

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

Product form : Mixture  
Name : SOL 5270H

**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 : Raw material for rubber tyre

**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 (Yeosu Rubber Plant 2)  
331, Sandanjungang-ro, Yeosu-si, Jeollanam-do  
T +82-61-688-7270~4 - F +82-61-688-7219

**Supplier**

TsafeE GmbH  
Landwehrpl 6, 66111, Saarbruecken, Germany  
T +49 177 9166175  
[shkim@tsafeg.com](mailto: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- and EUH-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) : P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.  
P273 - Avoid release to the environment.

**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 the REACH Regulation (EC) 1907/2006 amended by 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 RUBBER	(CAS-No.) 9003-55-8	99.4 – 99.7	Not classified
2,6-Di-tert-butyl-p-cresol	(CAS-No.) 128-37-0 (EC-No.) 204-881-4	0.3 – 0.6	Aquatic Chronic 1, H410 (M=1)

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 after inhalation	: Remove person to fresh air and keep comfortable for breathing. Treat symptomatically.
First-aid measures after skin contact	: Take off contaminated clothing and wash it before reuse. Immediately rinse with plenty of water (for at least 15 minutes). Wash skin with plenty of water.
First-aid measures after eye contact	: Do not rub affected area. Immediately rinse with plenty of water (for at least 15 minutes).
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell. Do NOT induce vomiting unless directed to do so by medical personnel. Rinse mouth.

#### 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 (CO <sub>2</sub> ), dry chemical powder.
Unsuitable extinguishing media	: Do not use straight streams.

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

Explosion hazard	: Heating may cause an explosion. Could be ignited by heat, sparks or flame. Could cause toxic effects of inhaled or swallowed. Vapour could cause dizziness or suffocation.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

#### 5.3. Advice for firefighters

Firefighting instructions	: Cool containers / tanks with spray water if possible. If impossible to cool containers, withdraw fire-fighting personnel to safe area and allow fire to burn. Move containers away from the fire area if this can be done without risk. Wear proper protective equipment. Wear suitable protective clothing. Withdraw immediately in case of rising sound from venting devices or discolouration from tank. Notify fire brigade and environmental authorities. Do not breathe thermal decomposition products. Avoid breathing (dust, vapor, mist, gas). Do not breathe fumes.
Protection during firefighting	: Wear fire/flame resistant/retardant clothing. Safety foot-wear. Protective gloves. Wear suitable respiratory equipment.

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### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Approach from upwind. Do not touch spilled material. Evacuate unnecessary personnel. Remove all sources of ignition. Move containers away from the fire area if this can be done without risk. Keep upwind. Wear proper protective equipment.

##### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid release to the environment. In case of large spillages: Notify authorities if product enters sewers or public waters.

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

Methods for cleaning up : Collect all waste in suitable and labelled containers and dispose according to local legislation. Not Low. Notify environmental authorities. Clear contaminated areas thoroughly. Sweep or shovel spills into appropriate container for disposal. Prevent from spreading. In case of large spillages: Shelter from vapours by keeping upwind. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Other information : Dispose of materials or solid residues at an authorized site. Wastes Control Act. Use appropriate container to avoid environmental contamination.

#### 6.4. Reference to other sections

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". Avoid incompatible materials and conditions. Recycle or dispose of in compliance with current legislation. Appropriate engineering controls. antistatic boots. Antistatic clothing. Take precautionary measures against static discharge. Avoid any direct contact with the product. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Storage conditions : Store, if possible, in a cool, well ventilated place away from incompatible materials. Protect from heat and direct sunlight. Take precautionary measures to prevent the formation of static electricity. Keep away from combustible material. Store in a closed container. Do not allow to enter drains or water courses. . Do not re-use empty containers without proper cleaning or reconditioning.

#### 7.3. Specific end use(s)

No additional information available

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### 8.1.1 National occupational exposure and biological limit values

2,6-Di-tert-butyl-p-cresol (128-37-0)	
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	2,6-Di-tert-butyl-p-kresol
AGW (OEL TWA) [1]	10 mg/m <sup>3</sup> (E)
Peak exposure limitation factor	4(II)
Remark	DFG;Y;11
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:

Ensure good ventilation of the work station. Do not exceed the occupational exposure limits (OEL).

##### 8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



###### 8.2.2.1. Eye and face protection

###### Eye protection:

The workplace should be equipped with an emergency shower and eye-rinsing facility. Safety glasses

###### 8.2.2.2. Skin protection

###### Hand protection:

Protective gloves

###### 8.2.2.3. Respiratory protection

###### Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection. Wear respiratory protection when its use is identified for certain contributing scenarios.

###### 8.2.2.4. Thermal hazards

No additional information available

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### 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	: amber.
Molecular mass	: Not available
Odour	: Rubbers.
Odour threshold	: Not available
Melting point	: Not available
Freezing point	: Not applicable
Boiling point	: Not available
Flammability	: Non flammable.
Explosive limits	: Not applicable
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Flash point	: $\geq 288$ °C
Auto-ignition temperature	: 440 °C
Decomposition temperature	: Not available
pH	: Not available
pH solution	: Not available
Viscosity, kinematic	: Not applicable
Solubility	: Insoluble.
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	: 0.91 – 0.97
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

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.

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### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

Not available.

### 10.6. Hazardous decomposition products

Not available.

## 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

#### 2,6-Di-tert-butyl-p-cresol (128-37-0)

LD50 oral rat	> 6000 µg/kg Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

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

#### 2,6-Di-tert-butyl-p-cresol (128-37-0)

IARC group	3 - Not classifiable
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#### STYRENE-BUTADIENE RUBBER (9003-55-8)

IARC group	3 - Not classifiable
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Reproductive toxicity : Not available

#### 2,6-Di-tert-butyl-p-cresol (128-37-0)

LOAEL (animal/male, F1)	25 mg/kg bodyweight
LOAEL (animal/female, F1)	25 mg/kg bodyweight
NOAEL (animal/male, F0/P)	500 mg/kg bodyweight
NOAEL (animal/female, F0/P)	500 mg/kg bodyweight

STOT-single exposure : Not available

STOT-repeated exposure : Not available

#### 2,6-Di-tert-butyl-p-cresol (128-37-0)

NOAEL (oral, rat, 90 days)	≥ 61 mg/kg bodyweight NOAEL (oral, rat, 90 days)
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Aspiration hazard : Not available

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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

#### 2,6-Di-tert-butyl-p-cresol (128-37-0)

LC50 - Fish [1]	> 0.57 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	0.48 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 0.4 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
LOEC (chronic)	1 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0.023 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	0.053 mg/l Test organisms (species): Oryzias latipes Duration: '42 d'

### 12.2. Persistence and degradability

#### 2,6-Di-tert-butyl-p-cresol (128-37-0)

Biodegradation	4.7 % (28day)
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### 12.3. Bioaccumulative potential

#### 2,6-Di-tert-butyl-p-cresol (128-37-0)

BCF - Fish [2]	465 l/kg ECHA (European Chemicals Agency)
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### 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

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### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions. Recycle the material as far as possible. Oil-Water Separation. Can be landfilled, when in compliance with local regulations. Depending on the local regulations it may be disposed of as solid waste or incinerated in a suitable installation.

### SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number or ID number</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.2. UN proper shipping name</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.3. Transport hazard class(es)</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.4. Packing group</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.5. Environmental hazards</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

#### 14.6. Special precautions for user

Special transport precautions : Transport hazard class(es) (DOT), Act on the Safety Control of Hazardous Substances (MOIS, Korea)

#### 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.



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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
- 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

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration

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NOAEL	No-Observed Adverse Effect Level
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
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

### Full text of H- and EUH-statements:

Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

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.