



# MATERIAL SAFETY DATA SHEET

## DCBS (DZ) N,N'-DICYCLOHEXYL-2-BENZOTHAZOLE SULFONAMIDE

### SECTION 1: IDENTIFICATION

**Product Identifier** : Accelerator DCBS(DZ)  
**Chemical Name** : N,N-dicyclohexylbenzothiazole-2-sulphenamide

### SECTION 2: PHYSICAL DESCRIPTION/PROPERTIES

Chemical name	CAS NO.	Formula	PerConcentration (%) w/wcent
N,N-dicyclohexylbenzothiazole-2-sulphenamide	4979-32-2	C <sub>19</sub> H <sub>26</sub> N <sub>2</sub> S <sub>2</sub>	≥ 97.5

### SECTION 3: HAZARD IDENTIFICATION

#### GHS Classification of the substance or mixture:

**Physical hazards** : Not classified  
**Health hazards** : Sensitization - skin  
**Environmental hazards** : Not classified  
**GHS label elements** : NONE  
**Hazard Pictograms** :



#### Precautionary statement(s):

**Prevention** : Avoid breathing dust/fume/gas/mist/vapours/spray. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment.

**Response** : IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical help. Take off contaminated clothing and wash it before reuse.

**Storage** : Do not store above the following temperature: 50°C (122°F). Store in accordance with local regulations.

**Other hazards** : Not applicable.

### SECTION 4: FIRST-AID MEASURES

**Skin** : Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.



- Ingestion** : Wash out mouth with water. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Eyes** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation** : Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

## SECTION 5: FIRE FIGHTING MEASURES

- Extinguishing media** : In case of fire, use water spray (fog), foam, dry chemical or CO<sub>2</sub>.
- Unsuitable extinguishing media** : Never use water jet.
- Special exposure hazards** : No specific fire or explosion hazard. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. This material is very toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous decomposition/combustion products** : Carbon oxides, nitrogen oxides, sulfur oxides.
- Protective equipment** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Other information:**



## SECTION 6: ACCIDENTAL RELEASE MEASURES

### **Personal precautions, protective equipment and emergency procedures:**

**For non-emergency personnel:** Use proper personal protective equipment as indicated in Section 8. Avoid breathing vapors, mist or gas. Avoid contact with eyes. Wear protective equipment.

**For emergency responders:** No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Provide adequate ventilation. Put on appropriate personal protective equipment. Environmental precautions: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### **Methods and materials for containment and cleaning up:**

Large spill: Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor. Small spill: Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.

## SECTION 7: HANDLING AND STORAGE

### **Storage:**

Do not store above the following temperature: 50°C (122°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Packaging materials: Recommended: Use original container.

Remarks: Avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges.

**Stability in storage:** Six Months

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters:** Not available

**Appropriate engineering controls:** Avoid dust generation. Ensure good ventilation and local exhaustion of the working area.

**Individual protection measures, such as personal protective equipment (PPE):**

**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: Tightly fitting safety goggles.



**Skin/Hand protection:** Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products 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 <1 hours (breakthrough time): Nitrile rubber -NBR , Polyvinyl chloride - PVC , Polychloroprene – CR.

**Respiratory protection:** Wear suitable respiratory protective equipment.

**Thermal protection:** Wear protective clothes if necessary.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Basic physical and chemical properties

**Physical state**

: Solid, powder or small granules

**Colour**

: White

**Odour**

: Not available

**Odor threshold**

: Not available

**Melting point**

: The melting point of DCBS is 90 - 102°C (Kirk-Othmer, 2000).

**Boiling point or initial boiling point and boiling range**

: DCBS was decomposed at 300°C at 1013 hPa (MITI, 1994).

**Flammability(gases, liquids and solids)**

: DCBS is not readily combustible solid, no pyrophoric property, and no flammability in contact with water.

**Lower and upper flammability limit** : Not available

**Lower and upper explosion limit** : Not available

**Flash point** : Not available

**Auto-ignition temperature** : Not available

**Decomposition temperature** : Not available

**Viscosity, dynamic (mPa.s)** : Not available

**Explosive properties** : Not available

**Oxidising properties** : Not available

**Molecular Weight** : 346.553

**Dissociation constant in water(pKa)**

: pKa(HL/H+L) =1.45±0.30 and pKa(H2L/H+HL) = -3.74±0.20 at 25 °C

## SECTION 10:STABILITY AND REACTIVITY

**Chemical stability:** The product is stable when stored at room temperature in closed, original container. Stable under normal conditions of handing, use and transportation.

**Hazardous Polymerization:** Thermal decomposition products:carbon oxides, nitrogen oxides, sulfur oxides.

**Materials to avoid:** Acids.

**Hazardous products of decomposition:** Carbon oxides,nitrogen oxides,sulfur oxides

**SECTION 11: TOXICOLOGICAL INFORMATION****Acute toxicity:**

<b>LD50(Oral, Rat)</b>	: > 5000 mg/kg bw
<b>LD50(Dermal, Rabbit)</b>	: > 5000 mg/kg bw
<b>LC50(Inhalation, Rat)</b>	: Not available.
<b>Skin corrosion/Irritation</b>	: Not classified
<b>Serious eye damage/irritation</b>	: Not classified
<b>Respiratory or skin sensitization</b>	: May cause an allergic skin reaction.
<b>Germ cell mutagenicity</b>	: Not classified
<b>Carcinogenicity</b>	: Not classified
<b>Reproductive toxicity</b>	: Not classified
<b>STOT- single exposure</b>	: Not classified
<b>STOT-repeated exposure</b>	: Not classified
<b>Aspiration hazard</b>	: Not classified
<b>Other information</b>	: No further information.

**SECTION 12: ECOLOGICAL INFORMATION****Toxicity:****Acute:**

<b>LC50(fish, 96h)</b>	: >0.033 mg/L
<b>EC50(Crustacea, 48h)</b>	: >0.031 mg/L
<b>EC50(Algae/aquatic plants, 72h)</b>	: >0.012 mg/L

**Chronic:**

<b>NOEC(fish)</b>	: Not available
<b>NOEC(Crustacea)</b>	: 0.033 mg/L
<b>EC50(Algae/aquatic plants)</b>	: 0.012 mg/L
<b>Persistence and degradability</b>	: Not readily biodegradable
<b>Bioaccumulative potential</b>	: Highly bioaccumulative. BCF: 7310 dimensionless.

**Mobility in soil** : Not available

**Other adverse effects** : Not available

**SECTION 13: DISPOSAL CONSIDERATIONS**

**Waste treatment methods:** Dispose of in accordance with all applicable local and national regulations. Use recovery/recycling where feasible, otherwise incineration is the recommended method of disposal. Empty containers may contain hazardous residues. Do not cut, puncture or weld on or near to the container. Labels should not be removed from containers until they have been cleaned. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers.



#### SECTION 14: TRANSPORT INFORMATION

<b>DOT:DOT Status</b>	: Not Regulated
<b>DOT Shipping Name</b>	: None
<b>DOT Reportable Quantity (lbs)</b>	: None
<b>ICAO/IATA:Status</b>	: NOT REGULATED FOR TRANSPORTATION
<b>Proper Shipping Name</b>	: None
<b>UN/NA Number</b>	: None
<b>IMDG:Status</b>	: Not Regulated
<b>Proper Shipping Name</b>	: None
<b>TDG (Canada):Status</b>	: Not Regulated
<b>Proper Shipping Name</b>	: None

#### SECTION 15: REGULATORY INFORMATION

**Safety, health and environmental regulations/legislation specific for the substance or mixture:**

**Relevant information regarding authorization:** Not applicable.

**Relevant information regarding restriction:** Not applicable.

**Other EU regulations:** Employment restrictions concerning young person must be observed. For use only by technically qualified individuals.

**Other National regulations:** Not applicable.

#### SECTION 16: OTHER INFORMATION

**Abbreviations and acronyms:** ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation for rail International transportation of Dangerous goods

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.

IMDG: Code international maritime dangerous goods code

ICAO: International Civil Aviation Organization

IATA: International Air Transport Association

LC50: median lethal concentration

EC50: The effective concentration of substance that causes 50% of the maximum response

NOEC: No Observed Effect Concentration

DNEL: derived no-effect level

PNEC: predicted no-effect concentration

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