

SAFETY DATA SHEET

1. Chemical product and company identification

Product name KUMHO KBR 710H/710S
Manufacturer Korea Kumho Petrochemical Co., Ltd.
287-1, Pyeongyeo-Dong, Yeosu-si, Jeollanam-do, Korea
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Emergency number +49 551 19240 GIZ-Nord, Goettingen, Germany (English only)

Recommended use and Limitations on use

Recommended use Raw materials for high impact/gloss polystyrene.
SDS number CSSS-TCO-010-122861

2. Hazards identification

GHS classification

Physical hazards Not classified.
Health hazards Not classified.
Environmental hazards Not classified.

Label elements

Pictogram None.
Signal word None.
Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.
Response Wash hands after handling.
Storage Store away from incompatible materials.
Disposal Dispose of waste and residues in accordance with local authority requirements.

Other hazards

None known.

Supplemental information

81% of the mixture consists of component(s) of unknown acute oral toxicity. 81% of the mixture consists of component(s) of unknown acute dermal toxicity. 81% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 81% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition / information on ingredients

Substance or mixture Mixture

Chemical property

Chemical name	CAS Number	Concentration (%)
Polybutadiene	9003-17-2	60-100%
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	2082-79-3	<1%

4. First aid measures

First aid measures for different exposure routes

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 and effects Direct contact with eyes may cause temporary irritation.

Personal protection for first-aid responders Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Notes to physician Treat symptomatically.

5. Fire-fighting measures

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

Extinguishing media to avoid	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards	During fire, gases hazardous to health may be formed.
Special fire fighting procedures	Use water spray to cool unopened containers.
Protection of fire-fighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions	Wear protective clothing as described in Section 8 of this safety data sheet.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.
Spill clean-up methods	Stop the flow of material, if this is without risk. Following product recovery, flush area with water.

7. Handling and storage

Handling

Technical measures	No specific recommendations.
Local and general ventilation	Provide adequate ventilation.
Precautions	Use personal protection recommended in Section 8 of the SDS.
Safe handling advice	Observe good industrial hygiene practices.

Storage

Technical measures	No specific recommendations.
Suitable storage conditions	Protect against direct sunlight. Do not store near heat sources or expose to high temperatures. Static electricity and formation of sparks must be prevented.
Incompatible materials	For further information, please refer to section 10 of the SDS.
Safe packaging materials	Keep in original container.

8. Exposure controls/personal protection

Exposure limits	No exposure limits noted for ingredient(s).
Engineering measures	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.
Personal protective equipment	
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Hand protection	Wear appropriate chemical resistant gloves.
Eye protection	Wear safety glasses with side shields (or goggles).
Skin and body protection	Wear suitable protective clothing.
Hygiene measures	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.

9. Physical and chemical properties

Appearance

Physical state	Solid.
Form	Solid.
Color	Yellow-white
Odor	Mild.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Boiling point, initial boiling point, and boiling range	Not available.
Flash point	Not available.
Auto-ignition temperature	600.8 °F (316 °C)
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.
Evaporation rate	Not available.
Relative density	0.91 @ 20°C
Density	Not available.

Solubility(ies)	
Solubility (water)	Insoluble in water.
Partition coefficient (n-octanol/water)	Not available.

Decomposition temperature	Not available.
Viscosity	Not available.
Molecular weight	500000

Other data

Explosive properties	Not available.
Oxidizing properties	Not available.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Stability	Material is stable under normal conditions.
Conditions to avoid	None.
Incompatible materials	Oxidizing material. Bases. Acids. Acid anhydrides. Acid chlorides (Acyl chlorides).
Hazardous decomposition products	Irritating and/or toxic fumes and gases may be emitted upon the products decomposition. Carbon oxides.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.

11. Toxicological information

Acute toxicity	Not known.
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Components	Species	Test Results
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate (CAS 2082-79-3)		
Acute		
Dermal	Rat	> 2000 mg/kg
Inhalation	Rat	> 1.81 mg/l, 4 h
Oral	Rat	> 5000 mg/kg

Routes of exposure	Not available.
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Symptoms	Direct contact with eyes may cause temporary irritation.
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Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
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Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
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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.
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Carcinogenicity	Not available.
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Toxic to reproduction	This product is not expected to cause reproductive or developmental effects.
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Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Not available.
Interactive effects	Not available.
Other information	This product has no known adverse effect on human health.

12. Ecological information

Ecotoxicological data

Components		Species	Test Results
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate (CAS 2082-79-3)			
Aquatic			
<i>Acute</i>			
Algae	EC50	Algae	> 30 mg/l, 72 h
Crustacea	EC50	Daphnia	> 100 mg/l, 24 h
Fish	LC50	Fish	> 100 mg/l, 96 h

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability

Bioaccumulation No data available.

Mobility in soil No data available for this product.

Other hazardous effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal methods/information Not available.

14. Transport information

ADR

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.

15. Regulatory information

Applicable regulations

CWC (Law of RI No. 9 of 2008 re: Prohibition on the Use of Chemicals as Chemical Weapon, March 10, 2008)

Not regulated.

Dangerous Substances that Must be Registered (Regulation of the Minister of Health of the Republic of Indonesia, No. 472/Menkes/Per/V/1996)

Not regulated.

Import and Distribution Control of Hazardous Materials (Minister of Trade Regulation No. 75/M-DAG/PER/10/2014, Annex I)

Not listed.

Precursor Chemicals (Ministry of Industry and Trade Decree No. 647/MPP/Kep/10/2004 concerning Regulation on Import of Precursors, Attachment 1, Oct. 18, 2004)

Not regulated.

Prohibited Substances (Government Regulation No. 74 of 2001 regarding Management of Hazardous and Poisonous Substances, Attachment II, Table 1)

Not regulated.

Restricted Substances (Government Regulation No. 74 of 2001 regarding Management of Hazardous and Poisonous Substances, Attachment II, Table 2)

Not regulated.

Toxic and Hazardous Materials List (Decree of the Ministry of Industry on the Safeguarding of Toxic and Hazardous Materials in Industrial Plants, No. 148/M/SK/4/1985)

Not regulated.

Hazardous Substances Approved for Use (Government Regulation No. 74 of 2001 regarding Management of Hazardous and Poisonous Substances, Attachment I)

Listed substances

Not regulated.

Listed substances / Allowed until 2040

Not regulated.

16. Other information

Issued by	Not available.
Disclaimer	Not available.
Issue date	24-03-2017.
Revision date	24-03-2017.
Legend to abbreviations and acronyms used in the SDS	Not available.
References and sources for data used to compile the SDS	Not available.