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

### 1.1. Product identifier

| | |
|---|---|
| Product Name | Rubber Accelerator CBS (CZ) |
| Substance Name | N-Cyclohexyl-2-benzothiazole sulfenamide |
| Synonym | N-cyclohexylbenzothiazole-2-sulfenamide |
| CAS No. | 95-33-0 |
| EC No. | 202-411-2 |
| Index No. | 613-136-00-6 |
| Registration number | 01-2119486796-16-**** |

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

| | |
|---|---|
| Recommended Use | Production of tyres and general rubber goods. CBS is used as vulcanization accelerator in rubber goods manufacture |
| Uses advised against | No information available |

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

| | |
|---|---|
| Only representative | REACH24H CONSULTING GROUP |
| Address | Paramount Court, Corrig Road, Sandyford, Dublin 18, Ireland |
| E-mail | reach@reach24h.com |
| | |
| Supplier | Willing New Materials Technology Co.,Ltd. |
| Address | Chemical Industry-Intensive Area, Puyang, Henan, China |
| Postal Code | 457163 |
| Phone | +86-393-4840366 |
| FAX | +86-393-4840346 |
| E-mail | kuber@willingchem.com |
| | |
| Importer | |
| Address | |
| Postal Code | |
| Phone | |
| FAX | |
| E-mail | |

### 1.4. Emergency telephone number

In China: +86-393-4840366 (Office hours available)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Skin sensitisation, Category 1 - H317
Hazardous to the aquatic environment — Acute Hazard, Category 1 - H400 (M=1)
Hazardous to the aquatic environment — Chronic Hazard, Category 1 - H410 (M=10)

### 2.2. Label elements

Symbols/Pictograms



| | |
|---|---|
| Signal word | Warning |
| Hazard Statements | H317 - May cause an allergic skin reaction<br>H410 - Very toxic to aquatic life with long lasting effects |
| Precautionary Statements | P261: Avoid breathing dust / fume / gas / mist / vapors / spray.<br>P262: Do not get in eyes, on skin, or on clothing.<br>P280: Wear protective gloves/protective clothing/eye protection/face protection.<br>P273: Avoid release to the environment.<br>P302 + P352: IF ON SKIN: Wash with plenty of soap and water.<br>P333 + P313: If skin irritation or rash occurs: Get medical advice / attention.<br>P405: Store locked up.<br>P501 - Dispose of contents/ container in accordance with local/regional/ national/international regulation. |
| EU Specific Hazard Statements | None |

### 2.3. Other hazards

This substance does not meet the PBT criteria of REACH regulation, annex XIII
This substance does not meet the vPvB criteria of REACH regulation, annex XIII
The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is 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.

## SECTION 3: Composition/information on ingredients

### 3.1 Substance

| Chemical Name | EC No | CAS No | Weight-% | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|---|---|---|---|
| N-Cyclohexyl-2-benzothiazole sulfenamide | 202-411-2 | 95-33-0 | ⩾97.0 | Skin Sens. 1(H317)<br>Aquatic Acute 1(H400)(M=1)<br>Aquatic Chronic 1(H410) (M=10) |

There are 3 unknown impurities in the substance. The total concentration of the unknown impurities is below 3%. None of the unknown impurity is classifiable as hazardous and present above 1%.

### 3.2 Mixture

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**General advice**

Instantly remove any clothing soiled by the product. In all cases of doubt, or when symptoms persist, seek medical attention.

**Inhalation**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

**Skin Contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash

contaminated clothing before reuse. If skin irritation persists, call a physician.

**Eye contact**
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Ingestion**
Rinse mouth. Get medical attention. Never give anything by mouth to an unconscious person.

### 4.2. Most important symptoms and effects, both acute and delayed
May cause an allergic skin reaction.

### 4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically.
Persons with pre-existing skin, eye, or respiratory disease may be at increased risk from the irritant or allergic properties of this material. Attending physician should treat exposed patients symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media
**Suitable extinguishing media** CO2, dry chemical, dry sand, foam.
**Unsuitable extinguishing media** Do not use straight streams.

### 5.2. Special hazards arising from the substance or mixture
Thermal decomposition can lead to release of irritating and toxic gases and vapors, such as carbon oxides, sulfur oxides, nitrogen oxides, hydrogen cyanide, zinc oxides.

### 5.3. Advice for firefighters
Do not stay in dangerous zone without self-contained breathing apparatus.
In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing. Do not allow run-off from fire-fighting to enter drains or water course.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures
Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Remove all sources of ignition. Do not touch or walk through spilled material. Avoid contact with skin, eyes or clothing. Avoid generation of dust. Avoid breathing dust/fume/gas/mist/vapors/spray. Use personal protection recommended in Section 8.

### 6.2. Environmental precautions
Local authorities should be advised if significant spillages cannot be contained. Prevent entry into waterways, sewers, basements or confined areas.

### 6.3. Methods and material for containment and cleaning up
Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

### 6.4. Reference to other sections
See Section 7 for more information
See section 8 for more information
See section 13 for more information

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation, especially in confined areas. Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. Take precautionary measures against static discharges. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Use personal protection recommended in Section 8.

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

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat. Store away from strong oxidizing materials. Avoid exposure to direct sunlight. Keep locked up and out of reach of children. Keep away from food, drink and animal feeding stuffs. Store in accordance with local regulations.

### 7.3. Specific end use(s)

Apart from the uses mentioned in SECTION 1.2 no other specific uses are stipulated.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

**Exposure Limits**

N-cyclohexylbenzothiazole-2-sulphenamide(CAS # 95-33-0):
WEL-TWA: 4 mg/m$^3$ (respirable dust);
OES-TWA: 10.0 mg/m$^3$ (inhalable dust); 4.0 mg/m$^3$ (respirable dust);
OSHA PEL/8Hr-TWA: 15 mg/m$^3$ (Total Dust);
OSHA PEL/8-Hr TWA: 5 mg/m$^3$ (Respirable Dust);
ACGIH TLV/8-Hr TWA: 10 mg/m$^3$.

**Derived No Effect Level (DNEL)**

**Workers**

Inhalation, Systemic effects, Long term: 11 mg/m³
Inhalation, Local effects, Long term: 11 mg/m³
Dermal, Systemic effects, Long term: 67 mg/kg bw/day

**General Population**

Inhalation, Systemic effects, Long term: 2.8 mg/m³
Inhalation, Systemic effects, Acute/short term exposure: 2.8 mg/m³
Inhalation, Local effects, Long term: 2.8 mg/m³
Dermal, Systemic effects, Long term: 33 mg/kg bw/day
Dermal, Systemic effects, Acute/short term exposure: 266 mg/kg bw/day
Oral, Systemic effects, Long term: 0.8 mg/kg bw/day
Oral, Systemic effects, Acute/short term exposure: 6.4 mg/kg bw/day

**Predicted No Effect Concentration (PNEC)**

PNEC aqua (freshwater): 0.001 mg/L
PNEC aqua (marine water): 0.0001 mg/L
PNEC STP: 100 mg/L
PNEC sediment (freshwater): 0.308 mg/kg sediment dw
PNEC sediment (marine water): 0.0308 mg/kg sediment dw
PNEC soil: 0.061 mg/kg soil dw
PNEC oral: 26.4 mg/kg food

### 8.2. Exposure controls

**Engineering Controls**

Ensure adequate ventilation, especially in confined areas. Showers. Eyewash stations. Remove all sources of ignition.

**Personal protective equipment**

| | |
|---|---|
| Eye/face protection | Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Recommended: safety glasses with side-shields. |
| Hand Protection | Based on the task being performed and the risks involved approved chemical-resistant, impervious gloves should be worn if a risk assessment indicates this is necessary. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations.<br>Suitable materials for this product are: PVC, nitrile rubber or Polychloroprene - CR.<br>The breakthrough time for the mentioned materials is approx. one hour.<br>Use hygiene measures as supporting or in case wearing of gloves may not be possible immediately. |
| Skin and body protection | Suitable protective clothing. |
| Respiratory protection | When no local exhaust ventilation is available, use a properly fitted, air-purifying or air-fed respirator complying with an approved standard. |
| Thermal hazards | No information available. |

**Environmental exposure controls**

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties

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

| | |
|---|---|
| **Physical state** | Solid, powder or granule |
| **Color** | gray white |
| **Odor** | Slight odor |
| **Odor Threshold** | Not determined |
| **pH** | Not determined |
| **Melting point/freezing point** | 94 - 102 °C (Kirk-Othmer, 2000) |
| **Boiling point/boiling range** | Decomposition starting at 145 °C (Bayer AG, 1997) |
| **Flammability** | Not flammable |
| **Explosive limits** | Not applicable |
| **Flash point** | Not applicable |
| **Auto-ignition temperature** | Not applicable |
| **Decomposition temperature** | 145°C |
| **Viscosity, kinematic** | Not applicable |
| **Solubility** | Water: 0.32 mg/l at 21 °C and pH 7(Monsanto, 1980) |
| **Partition coefficient n-octanol/water (LogPow)** | 5 at 25°C |
| **Vapor Pressure** | < 4.53*10-7 hPa (25°C) (Monsanto, 1980) |
| **Density/relative density** | 1.29 (20 °C) (Bayer AG, 1997) |
| **Relative Vapor density** | Not applicable |
| **Particle characteristics** | D50 = 27 µm |
| **Explosive properties** | Non explosive |
| **Oxidizing properties** | Non oxidising |

**9.2. Other information**

**Information with regard to physical hazard classes**

No data available

**Other safety characteristics**

No information available

## SECTION 10: Stability and reactivity

**10.1. Reactivity**
Stable under normal conditions.

**10.2. Chemical stability**
Stable under recommended storage and handling conditions (see section 7).

**10.3. Possibility of hazardous reactions**
None under normal processing. Under normal conditions of storage and use, hazardous polymerization will not occur.

**10.4. Conditions to avoid**
Heat, flames and sparks. Incompatible materials.

**10.5. Incompatible materials**
Reducing materials, acids, mercaptobenzothiazole and cyclohexylamine.

**10.6. Hazardous decomposition products**
Carbon oxides, sulfur oxides, nitrogen oxides, ammonia, hydrogen cyanide.

## SECTION 11: Toxicological information

**11.1.Information on hazard classes as defined in Regulation (EC) No 1272/2008**

**Acute toxicity**
Not classified.

| N-Cyclohexyl-2-benzothiazole sulfenamide (CAS #: 95-33-0) | |
|---|---|
| LD50 oral rat | 5300 mg/kg |
| LD50 dermal rabbit | > 7940 mg/kg |

**Skin corrosion/irritation**
Not classified.

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

**Sensitization**
May cause an allergic skin reaction, mouse, guinea pig.

**Germ cell mutagenicity**
Negative. Not classified.

**Carcinogenicity**
This product or one of its ingredients present 0.1% or more is NOT listed as a carcinogen or suspected carcinogen by NTP, IARC, or OSHA. Negative in standard tests using bacteria and yeast cells.

**Reproductive toxicity**
Not classified.

| N-Cyclohexyl-2-benzothiazole sulfenamide (CAS #: 95-33-0) | |
|---|---|
| LOAEL (animal/male, F0/P) | 800 mg/kg bw, rat |
| NOAEL (animal/male, F0/P) | 250 mg/kg bw, rat |
| NOAEL (animal/female, F0/P) | 800 mg/kg bw, rat |

**STOT - single exposure**
Not classified.

**STOT - repeated exposure**
Not classified.

| N-Cyclohexyl-2-benzothiazole sulfenamide (CAS #: 95-33-0) | |
|---|---|
| LOAEL (oral, rat, 90 days) | 250 mg/kg bw, rat |
| NOAEL (oral, rat, 90 days) | 80 mg/kg bw, rat |
| NOAEL (dermal, rat/rabbit, 90 days) | 2000 mg/kg bw, rat |

**Aspiration hazard**
Not classified.

### 11.2. Information on other hazards

**Endocrine disrupting properties**
The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is 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

**Other information**
No information available.

## SECTION 12: Ecological information

### 12.1. Toxicity

Very toxic to aquatic life with long lasting effects.

| N-Cyclohexyl-2-benzothiazole sulfenamide (CAS #: 95-33-0) | |
|---|---|
| LC50 96h - Fish | 2.1 mg/l Oryzias latipes |
| EC50 48h - Crustacea | 0.79 mg/l Daphnia magna |
| EC50 72h - Algae | 0.15 mg/l Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |
| NOEC chronic Crustacea | 0.058 mg/l Daphnia magna |
| NOEC chronic fish | 0.041 mg/l Oncorhynchus mykiss (previous name: Salmo gairdneri) |
| NOEC chronic algae | 0.0084 mg/l Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |

### 12.2. Persistence and degradability

Degradation: 0%, 28 days.
Not readily biodegradable.

### 12.3. Bioaccumulative potential

| N-Cyclohexyl-2-benzothiazole sulfenamide (CAS #: 95-33-0) | |
|---|---|
| Bioconcentration factor (BCF) | 924.9 L/kg |
| Partition coefficient n-octanol/water (Log Pow) | 5 @ 25 °C and pH 7 |

### 12.4. Mobility in soil

| N-Cyclohexyl-2-benzothiazole sulfenamide(CAS #: 95-33-0) | |
|---|---|
| Log Koc | 3.56 |

### 12.5. Results of PBT and vPvB assessment

The components are not considered to be persistent, bioaccumulating nor toxic (PBT) and very persistent nor very bioaccumulating (vPvB).

### 12.6. Endocrine disrupting properties

The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is 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

**12.7. Other adverse effects**

No information available

## SECTION 13: Disposal considerations

**13.1. Waste treatment methods**

| | |
|---|---|
| Waste from residues/unused products | Disposal should be in accordance with applicable regional, national and local laws and regulations. |
| Contaminated packaging | Disposal should be in accordance with applicable regional, national and local laws and regulations. |

## SECTION 14: Transport information

| | |
|---|---|
| **14.1 UN number or ID number** | 3077 |
| **14.2. UN proper shipping name** | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (N-Cyclohexyl-2-benzothiazole sulfenamide) |
| **14.3. Transport hazard class(es)** | 9 |
| **14.4. Packing group** | Ⅲ |
| **14.5. Environmental hazards** | Marine pollutant |
| **14.6. Special precautions for user** | No information available |
| **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**

**EU-Regulations**

No REACH Annex XVII restrictions
Not on the REACH Candidate List
Not on the REACH Annex XIV List
Not 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.
Not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

**National regulations**

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian DSL (Domestic Substances List)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

**Germany**
Water hazard class (WGK) WGK 2, Significantly hazardous to water (Classification according to AwSV)

### 15.2. Chemical safety assessment
A chemical safety assessment has been carried out

## SECTION 16: Other information
**This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

| | |
|---|---|
| **Data sources** | LOLI, ECHA |
| **Issue Date** | 22-June-2018 |
| **Revision date** | 08-July-2024 |

**Key or legend to abbreviations and acronyms used in the safety data sheet**
**TWA** - TWA (time-weighted average)
**STEL** - STEL (Short Term Exposure Limit)
**Ceiling** - Maximum limit value
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AICS** - Australian Inventory of Chemical Substances

**Full text of H-Statements referred to under section 3**
H317 - May cause an allergic skin reaction
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

**Disclaimer**
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text.

-------- End of Safety Data Sheet --------