

**MATERIAL SAFETY DATA SHEET**  
According to EC-directive 93/112/EC  
**TRICONI CBS**

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**

**Product label name** N-Cyclohexyl-2-benzothiazolesulfenamamide  
**Supplier** Trigonal Concourse Inc.  
4F, Golden Plaza,  
20 Hongkong Middle Road, Qingdao 266071,  
China  
Tel/Fax: +86 532 85760953  
Email: info@triconi.com  
Http://www.triconi.com

**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-benzothiazolesulfenamamide  
**Composition / information on ingredients**

Number	% w/w	CAS-number	Chemical name
1	97.5	95-33-0	N-Cyclohexyl-2-benzothiazolesulfenamamide
2	1.0-2.0	8042-47-5	White mineral oil (petroleum)

Number	EC-number	Annex-1 number	Symbol(s)	Risk-phrase(s)
1	202-411-2	613-136-00-6	XiN	R43 R50/53
2	232-455-8		none	none

**Other information** Formula: C13H16N2S2.

**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.

**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, CO2  
**Unsuitable extinguishing media** waterjet.  
**Special exposure hazards** Emits toxic fumes under fire conditions.  
**Hazardous decomposition/ combustion products** carbon monoxide (CO), Sulfur oxides (SOx), nitrous gases (NOx).  
**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 into the environment.  
**Methods for cleaning up** Collect as much as possible in a clean container for (preferable) reuse or disposal.

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**7. HANDLING AND STORAGE**

<b>Handling</b>	Avoid contact with skin. Avoid dust generation. Take precautionary measures against static discharges.
<b>Fire and explosion prevention</b>	Dust/air mixtures may ignite violently upon exposure to sparks or sources of ignition. Dust explosion class (VDI 2263): St 2. Kst: 245 - 258 bar.m/s. Maximum rate of pressure rise: 449 - 904 bar/s. Maximum corrected explosion pressure: 7,4 - 8.8 bar.
<b>Storage requirements</b>	Store in a dry and cool place.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

<b>Engineering controls</b>	Avoid dust generation. Ensure good ventilation and local exhaustion of the working area.
<b>Exposure limits</b>	
<b>Name</b>	
<b>N-Cyclohexyl-2-benzothiazolesulf enamide</b>	OES-TWA 5.0 mg/m <sup>3</sup> (Respirable dust)
<b>Personal protection</b>	
<b>Respiratory</b>	Avoid breathing dust. In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Hand</b>	Wear suitable gloves.
<b>Eye</b>	Wear safety goggles.
<b>Skin and body</b>	Wear suitable protective clothing.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	Dust suppressed powder;
<b>Colour</b>	Grayish-white
<b>Odour</b>	slightly amine like
<b>Boiling point/range</b>	not relevant
<b>Melting point/range</b>	98 °C
<b>Flash point</b>	177 °C
<b>Flammability</b>	not determined
<b>Autoignition temperature</b>	360 °C
<b>Explosive properties</b>	dust explosion hazard
<b>Explosion limits</b>	Lower Explosion Limit (LEL): 10 g/m <sup>3</sup> . Minimum ignition energy (MIE): < 10 mJ. Limiting oxygen concentration (LOC): 9.0 V% O <sub>2</sub> .
<b>Oxidizing properties</b>	not applicable
<b>Vapour pressure</b>	negligible ( 20 °C )
<b>Density</b>	1300 kg/m <sup>3</sup> ( 20 °C )
<b>Bulk density</b>	455-495 kg/m <sup>3</sup>
<b>Solubility in water</b>	0.00032 kg/m <sup>3</sup> ( pH 7, 21 °C )
<b>Solubility in other solvents</b>	in most organic solvents
<b>pH value</b>	not determined
<b>Partition coefficient n-octanol/water</b>	4.93
<b>Relative vapour density (air=1)</b>	not applicable
<b>Viscosity</b>	not applicable

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**10. STABILITY AND REACTIVITY**

<b>Stability</b>	Stable under recommended storage and handling conditions (see section 7).
<b>Conditions to avoid</b>	Heating > 100 °C: May catch fire.
<b>Materials to avoid</b>	No specific recommendations.
<b>Hazardous decomposition products</b>	Thermal decomposition products: carbon monoxide (CO), nitrous gases (NOx), Sulfur oxides (SOx).

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### 11. TOXICOLOGICAL INFORMATION

<b>Name</b>	N-Cyclohexyl-2-benzothiazolesulfenamide
<b>Acute toxicity</b>	
<b>Oral LD50</b>	rat: 5300 mg/kg.
<b>Dermal LD50</b>	rabbit: 7940 mg/kg.
<b>Irritation</b>	
<b>Skin</b>	Slightly irritating to skin but not sufficient for classification.
<b>Eye</b>	Slightly irritating to eyes but not sufficient for classification.
<b>Sensitization</b>	Patch testing ( Human experience ): May cause sensitization in susceptible individuals.

### 12. ECOLOGICAL INFORMATION

<b>Name</b>	N-Cyclohexyl-2-benzothiazolesulfenamide
<b>Ecotoxicity</b>	
<b>fish</b>	96h-LC50 ( Lepomis macrochirus ): 7.9 mg/l. 96h-LC50 ( Oncorhynchus mykiss ): 5.4 mg/l. 96h-LC50 ( Pimephales promelas ): > 1000 mg/l.
<b>daphnia</b>	48h-EC50 ( Daphnia magna ): 18 mg/l.
<b>algae</b>	96h-IC50 ( Selenastrum capricornutum ): 1.1 mg/l.
<b>Fate</b>	
<b>Degradation Biotic</b>	Not readily biodegradable.

### 13. DISPOSAL CONSIDERATIONS

<b>Product</b>	Avoid discharge into the environment. Small quantities: According to local regulations. Large quantities: Consult QRC for special advice.
<b>Contaminated packaging</b>	According to local regulations.
<b>Other information</b>	Waste code number: Please refer to your specific industry in the European Waste Catalogue.

### 14. TRANSPORT INFORMATION

#### Land transport (ADR/RID)

<b>ADR class</b>	9	<b>ADR item number</b>	12 c)
<b>RID class</b>	9	<b>RID item number</b>	12 c)
<b>Hazard Identification No.</b>	90	<b>Substance Identification No.</b>	3077
<b>TREM-Card</b>	3077912c01	<b>UN number</b>	none
<b>Proper shipping name</b>	Environmentally hazardous substance, solid, n.o.s. (N-cyclohexyl-2-benzothiazolesulfenamide ) Environmentally hazardous substance, solid, n.o.s. (N-Cyclohexyl-2-benzothiazolesulfenamide )		

#### Sea transport (IMDG-code/ IMO)

<b>IMO/IMDG code</b>	not restricted	<b>Class</b>	not restricted
<b>Packing group</b>	not relevant	<b>UN number</b>	none
<b>EMS</b>	not relevant	<b>MFAG</b>	no
<b>Proper shipping name</b>	not relevant		

#### Air transport (ICAO-TI/ IATA-DGR)

<b>ICAO-TI/IATA-DGR</b>		<b>UN number</b>	none
<b>Class</b>	not restricted	<b>Packing group</b>	not relevant
<b>Proper shipping name</b>	not relevant		

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### 15. REGULATORY INFORMATION

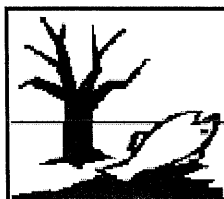
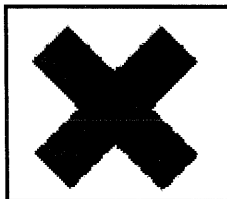
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**Chemical description** N-Cyclohexyl-2-benzothiazolesulfenamide

Labelling according to EC directives

**EC-number** See section 2

**Classification based on** Annex-1 to directive 67/548/EEC



**Symbol(s)**

IRRITANT (Xi)

DANGEROUS FOR THE ENVIRONMENT (N)

**R(isk) phrase(s)**

R 43 May cause sensitization by skin contact

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

**S(afety) phrase(s)**

S 24 Avoid contact with skin

S 37 Wear suitable gloves

S 60 This material and its container must be disposed of as hazardous waste

S 61 Avoid release to the environment. Refer to special instructions/Safety data sheets

**Other information**

To be displayed on the label: "EC label".

**Wassergefährdungsklasse (WGK)**

2 ( VwVwS Anhang 3 )

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### 16. OTHER INFORMATION

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This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or in any process. The information is to our best present knowledge correct and complete and is given in good faith but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.