

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

Product form : Mixture
Name : KUMHO KNB 3345

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Main use category : Industrial use
Use of the substance/mixture : Manufacture of tyres and general rubber articles within closed or contained systems, including incidental exposures during processing of raw (uncured) rubber, handling and mixing of rubber additives, calendaring, vulcanising, cooling and finishing as well as maintenance.

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
Landwehrplatz 6, 66111 Saarbruecken, Germany
T +49 177 9166175
tsg@tsafeg.com

1.4. Emergency telephone number

Country/Area	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	

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

EUH-statements : EUH210 - Safety data sheet available on request.

2.3. Other hazards

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

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

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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]
BUTADIENE/ACRYLONITRILE COPOLYMER	CAS-No.: 9003-18-3 EC-No.: 618-357-1	96 – 98	Not classified
Fatty acids, C14-18 and C16-18-unsatd.	CAS-No.: 67701-06-8 EC-No.: 266-930-6	1 – 2	Not classified
Resin acids and Rosin acids, potassium salts	CAS-No.: 61790-50-9 EC-No.: 263-142-4	1 – 2	Eye Irrit. 2, H319

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 general	: Get medical advice/attention if you feel unwell.
First-aid measures after inhalation	: Move the affected person away from the contaminated area and into the fresh air. Keep victim warm and quiet. If breathing is difficult, give oxygen.
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 advice/attention if you feel unwell.
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 present and easy to do. Continue rinsing.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs.

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

Symptoms/effects after eye contact	: May cause eye irritation.
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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 spray. Dry powder. Foam. Carbon dioxide (CO ₂).
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	: Contains gas under pressure; may explode if heated.
Hazardous decomposition products in case of fire	: Toxic fumes may be released. Carbon oxides (CO, CO ₂).

5.3. Advice for firefighters

Protection during firefighting	: Keep upwind. Do not attempt to take action without suitable protective equipment. Fight fire from safe distance and protected location. Withdraw immediately in case of rising sound from venting devices or discolouration from tank. Do not breathe gas/vapour. Do not breathe thermal decomposition products. Move containers from fire area if it can be done without personal risk.
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Other information : High temperature decomposition products are harmful by inhalation.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
Emergency procedures : No flames, no sparks. Eliminate all sources of ignition. Keep upwind. Stop leak if safe to do so. Move containers from fire area if it can be done without personal risk.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment.
Emergency procedures : Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment. Contact the emergency services.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Small spills: Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal. In case of large spillages: Stay upwind/keep distance from source. Shovel or sweep up and put in a closed container for disposal. Dispose of in accordance with relevant local regulations.

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 : For further information refer to section 8: "Exposure controls/personal protection". Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment. Keep away from sources of ignition - No smoking. Wash thoroughly after handling. Handle and open container with care.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Eyewash station. Safety shower.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Protect from sunlight. Do not store near heat sources or expose to high temperatures. Comply with applicable regulations.

Germany

Storage class (LGK, TRGS 510)

Joint storage table

: LGK 13 - Non-combustible solids

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

Joint storage with restrictions permitted for

Joint storage permitted for

: LGK 1, LGK 6.2, LGK 7

: LGK 4.1A, LGK 5.1C

: 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

Switzerland

Storage class (LK)

: NG - Non-hazardous

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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

No additional information available

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:

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:

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

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

No additional information available

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: White to yellow.
Odour	: mild.
Odour threshold	: Not available
Melting point	: Not available
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Not available
Lower explosion limit	: Not applicable
Upper explosion limit	: 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 available
Vapour pressure at 50°C	: Not available
Density	: Not available
Relative density	: Not available
Relative vapour density at 20°C	: Not applicable
Particle size	: 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

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

10.5. Incompatible materials

Not available.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Hydrocarbons. Carbon oxides (CO, CO₂). Nitrogen oxides. Hydrogen cyanide. Sulphur oxides.

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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

BUTADIENE/ACRYLONITRILE COPOLYMER (9003-18-3)	
LD50 dermal rabbit	5480 mg/kg Source: 14303chemical products

Fatty acids, C14-18 and C16-18-unsatd. (67701-06-8)	
LD50 oral rat	> 2000 mg/kg bodyweight Source: ECHA, sex: male/female
LD50 dermal rabbit	> 2000 mg/kg bodyweight Source: ECHA
LC50 Inhalation - Rat	> 0.162 mg/l air Source: ECHA

Resin acids and Rosin acids, potassium salts (61790-50-9)	
LD50 oral rat	> 2000 mg/kg bodyweight Source: ECHA
LD50 dermal rat	> 2000 mg/kg bodyweight Source: ECHA

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
Reproductive toxicity : Not available
STOT-single exposure : Not available
STOT-repeated exposure : Not available

Fatty acids, C14-18 and C16-18-unsatd. (67701-06-8)	
NOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight/day Source: ECHA

Aspiration hazard : Not available

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute) : Not available
Hazardous to the aquatic environment, long-term (chronic) : Not available

Fatty acids, C14-18 and C16-18-unsatd. (67701-06-8)	
LC50 - Fish [1]	> 1000 mg/l Source: ECHA
EC50 - Crustacea [1]	> 4.8 mg/l Source: ECHA

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Fatty acids, C14-18 and C16-18-unsatd. (67701-06-8)	
EC50 72h - Algae [1]	> 0.9 mg/l Source: ECHA
NOEC chronic crustacea	> 0.22 mg/l Source: ECHA
Resin acids and Rosin acids, potassium salts (61790-50-9)	
LC50 - Fish [1]	> 1.7 mg/l Source: ECHA
EC50 72h - Algae [1]	16.6 mg/l Source: ECHA

12.2. Persistence and degradability

BUTADIENE/ACRYLONITRILE COPOLYMER (9003-18-3)	
Persistence and degradability	Not rapidly degradable
Fatty acids, C14-18 and C16-18-unsatd. (67701-06-8)	
Persistence and degradability	Not rapidly degradable
Resin acids and Rosin acids, potassium salts (61790-50-9)	
Persistence and degradability	Not rapidly degradable

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

KUMHO KNB 3345
Mixture does not contain substance (s) classified as PBT or vPvB in concentrations above 0,1%.

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : Not available.

12.7. Other adverse effects

Other adverse effects : Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of via an authorised person/ licensed waste disposal contractor or by other suitable waste treatment techniques. 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.

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 applicable	Not applicable	Not applicable	Not applicable	Not applicable

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

14.6. Special precautions for user

Overland transport

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

Inland waterway transport

Not applicable

Rail transport

Not applicable

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

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

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Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

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 to the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

- ABM category : A(4) - low hazard for aquatic organisms, may have longterm hazardous effects in aquatic environment
- SZW list of carcinogens : Fatty acids, C14-18 and C16-18-unsatd., Resin acids and Rosin acids, potassium salts are listed
- SZW list of mutagens : Fatty acids, C14-18 and C16-18-unsatd. is listed
- SZW list of reprotoxic substances – Breastfeeding : None of the components are listed
- SZW list of reprotoxic substances – Fertility : None of the components are listed
- SZW list of reprotoxic substances – Development : None of the components are listed

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Abbreviations and acronyms:	
NOAEL	No-Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
N.O.S.	Not Otherwise Specified
LOAEL	Lowest Observed Adverse Effect Level
LD50	Median lethal dose
LC50	Median lethal concentration
IOELV	Indicative Occupational Exposure Limit Value
IMDG	International Maritime Dangerous Goods
IATA	International Air Transport Association
IARC	International Agency for Research on Cancer
EN	European Standard
ED	Endocrine disruptor
EC50	Median effective concentration
EC-No.	European Community number
DNEL	Derived-No Effect Level
DMEL	Derived Minimal Effect level

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Abbreviations and acronyms:	
COD	Chemical oxygen demand (COD)
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
BOD	Biochemical oxygen demand (BOD)
BLV	Biological limit value
BCF	Bioconcentration factor
ATE	Acute Toxicity Estimate
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
CAS-No.	Chemical Abstract Service number
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
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TLM	Median Tolerance Limit
TRGS	Technical Rules for Hazardous Substances
ThOD	Theoretical oxygen demand (ThOD)
VOC	Volatile Organic Compounds
WGK	Water Hazard Class
vPvB	Very Persistent and Very Bioaccumulative

Other information : The substance/mixture has no endocrine disrupting properties.

Full text of H- and EUH-statements:	
EUH210	Safety data sheet available on request.
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H319	Causes serious eye irritation.

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.