

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form : Mixture
Product name : KUMHO 1500
UFI : SP20-V05S-Y00X-AUKU

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 tyres and general rubber articles, including processing of raw (uncured) rubber, handling and mixing of rubber additives, vulcanising, cooling and finishing

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
64, Sanggae-ro, Nam-gu, Ulsan, 44786, Republic of Korea
T +82-52-259-6051~7 - F +82-52-259-6053

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 statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

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.
EUH-statements : EUH208 - Contains N-1,3-dimethylbutyl-N'-phenyl-p-phenylenediamine. May produce an allergic reaction.

2.3. Other hazards

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

KUMHO 1500

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

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]
STYRENE/BUTADIENE COPOLYMER	(CAS-No.) 9003-55-8	92 – 95	Not classified
Rosin, potassium salts	(CAS-No.) 61790-50-9 (EC-No.) 263-142-4	5 – 8	Eye Irrit. 2, H319
N-1,3-dimethylbutyl-N'-phenyl-p-phenylenediamine	(CAS-No.) 793-24-8 (EC-No.) 212-344-0	< 0.2	Acute Tox. 4 (Oral), H302 (ATE=893 mg/kg bodyweight) Skin Sens. 1, H317 Repr. 1B, H360 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10)

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Move the affected person away from the contaminated area and into the fresh air. If breathing stops, give artificial respiration. If breathing is difficult, trained personnel should give oxygen. Get medical advice/attention if you feel unwell.
First-aid measures after skin contact	: After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Wash contaminated clothing before reuse. Get medical attention immediately if irritation persists.
First-aid measures after eye contact	: Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum). Remove contact lenses if easy to do. If eye irritation persists: Get medical advice/attention. Inform medical services of exposure to the chemicals mentioned in this safety data sheet.
First-aid measures after ingestion	: Never give anything by mouth to an unconscious person. Rinse mouth thoroughly with water. Drink plenty of water. Milk. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical advice/attention 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. Dry powder. For a significant fire : Water. Foam.
Unsuitable extinguishing media	: Do not use a water jet since it may cause the fire to spread.

KUMHO 1500

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Thermal decomposition can lead to the release of irritating gases and vapours. Vapours may cause fire/explosion if source of ignition is present. Dust may form explosive mixture in air. Pressurised container: May burst if heated.
- Hazardous decomposition products in case of fire : Carbon monoxide. Carbon dioxide. Toxic gases are released. Toxic vapours are released.

5.3. Advice for firefighters

- Firefighting instructions : Do not scatter the material. Move containers away from the fire area if this can be done without risk. Cool down the containers exposed to heat with a water spray. Avoid breathing dust/fume/gas/mist/vapors/spray. Keep upwind. For a massive fire, use unmanned hose holders or monitor nozzles, or withdraw from the area and allow fire to burn.
- Protection during firefighting : Wear protective clothing. For further information refer to section 8: "Exposure controls/personal protection".

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Avoid creating or spreading dust. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Provide adequate ventilation. Pulverize a foam to suppress the vapours. Stop leak without risks if possible. Do not touch spilled material.

6.1.2. For emergency responders

- Protective equipment : Wear protective clothing. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Do not discharge into drains. Avoid discharge to the environment. In case of large spillages: Contact the emergency services.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Significant spillages: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stay upwind/keep distance from source. Notify environmental authorities. Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal. For further information refer to section 13. Small spillages: Sweep or shovel spills into appropriate container for disposal. Wash thoroughly after handling.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Wear protective clothing. For further information refer to section 8: "Exposure controls/personal protection". Provide adequate ventilation. Avoid generating dust. Ensure equipment is adequately earthed. Avoid contact with skin and eyes. Use non-sparking tools. Use explosion-proof equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not breathe vapours. Do not eat, drink or smoke when using this product.
- Hygiene measures : Eyewash station. Safety shower. Wash hands thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Store away from the following materials: Strong oxidizing agents. Store in a well-ventilated place. Keep cool.

KUMHO 1500

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

7.3. Specific end use(s)

For further information see section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

N-1,3-dimethylbutyl-N'-phenyl-p-phenylenediamine (793-24-8)	
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	N-1,3-Dimethylbutyl-N'-phenyl-p-phenylenediamin
AGW (OEL TWA) [1]	2 mg/m ³ (E)
Peak exposure limitation factor	2(II)
Remark	DFG;Y;Sh
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:

General ventilation. with local exhaust ventilation.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses. Splash goggles. Face shield

8.2.2.2. Skin protection

Skin and body protection:

Chemical resistant apron

Hand protection:

Chemically resistant protective gloves. Heat resistant gloves

8.2.2.3. Respiratory protection

KUMHO 1500

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. Dust Respirator

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: dark green.
Odour	: mild.
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not applicable
Boiling point	: Not applicable
Flammability	: Non flammable.
Explosive limits	: Not applicable
Lower explosive limit (LEL)	: Not applicable
Upper explosive limit (UEL)	: Not applicable
Flash point	: 246 °C
Auto-ignition temperature	: > 388 °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 applicable
Vapour pressure at 50 °C	: Not applicable
Density	: Not available
Relative density	: 0.92 – 0.96
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

No additional information available

KUMHO 1500

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5. Incompatible materials

Not available.

10.6. Hazardous decomposition products

Carbon oxides (CO, CO₂). Toxic gases are released. Toxic vapours are released. Hydrocarbons.

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

Rosin, potassium salts (61790-50-9)

LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
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N-1,3-dimethylbutyl-N'-phenyl-p-phenylenediamine (793-24-8)

LD50 oral rat	1005 mg/kg bodyweight male
LD50 oral	893 mg/kg bodyweight female rat
LD50 dermal rabbit	> 7940 mg/kg bodyweight Animal: rabbit

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

N-1,3-dimethylbutyl-N'-phenyl-p-phenylenediamine (793-24-8)

NOAEL (male/female, rat)	84.8-109.5 mg/kg bw/day
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Reproductive toxicity : Not available

N-1,3-dimethylbutyl-N'-phenyl-p-phenylenediamine (793-24-8)

NOAEL (animal/male, F0/P)	60 mg/kg
NOAEL (animal/female, F0/P)	7 mg/kg
NOAEL (neonatal, F1)	20 mg/kg/day (rat)
NOAEL (adult, F1)	60 mg/kg/day (rat)

STOT-single exposure : Not available

STOT-repeated exposure : Not available

KUMHO 1500

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

N-1,3-dimethylbutyl-N'-phenyl-p-phenylenediamine (793-24-8)	
LOAEL (oral, rat, 90 days)	100 mg/kg bodyweight Animal: rat, Guideline: other:Guideline for 28-day Repeat Dose Toxicity Testing of Chemicals (Japan)
NOAEL (oral, rat, 90 days)	20 mg/kg bodyweight Animal: rat, Guideline: other:Guideline for 28-day Repeat Dose Toxicity Testing of Chemicals (Japan)

Aspiration hazard : Not available

KUMHO 1500	
Viscosity, kinematic	Not applicable

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

Rosin, potassium salts (61790-50-9)	
LC50 - Fish [1]	1.7 mg/l Pimephales promelas

N-1,3-dimethylbutyl-N'-phenyl-p-phenylenediamine (793-24-8)	
LC50 - Fish [1]	0.028 mg/l Test organisms (species): Oryzias latipes
EC50 - Crustacea [1]	0.23 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	0.335 mg/l Pseudokirchneriella subcapitata
LOEC (chronic)	0.087 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0.028 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	0.0037 mg/l Test organisms (species): Oryzias latipes Duration: '30 d'
NOEC chronic algae	0.23 mg/l Desmodesmus subspicatus

12.2. Persistence and degradability

N-1,3-dimethylbutyl-N'-phenyl-p-phenylenediamine (793-24-8)	
Biodegradation	2 % 4 weeks
DT50	1.7 Hours
Hydrolysis	8 Hours (@ 26°C)

12.3. Bioaccumulative potential

N-1,3-dimethylbutyl-N'-phenyl-p-phenylenediamine (793-24-8)	
BCF - Fish [1]	1.2 – 23 Cyprinus carpio (Common carp)
Bioconcentration factor (BCF REACH)	568.7

KUMHO 1500

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

KUMHO 1500

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 : Dispose of contents/container in accordance with licensed collector's sorting instructions. Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

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

KUMHO 1500

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

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 1, Slightly 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 that cannot be assigned to any of the above storage classes

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

Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Repr. 1B	Reproductive toxicity, Category 1B
Skin Sens. 1	Skin sensitisation, Category 1
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.

KUMHO 1500

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

H319	Causes serious eye irritation.
H360	May damage fertility or the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH208	Contains N-1,3-dimethylbutyl-N'-phenyl-p-phenylenediamine. May produce an allergic reaction.

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.