

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

• Product identifier name of the product

Substance Name

MKOREZ[®] MK-140

Chemical family

Petroleum hydrocarbon resin

Cas number

9011-11-4

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

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

• Emergency telephone

For emergency health, safety & environmental information

(82) 2 3677 6122

SECTION 2 : HAZARDS IDENTIFICATION

• Classification of the substance or mixture

ANNEX I OF DIRECTIVE 67/548/EEC

Not classified

EU CLP 2008

Not classified

• 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

Eye contact

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

Get medical attention immediately.

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.

Inhalation

Give artificial respiration if victim is not breathing.

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

Get medical attention immediately.

Ingestion

Get medical attention if swallowed amount of substance.

Other notes for physician

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

SECTION 5 : FIRE FIGHTING MEASURES

• Extinguishing media

Suitable extinguishing media

Dry chemical, CO₂, water spray, regular foam

Unsuitable extinguishing media

Not available

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

- Thermal decomposition products

- Carbon oxides

- Fire and explosive hazard

- 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

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/m³ (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

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.

Body 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)

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

Air-line mask(combination airline breathing mask)

Air-breathing apparatus(full facepiece)

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

▷ Information on basic physical and chemical properties

• Appearance

Description

Solid

Color

Water white

• Odor

Petrochemical Odor

• Odor threshold

Not detected

• pH

Not available

• Melting point/freezing point

135~145°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**
<30 cps(200°C)
 - **Explosive properties**
Not available
 - **Oxidizing properties**
Not available
 - **Molecular weight**
Approx. 5,000 (Mw)
 - **Other information**
Surface tension
Not available

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

- **Condition 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 : LD₅₀ = 7,000mg/kg(mammal))

- Dermal : Not classified (Not available)

- Inhalation(dust/mist) : Not classified (Not available)

- Skin corrosion/irritation

- Not classified

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

- Serious eye damage/irritation

- Not classified (Not available)

- Respiratory sensitization

- Not available

- Skin sensitization

- Not classified (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 classified (Not available)

Reproductive toxicity

Not classified (Not available)

Specific target organ toxicity(single exposure)

Not classified (Not available)

Specific target organ toxicity(repeat exposure)

Not classified (Not available)

Aspiration hazard

Not classified (Not available)

SECTION 12 : ECOLOGICAL INFORMATION

• **Acute toxicity**

Fish

Not classified (Not available)

Crustacea

Not classified (Not available)

Algae/aquatic plants

Not classified

• **Chronic toxicity**

Fish

Not classified (Not available)

Crustacea

Not classified (Not available)

Algae/aquatic plants

Not classified (Not available)

• **Persistence and degradability**

Persistence

Not available

Biodegradation

Not available

• **Bioaccumulative potential**

Bioaccumulation

Not available

• **Other adverse effects**

Not available

SECTION 13 : DISPOSAL CONSIDERATIONS

• Waste treatment methods

Disposal Method

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

Disposal precaution

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

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.

SECTION 16 : OTHER INFORMATION

• Information source and references

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. 1

Revision date

11 May 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.