

KUMHO PETROCHEMICAL

SAFETY DATA SHEET

KUMHO 1778K

According to Regulation (EC) No 1907/2006, Annex II, as amended by Regulation (EU) No 453/2010

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name KUMHO 1778K

REACH registration number -

REACH registration notes Monomer is registered instead of Styrene-Butadiene-Styrene copolymer. (Registration number of monomer: 1,3-Butadiene; 01-2119471988-16-****, Styrene; 01-2119457861-32-****)

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

Identified uses Raw materials for rubber products (tires, rubber shoes, sneakers, rubber hoses, belts)

Uses advised against Not available.

1.3. Details of the supplier of the safety data sheet

Supplier OR of KOREA KUMHO Petrochemical Co., Ltd.
KIST Europe Forschungsgesellschaft mbH
Campus E71
66123 Saarbruecken
Germany

Tel: +49 681 9382 334
Fax: +49 681 9382 319
e-mail: reach.it@kist-europe.de

Manufacturer Korea Kumho Petrochemical Co., Ltd.
64, Sanggae-ro, Nam-gu
Ulsan, Korea
680-180

Tel : +82-52-259-6051~7
Fax : +82-52-259-6053

1.4. Emergency telephone number

Emergency telephone +49 551 19240
GIZ-Nord, Goettingen, Germany (English only)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards Not Classified

Health hazards Not Classified

Environmental hazards Not Classified

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2.2. Label elements

Hazard statements NC Not Classified

2.3. Other hazards**SECTION 3: Composition/information on ingredients****3.2. Mixtures**

Styrene-Butadiene Copolymer		66-70%
CAS number: 9003-55-8		
Classification	Classification (67/548/EEC or 1999/45/EC)	
Not Classified	-	
MOIL		26-28%
CAS number: 64742-54-7		EC number: 265-157-1
Classification	Classification (67/548/EEC or 1999/45/EC)	
Not Classified	-	
Resin acids and Rosin acids, potassium salts		1-5%
CAS number: 61790-50-9		EC number: 263-142-4
Classification	Classification (67/548/EEC or 1999/45/EC)	
Not Classified	-	
Facid		1-5%
CAS number: 67701-06-8		
Classification	Classification (67/548/EEC or 1999/45/EC)	
Not Classified	-	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures**4.1. Description of first aid measures**

General information	Get medical attention.
Inhalation	Move affected person to fresh air at once. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen.
Ingestion	Consult a physician for specific advice. Never give anything by mouth to an unconscious person. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs.
Skin contact	Continue to rinse for at least 15 minutes. Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if irritation persists after washing.
Eye contact	Continue to rinse for at least 15 minutes and get medical attention.

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

General information	Not available.
Inhalation	Not available.

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Ingestion Not available.

Skin contact Not available.

Eye contact Not available.

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

Notes for the doctor Treatment may vary with condition of victim and specifics of incident.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Small fires: Extinguish with dry sand. Dry chemicals. Alcohol-resistant foam. Water spray. Foam. Carbon dioxide (CO₂). Larger fires: Water spray, fog or mist. Foam.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards Irritating gases or vapours. Vapours may be ignited by a spark, a hot surface or an ember. Thermal decomposition or combustion products may include the following substances: Toxic gases or vapours. Containers can burst violently or explode when heated, due to excessive pressure build-up.

Hazardous combustion products Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of carbon.

5.3. Advice for firefighters

Protective actions during firefighting Keep up-wind to avoid fumes. Avoid heat, flames and other sources of ignition. Fight advanced or massive fires from safe distance or protected location. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Avoid inhalation of materials or combustion by-products. Move containers from fire area if it can be done without risk.

Special protective equipment for firefighters Use personal protective equipment as required.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from sources of ignition - No smoking. Put on protective equipment before entering danger area. Do not handle broken packages without protective equipment. Provide adequate ventilation.

6.2. Environmental precautions

Environmental precautions Do not discharge into drains or watercourses or onto the ground. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Large Spillages: Build dikes to control spillage. Avoid lowland and keep upwind. Environmental Manager must be informed of all major spillages. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13. Small Spillages: Collect spilled material in appropriate container for disposal. Wash thoroughly after dealing with a spillage.

6.4. Reference to other sections

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Reference to other sections For personal protection, see Section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions For personal protection, see Section 8. Store and handle in accordance with all current regulations and standards. Wash thoroughly after handling. Avoid contact with skin and eyes. All handling should only take place in well-ventilated areas.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in a cool and well-ventilated place. Protect against direct sunlight. Store in accordance with local regulations. Avoid inhalation of vapours. Observe any occupational exposure limits for the product or ingredients.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Ingredient comments No exposure limits known for ingredient(s).

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

The following protection should be worn: Chemical splash goggles.

Hand protection

Wear appropriate chemical resistant gloves.

Other skin and body protection

Wear appropriate chemical resistant clothing.

Hygiene measures

Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station and safety shower.

Respiratory protection

Under frequent use or heavy exposure, respiratory protection may be needed. If ventilation is inadequate, suitable respiratory protection must be worn.

Environmental exposure controls

Avoid releasing into the environment.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Solid
Colour	Yellow.
Odour	Mild.
Odour threshold	Not available. Not available.
pH	Not available.

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Melting point	Not applicable.
Initial boiling point and range	Not applicable.
Flash point	246°C°C
Evaporation rate	Not applicable.
Upper/lower flammability or explosive limits	Not available.
Other flammability	Not available.
Vapour pressure	Not applicable.
Vapour density	Not applicable.
Relative density	Not applicable.
Solubility(ies)	Insoluble in water.
Partition coefficient	Not applicable.
Auto-ignition temperature	388°C°C
Decomposition Temperature	Not available.
Viscosity	Not applicable.
Explosive properties	Not available.
Oxidising properties	Not available.

9.2. Other information

Molecular weight	≈ 1200000
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SECTION 10: Stability and reactivity**10.1. Reactivity**

Reactivity	Not available.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Will not occur.
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10.4. Conditions to avoid

Conditions to avoid	Avoid contact with heat, sparks, flame or other ignition sources.
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10.5. Incompatible materials

Materials to avoid	Not available.
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10.6. Hazardous decomposition products

Hazardous decomposition products	Carbon dioxide (CO ₂). Carbon monoxide (CO). Smoke. Hydrocarbons.
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SECTION 11: Toxicological information**11.1. Information on toxicological effects****Acute toxicity - oral**

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Notes (oral LD₅₀) Not available.

Acute toxicity - dermal

Notes (dermal LD₅₀) Not available.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Not available.

Serious eye damage/irritation

Serious eye damage/irritation Not available.

Respiratory sensitisation

Respiratory sensitisation : Not available.

Skin sensitisation

Skin sensitisation - : Not available.

Germ cell mutagenicity

Genotoxicity - in vitro Not available. :

Genotoxicity - in vivo Not available.

Carcinogenicity

Carcinogenicity Not classified to be carcinogenic substance (A1) and carcinogenic substance of presumed (A2) in Public notice.

Reproductive toxicity

Reproductive toxicity - development Not available.

Specific target organ toxicity - single exposure

STOT - single exposure Not available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not available.

Aspiration hazard

Aspiration hazard Not available.

Toxicological information on ingredients.**MOIL****Acute toxicity - oral**

Acute toxicity oral (LD₅₀ mg/kg) 5,000.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 5,000.0

Species Rabbit

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ dust/mist mg/l) 5.53

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Species	Rat
ATE inhalation (dusts/mists mg/l)	5.53
<u>Skin corrosion/irritation</u>	
Animal data	Primary dermal irritation index: \approx 0.6 Not irritating.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Not irritating.
<u>Skin sensitisation</u>	
Skin sensitisation	Not sensitising.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Chromosome aberration: Negative. Species : Chinese Hamster Ovary (CHO).
Genotoxicity - in vivo	Chromosome aberration: Negative. Species : mouse.
<u>Carcinogenicity</u>	
Carcinogenicity	, ,
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Screening: - NOAEL \geq 1000 mg/kg/day, Oral, Rat P
Reproductive toxicity - development	- : , ,
<u>Resin acids and Rosin acids, potassium salts</u>	
<u>Acute toxicity - oral</u>	
Acute toxicity oral (LD₅₀ mg/kg)	2,000.0
Species	Rat
<u>Acute toxicity - dermal</u>	
Acute toxicity dermal (LD₅₀ mg/kg)	2,000.0
Species	Rat
<u>Acute toxicity - inhalation</u>	
Notes (inhalation LC₅₀)	Endpoint waived according to REACH Annex VII, IX or XI.

SECTION 12: Ecological Information

Ecotoxicity The product is not expected to be hazardous to the environment.

12.1. Toxicity

Acute toxicity - fish Not available.

**Acute toxicity - aquatic
invertebrates** Not available.

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Acute toxicity - aquatic plants Not available.
 , : ,
 IC₅₀, 72 hours: mg/l, Algae

Acute toxicity - microorganisms Not available.

Acute toxicity - terrestrial Not available.

Chronic toxicity - fish early life stage Not available.

Short term toxicity - embryo and sac fry stages Not available.

Chronic toxicity - aquatic invertebrates Not available.

Toxicity to soil Not available.

Toxicity to terrestrial plants Not available.

Ecological information on ingredients.

MOIL

Acute toxicity - fish , 96 hours, 96 hours: > 100 mg/l, Pimephales promelas (Fat-head Minnow)
 Endpoint : LL50.

Acute toxicity - aquatic invertebrates , 96 hours, 96 hours: > 10000 mg/l,
 Endpoint : LL50.
 Test species : Gammarus pulex.

Acute toxicity - aquatic plants , 72 hours, 72 hours: > =100 mg/l,
 Endpoint : NOEL.
 Test species : Pseudokirchnerella subcapitata, based on algal growth rate.

Acute toxicity - microorganisms , 96 hours, 96 hours: > 1.93 mg/l,
 Endpoint : NOEL.
 Test species : Mineral oil contaminated soil bacterium, Photobacterium phosphoreum, and Acetobacter methanolicus MB58.

Chronic toxicity - aquatic invertebrates , 21 days, 21 days: 10 mg/l, Daphnia magna
 Endpoint : NOEL.

Toxicity to soil Endpoint waived according to REACH Annex VII, IX or XI.

Toxicity to terrestrial plants Endpoint waived according to REACH Annex VII, IX or XI.

Resin acids and Rosin acids, potassium salts

Acute toxicity - fish LC50, 96 hours, 96 hours: 60.3 mg/l, Brachydanio rerio (Zebra Fish)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours, 48 hours: 3.8 mg/l, Daphnia magna

Acute toxicity - aquatic plants NOEC, 96 hours, 96 hours: 0.0125 mg/l, Scenedesmus subspicatus

12.2. Persistence and degradability

Persistence and degradability Not available. Not available.

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Phototransformation Not available.

Stability (hydrolysis) Not available.

Biodegradation Not available.

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Not applicable.

Ecological information on ingredients.**MOIL**

Bioaccumulative potential Endpoint waived according to REACH Annex VII, IX or XI.

12.4. Mobility in soil

Mobility Not available.

Adsorption/desorption coefficient Not available.

Henry's law constant Not available.

Ecological information on ingredients.**MOIL**

Adsorption/desorption coefficient Endpoint waived according to REACH Annex VII, IX or XI.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment Not available.

Ecological information on ingredients.**MOIL**

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects Not available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

General information Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Waste is suitable for incineration. If the waste contains designated waste and difficult to separate, incinerate it or reduce the volume following the similar way as incineration. If applicable, pretreat waste with oil/water separation.

Disposal methods Confirm disposal procedures with environmental engineer and local regulations. Dispose of the waste by oneself or contact disposal company.

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

KUMHO 1778K**14.1. UN number**

Not applicable.

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 hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78

and the IBC Code

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Authorisations (Title VII Regulation 1907/2006) No specific authorisations are known for this product.

Restrictions (Title VIII Regulation 1907/2006) No specific restrictions on use are known for this product.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Issued by	KIST Europe
Revision date	07/04/2016
Revision	1
SDS status	Approved.
Risk phrases in full	Not classified. R22 Harmful if swallowed. R43 May cause sensitisation by skin contact. R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.