

MATERIAL SAFETY DATA SHEET

According to EC-directive 93/112/EC

LINKWELL NOBS

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

Product label name N-Oxydienthylene-2-benzothiazole sulfenamide
Supplier Linkwell Rubber Chemicals (Qingdao) Co., Ltd.
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52 Hongkong Middle Road, Qingdao 266071,
China
Tel: +86 532 85786642
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Http://www.rubberchem.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-Oxydienthylene-2-benzothiazole sulfenamide

Composition / information on ingredients

Number	% w/w	CAS-number	Chemical name
1	98	102-77-2	N-Oxydienthylene-2-benzothiazole sulfenamide

Number	EC-number	Annex-1 number	Symbol(s)	Risk-phrase(s)
1	203-052-4	613-113-00-0	N Xi	R36/38 R43 R51/53

Other information Formula: C₁₁H₁₂N₂O₂S₂.

3. HAZARDS IDENTIFICATION

Irritating to eyes and skin.

May cause sensitization by skin contact.

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
Inhalation
Skin

In all cases of doubt, or when symptoms persist, seek medical attention. Move to fresh air. If symptoms persist, seek medical advice. 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/ carbon monoxide (CO), Sulfur oxides (SO_x), nitrous gases (NO_x).

combustion products

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.

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

Handling	Avoid contact with eyes. Avoid contact with skin. Avoid dust generation.
Fire and explosion prevention	Take precautionary measures against static discharges. Avoid dust accumulation. Dust/air mixtures may ignite violently upon exposure to sparks or sources of ignition. Kst: 169 bar.m/s. Maximum corrected explosion pressure: 8.1 bar.
Storage requirements	Store in a dry and cool place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls	Avoid dust generation. Ensure good ventilation and local exhaustion of the working area.
Exposure limits	
Name	N-Oxydiethylene-2-benzothiazole sulfenamide OES-TWA 5.0 mg/m ³ (Respirable dust)
Personal protection	
Respiratory	Avoid breathing dust. In case of dust formation use dust mask.
Hand	Wear suitable gloves.
Eye	Wear safety goggles.
Skin and body	Wear suitable protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Grain
Colour	Yellow
Odour	characteristic
Boiling point/range	not relevant
Melting point/range	78 °C
Flash point	approx. 176 °C (open cup)
Flammability	solid substance: not (in)flammable.
Autoignition temperature	380 °C
Explosive properties	dust explosion hazard
Explosion limits	Lower Explosion Limit (LEL): 20 g/m ³ . Minimum ignition energy (MIE): < 3 mJ.
Oxidizing properties	not applicable
Vapour pressure	Negligible at room temperatures
Density	1340 kg/m ³ (20 °C)
Bulk density	560-600 kg/m ³
Solubility in water	Practically insoluble
Solubility in other solvents	in most organic solvents
pH value	not determined
Partition coefficient	3.49 (25 °C)
n-octanol/water	
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 > 130 °C
Materials to avoid	Nitrosating agents
Hazardous decomposition products	Thermal decomposition products: carbon monoxide (CO), nitrous gases (NOx), Sulfur oxides (SOx). Morpholine (Harmful by inhalation, in contact with skin and if swallowed, Corrosive)

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11. TOXICOLOGICAL INFORMATION

Name	N-Oxydienthylene-2-benzothiazole sulfenamide
Acute toxicity	
Oral LD50	rat: 7940 mg/kg.
Dermal LD50	rabbit: 7940 mg/kg.
Irritation	
Skin	Slightly irritating to skin but not sufficient for classification.
Eye	Slightly irritating to eyes but not sufficient for classification.
Sensitization	Patch testing (Human experience): Sensitizing (skin).

12. ECOLOGICAL INFORMATION

Name	N-Oxydienthylene-2-benzothiazole sulfenamide
Ecotoxicity	
fish	96h-LC50 (Lepomis macrochirus): 4.4 mg/l. 96h-LC50 (Oncorhynchus mykiss): 1.3 mg/l. 96h-LC50 (Pimephales promelas): 3.5 mg/l.
daphnia	48h-EC50 (Daphnia magna): 4.0 mg/l.
algae	96h-IC50 (Selenastrum capricornutum): 2.0 mg/l.
Fate	

13. DISPOSAL CONSIDERATIONS

Product	Avoid discharge into the environment. Small quantities: According to local regulations. Large quantities: Consult QRC for special advice.
Contaminated packaging	According to local regulations.

14. TRANSPORT INFORMATION

Land transport (ADR/ RID)

ADR class	9	ADR item number	12c
RID class	9	RID item number	12c
Hazard Identification No.	90	Substance Identification No.	3077
TREM-Card	CEFIC TEC(R)- 90G02 MFG PRO no. 3077912c01	UN number	3077

Proper shipping name	Environmentally hazardous substance, solid, n.o.s. (N-Oxydienthylene-2-benzothiazole sulfenamide) Environmentally hazardous substance, solid, n.o.s. (N-Oxydienthylene-2-benzothiazole sulfenamide)
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Sea transport (IMDG-code/ IMO)

IMO/IMDG code	not relevant	Class	not restricted
Packing group	not relevant	UN number	none
EMS	none	MFAG	none
Marine pollutant	no		
Proper shipping name	no		

Air transport (ICAO-TI/ IATA-DGR)

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

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RUBACE NOBS

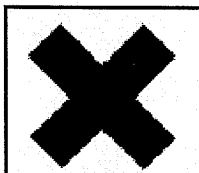
15. REGULATORY INFORMATION

Chemical description N-Oxydiethylene-2-benzothiazole sulfenamide

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 36/38 Irritating to eyes and skin

R 43 May cause sensitization by skin contact

R 51/53 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 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

S 37 Wear suitable gloves

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

Other information

Wassergefährdungsklasse (WGK)

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

2 (VwVwS Anhang 3)

16. OTHER INFORMATION

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.