

## SECTION I : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY / UNDERTAKING

### • Product identifier name of the product

Substance Name

**MKOREZ® MK-115**

Chemical family

Petroleum hydrocarbon resin

Cas number

9011-11-4

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

Relevant identified uses

Additive for adhesives, paints, coatings, inks

Uses advised against

Used for recommended use.

### • Details of the supplier of the safety data sheet

Company name

KOLON INDUSTRIES

Address

9th FL, One&Only tower, Magokdong-ro 110,  
Gangseo-gu, Seoul, Korea(07793)

Telephone / Fax

(82) 2 3677 6122 / (82) 2 3677 6191

E-mail address

[frontier@kolon.com](mailto:frontier@kolon.com)

### • Emergency telephone number

For emergency health, safety & environmental information

(82) 2 3677 6122

## SECTION 2 : HAZARDS IDENTIFICATION

### • Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Not classified

### • Label elements

Not applicable

• **Other hazards(NFPA)**

HEALTH = 1 FIRE =1 REACTIVITY = 0 (0 = NO HAZARD, 1 = SLIGHT HAZARD)

## SECTION 3 : COMPOSITION / INFORMATION ON INGREDIENTS

• **Substances**

Component	Cas number	Weight % range
Poly(styrene-co-alpha-methylstyrene)	9011-11-4	>99.5
Stabilizer	Proprietary	<0.5

## SECTION 4 : FIRST AID MEASURES

• **Description of first aid measures**

General notes

Not available

Following inhalation

Give artificial respiration if victim is not breathing.

Move victim to non-contaminated place if side effect occurred.

Get medical attention immediately.

Following skin contact

Get medical attention if needed.

Dry and wash thoroughly contaminated clothing and shoes before reuse.

Remove contaminated clothing and shoes. wash immediately skin

With soap and water for at least 15 minutes.

Following eye contact

Flush eyes with amount of water for at least 15 minutes.

Get medical attention immediately.

Following ingestion

Get medical attention if swallowed amount of substance.

Self-protection of the first aider

There is not specific antidote. take functionally measures according to symptoms.

• **Most important symptoms and effects, both acute and delayed**

Not available

• **Indication of any immediate medical attention and special treatment needed**

Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

## SECTION 5 : FIRE FIGHTING MEASURES

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- **Extinguishing media**

- Suitable extinguishing media

- Dry chemical, CO<sub>2</sub>, water spray, regular foam

- Unsuitable extinguishing media

- Not available

- **Specific hazards arising from the substance or mixture**

- Hazardous combustion products

- Carbon oxides

- It could be a slight fire hazard.

- **Advice for firefighters**

- Move containers from fire area if you can do it without risks.

- Do not scatter spilled material with high pressure water streams.

- Mank an embankment for further processing.

- Use extinguishing agent suitable for type of surrounding fire.

- Avoid inhalation of the substance or combustion products.

- Stay upwind and keep out of low areas.

## SECTION 6 : ACCIDENTAL RELEASE MEASURES

- **Personal precautions, protective equipment and emergency procedures**

- For non-emergency personnel*

- Protective equipment

- Not available

- Emergency procedures

- Not available

- For emergency responders*

- Keep away from waterways and sewers.

- Isolate exposed area.

- Keep unauthorized personnel away.

- Move materials to suitable containers for later disposal.

- **Environmental precautions**

- Atomosphere

- Not available

- Land

- Not available

- Underwater

- Do not release spillage into sewers.

## • Methods and material for containment and cleaning up

### *For containment*

Not available

### *For cleaning up*

#### Small spill

Dispose waste as waste synthesis resin(general waste).

#### Large spill

Collect and then recycle or dispose as a waste resin(general waste).

### *Other information*

Not available

## SECTION 7 : HANDLING AND STORAGE

## • Precautions for safe handling

### Protective measures

Prevent skin and eye contact

Avoid contact in the molten state by heat and vapor inhalation.

### Measures to prevent fire

When static electricity generates, remove by grounding, cleaning work space, and using articles preventing electrification.

### Measures to prevent aerosol and dust generation

Not available

### Measures to prevent the environment

Not available

### Advice on general occupational hygiene

Not available

## • Conditions for safe storage, including any incompatibilities

### Technical measures and storage conditions

Avoid contact with straight sunlight.

### Packaging materials

Not available

### Requirements for storage rooms and vessels

Minimize generation and accumulation of dust store in a cool, dry, well-ventilated area.

### *Storage class*

### Further information on storage conditions

Store and use by regulation of central government and local self-government.

## • Specific end use(s)

### Recommendations

Adhesive, paints, coatings, inks

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Industrial sector specific solutions

Not available

## SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

### • Control parameters

#### *Occupational exposure limits*

##### Biological exposure index

Not available

##### OSHA

TWA - 5 mg/m<sup>3</sup> (Respirable dust fraction)

##### NIOSH regulation

Not available

##### EU regulation

Not available

##### KOREAN occupation of safety and health regulation

Not available

### • Exposure controls

#### *Appropriate engineering controls*

##### Substance/mixture related measures to prevent exposure during identified uses

Not available

##### Structural measures to prevent exposure

Not available

##### Organisational measures to prevent exposure

Not available

##### Technical measures to prevent exposure

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

Check legal suitability of exposure level.

#### *Personal protection equipment*

##### Eye and face protection

Wear safety glasses(goggles) to protect eyes from dust.

##### Skin protection

###### Hand protection

Wear appropriate protective gloves to prevent exposure of skin.

###### Other skin protection

Wear appropriate protective clothing to prevent exposure of skin.

##### Respiratory protection

Wear NIOSH or european standard EN 149 approved full or half face piece(with goggles) respiratory protective equipment when necessary.

Air respirator are required in case of high frequency use or severe exposure

Air-purifying respirator(high efficiency particulate absorber)

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In case of unknown concentrations or urgent risk of life/health

Air-line mask(combination airline breathing mask)

Air-breathing apparatus(full facepiece)

Thermal hazards

Not available

*Environmental exposure controls*

Substance/mixture related measures to prevent exposure

Not available

Instruction measures to prevent exposure

Not available

Organisational measures to prevent exposure

Not available

Technical measures to prevent exposure

Not available

## SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

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

• **Apperance**

Description

Solid

Color

Water white

• **Odor**

Petrochemical Odor

• **Odor threshold**

Not detected

• **pH**

Not available

• **Melting point/freezing point**

110~120°C(Softening point)

• **Initial boiling point and boiling range**

Not available

• **Flash point**

>270°C

- **Evaporation rate**  
Not applicable
  - **Flammability(solid, gas)**  
Not available
  - **Vapor pressure**  
Not applicable
  - **Vapor density**  
Not applicable
  - **Specific gravity(Relative density)**  
1.05~1.10
  - **Solubility(ies)**  
Insoluble
  - **Partition coefficient(n-octanol/water)**  
Not applicable
  - **Auto ignition temperature**  
Not available
  - **Decomposition temperature**  
Not available
  - **Viscosity**  
<750 cps(200°C)
  - **Explosive properties**  
Not available
  - **Oxidizing properties**  
Not available
  - **Molecular weight**  
Approx. 2,100 (Mw)
  - **Other information**
    - Surface tension  
Not available
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## SECTION 10 : STABILITY AND REACTIVITY

### • Reactivity

It will not occur polymerization reaction.

### • Chemical stability

Stable under normal temperatures and pressures.

### • Possibility of hazardous reactions

Not available

### • Conditions to avoid

Avoid heat, flames, sparks and other sources of ignition.

### • Incompatible materials

Strong oxidizing agent

### • Hazardous decomposition products

Carbon oxides

## SECTION 11 : TOXICOLOGICAL INFORMATION

### • Information on toxicology effects

#### Acute toxicity

Oral : Not classified

(Hydrogenated hydrocarbon resin : LD<sub>50</sub> = 7,000mg/kg(mammal))

Dermal : Not available

Inhalation(dust/mist) : Not available

#### Skin corrosion/irritation

Not classified

(Skin irritation test : not irritative based on primary irritation index = 0)

#### Serious eye damage/irritation

Not available

#### Respiratory sensitization

Not available

#### Skin sensitization

Not available

#### Carcinogenicity

Not available

EU CLP : Not available

IARC : Not available



NTP : Not available  
OSHA : Not available  
WISHA : Not available  
ACGIH : Not available

Germ cell Mutagenicity

Not available

Reproductive toxicity

Not available

Specific target organ toxicity(single exposure)

Not available

Specific target organ toxicity(repeat exposure)

Not available

Aspiration hazard

Not available

## SECTION 12 : ECOLOGICAL INFORMATION

### • Toxicity

*Acute(short-term) toxicity*

Fish

Not available

Crustacea

Not available

Algae/aquatic plants

Not available

Other organisms

Not available

*Chronic(long-term) toxicity*

Fish

Not available

Crustacea

Not available

Algae/aquatic plants

Not available

Other organisms

Not available

### • Persistence and degradability

Abiotic Degradation

Not available

Physical- and photo-chemical elimination

Not available

Biodegradation

Not available

• **Bioaccumulative potential**

Partition coefficient n-octanol /water (log Kow)

Not available

Bioconcentration factor (BCF)

Not available

• **Mobility in soil**

Known or predicted distribution to environmental compartments

Not available

Surface tension

Not available

Adsorption/Desorption

Not available

• **Results of PBT and vPvB assessment**

Not available

• **Endocrine disrupting properties**

Not available

• **Other adverse effects**

Not available

• **Additional information**

Not available

## SECTION 13 : DISPOSAL CONSIDERATIONS

• **Waste treatment methods**

Product / Packaging disposal

Waste codes / waste designations according to LoW: 21 01 28

Waste treatment-relevant information

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

Sewage disposal-relevant information

Not available

Other disposal recommendations

Consider the require attentions in accordance with waste treatment management regulation.

## SECTION 14 : TRANSPORT INFORMATION

- **UN number**  
Not applicable
- **UN proper shipping name**  
Not applicable
- **Transport hazard class**  
Not applicable
- **Packing group**  
Not applicable
- **Environmental hazards**  
Not applicable
- **Special precautions for user**
  - In case of fire  
Not applicable
  - In case of leakage  
Not applicable
- **Maritime transport in bulk according to IMO instruments**  
Not applicable

## SECTION 15 : REGULATORY INFORMATION

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - EU classification*
    - Classification  
Not classified
    - Risk phrases  
Not available
    - Safety phrases  
Not available
  - EU RoHS regulation(directive 2002/96/ec)  
The four heavy metals and brominated flame retardants were not detected.

## *U.S.A management information*

### OSHA(29CFR1910.119)

Not regulated

### CERCLA 103(40CFR302.4)

Not regulated

### EPCRA 302(40CFR355.3)

Not regulated

### EPCRA 304(40CFR355.4)

Not regulated

### EPCRA 313(40CFR372.65)

Not regulated

## *SARA classification*

SARA hazard categories, SARA sections 311/312(40CFR370.21) : none

SARA section 313(40CFR372.65) : none

## *Substance of roterdame protocol*

Not regulated

## *Substance of stockholme protocol*

Not regulated

## *Substance of montreal protocol*

Not regulated

## *Inventory status*

TSCA(us toxic substances control act) : all components of this product are listed on the TSCA inventory.

DSL(canadian domestic substances list) : all components of this product are listed on the DSL inventory.

EINECS(european inventory of existing commercial chemical substances) : this product is listed on EINECS or otherwise complies with EINECS requirements.

AICS/NICNAS(australian inventory of chemical substances and national industrial chemicals notification and assessment scheme) : all components of this product are listed on the AICS or otherwise comply with NICNAS inventory.

MITI(japaness handbook of existing and new chemical substances) : all components of this product are listed on the MITI inventory.

KECI(korean existing chemical and chemical substances) : all components of this product are listed on the KECI inventory.

PICCS(philippines inventory of chemical and chemical substances)  
all components of this product are listed on the PICCS inventory.

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## • Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

## SECTION 16 : OTHER INFORMATION

### • Key literature references and sources for data

KOREA OCCUPATIONAL HEALTH&SAFETY AGENCY(MSDS)  
([HTTP://WWW.KOSHA.NET](http://www.kosha.net))  
THE PRODUCT ANALYSIS CONDUCTED BY RESEARCH INSTITUTE OF KOLON INDUSTRIES, Inc.(CHEMICAL)  
KOREA TESTING AND RESEARCH INSTITUTE FOR CHEMICAL INDUSTRY SKIN IRRITATION TEST DATA(TBH-000718(2003), TEST METHOD : THE NOTICE 1999-61 OF KOREA FOOD AND DRUG ADMINISTRATION  
KOREA TESTING AND RESEARCH INSTITUTE FOR CHEMICAL INDUSTRY HAZARDOUS CHEMICAL SUBSTANCE ANALYSIS DATA  
M.I.E TEST REPORT OF CHILWORTH IN USA

### • Indication of changes

Version

Rev. 2

Revision date

5 August 2021

Issuing date

1 January 2019

The information contained herein is to the best of our knowledge and belief accurate. Since SDS is to provide information on the health/safety/environment to users of the substance, data written here do not mean to ensure properties of matter or spec.