

# SAFETY DATA SHEET KUMHO 1745

COMMISSION REGULATION (EU) 2015/830 of 28 May 2015.

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

1.1. Product identifier

Product name KUMHO 1745

REACH registration number -

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

Identified uses Raw materials for rubber products (tires, rubber shoes, sneakers, rubber hoses, belts)

Uses advised against Not available.

#### 1.3. Details of the supplier of the safety data sheet

Supplier OR of KOREA KUMHO Petrochemical Co., Ltd.

KIST Europe Forschungsgesellschaft mbH

Campus E71

66123 Saarbruecken

Germany

Tel: +49 681 9382 334 Fax: +49 681 9382 319

e-mail: reach.it@kist-europe.de

Manufacturer Korea Kumho Petrochemical Co., Ltd.

64, Sanggae-ro, Nam-gu

Ulsan, Korea 680-180

Tel: +82-52-259-6051~7 Fax: +82-52-259-6053

#### 1.4. Emergency telephone number

Emergency telephone +49 551 19240

GIZ-Nord, Goettingen, Germany (English only)

#### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

Classification (EC/1272/2008)

Physical hazards Not Classified

Health hazards Carc. 2 - H351

**Environmental hazards** Aquatic Chronic 2 - H411

#### 2.2. Label elements

# Pictogram





Signal word Warning

**Hazard statements** H351 Suspected of causing cancer.

H411 Toxic to aquatic life with long lasting effects.

EUH208 Contains N-(1,3-Dimethylbutyl)-N'-phenyl-1,4-phenylenediamine. May produce an

allergic reaction.

**Precautionary statements** P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P308+P313 IF exposed or concerned: Get medical advice/ attention.

P391 Collect spillage. P405 Store locked up.

P501 Dispose of contents/ container in accordance with national regulations.

Contains Extracts (petroleum), residual oil solvent

#### 2.3. Other hazards

# SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

# Styrene-Butadiene Copolymer 66-70%

CAS number: 9003-55-8

Classification
Not Classified

# Extracts (petroleum), residual oil solvent 26-28%

CAS number: 64742-10-5 EC number: 265-110-5 REACH registration number: 01-

2119488175-30-XXXX

Classification
Carc. 2 - H351

# Resin acids and Rosin acids, potassium salts

CAS number: 61790-50-9 EC number: 263-142-4

Classification
Not Classified

Facid 1-5%

CAS number: 67701-06-8

# Classification Not Classified

N-(1,3-Dimethylbutyl)-N´-phenyl-1,4-phenylenediamine

DEAOU : ( ( ) 4

<1%

CAS number: 793-24-8 EC number: 212-344-0 REACH registration number: 01-

2119485839-15-XXXX

M factor (Acute) = 10 M factor (Chronic) = 10

Classification

Acute Tox. 4 - H302 Skin Sens. 1 - H317 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

The full text for all hazard statements is displayed in Section 16.

**Composition comments** Monomer is registered instead of Styrene-Butadiene-Styrene copolymer. (Registration

number of monomer: 1,3-Butadiene; 01-2119471988-16-\*\*\*\*, Styrene; 01-2119457861-32-

\*\*\*\*)

#### **SECTION 4: First aid measures**

# 4.1. Description of first aid measures

**General information** Get medical attention immediately.

**Inhalation** Move affected person to fresh air and keep warm and at rest in a position comfortable for

breathing. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. It may be dangerous for first aid personnel to carry out mouth-to-

mouth resuscitation. Get medical attention if any discomfort continues.

**Ingestion** Rinse mouth. Do not induce vomiting unless under the direction of medical personnel. If

vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get

medical attention if any discomfort continues.

Skin contact Remove contaminated clothing and rinse skin thoroughly with water. Continue to rinse for at

least 15 minutes. Take off contaminated clothing and wash it before reuse. Wash

contaminated clothing thoroughly with water before removing it from the affected person, or

wear gloves. Get medical attention if any discomfort continues.

**Eye contact** Do not rub eye. Remove any contact lenses and open eyelids wide apart. Continue to rinse

for at least 15 minutes. Continue to rinse for at least 15 minutes.

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

**Inhalation** Harmful if inhaled.

**Skin contact** May cause an allergic skin reaction. May cause sensitisation by skin contact.

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

Notes for the doctor Treatment may vary with condition of victim and specifics of incident.

#### SECTION 5: Firefighting measures

# 5.1. Extinguishing media

Suitable extinguishing media Extinguish with dry sand. Dry chemicals. Water spray. Foam.

Unsuitable extinguishing

media

Do not use water jet as an extinguisher, as this will spread the fire.

#### 5.2. Special hazards arising from the substance or mixture

Specific hazards Irritating gases or vapours. Dust or gas may ignite by flames. Fire water contaminated with

this chemical must be controlled or prevented from entering environment. Contains very toxic chemical to aquatic environment. Containers can burst violently or explode when heated, due

to excessive pressure build-up. Partly flammable but does not simply ignite.

Hazardous combustion

products

Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and

other toxic gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting

Keep up-wind to avoid fumes. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. Cool containers exposed to flames with water until well after the fire is out. Fight advanced or massive fires from safe

distance or protected location. Avoid breathing fire gases or vapours. Avoid inhalation of

materials or combustion by-products.

Special protective equipment for firefighters

Use protective equipment appropriate for surrounding materials. Wear self-contained

breathing apparatus.

#### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

Wear protective clothing as described in Section 8 of this safety data sheet. Avoid heat, flames and other sources of ignition. Keep upwind. Do not handle broken packages without protective equipment. Provide adequate ventilation. Keep unnecessary and unprotected personnel away from the spillage. Avoid inhalation of vapours and contact with skin and eyes.

#### 6.2. Environmental precautions

**Environmental precautions** 

Personal precautions

Store away from waterwork or drainage system. Prevent run-off from entering ground, storm sewers and ditches which lead to natural waterways. If large spills, call emergency services to get advice.

#### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up

Small Spillages: Collect spilled material in appropriate container for disposal. Large Spillages: Avoid lowland and keep upwind. Containers with collected spillage must be properly labelled with correct contents and hazard symbol. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

#### 6.4. Reference to other sections

Reference to other sections

For personal protection, see Section 8. For waste disposal, see section 13.

#### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Usage precautions

Wear protective clothing as described in Section 8 of this safety data sheet. Provide adequate ventilation. Avoid contact with skin and eyes. Avoid heat, flames and other sources of ignition. Wash thoroughly after handling. Avoid handling which leads to dust formation. Contaminated clothing should be placed in a closed container for disposal or decontamination.

# 7.2. Conditions for safe storage, including any incompatibilities

Storage precautions

Store in tightly-closed, original container in a dry, cool and well-ventilated place. Protect against direct sunlight. Do not store near heat sources or expose to high temperatures. Store and handle in accordance with all current regulations and standards.

7.3. Specific end use(s)

Specific end use(s)

Not available.

#### SECTION 8: Exposure Controls/personal protection

## 8.1. Control parameters

DNEL

Industry - Inhalation; Short term systemic effects: 56.8 mg/m³

DNEL Values correspond to N-(1,3-Dimethylbutyl)-N'-phenyl-1,4-phenylenediamine.

Industry - Inhalation; Long term systemic effects: 7.1 mg/m³ Industry - Dermal; Short term systemic effects: 8 mg/kg/day Industry - Dermal; Long term systemic effects: 1 mg/kg/day

**PNEC** 2.47 - Fresh water; 0.00037 mg/l

PNEC Values correspond to N-(1,3-Dimethylbutyl)-N'-phenyl-1,4-phenylenediamine.

- Marine water; 0.000037 mg/l

- STP; 0.042 mg/l

#### 8.2. Exposure controls

# Protective equipment







Appropriate engineering

controls

Provide adequate general and local exhaust ventilation.

**Eye/face protection** The following protection should be worn: Chemical splash goggles. Wear safety glasses with

side-shields conforming to EN166.

Hand protection Wear suitable gloves.

Other skin and body

protection

Wear suitable protective clothing.

Hygiene measures

Use engineering controls to reduce air contamination to permissible exposure level. Provide

eyewash station and safety shower. Wash hands after handling.

Respiratory protection If ventilation is inadequate, suitable respiratory protection must be worn. Under frequent use

or heavy exposure, respiratory protection may be needed. In case of dust formation, wear

respirator with particle filter.

#### **SECTION 9: Physical and Chemical Properties**

# 9.1. Information on basic physical and chemical properties

Appearance Solid

Colour Dark brown.

Odour Mild.

Odour threshold Not available. Not available.

**pH** Not available. Not available.

Melting point Not applicable.

**Initial boiling point and range** Not applicable.

Flash point 246°C

**Evaporation rate** Not applicable.

Upper/lower flammability or

explosive limits

Not available.

Other flammability Not available.

Vapour pressure Not applicable.

Vapour density Not applicable.

Relative density Not applicable.

Solubility(ies) Insoluble in water.

Partition coefficient Not applicable.

Auto-ignition temperature > 388°C

**Decomposition Temperature** Not available.

Viscosity Not applicable.

**Explosive properties** Not available.

Oxidising properties Not available.

9.2. Other information

Molecular weight ≈ 120,000

#### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

**Reactivity** Not available.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

#### 10.3. Possibility of hazardous reactions

Possibility of hazardous

reactions

products

Under normal conditions of storage and use, no hazardous reactions will occur.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition. Avoid exposure to high temperatures or

direct sunlight.

10.5. Incompatible materials

Materials to avoid Not available.

10.6. Hazardous decomposition products

Hazardous decomposition

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or

vapours. Oxides of carbon. Hydrocarbons.

#### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD<sub>50</sub>) Not available.

Acute toxicity - dermal

Notes (dermal LD<sub>50</sub>) Not available.

Acute toxicity - inhalation

Notes (inhalation LC<sub>50</sub>) Not available.

Skin corrosion/irritation

Animal data Not available.

Serious eye damage/irritation

Serious eye damage/irritation Not available.

Germ cell mutagenicity

Genotoxicity - in vitro Not available.

**Genotoxicity - in vivo** Not available.

Carcinogenicity

Carcinogenicity Not available.

Reproductive toxicity

Reproductive toxicity - fertility Not available.

Reproductive toxicity -

Not available.

development

Specific target organ toxicity - single exposure

STOT - single exposure

Not available.

Specific target organ toxicity - repeated exposure
STOT - repeated exposure Not available.

**Skin contact** May produce an allergic reaction.

Toxicological information on ingredients.

Extracts (petroleum), residual oil solvent

Acute toxicity - oral

Acute toxicity oral (LD₅o

5,000.0

mg/kg)

**Species** Rat

Acute toxicity - dermal

Acute toxicity dermal (LD<sub>50</sub> 3,000.0

mg/kg)

Species Rabbit

Acute toxicity - inhalation

Acute toxicity inhalation

5.0

5.0

(LC<sub>50</sub> vapours mg/l)

Species Rat

ATE inhalation (vapours

5

mg/l)

Skin corrosion/irritation

Animal data Erythema/eschar score: Mean erythema score intact skin : 2.42 (at time point 24

and 72hours). Oedema score: Mean edema score intact skin : 2.5 (at time point 24

and 72 hours). Species: rabbit.

Serious eye damage/irritation

Serious eye

Not irritating.

damage/irritation
Skin sensitisation

**Skin sensitisation** Buehler test: - Guinea pig: Not sensitising.

Germ cell mutagenicity

**Genotoxicity - in vitro**Gene mutation:: Negative. Species : Salmonella typhimurium TA 98.

**Genotoxicity - in vivo** Chromosome aberration: Negative. Species : rat.

Carcinogenicity

Carcinogenicity None of the component in this product at levels greater than or equal to 0.1% is

identified as a carcinongen or potential carcinogen by IARC, ACGIH, NTP, OSHA.

Potential carcinogen according to OECD Guideline 451.

Reproductive toxicity

Reproductive toxicity -

fertility

One-generation study - NOAEL >= 2000 mg/kg/day, Dermal, Rat P

Reproductive toxicity -

development

Developmental toxicity: - NOAEL: 2000 mg/kg/day, Dermal, Rat

Resin acids and Rosin acids, potassium salts

Acute toxicity - oral

Acute toxicity oral (LD₅o

mg/kg)

2,000.0

**Species** 

Rat

Acute toxicity - dermal

Acute toxicity dermal (LD<sub>50</sub> 2,000.0

mg/kg)

**Species** Rat

Acute toxicity - inhalation

Endpoint waived according to REACH Annex VII, IX or XI. Notes (inhalation LC50)

Facid

Acute toxicity - oral

Acute toxicity oral (LD50

mg/kg)

2,000.0

**Species** Rat

Acute toxicity - dermal

Acute toxicity dermal (LD<sub>50</sub> 2,000.0

mg/kg)

**Species** Rabbit

Acute toxicity - inhalation

Acute toxicity inhalation

(LC50 vapours mg/l)

0.1621

**Species** Rat

ATE inhalation (vapours

mg/l)

0.1621

N-(1,3-Dimethylbutyl)-N´-phenyl-1,4-phenylenediamine

Acute toxicity - oral

Acute toxicity oral (LD₅o

mg/kg)

1,005.0

**Species** Rat

This test is conducted with male rat. Notes (oral LD₅₀)

ATE oral (mg/kg) 1,005.0

Acute toxicity - dermal

Acute toxicity dermal (LD<sub>50</sub> 7,940.0

mg/kg)

**Species** Rabbit

Acute toxicity - inhalation

Notes (inhalation LC50) Endpoint waived according to REACH Annex VII, IX or XI.

Skin corrosion/irritation

Animal data Not irritating.

Serious eye damage/irritation

Slightly irritating. Serious eye

damage/irritation

Skin sensitisation

Skin sensitisation Guinea pig maximization test (GPMT) - Guinea pig: Sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation:: Negative. Species: Salmonella typhimurium TA 98, TA 100, TA

1535, TA 1537.

Chromosome aberration: Negative. Species: rat. Genotoxicity - in vivo

Carcinogenicity

Carcinogenicity NOAEL 1000 ppm, Oral, Rat

Reproductive toxicity

Reproductive toxicity -

fertility

Screening: - NOAEL 100 mg/kg/day, Oral, Rat P

Reproductive toxicity -

development

Maternal toxicity: - NOAEL: 50 mg/kg/day, Inhalation, Rat

#### SECTION 12: Ecological Information

There are no data on the ecotoxicity of this product. **Ecotoxicity** 

12.1. Toxicity

Acute toxicity - fish Not available.

Acute toxicity - aquatic

Not available.

invertebrates

Not available. Acute toxicity - aquatic plants

Acute toxicity -Not available.

microorganisms

Acute toxicity - terrestrial Not available.

Chronic toxicity - fish early life Not available.

stage

Short term toxicity - embryo

Not available.

and sac fry stages

Chronic toxicity - aquatic

Not available.

invertebrates

Ecological information on ingredients.

Extracts (petroleum), residual oil solvent

Acute toxicity - fish , 96 hours: > = 1000 mg/l, Onchorhynchus mykiss (Rainbow trout)

Endpoint: NOEL.

Acute toxicity - aquatic

invertebrates

, 48 hours: mg/l, Daphnia magna

Endpoint: NOEL.

Acute toxicity - aquatic

plants

, 72 hours: 34.9 mg/l, Selenastrum capricornutum

(Calculated from QSAR approach)

Endpoint: NOEL.

(based on the growth rate)

Acute toxicity microorganisms

, 72 hours: > 1000 mg/l, Endpoint: NOEL.

Species: Tetrahymena pyriformis. (Calculated from QSAR approach)

life stage

Chronic toxicity - fish early , 28 days: 63 mg/l, Onchorhynchus mykiss (Rainbow trout)

Endpoint: NOEL.

(Calculated from QSAR approach)

Chronic toxicity - aquatic

invertebrates

, 21 days: = 1000 mg/l, Daphnia magna

Endpoint: NOEL.

Resin acids and Rosin acids, potassium salts

Acute toxicity - fish LC50, 96 hours: 60.3 mg/l, Brachydanio rerio (Zebra Fish)

Acute toxicity - aquatic

invertebrates

EC<sub>50</sub>, 48 hours: 3.8 mg/l, Daphnia magna

Acute toxicity - aquatic

plants

NOEC, 96 hours: 0.0125 mg/l, Scenedesmus subspicatus

Facid

Acute toxicity - fish LC50, 96 hours: 1354.4 mg/l, Lepomis macrochirus (Bluegill)

Acute toxicity - aquatic

invertebrates

EC<sub>50</sub>, 48 hours: > 4.8 mg/l, Daphnia magna

Acute toxicity - aquatic

plants

EC<sub>50</sub>, 72 hours: > 0.9 mg/l, Selenastrum capricornutum

(based on the growth rate)

N-(1,3-Dimethylbutyl)-N´-phenyl-1,4-phenylenediamine

Acute aquatic toxicity

 $0.01 < L(E)C50 \le 0.1$ LE(C)50

M factor (Acute) 10

Acute toxicity - fish LC50, 96 hours: 0.028 mg/l, Oryzias latipes (Red killifish)

Acute toxicity - aquatic

invertebrates

EC<sub>50</sub>, 48 hours: 0.69 mg/l, Daphnia magna

Acute toxicity - aquatic

NOEC, 72 hours: 0.23 mg/l,

plants Species: Desmodesmus subspicatus.

Acute toxicity microorganisms EC<sub>50</sub>, 3 hours: 420 mg/l, Activated sludge

Chronic aquatic toxicity

**NOEC**  $0.001 < NOEC \le 0.01$ 

**Degradability** Non-rapidly degradable

M factor (Chronic) 10

Chronic toxicity - fish early

life stage

LOEC, : 0.011 mg/l, Oryzias latipes (Red killifish) NOEC, : 0.0037 mg/l, Oryzias latipes (Red killifish)

Exposure duration: 30 days.

Chronic toxicity - aquatic

invertebrates

NOEC, 21 days: 0.028 mg/l, Daphnia magna LOEC, 21 days: 0.087 mg/l, Daphnia magna

**Toxicity to soil** Endpoint waived according to REACH Annex VII, IX or XI.

#### 12.2. Persistence and degradability

Persistence and degradability Not available.

**Biodegradation** Not available.

## Ecological information on ingredients.

# N-(1,3-Dimethylbutyl)-N´-phenyl-1,4-phenylenediamine

Phototransformation Water - DT₅₀ : 1.7 hours

Stability (hydrolysis) pH7 - Half-life : 5 hours 50°C @ °C

Biodegradation Water - Degradation (%) 2: 28 days

Water - Degradation (%) 97: 22 hours

#### 12.3. Bioaccumulative potential

Partition coefficient Not applicable.

# Ecological information on ingredients.

# N-(1,3-Dimethylbutyl)-N´-phenyl-1,4-phenylenediamine

**Bioaccumulative potential** BCF: 1.2 ~ 23, Cyprinus carpio (Common carp)

#### 12.4. Mobility in soil

**Mobility** Not available.

# 12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB

assessment

This product does not contain any substances classified as PBT or vPvB.

#### 12.6. Other adverse effects

Other adverse effects Not available.

#### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

General information Dispose of contents/containers in accordance with local/regional/national/international

regulations. Waste is suitable for incineration. If the waste contains designated waste and difficult to separate, incinerate it or reduce the volume following the similar way as

incineration. If applicable, pretreat waste with oil/water separation.

Disposal methods Confirm disposal procedures with environmental engineer and local regulations. Residues and

empty containers should be taken care of as hazardous waste according to local and national

provisions.

#### SECTION 14: Transport information

#### 14.1. UN number

UN No. (ADR/RID) 3077
UN No. (IMDG) 3077
UN No. (ICAO) 3077

#### 14.2. UN proper shipping name

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (N-(1,3-

(ADR/RID) DIMETHYLBUTYL)-N'- PHEN-YL-P-PHENYLENEDIAMINE)

Proper shipping name (IMDG) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (N-(1,3-

DIMETHYLBUTYL)-N'- PHEN-YL-P-PHENYLENEDIAMINE)

Proper shipping name (ICAO) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (N-(1,3-

DIMETHYLBUTYL)-N'- PHEN-YL-P-PHENYLENEDIAMINE)

#### 14.3. Transport hazard class(es)

ADR/RID class 9
IMDG class 9
ICAO class/division 9

#### 14.4. Packing group

Not applicable.

ADR/RID packing group III
IMDG packing group III
ICAO packing group III

#### 14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant



# 14.6. Special precautions for user

**EmS** F-A, S-F

#### 14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78

and the IBC Code

#### SECTION 15: Regulatory information

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

Authorisations (Title VII

Regulation 1907/2006)

No specific authorisations are known for this product.

Restrictions (Title VIII

No specific restrictions on use are known for this product.

Regulation 1907/2006)

#### 15.2. Chemical safety assessment

A chemical safety assessment has been carried out.; Resin acids and Rosin acids, potassium salts (CAS:61790-50-9), Facid (CAS:67701-06-8), Extracts (petroleum), residual oil solvent (CAS:64742-10-5) and N-(1,3-Dimethylbutyl)-N'-phenyl-1,4-phenylenediamine (CAS:793-24-8).

#### SECTION 16: Other information

Abbreviations and acronyms Precautionary Statements In Full.

used in the safety data sheet P501 Dispose of contents/container in accordance with local/regional/national/international

regulation.

Issued by KIST Europe

SDS number 20516

SDS status Approved.

Hazard statements in full H302 Harmful if swallowed.

H317 May cause an allergic skin reaction. H351 Suspected of causing cancer. H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects. H411 Toxic to aquatic life with long lasting effects.

EUH208 Contains N-(1,3-Dimethylbutyl)-N'-phenyl-1,4-phenylenediamine. May produce an

allergic reaction.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.