Kumho KBR 820

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 1/20/2022 Revision date: 1/20/2022 Version: 1.0

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

1.1. Product identifier

Product form : Mixture
Name : Kumho KBR 820

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Manufacture of rubber products,rubber tyre,footwear (shoes, boots)

1.2.2. Uses advised against

Restrictions on use : Not available

1.3. Details of the supplier of the safety data sheet

Manufacturer
Kumho Petrochemical Co.,Ltd
118, Yeosusandan 3-ro, Yeosu-si, Jeollanam-do, Republic of Korea
T +82-61-688-3060~4 / 688-7270~4 - F +82-61-688-3168 / 688-7219

Supplier
TsafeE GmbH
Landwehrpl 6, 66111, Saarbruecken, Germany
T +49 177 9166175
shkim@tsafeg.com

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Germany	Giftinformationszentrum-Nord der Länder Bremen, Hamburg, Niedersachsen und Schleswig-Holstein (GIZ-Nord) Universitätsmedizin Göttingen - Georg-August-Universität	Robert-Koch Straße 40 37075 Göttingen	+49 (0) 551 19240	(English only)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Hazardous to the aquatic environment — Chronic Hazard, Category 3 H412
Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Harmful to aquatic life with long lasting effects.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Signal word (CLP) : -
Hazard statements (CLP) : H412 - Harmful to aquatic life with long lasting effects.
Precautionary statements (CLP) : P273 - Avoid release to the environment.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Mixture does not contain substance (s) classified as PBT or vPvB in concentrations above 0,1%.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Polybutadiene	(CAS-No.) 9003-17-2 (EC-No.) 618-356-6	99.4 – 99.7	Aquatic Chronic 3, H412
2,6-Di-tert-butyl-p-cresol	(CAS-No.) 128-37-0 (EC-No.) 204-881-4	0.3 – 0.6	Aquatic Chronic 1, H410 (M=1)

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Immediately rinse with plenty of water (for at least 15 minutes). Take off contaminated clothing and wash before reuse. Wash skin with plenty of water.

First-aid measures after eye contact : Immediately rinse with plenty of water (for at least 15 minutes). Get medical attention. Rinse eyes with water as a precaution.

First-aid measures after ingestion : Do NOT induce vomiting unless directed to do so by medical personnel. If swallowed, do NOT induce vomiting. Take medical advice immediately. Call a poison center or a doctor if you feel unwell.

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

No additional information available

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide (CO2). Dry chemical. Water spray. Dry powder. Foam.

Unsuitable extinguishing media : Do not use a water jet since it may cause the fire to spread.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Do not expose to heat. flames or sparks.

Explosion hazard : May explode on heating. Vapours may ignite. Could be ignited by heat, sparks or flame.

Hazardous decomposition products in case of fire : carbon monoxide. Carbon dioxide (CO2). smokes. Toxic gases are released.

5.3. Advice for firefighters

Firefighting instructions : Go into open air and ventilate suspected area.

Protection during firefighting : Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting devices or discolouration from tank. Suitable fire extinguishing media. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : If spillage occurs on the public highway, indicate the danger and notify the authorities (police, fire brigade). Wear protective gloves. Wear protective clothing.

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Avoid contact with eyes, skin and clothing. Do not touch spilled material. Stop leak if safe to do so. Keep upwind.

6.2. Environmental precautions

Avoid release to the environment. Avoid the spillage or runoff entering drains, sewers or watercourses. Relevant water authorities should be notified of any large spillage to water course or drain.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product. Clear spills immediately. Approach the spillage from upwind.

Other information : Keep away from sources of ignition - No smoking. Stop leak if safe to do so. If spillage occurs on the public highway, indicate the danger and notify the authorities (police, fire brigade). Dispose of in accordance with relevant local regulations. Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Refer to Section 10 on Incompatible Materials.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Do not expose to heat. Keep away from any flames or sparking source. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Store in a well-ventilated place. Keep cool.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

2,6-Di-tert-butyl-p-cresol (128-37-0)	
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	2,6-Di-tert-butyl-p-kresol
AGW (OEL TWA) [1]	10 mg/m³ (E)

2,6-Di-tert-butyl-p-cresol (128-37-0)	
Peak exposure limitation factor	4(II)
Remark	DFG;Y;11
Regulatory reference	TRGS900

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):

8.2.2.1. Eye and face protection

Eye protection:
Chemical goggles or face shield with safety glasses. Eyewash station. The workplace should be equipped with an emergency shower and eye-rinsing facility. Safety glasses

8.2.2.2. Skin protection

Skin and body protection:
Wear suitable protective clothing

Hand protection:
Protective gloves

8.2.2.3. Respiratory protection

Respiratory protection:
Respiratory protection equipment may be necessary. supplied-Air Respirator (SAR). Self-contained breathing apparatus. Use respiratory protective device against the effects of dust. Respiratory protective device with a combined gas and particle filter. Wear respiratory protective equipment and stay away from danger area

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:
Avoid the spillage or runoff entering drains, sewers or watercourses. More detailed information: See section 12. Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Colour	:	white.
Molecular mass	:	≈ 500000 g/mol
Odour	:	Rubbers.
Odour threshold	:	Not available
Melting point	:	Not available
Freezing point	:	Not applicable
Boiling point	:	Not available
Flammability	:	Non flammable.
Explosive limits	:	Not applicable
Lower explosion limit	:	Not applicable
Upper explosion limit	:	Not applicable
Flash point	:	260 °C
Auto-ignition temperature	:	316 °C
Decomposition temperature	:	Not available
pH	:	Not available
pH solution	:	Not available
Viscosity, kinematic	:	Not applicable
Solubility	:	insoluble in water.
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	Not available
Vapour pressure at 50 °C	:	Not available
Density	:	Not available
Relative density	:	0.91
Relative vapour density at 20 °C	:	Not applicable
Particle size	:	Not available
Particle size distribution	:	Not available
Particle shape	:	Not available
Particle aspect ratio	:	Not available
Particle aggregation state	:	Not available
Particle agglomeration state	:	Not available
Particle specific surface area	:	Not available
Particle dustiness	:	Not available

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

acid. Flammable or combustible materials. Oxidising agents. carbon monoxide. Carbon dioxide (CO2). Acid chlorides. Acid anhydrides. Mild steel.

10.6. Hazardous decomposition products

carbon monoxide. Carbon dioxide (CO2).

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not available
Acute toxicity (dermal) : Not available
Acute toxicity (inhalation) : Not available

2,6-Di-tert-butyl-p-cresol (128-37-0)	
LD50 oral rat	> 6000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LD50 dermal rabbit	> 2000 mg/kg LD50 dermal rabbit
LC50 Inhalation - Rat (Dust/Mist)	> 2 mg/l/4h LC50 Inhalation - Mouse

Skin corrosion/irritation : Not available
Serious eye damage/irritation : Not available
Respiratory or skin sensitisation : Not available
Germ cell mutagenicity : Not available
Carcinogenicity : Not available

Kumho KBR 820	
IARC group	3 - Not classifiable

2,6-Di-tert-butyl-p-cresol (128-37-0)	
IARC group	3 - Not classifiable

Reproductive toxicity : Not available

2,6-Di-tert-butyl-p-cresol (128-37-0)	
LOAEL (animal/male, F1)	25 mg/kg bodyweight
LOAEL (animal/female, F1)	25 mg/kg bodyweight
NOAEL (animal/male, F0/P)	500 mg/kg bodyweight
NOAEL (animal/female, F0/P)	500 mg/kg bodyweight

STOT-single exposure : Not available

STOT-repeated exposure : Not available

2,6-Di-tert-butyl-p-cresol (128-37-0)	
LOAEL (oral, rat, 90 days)	100 mg/kg bodyweight Animal: rat, Animal sex: male
NOAEL (oral, rat, 90 days)	25 mg/kg bodyweight Animal: rat, Animal sex: male

Aspiration hazard : Not available

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short-term (acute) : Not available
Hazardous to the aquatic environment, long-term (chronic) : Harmful to aquatic life with long lasting effects.
Not rapidly degradable

2,6-Di-tert-butyl-p-cresol (128-37-0)	
LC50 - Fish [1]	> 0.57 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	0.48 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 0.4 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
LOEC (chronic)	1 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0.023 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	0.053 mg/l Test organisms (species): Oryzias latipes Duration: '42 d'

12.2. Persistence and degradability

2,6-Di-tert-butyl-p-cresol (128-37-0)	
Biodegradation	4.7 % (28day)

12.3. Bioaccumulative potential

2,6-Di-tert-butyl-p-cresol (128-37-0)	
BCF - Fish [2]	465 l/kg ECHA (European Chemicals Agency)

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Kumho KBR 820
Mixture does not contain substance (s) classified as PBT or vPvB in concentrations above 0,1%.

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Wastes from incineration or pyrolysis of waste. Ensure all national/local regulations are observed. Dispose of via an authorised person/ licensed waste disposal contractor or by other suitable waste treatment techniques. Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport
Not regulated

Transport by sea
Not regulated

Air transport
Not regulated

Inland waterway transport
Not regulated

Rail transport
Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances
Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.
Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

Germany

Employment restrictions : Observe restrictions according Act on the Protection of Working Mothers (MuSchG)
Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG)

Water hazard class (WGK) : WGK 3, Highly hazardous to water (Classification according to AwSV, Annex 1)

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Storage class (LGK, TRGS 510) : LGK 13 - Non-combustible solids

Joint storage table :

LGK 1	LGK 2A	LGK 2B	LGK 3	LGK 4.1A
LGK 4.1B	LGK 4.2	LGK 4.3	LGK 5.1A	LGK 5.1B
LGK 5.1C	LGK 5.2	LGK 6.1A	LGK 6.1B	LGK 6.1C
LGK 6.1D	LGK 6.2	LGK 7	LGK 8A	LGK 8B
LGK 10	LGK 11	LGK 12	LGK 13	LGK 10-13

Joint storage not permitted for : LGK 1, LGK 6.2, LGK 7

Joint storage with restrictions permitted for : LGK 4.1A, LGK 5.1C

Joint storage permitted for : LGK 2A, LGK 2B, LGK 3, LGK 4.1B, LGK 4.2, LGK 4.3, LGK 5.1A, LGK 5.1B, LGK 5.2, LGK 6.1A, LGK 6.1B, LGK 6.1C, LGK 6.1D, LGK 8A, LGK 8B, LGK 10, LGK 11, LGK 12, LGK 13, LGK 10-13

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration

OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Full text of H- and EUH-statements:	
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

The classification complies with : ATP 12

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.