

KUMHO PETROCHEMICAL

SAFETY DATA SHEET SOL-5251H

According to Regulation (EC) No 1907/2006, Annex II, as amended by Regulation (EU) No 453/2010, COMMISSION REGULATION (EU) 2015/830 of 28 May 2015.

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

1.1. Product identifier

Product name SOL-5251H

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

Identified uses Raw materials for tires, shoes, rubber hoses

Uses advised against No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier OR of KOREA KUMHO Petrochemical Co., Ltd.
KIST Europe
Universitaet des Saarlandes
66123, Saarbruecken,
Germany

Tel: +49 681 9382 334
Fax: +49 681 9382 319
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Manufacturer Korea Kumho Petrochemical Co., Ltd.
118, Yeosusandan 3-ro, Yeosu-si,
Jeollanam-do, 555-280, Korea

+82 61 688 3060-9
+82 61 688 3168

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 (EC/1272/2008)

Physical hazards Not Classified

Health hazards Not Classified

Environmental hazards Aquatic Chronic 3 - H412

2.2. Label elements

Hazard statements H412 Harmful to aquatic life with long lasting effects.

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Precautionary statements P273 Avoid release to the environment.
P501 Dispose of contents/ container in accordance with national regulations.

Supplementary precautionary statements P273 Avoid release to the environment.

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

Styrene-Butadiene Copolymer	60-100%
CAS number: 9003-55-8	
Classification Not Classified	
BHT	<1%
CAS number: 128-37-0	EC number: 204-881-4
M factor (Chronic) = 1	
Classification Aquatic Chronic 1 - H410	

The full text for all hazard statements is 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 and keep warm and at rest in a position comfortable for breathing. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention if any discomfort continues.
Ingestion	Rinse mouth thoroughly with water. Do not induce vomiting unless under the direction of medical personnel. Get medical attention if any discomfort continues.
Skin contact	Immediately remove contaminated clothing. Continue to rinse for at least 15 minutes. Laundry all contaminated clothes thoroughly before reuse.
Eye contact	Do not rub eye. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Continue to rinse for at least 15 minutes.

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

General information 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	Extinguish with foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

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5.2. Special hazards arising from the substance or mixture

Specific hazards	Irritating gases or vapours. Dust or gas may ignite by flames. Vapours may cause drowsiness and dizziness. Dust may form explosive mixture with air. May explode when heated or when exposed to flames or sparks. Partly flammable but does not simply ignite. Containers can burst violently or explode when heated, due to excessive pressure build-up.
Hazardous combustion products	Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting	Keep up-wind to avoid fumes. Move containers from fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. 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 dust and vapours.
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Special protective equipment for firefighters	Use protective equipment appropriate for surrounding materials.
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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. Avoid inhalation of vapours and contact with skin and eyes. Keep upwind. Evacuate area. Keep away from sources of ignition - No smoking. Put on protective equipment before entering danger area. Do not handle broken packages without protective equipment.
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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.
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6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Large Spillages: Avoid the spillage or runoff entering drains, sewers or watercourses. Approach the spillage from 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: Containers with collected spillage must be properly labelled with correct contents and hazard symbol. Wash thoroughly after dealing with a spillage.
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6.4. Reference to other sections

Reference to other sections	For personal protection, see Section 8. For waste disposal, see section 13.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions	Wear protective clothing as described in Section 8 of this safety data sheet. Provide adequate ventilation. Static electricity and formation of sparks must be prevented.
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7.2. Conditions for safe storage, including any incompatibilities

Storage precautions	Store in accordance with national regulations. Store in tightly-closed, original container. Keep container tightly closed. Avoid heat, flames and other sources of ignition. Protect from moisture. Protect from sunlight.
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7.3. Specific end use(s)

Specific end use(s)	Not available.
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SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

BHT

Long-term exposure limit (8-hour TWA): ACGIH 2 mg/m³

ACGIH = American Conference of Governmental Industrial Hygienists.

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

Wear safety glasses with side-shields conforming to EN166.

Hand protection

Wear suitable gloves.

Other skin and body protection

Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate.

Hygiene measures

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

Respiratory protection

Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Particulate filters should comply with European Standard EN143.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Solid
Colour	Pale amber.
Odour	Rubber odour.
pH	Not available.
Melting point	Not available.
Initial boiling point and range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	0.91-0.97 @ °C
Bulk density	Not available.
Solubility(ies)	Insoluble in water.
Partition coefficient	Not available.
Auto-ignition temperature	440°C

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Decomposition Temperature Not available.

Viscosity Not available.

Oxidising properties Not available.

9.2. Other information

Molecular weight Not available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Not available.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None known. Will not polymerise.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition.

10.5. Incompatible materials

Materials to avoid Strong oxidising agents.

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) Not available.

Acute toxicity - dermal

Notes (dermal LD₅₀) Not available.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Not available.

Skin corrosion/irritation

Animal data Not available.

Extreme pH Not available.

Serious eye damage/irritation

Serious eye damage/irritation Not available.

Germ cell mutagenicity

Genotoxicity - in vitro Not available.

Genotoxicity - in vivo Not available.

Carcinogenicity

Carcinogenicity Not available. Antioxidant (BHT): IARC group 3, ACGIH group 4

SOL-5251H**Reproductive toxicity****Reproductive toxicity - fertility** Not available.**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.****Styrene-Butadiene Copolymer****Carcinogenicity****Carcinogenicity** Butadiene Styrene : IARC group 3**BHT****Acute toxicity - oral****Acute toxicity oral (LD₅₀ mg/kg)** 6,000.0**Species** Rat**Acute toxicity - dermal****Acute toxicity dermal (LD₅₀ mg/kg)** 2,000.0**Species** Rat**Acute toxicity - inhalation****Notes (inhalation LC₅₀)** Endpoint waived according to REACH Annex VII, IX or XI.**Skin corrosion/irritation****Animal data** Not irritating. Rabbit**Serious eye damage/irritation****Serious eye damage/irritation** Not irritating.**Carcinogenicity****IARC carcinogenicity** IARC Group 3 Not classifiable as to its carcinogenicity to humans.**SECTION 12: Ecological Information****Ecotoxicity** There are no data on the ecotoxicity of this product.**12.1. Toxicity****Acute toxicity - fish** Not available.**Acute toxicity - aquatic invertebrates** Not available.

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Acute toxicity - aquatic plants Not available.

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.

Ecological information on ingredients.

BHT

Acute toxicity - fish	LC50, 96 hours: 0.199 mg/l, (Calculated from QSAR approach)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 0.77 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 96 hours: 0.758 mg/l, (Calculated from QSAR approach)
Acute toxicity - microorganisms	EC ₅₀ , 24 hours: 1.7 mg/l,
<u>Chronic aquatic toxicity</u>	
M factor (Chronic)	1
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.

12.2. Persistence and degradability

Persistence and degradability Not available. No data available.

Phototransformation Not available.

Stability (hydrolysis) Not available.

Biodegradation Not available.

Ecological information on ingredients.

BHT

Phototransformation	Water - Half-life : 0.585 days Water - :
Biodegradation	Water - : Endpoint waived according to REACH Annex VII, IX or XI. Water - Degradation (%) 77~92: 1 days

12.3. Bioaccumulative potential

Partition coefficient Not available.

SOL-5251H**Ecological information on ingredients.****BHT**

Bioaccumulative potential BCF: 598.4,

12.4. Mobility in soil

Mobility Not available.

Henry's law constant Not available.

Surface tension Not available.

Ecological information on ingredients.**BHT**

Adsorption/desorption coefficient - log Koc: 4.362 @ °C Calculated using PCKOCWIN v1.66 model.

Henry's law constant 8.928E-005 atm m³/mol @ °C Calculated using HENRYWIN v3.10 model.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects**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. Incineration or landfill should only be considered when recycling is not feasible.

Disposal methods Confirm disposal procedures with environmental engineer and local regulations. Dispose of waste via a licensed waste disposal contractor.

SECTION 14: Transport information

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

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

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Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL 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	07/03/2017
Revision	1
SDS status	Approved.
Hazard statements in full	H410 Very toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects.

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.