

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

1.1. Product identifier

Product form : Mixture
Product name : KUMHO 1789
UFI : UQ30-X0FJ-N00V-8XKM

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@tsafe.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

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.
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%.

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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	66 – 70	Not classified
Extracts (petroleum), residual oil solvent	(CAS-No.) 64742-10-5 (EC-No.) 265-110-5	26 – 28	Not classified
Rosin, potassium salts	(CAS-No.) 61790-50-9 (EC-No.) 263-142-4	1 – 5	Eye Irrit. 2, H319
Fatty acids, C14-18 and C16-18-unsatd	(CAS-No.) 67701-06-8 (EC-No.) 266-930-6	1 – 5	Not classified
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 general	: Get medical attention.
First-aid measures after inhalation	: Move the affected person away from the contaminated area and into the fresh air. 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. Continue to rinse for at least 15 minutes. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Avoid direct eye contact with product, also via contamination on hands. Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum). Remove contact lenses, if present and easy to do. Continue rinsing.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

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

Symptoms/effects after skin contact	: May cause an allergic skin reaction.
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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	: Water. Foam. Carbon dioxide (CO2). Dry chemical.
Unsuitable extinguishing media	: Do not use a water jet since it may cause the fire to spread.

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5.2. Special hazards arising from the substance or mixture

- Fire hazard : Thermal decomposition can lead to the release of irritating gases and vapours. Flammable dust. Flammable gas. Prevent fire fighting water from entering the environment. Pressurised container: May burst if heated.
- Hazardous decomposition products in case of fire : Carbon oxides (CO, CO₂). Toxic gases are released. Toxic vapours are released.

5.3. Advice for firefighters

- Firefighting instructions : Keep upwind. Cool containers with flooding quantities of water until well after fire is out. Fight fire from safe distance and protected location. Avoid inhalation of the product. Do not breathe thermal decomposition products. Move containers away from the fire area if this can be done without risk. ALWAYS stay away from ends of tanks.
- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Keep upwind. Provide adequate ventilation. Do not attempt to take action without suitable protective equipment.

6.1.2. For emergency responders

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

6.2. Environmental precautions

Do not allow to enter drains or water courses. Prevent runoff from entering drains, sewers or waterways. In case of large spillages: Contact the emergency services.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Small spillages: Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal. Significant spillages: Collect all waste in suitable and labelled containers and dispose according to local legislation. High. Position. Stay upwind/keep distance from source. May release hazardous fumes.

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 personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection". Provide adequate ventilation. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid dust formation. antistatic boots. Antistatic clothing.
- Hygiene measures : Appropriate engineering controls. Eyewash station. Safety shower. Wash hands thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in accordance with local regulations. Store in original container. Store in a dry place. Keep cool. Store in a well-ventilated place. Keep container tightly closed. Do not store near heat sources or expose to high temperatures. Take action to prevent static discharges.

7.3. Specific end use(s)

Not available.

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-phenylendiamin
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. Chemical goggles or 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:

In case of inadequate ventilation wear respiratory protection. Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. Use respiratory protective device against the effects of dust

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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 brown.
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	: Not applicable
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

Not available.

10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

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10.3. Possibility of hazardous reactions

Will not occur.

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

Extracts (petroleum), residual oil solvent (64742-10-5)

LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	> 3000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	> 5 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)

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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Fatty acids, C14-18 and C16-18-unsatd (67701-06-8)

LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Guideline: EU Method B.1 (Acute Toxicity (Oral)), Guideline: other: Bewertung Wassergefährdender Stoffe, II Bestimmung der akuten, oralen Säugetierrtoxizität, Ad-hoc-Arbeitsgruppe I (Obmann Dr. Niemits), LTWS, nr. 10, September 1979
LD50 dermal rabbit	> 2000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 434 (Acute Dermal Toxicity - Fixed Dose Procedure)
LC50 Inhalation - Rat	> 0.1621 mg/l air Animal: rat

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 : May cause an allergic skin reaction.
Serious eye damage/irritation : Not available
Respiratory or skin sensitisation : Not available
Germ cell mutagenicity : Not available
Carcinogenicity : Not available

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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

Extracts (petroleum), residual oil solvent (64742-10-5)

NOAEL (dermal, rat/rabbit, 90 days)	500 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)
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Fatty acids, C14-18 and C16-18-unsatd (67701-06-8)

NOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
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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

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Viscosity, kinematic	Not applicable
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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
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Fatty acids, C14-18 and C16-18-unsatd (67701-06-8)

ErC50 algae	205.42 mg/l <i>Skeletonema costatum</i> (marine diatom)
LC50, aquatic invertebrates	357.5 mg/l (copepod <i>Acartia tonsa</i>)

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

LC50 - Fish [1]	0.028 mg/l Test organisms (species): <i>Oryzias latipes</i>
EC50 - Crustacea [1]	0.23 mg/l Test organisms (species): <i>Daphnia magna</i>
EC50 72h - Algae [1]	0.335 mg/l <i>Pseudokirchneriella subcapitata</i>
LOEC (chronic)	0.087 mg/l Test organisms (species): <i>Daphnia magna</i> Duration: '21 d'
NOEC (chronic)	0.028 mg/l Test organisms (species): <i>Daphnia magna</i> Duration: '21 d'
NOEC chronic fish	0.0037 mg/l Test organisms (species): <i>Oryzias latipes</i> Duration: '30 d'
NOEC chronic algae	0.23 mg/l <i>Desmodesmus subspicatus</i>

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 <i>Cyprinus carpio</i> (Common carp)
Bioconcentration factor (BCF REACH)	568.7

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

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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 this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. Incineration. Oil-Water Separation. Dispose of contents/container in accordance with licensed collector's sorting instructions. This material and its container must be disposed of as hazardous waste.

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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 that cannot be assigned to any of the above storage classes

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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.
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.