

# KUMHO PETROCHEMICAL

## SAFETY DATA SHEET NdBR-60

According to Regulation (EC) No 1907/2006, Annex II, as amended by Regulation (EU) No 453/2010, 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** NdBR-60

**REACH registration number** -

**REACH registration notes** Monomer is registered instead of Polybutadiene. (Registration number of monomer: Butadiene: 01-2119471988-16-\*\*\*\*)

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

**Identified uses** Raw materials for tires, shoes, rubber hoses

**Uses advised against** No specific uses advised against are identified.

#### 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.  
287-1, Pyeongyeo-Dong, Yeosu-si  
Jeollanam-do, Korea

+82 61 688 3060 ~ 9  
+82 61 688 3168

#### 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** Not Classified

**Environmental hazards** Aquatic Chronic 3 - H412



## NdBR-60

### 5.1. Extinguishing media

**Suitable extinguishing media** Extinguish with foam, carbon dioxide, dry powder or water fog.

**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. Vapours may be ignited by a spark, a hot surface or an ember. Thermal decomposition or combustion products may include the following substances: Toxic gases or vapours. Containers can burst violently or explode when heated, due to excessive pressure build-up.

**Hazardous combustion products** Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of carbon.

### 5.3. Advice for firefighters

**Protective actions during firefighting** Fight advanced or massive fires from safe distance or protected location. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. Move containers from fire area if it can be done without risk. Keep up-wind to avoid fumes. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Avoid heat, flames and other sources of ignition.

**Special protective equipment for firefighters** Use personal protective equipment as required.

## SECTION 6: Accidental release measures

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

**Personal precautions** Wear protective clothing as described in Section 8 of this safety data sheet. Avoid inhalation of vapours and contact with skin and eyes. Keep upwind. Evacuate area. Keep away from sources of ignition - No smoking. Do not handle broken packages without protective equipment. Put on protective equipment before entering danger area.

### 6.2. Environmental precautions

**Environmental precautions** Do not discharge into drains or watercourses or onto the ground. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

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

**Methods for cleaning up** Large Spillages: Build dikes to control spillage. Avoid lowland and keep upwind. Environmental Manager must be informed of all major spillages. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13. Small Spillages: Collect spilled material in appropriate container for disposal. Wash thoroughly after dealing with a spillage.

### 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** Avoid contact with skin and eyes. For personal protection, see Section 8. Wash thoroughly after handling. Keep separated from incompatible substances.

### 7.2. Conditions for safe storage, including any incompatibilities

## NdBR-60

**Storage precautions** Protect against direct sunlight. Do not store near heat sources or expose to high temperatures. Static electricity and formation of sparks must be prevented. Keep away from combustible materials. Store in accordance with local regulations.

### 7.3. Specific end use(s)

**Specific end use(s)** The identified uses for this product are detailed in Section 1.2.

## SECTION 8: Exposure Controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

##### BHT

Long-term exposure limit (8-hour TWA): ACGIH 2 mg/m<sup>3</sup>

ACGIH = American Conference of Governmental Industrial Hygienists.

##### ACGIH

**Ingredient comments** No exposure limits known for ingredient(s).

### 8.2. Exposure controls

#### Protective equipment



#### Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Observe any occupational exposure limits for the product or ingredients.

#### Eye/face protection

The following protection should be worn: Chemical splash goggles. Wear safety glasses with side-shields conforming to EN166.

#### Hand protection

Wear appropriate chemical resistant gloves. It is recommended that gloves are made of the following material: Polyvinyl chloride (PVC). Rubber (natural, latex).

#### Other skin and body protection

Wear appropriate chemical resistant clothing.

#### Hygiene measures

Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station and safety shower.

#### Respiratory protection

Under frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.

When take shelter:

- Dust, mist, fume-purifying respiratory protection
- Any air-purifying respirator with a corpuscle filter of high efficiency
- Any respiratory protection with a electromotion fan (for dust, mist, fume-purifying)
- High-efficiency particulate filter respirator attached self-service protector

For Unknown Concentration or Immediately Dangerous to Life or Health:

- Self-contained breathing apparatus (pressure-demand or other positive-pressure mode in combination)
- Supplied-air respirator with full facepiece.

#### Environmental exposure controls

Avoid releasing into the environment.

## SECTION 9: Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

## NdBR-60

<b>Appearance</b>	Solid
<b>Colour</b>	Yellow-white.
<b>Odour</b>	Mild.
<b>Odour threshold</b>	Not available. Not available.
<b>pH</b>	Not applicable.
<b>Melting point</b>	Not applicable.
<b>Initial boiling point and range</b>	Not applicable.
<b>Flash point</b>	Not applicable.
<b>Evaporation rate</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	Not available.
<b>Other flammability</b>	Not available.
<b>Vapour pressure</b>	Not applicable.
<b>Vapour density</b>	Not applicable.
<b>Relative density</b>	0.91 @ 20°C
<b>Solubility(ies)</b>	Insoluble in water.
<b>Partition coefficient</b>	Not applicable.
<b>Auto-ignition temperature</b>	316°C
<b>Decomposition Temperature</b>	Not applicable.
<b>Viscosity</b>	Not applicable.
<b>Explosive properties</b>	Not applicable.
<b>Oxidising properties</b>	Not available.

### 9.2. Other information

<b>Molecular weight</b>	600,000
-------------------------	---------

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

<b>Reactivity</b>	Not available.
-------------------	----------------

### 10.2. Chemical stability

<b>Stability</b>	Stable at normal ambient temperatures and when used as recommended.
------------------	---

### 10.3. Possibility of hazardous reactions

<b>Possibility of hazardous reactions</b>	Will not occur.
---	-----------------

### 10.4. Conditions to avoid

<b>Conditions to avoid</b>	>50 °C. Oxidising materials. Avoid dust close to ignition sources. Avoid exposure to high temperatures or direct sunlight.
----------------------------	--

### 10.5. Incompatible materials

## NdBR-60

**Materials to avoid** Acid anhydrides. Acid chlorides (Acyl chlorides). Acids, bases, oxidizing agents. Metal or metallic solid. Copper. Stainless steel.

### 10.6. Hazardous decomposition products

**Hazardous decomposition products** Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Irritating and toxic fumes, smoke, and gas.

## 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.

#### Serious eye damage/irritation

**Serious eye damage/irritation** Not available.

#### Respiratory sensitisation

**Respiratory sensitisation** : Not available.

#### Skin sensitisation

**Skin sensitisation** - : Not available.

#### Germ cell mutagenicity

**Genotoxicity - in vitro** Not available. :

**Genotoxicity - in vivo** Not available.

#### Carcinogenicity

**Carcinogenicity** Not classified to be carcinogenic substance (A1) and carcinogenic substance of presumed (A2) in Public notice. Antioxidant (BHT): IARC group 3, ACGIH group 4

#### Reproductive toxicity

**Reproductive toxicity - development** Not relevant.

#### Specific target organ toxicity - single exposure

**STOT - single exposure** Not available.

#### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** Not available.

#### Aspiration hazard

**Aspiration hazard** Not available.

### Toxicological information on ingredients.

#### Polybutadiene

##### Serious eye damage/irritation

**Serious eye damage/irritation** Irritation of eyes is assumed. (source : HSDB)

##### Respiratory sensitisation

## NdBR-60

**Respiratory sensitisation** Irritating to respiratory system. (source : HSDB)

### SECTION 12: Ecological Information

**Ecotoxicity** The product is not expected to be hazardous to the environment.

#### 12.1. Toxicity

**Acute toxicity - fish** Not available.

**Acute toxicity - aquatic invertebrates** Not available.

**Acute toxicity - aquatic plants** Not available.  
, : ,  
IC<sub>50</sub>, 72 hours: mg/l, Algae

**Acute toxicity - microorganisms** Not available.

**Acute toxicity - terrestrial** Not available.

**Chronic toxicity - fish early life stage** Not available.

**Short term toxicity - embryo and sac fry stages** Not available.

**Chronic toxicity - aquatic invertebrates** Not available.

#### 12.2. Persistence and degradability

**Persistence and degradability** Not available. Not available.

**Phototransformation** Not available.

**Stability (hydrolysis)** Not available.

**Biodegradation** Not available.

#### 12.3. Bioaccumulative potential

**Partition coefficient** Not applicable.

#### 12.4. Mobility in soil

**Mobility** Not available.

**Henry's law constant** 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

## NdBR-60

<b>General information</b>	Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. 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.
<b>Disposal methods</b>	Confirm disposal procedures with environmental engineer and local regulations. Dispose of the waste by oneself or contact disposal company.

### SECTION 14: Transport information

<b>General</b>	The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).
----------------	--

#### 14.1. UN number

Not applicable.

#### 14.2. UN proper shipping name

Not applicable.

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

Not applicable.

#### 14.4. Packing group

Not applicable.

#### 14.5. Environmental hazards

##### **Environmentally hazardous substance/marine pollutant**

No.

#### 14.6. Special precautions for user

Not applicable.

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

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

### SECTION 15: Regulatory information

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

#### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

### SECTION 16: Other information

<b>Abbreviations and acronyms used in the safety data sheet</b>	Precautionary Statements In Full. P501 Dispose of contents/container in accordance with local/regional/national/international regulation. HSDB : Hazardous Substance Data Bank
<b>Issued by</b>	KIST Europe
<b>Revision date</b>	03/01/2018
<b>Revision</b>	1
<b>SDS status</b>	Approved.

## NdBR-60

**Hazard statements in full**      H410 Very toxic to aquatic life with long lasting effects.  
H412 Harmful to aquatic life with long lasting effects.

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.