<b>Molecular weight :</b>	100,000 ~ 600,000

9.2 Other information : No information available

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity/Chemical stability/Possibility of hazardous reactions

- Fire may produce irritating and/or toxic gases.
- If inhaled, may be harmful.

10.2 Conditions to avoid : Heat, sparks or flames

10.3 Incompatible materials : Combustibles

10.4 Hazardous decomposition products : Irritating and/or toxic gases

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicology effects

#### Acute toxicity;

##### Oral

Not classified

- **maleic anhydride** : Rat LD<sub>50</sub> = 400 mg/kg

##### Dermal

Not classified

- **maleic anhydride** : Rabbit LD<sub>50</sub> = 2,620 mg/kg

##### Inhalation

Not classified

- **maleic anhydride** : Rat LD<sub>50</sub> > 4.35 mg/L/1hr

#### Skin Corrosion/ Irritation;

Not classified

- **maleic anhydride** : In test on skin irritation with rabbits, skin irritations were observed.

#### Serious Eye Damage/ Irritation;

Not classified

- **maleic anhydride** : In test on eyes irritation with rabbits, eyes irritations were observed.(GLP)

<b>Respiratory sensitization;</b>	Not classified - <b>maleic anhydride</b> : In test on Respiratory sensitization with rats, respiratory sensitizations were observed.
<b>Skin Sensitization;</b>	Not classified - <b>maleic anhydride</b> : In test on Skin sensitization with mice, skin sensitizations were observed
<b>Carcinogenicity;</b>	Not classified
<b>IARC</b>	- <b>Polypropylene</b> : Group 3
<b>ACGIH</b>	- <b>maleic anhydride</b> : A4 - <b>maleic anhydride</b> : In test on carcinogenicity with rats, carcinogenicity was not observed.(OECD TG 451)
<b>Mutagenicity;</b>	Not classified - <b>maleic anhydride</b> : In the ames test, the result of the assay was negative. (OECD TG 471)
<b>Reproductive toxicity;</b>	Not classified - <b>maleic anhydride</b> : In the toxicity to reproduction test using rat, there were no effects on clinical signs, mortality(OECD TG 416, GLP)
<b>Specific target organ toxicity (single exposure);</b>	Not classified - <b>maleic anhydride</b> : In the acute oral toxicity using rat, there were no effects on clinical signs, systemic toxicity(OECD TG 401)
<b>Specific target organ toxicity (repeat exposure);</b>	Not classified - <b>maleic anhydride</b> : In the repeated Dose 30-Day inhalation toxicity test using rat, respiratory system irritation were observed. (LOAEC = 0.01mg/L air)(OECD TG 412)
<b>Aspiration Hazard;</b>	Not available

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

<b>Acute toxicity</b>	Not classified
<b>Chronic toxicity</b>	Not classified
<b>Fish</b>	- <b>maleic anhydride</b> : 96hr-LC <sub>50</sub> ( <i>Salmo gairdneri</i> ) = 75 mg/L - <b>Polypropylene</b> : Acute toxicity is not classified because of poor solubility (water solubility <1 mg / L) and predicted L(E)C50 exceeding water solubility.
<b>crustacean</b>	- <b>maleic anhydride</b> : 48hr-LC <sub>50</sub> ( <i>Daphnia magna</i> ) = 330 mg/L, 21d-NOEC ( <i>Daphnia magna</i> ) = 10 mg/L - <b>Polypropylene</b> : Acute toxicity is not classified because of poor solubility (water solubility <1 mg / L) and predicted L(E)C50 exceeding water solubility.
<b>Algae</b>	- <b>maleic anhydride</b> : 72hr-EC <sub>50</sub> ( <i>Selenastrum capricornutum</i> ) > 150 mg/L, 72hr-NOEC ( <i>Selenastrum capricornutum</i> ) = 150 mg/L (OECD TG 201, GLP) - <b>Polypropylene</b> : Acute toxicity is not classified because of poor solubility (water solubility <1 mg / L) and predicted L(E)C50 exceeding water solubility.

### 12.2 Persistence and degradability

<b>Persistence</b>	- <b>Polypropylene</b> : High persistency (log Kow is more than 4 estimated.) (Log Kow = 17.21) (estimated)
<b>Degradability</b>	Not available

### 12.3 Bioaccumulative potential

<b>Bioaccumulation</b>	- <b>maleic anhydride</b> : Bioaccumulation is expected to be low according to the BCF < 500 (BCF = 5) - <b>Polypropylene</b> : Bioaccumulation is expected to be low according to the BCF < 500 (BCF = 3.162) (estimated)
<b>Biodegradation</b>	- <b>maleic anhydride</b> : As well-biodegraded, it is expected to have low accumulation potential in living organisms (= 93% biodegradation)

was observed after 11 days) (OECD TG 301B, GLP)

<b>12.4 Mobility in soil</b>	- <b>maleic anhydride</b> : Low potency of mobility to soil. (Koc = 42) - <b>Polypropylene</b> : High potency of mobility to soil. (Koc = 8.633e+014) (estimated)
<b>12.5 Results of PBT and vPvB assessment</b>	No information available
<b>12.6 Other adverse effects</b>	No information available
<b>12.7 Hazardous to the ozone layer</b>	Not applicable

### 13. DISPOSAL CONSIDERATIONS

#### 13.1 Waste treatment methods

##### Disposal Methods

- Waste must be disposed of in accordance with federal, state and local environmental control regulations.

##### Precautions for disposal

- Consider the required attentions in accordance with waste treatment management regulation.

### 14. TRANSPORT INFORMATION

<b>14.1 UN number</b>	: Not applicable to the criteria for classification
<b>14.2 UN proper shipping name</b>	: Not applicable to the criteria for classification
<b>14.3 Transport hazard class</b>	: Not applicable to the criteria for classification
<b>14.4 Packing group</b>	: Not applicable to the criteria for classification
<b>14.5 Environmental hazards</b>	: Not applicable to the criteria for classification
<b>14.6 Special precautions for user</b>	
- in case of fire	: Not applicable
- in case of leakage	: Not applicable
<b>14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	: Not applicable

### 15. REGULATORY INFORMATION

#### 15.1 Internal Regulatory information

<b>U.S.A management information (Section 8(b) Inventory (TSCA)</b>	- <b>maleic anhydride</b> : Present - <b>ETHYLENE-PROPYLENE COPOLYMER</b> : Present[XU] - <b>Polypropylene</b> : Present[XU] - <b>ETHENE OCTENE COPOLYMER</b> : Present[XU]
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##### U.S.A management information (OSHA Regulation)

Not regulated

##### U.S.A management information (CERCLA Regulation)

- **maleic anhydride** : CERCLA RQ 5000 lb

##### U.S.A management information (EPCRA 302 Regulation)

Not regulated

##### U.S.A management information (EPCRA 304 Regulation)

Not regulated

##### U.S.A management information (EPCRA 313 Regulation)

- **maleic anhydride** : Regulated

#### 15.2 Foreign Regulatory Information

##### KOREA Regulatory information Occupational Safety and Health Regulation

Not regulated

- **maleic anhydride** : Work environment monitoring listed (6 months)

- **maleic anhydride** : Administration subject listed

- **maleic anhydride** : Health examination agent (12 months)

##### Chemical Control Act

Not regulated

##### Dangerous Material Safety Management Regulation

Not regulated

##### External information

-**maleic anhydride** : Non-dangerous goods

##### Substance of Roterdame Protocol

Not regulated

**Substance of Stockholme Protocol**  
**Substance of Montreal Protocol**

Not regulated  
Not regulated

## 16. OTHER INFORMATION

### 16.1 Information source and references

U.S. National library of Medicine(NLM) Hazardous Substances Data Bank(HSDB); <http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB>

EPISUITE v4.1; <http://www.epa.gov/opt/exposure/pubs/episuitedl.htm>

U.S. National library of Medicine(NLM) ChemIDplus; <http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?CHEM>

National Emergency Management Agency-Korea dangerous material inventory management system;  
<http://www.nema.go.kr/hazmat/main/main.jsp>

Korea Occupational Health & Safety Agency; <http://www.kosha.net>

Eastman Chemical Company SDS

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans; <http://monographs.iarc.fr>

LookChem; <http://www.lookchem.com/>

National Chemicals Information System; <http://ncis.nier.go.kr/ncis/>

TOMES-LOLI® ; <http://www.rightanswerknowledge.com/loginRA.asp>

Waste Control Act enforcement regulation attached [1]

The Chemical Database -The Department of Chemistry at the University of Akron; <http://ull.chemistry.uakron.edu/erd/guidechem>; <http://www.guidechem.com>

National Toxicology Program; [http://ntp-apps.niehs.nih.gov/ntp\\_tox/index.cfm](http://ntp-apps.niehs.nih.gov/ntp_tox/index.cfm)

American Conference of Governmental Industrial Hygienists TLVs and BEIs.

NIOSH Pocket Guide; <http://www.cdc.gov/niosh/npg/npgdcas.html>

REACH information on registered substances; <http://apps.echa.europa.eu/registered/registered-sub.aspx>

EU CLP; <http://esis.jrc.ec.europa.eu/index.php?PGM=cla>

**16.2 Issuing date :** 03 May 2010

**16.3 Revision number and date**

**revision number :** (7)

**date of the latest revision :** 28 May 2021

**16.4. Other**

- This SDS is authored in pursuant to the OSHA 29 CFR 1910.1200.
  - The content is based on the latest information and knowledge that we currently possess.
  - This SDS was authored to aid buyer, processor or any other third person who handles the chemical of subject in the SDS; additionally, it does not warrant suitability of the chemical for special purposes or the commercial use of statements that approves the use of it in combination with other chemicals as well as technical or legal liabilities.
  - The content of the SDS may vary depending on the country or the region and may not coincide with the actual regulations. Therefore, the buyer or the processor of the chemical is responsible for observing responsible government's or the region's regulations.
-