



**Kemai(Tianjin) Chemical Technical Co.,Ltd.**

Gongnong Village, Gulin Street, Dagang Dist, Tianjin 300272, China

**Kemai**

Tel: 022-24373333 022-24370313 Fax: 022-24379994

## Material Safety Data Sheet

Revision Date: 08/20/2011

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According to Regulation (EC) No. 1907/2006

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: CBS

MSDS NO. KEMAI003

Chemical Name: N-Cyclohexyl-2-benzothiazolesulfenamide

Synonyms: Perkacit CBS; Santocure, CBS; 2-Benzothiazolesulfenamide, N-cyclohexyl-

Use: Accelerator.

Manufactured By: Kemai(Tianjin) Chemical Technical Co.,Ltd.

Emergency Telephone: CHEMTREC: 0086-22-6334-9929 FAX 0086-22-6334-9991

Prepared By: Kemai(Tianjin) Chemical Technical Co.,Ltd.

Phone 0086-22-6334-9929 FAX 0086-22-6334-9991

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

This product is to be considered as a substance in conformance to EC directives.

Information on hazardous ingredients

Chemical description: N-Cyclohexyl-2-benzothiazolesulfenamide

Composition/ information on ingredients

Number	% w/w	CAS-number	Chemical name
1	97.5	95-33-0	N-Cyclohexylbenzothiazole-2-sulfenamide
Number	EC-number	Annex-1 number	Symbol(s) (EU Risk-phrase (s) classification )
1	202-411-2	613-136-00-6	Xi N R43 R50/ 53

Other information:

Formula: C<sub>13</sub>H<sub>16</sub>N<sub>2</sub>S<sub>2</sub>

### 3. HAZARDS IDENTIFICATION

May cause sensitization by skin contact.

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 4. FIRST AID MEASURES

Symptoms and effects:

Dust may be irritating to the respiratory tract and cause symptoms of bronchitis. Repeated contact may cause skin sensitization.

First aid

General: In all cases of doubt, or when symptoms persist, seek medical attention.

Inhalation: Move to fresh air. If symptoms persist, seek medical advice.

Skin: Remove all contaminated clothing immediately. Wash off with plenty of soap and water. Seek medical advice if irritation develops. Launder clothes before reuse.



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Eye: Rinse thoroughly with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical advice if irritation develops.

Ingestion: Rinse mouth, give water to drink.

Advice to physician: No specific recommendations.

## 5. FIRE FIGHTING MEASURES

Extinguishing media: waterspray, water mist, foam, dry chemical powder, CO<sub>2</sub>,

Unsuitable extinguishing media: waterjet.

Special exposure hazards: Emits toxic fumes under fire conditions

Hazardous decomposition/combustion products:

Carbon monoxide (CO), Sulfur oxides (SO<sub>x</sub>), nitrous gases (NO<sub>x</sub>)

Protective equipment: Wear self contained breathing apparatus

Other information: Do not allow run-off from fire fighting to enter drains or water courses

## 6. ACCIDENTAL RELEASE MEASURES

Personal precautions: For personal protection see Section 8. Avoid dust generation.

Environmental precautions: Avoid discharge in to environment

Methods for cleaning up: Collect as much as possible in a clean container for (preferable) reuse or disposal.

## 7. HANDLING AND STORAGE

**Handling:** Avoid contact with skin. Avoid dust generation. Take precautionary measures against static discharges.

**Fire and explosion prevention:** Dust/air mixtures may ignite violently upon exposure to sparks or sources of ignition. Dust explosion class (VDI 2263): St 2. Kst: 169-237 bar. m/s

**Storage requirement:** Store in a dry and cool place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: Avoid Dust generation. Ensure good ventilation and local exhaustion of working area.

Name: N-Cyclohexylbenzothiazole-2-sulfenamide

Exposure limits: WEL(TWA): 4mg/m<sup>3</sup> (respirable dust)

OES-TWA 10.0 mg/m<sup>3</sup> inhalable dust

OES-TWA 4mg/m<sup>3</sup> (respirable dust)

Personal protection Respiratory: Avoid breathing dust. In case of insufficient ventilation, wear suitable respiratory equipment.

Hand: Wear suitable gloves.

Eye: Wear safety goggles.

Skin and body: Wear suitable protective clothing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Dedusted powder; powder; granules.



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Colour:	cream
Odour:	slightly amine like
Boiling point/range:	not relevant
Melting point/range:	103°C
Flash point:	177°C
Flammability:	Not determined
Autoignition temperature:	360°C
Explosive properties:	Dust explosion hazard
Explosion limits	Lower Explosion Limit (LEL): 10-20 g/m <sup>3</sup> Minimum ignition energy (MIE): =<3mJ.
Limiting oxygen concentration (LOC):	9.0 V%O <sub>2</sub>
Oxidising properties:	not applicable
Vapour pressure	negligible (20 °C)
Density:	1300 kg/ m <sup>3</sup> (20 °C)
Bulk Density:	455-495 kg/ m <sup>3</sup>
Solubility in Water:	0.00032 kg/ m <sup>3</sup> (pH 7, 21 °C)
Solubility in other solvents:	in most organic solvents
pH value:	not determined
Partition coefficient n-octanol/water:	4.93
Relative vapour density(air=1)	not applicable
Viscosity	not applicable

### 10. STABILITY AND REACTIVITY

Stability: Stable under recommended storage and handling conditions (see section 7).

Conditions to avoid: Heating >100 °C : May catch fire

Material to avoid: No specific recommendations

Hazardous decomposition Products: Thermal decomposition products:  
Carbon monoxide (CO), nitrous gases (NO<sub>x</sub>), Sulfur oxides (SO<sub>x</sub>)

### 11. TOXICOLOGICAL INFORMATION

Name: N-Cyclohexylbenzothiazole-2-sulfenzamide

Acute toxicity:

Oral LD50 rat: 5300 mg/kg

Dermal LD50 rabbit: 7940 mg/kg

Irritation:

Skin: Slightly irritating to skin but not sufficient for classification.

Eye: Slightly irritation to eye but not sufficient for classification.

Sensitization: Patch testing (Human experience): May cause sensitization in susceptible individuals.

### 12. ECOLOGICAL INFORMATION

Name: N-Cyclohexylbenzothiazole-2-sulfenzamide



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Ecotoxicity

fish: 96h-LC50 (Lepomis macrochirus): 7.9mg/l  
96h-LC50 (Oncorhynchus mykiss): 5.4mg/l  
96h-LC50 (Pimephales promelas): >1000mg/l  
Daphnia: 48h- EC50 (Daphnia magna): 18mg/l  
Algae Fate: 96h-IC50 (Selenastrum capricornutum): 1.1mg/l  
Degradation Biotic: Not readily biodegradable.

### 13. DISPOSAL CONSIDERATIONS

Product: Avoid discharge into the environment.  
Small quantities: According to local regulations.  
Large quantities: Consult Flexsys for special advice.  
Contaminated packing: According to local regulations.  
Other information: Waste code number: Please refer to our specific industry in the European Waste Catalogue.

### 14. TRANSPORT INFORMATION

Land transport:

ARD class	9		
RID class	9	ARD/RID packing group	III
Hazard Identification No.	90	Substance Identification No.	3077
TREM-Card	3077912c01	UN number	3077
Proper Shipping Name	Environmentally hazardous substance, solid, n.o.s.(N-cyclohexyl-2-benzothiazolesulfenamide) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(N-Cyclohexylbenzothiazole-2-sulfenamide)		

Sea transport (IMDG- code/IMO)

IMO/IMDG code		Class	9
Packing group	III	UN number	3077
EMS	F-A, S-F	Subsidiary Risk	
Marine pollutant	no		
Proper Shipping Name:	Environmentally hazardous substance, solid, n.o.s. (N-cyclohexyl-2-benzothiazolesulfenamide)		

Air transport (ICAO-TI/IATA-DGR)

ICAO-TI/IATA-DGR		UN number	3077
Class	9	Packing group	III
Proper Shipping Name	Environmentally hazardous substance, solid, n.o.s. (N-cyclohexyl-2-benzothiazolesulfenamide)		

### 15. REGULATORY INFORMATION

Chemical description: N-cyclohexyl-2-benzothiazolesulfenamid  
Labelling according to EC directives

