

Section 1: Identification of the chemical and of the supplier

Product identifier KUMHO SOL C6450SL

Other means of identification
SDS number CSSS-TCO-010-123222

Recommended use of the chemical and restrictions on use
Recommended use Raw materials for tires, shoes, rubber hoses
Recommended restrictions None known.

Details of principal suppliers
Company Korea Kumho Petrochemical Co., Ltd.
Address 287-1, Pyeongyeo-Dong, Yeosu-si Jeollanam-do, Korea
+82 61 688 3060 ~ 9
+82 61 688 3168

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

Section 2: Hazard identification

Physical hazards Not classified.
Health hazards Not classified.
Environmental hazards Hazardous to the aquatic environment - Category 3
chronic hazard

Label elements

Hazard symbol None.
Signal word None.
Hazard statement Harmful to aquatic life with long lasting effects.
Precautionary statement
Prevention Avoid release to the environment.
Response Wash hands after handling.
Storage Store away from incompatible materials.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards which do not result in classification None known.

Supplemental information 99.01% of the mixture consists of component(s) of unknown acute dermal toxicity.

Section 3: Composition and information of the ingredients of the hazardous chemical

Mixtures

Non-hazardous components			
Chemical name	Common name and synonyms	CAS number	%
SBR (Styrene-Butadiene Copolymer)		9003-55-8	60-100
TDAE OIL		64741-88-4	10-30
BHT		128-37-0	<1

Section 4: First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact Rinse with water. Get medical attention if irritation develops and persists.
Ingestion Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed Treat symptomatically.

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

Section 5: Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Dry powder. Carbon dioxide (CO₂).

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

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions Use water spray to cool unopened containers.

HAZCHEM code None.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Environmental precautions Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

Methods and materials for containment and cleaning up Prevent product from entering drains. Stop the flow of material, if this is without risk. Following product recovery, flush area with water.

Section 7: Handling and storage

Precautions for safe handling Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Store away from incompatible materials (see Section 10 of the SDS).

Section 8: Exposure controls and personal protection

Occupational exposure limits

Malaysia. OELs. (Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations)

Components	Type	Value	Form
BHT (CAS 128-37-0)	TWA	10 mg/m ³	
TDAE OIL (CAS 64741-88-4)	TWA	5 mg/m ³	Mist.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
BHT (CAS 128-37-0)	TWA	2 mg/m ³	Inhalable fraction and vapor.
TDAE OIL (CAS 64741-88-4)	TWA	5 mg/m ³	Inhalable fraction.

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear suitable protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Section 9: Physical and chemical properties

Appearance

Physical state	Solid.
Form	Solid.
Color	Dark brown
Odor	Mild.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Insoluble in water
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

Section 10: Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials. Avoid heat, sparks, open flames and other ignition sources. Avoid exposure to high temperatures or direct sunlight.
Incompatible materials	Strong oxidizing agents. Flammable material. Hydrocarbons.
Hazardous decomposition products	Carbon oxides. Smoke.

Section 11: Toxicological information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity	Not known.
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Components	Species	Test Results
BHT (CAS 128-37-0)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg
Oral		
LD50	Rat	> 6000 mg/kg
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.	
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity		
IARC Monographs. Overall Evaluation of Carcinogenicity		
BHT (CAS 128-37-0)	3 Not classifiable as to carcinogenicity to humans.	
SBR (Styrene-Butadiene Copolymer) (CAS 9003-55-8)	3 Not classifiable as to carcinogenicity to humans.	
US NTP Report on Carcinogens: Anticipated carcinogen		
Not available.		
US NTP Report on Carcinogens: Known carcinogen		
TDAE OIL (CAS 64741-88-4)	Known To Be Human Carcinogen.	
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Not an aspiration hazard.	

Section 12: Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Components	Species	Test Results
BHT (CAS 128-37-0)		
Aquatic		
Algae	EC50 Algae	> 0.4 mg/l, 72 h
Crustacea	EC50 Daphnia	0.48 mg/l, 48 h
Fish	LC50 Fish	> 0.57 mg/l, 96 h
Persistence and degradability	Not available.	
Bioaccumulative potential	No data available.	
Mobility in soil	No data available.	
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	

Section 13: Disposal information

Disposal instructions	Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Section 14: Transportation information

ADR

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

HAZCHEM code None.

Section 15: Regulatory information**Safety, health and environmental regulations specific for the product in question**

Active Ingredients of Pesticide Product (Pesticide Act 1974, First Schedule, as amended through October 1, 2004)

Not regulated.

CWC (Chemical Weapons Convention) Act 2005, Schedules 1-3, as amended through CWC Regulations 2007, October 5, 2007)

Not regulated.

Ozone Depleting Substances (ODS) (Environmental Quality (Prohibition on the Use of CFC and Other Gases as Propellants and Blowing Agents) Order 1993, Dec. 31, 1993)

Not regulated.

Prohibited Use of Substances [Occupational Safety and Health (Prohibition of Use of Substance) Order 1999]

Not regulated.

International regulations**Stockholm Convention**

Not applicable.

Rotterdam Convention

Not applicable.

Montreal Protocol

Not applicable.

Kyoto protocol

Not applicable.

Basel Convention

Not applicable.

Section 16: Other information

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List of abbreviations

LD50: Lethal Dose 50%.

EC50: Effective Concentration 50%.

LC50: Lethal Concentration 50%.

IMDG Code: International Maritime Dangerous Goods Code.

IBC Code: International Bulk Chemical (Code) (International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk).

CAS: Chemical Abstract Service.

ADR: European agreement concerning the international carriage of dangerous goods by road (Accord européen relatif transport des marchandises dangereuses par route).

RID: Regulations concerning the international carriage of dangerous goods by rail (Règlement International concernant le transport de marchandises dangereuses par chemin de fer).

IATA: International Air Transport Association.

References Not available.

Disclaimer The information in the sheet was written based on the best knowledge and experience currently available. Korea Kumho Petrochemical Co., Ltd. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.