

MATERIAL SAFETY DATA SHEET

BENZOTHIAZOLE

CAS # 95-16-9

1. PRODUCT IDENTIFICATIONS

Product Name: BENZOTHIAZOLE

Chemical Formula: C₇H₅NS

CAS NO.: 95-16-9

Use: Rubber additives

2. COMPOSITION/INFORMATION ON INGREDIENTS

Components/CAS#	Percent
BENZOTHIAZOLE 95-16-9	99%
WATER 7732-18-5	1%

3. HAZARD IDENTIFICATION

Emergency Overview: Combustible; combustion produces toxic nitrogen oxides, sulfur oxides and cyanide fumes.

GHS Hazard Category:

Flammable liquids Category 2

Acute Toxicity - Inhalation Category 5

Serious eye damage/eye irritation Category 2A

Hazardous to the aquatic environment - acute hazard category 3

Label elements

Pictograms or hazard symbols



Signal word: Danger

Hazard Statements: H333 May be harmful if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

Precautionary Statements:

【Precautions】 P261 Avoid breathing dust/fume/gas/mist/vapor/spray.

P264 Clean skin thoroughly after operation.

P270 Do not eat, drink or smoke while using this product.

The P271 should only be used outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/goggles/gas masks.

【Incident response】 P303+P361+P353 If skin (or hair) contamination: Take off all contaminated clothing immediately. Wash skin/shower with water.

P304+P340 If inhaled, remove victim to fresh air and keep at rest in a position comfortable for

breathing.

P305+P351+ P338 In case of contact with eyes, rinse slowly and gently with water for several minutes.

If contact lenses are worn and easily removed, remove contact lenses and continue rinsing.

P312 If feeling unwell, call a poison control center or doctor.

P332+ P313 If skin irritation occurs: Get medical advice/attention.

P370+P378 In case of fire: use anti-solvent foam, dry powder, carbon dioxide and sand to extinguish the fire.

【Safe storage】 P403+P233 should be stored in a well-ventilated place. Keep container tightly closed.

【Disposal】 P501 Dispose of contents/container to an approved waste disposal plant.

Physical and chemical hazards: no information available

Health Hazards: Toxic if swallowed. Toxic in contact with skin. Causes serious eye irritation. Harmful if inhaled.

Environmental hazards: No information available

4. FIRST AID MEASURES

First Aid Inhalation: If inhaled, remove victim to fresh air.

Skin Contact: Remove contaminated clothing and rinse skin thoroughly with soap and water. If you feel unwell, seek medical attention.

Eye contact: Separate eyelids and rinse with running water or normal saline. Get medical attention immediately.

Ingestion: Rinse mouth, do not induce vomiting. Get medical attention immediately.

Advice for Protecting Rescuers: Move the patient to a safe location. Consult a doctor. Show this chemical safety data sheet to the doctor who comes to the scene.

Special Note to Physician: No information available.

5. FIRE FIGHTING MEASURES

Extinguishing agent:

Fight fire with water spray, dry chemical, foam or carbon dioxide.

Avoid using direct water to put out the fire, which may cause splashes of flammable liquids and spread the fire.

Specific hazards: No information available.

Fire fighting precautions and protective measures:

Firefighters must wear air-carrying respirators and full-body firefighting suits to put out the fire in the upwind direction. Move the container from the fire area to an open area as much as possible. Containers in fire must be evacuated immediately if they have discolored or emit sound from safety pressure relief devices. Isolate the accident scene and prohibit unrelated persons from entering. Contain and treat fire water to prevent environmental pollution.

6. ACCIDENTAL RELEASE MEASURES

Worker precautions, protective equipment and emergency procedures:

- It is recommended that emergency personnel wear positive pressure air-entrained respirators, anti-static clothing, and rubber oil-resistant gloves
- Do not touch or step over the spill.
- All equipment used during work should be grounded.
- Cut off the source of leakage as much as possible.

- Eliminate all ignition sources.
- Delineate a warning area according to the influence area of liquid flow, vapor or dust diffusion, and evacuate irrelevant personnel to the safe area from the crosswind and upwind directions.

Environmental protection measures: Prevent spilled chemicals from flowing into restricted spaces such as sewers and flood drains.

Methods for containment and removal of spilled chemicals and disposal materials used:

- Small amount of leakage: collect as much as possible in a sealable container, absorb with sand, activated carbon or other inert materials, and transfer to a safe place. Do not flush into sewers.
- Large amount of leakage: build embankments or dig pits for containment. Close the drain. Cover with foam to inhibit evaporation. Transfer it to a tanker or a special collector with an explosion-proof pump, and recycle it or transport it to a waste disposal site for disposal.

Precautions to prevent secondary hazards: Eliminate nearby sources of ignition. Prevent spills or waste from entering basements and other critical locations. Containment and removal tools and equipment shall be explosion-proof and non-sparking.

7.HANDLING AND STORAGE

Handling precautions:

- Operators must undergo special training and strictly abide by the operating procedures.
- Operation and disposal should be carried out in a place with local ventilation or general ventilation facilities.
- Avoid eye and skin contact and avoid breathing vapors.
- See Section 8 for personal protective measures.
- Keep away from fire and heat sources. Smoking is strictly prohibited in the workplace.
- Use explosion-proof ventilation systems and equipment.
- The flow rate should be controlled during filling, and there should be a grounding device to prevent the accumulation of static electricity.
- Avoid contact with incompatible substances such as oxidizing agents (see section 10 for incompatible substances).
- Handling is to be lightly loaded and unloaded to prevent damage to packaging and containers.
- Empty containers may be harmful residues.
- Wash hands after use and prohibit eating in the workplace.
- Equipped with corresponding varieties and quantities of fire fighting equipment and leakage emergency treatment equipment.

Storage Notes:

- Store in a cool, ventilated warehouse. The storage temperature should not exceed 37. °C
- It should be stored separately from oxidants and edible chemicals, and should not be stored together (see Section 10 for prohibited substances).
- Keep container tightly closed.
- Keep away from fire and heat sources
- The warehouse must be equipped with lightning protection equipment.
- The exhaust system should be equipped with a grounding device to remove static electricity.
- Use explosion-proof lighting and ventilation facilities.
- Prohibit the use of equipment and tools that are prone to sparks.
- The storage area should be equipped with emergency release facilities and suitable containment materials.

8.EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limit: China MAC(mg/m³): No standard set

TLV-TWA(mg/m³): 1000ppm

TLV-STEL (mg/m³): No data available

Biological Limits: No data available.

Monitoring method: phenol reagent colorimetry; gas chromatography

Engineering control method:

- It is recommended to separate the workplace from other workplaces.
- Airtight operation to prevent leakage.
- Improve ventilation.
- Set up automatic alarm devices and accident ventilation facilities.
- Set up emergency evacuation passages and necessary escape areas.
- Set up red area warning lines, warning signs and Chinese warning descriptions, and set up a communication alarm system.

Safety showers and eye wash facilities are provided.

Respiratory system protection: When the concentration in the air exceeds the standard, wear a filter gas mask (half mask). Emergency rescue or evacuation, it is recommended to wear air respirator.

Eye Protection: Wear chemical safety goggles. Wear chemical safety protective eyes.

Skin and body protection: Wear anti-static overalls. Wear poison-penetrating overalls.

Hand Protection: Wear rubber gloves. Wear rubber oil-resistant gloves.

Other protection: Smoking, eating and drinking are strictly prohibited at the work site. After work, shower and change. Practice good hygiene.

Monitoring method:

GBZ/T 160.1~GBZ/T 160.81-2004 Determination of Toxic Substances in Workplace Air (Series Standards), EN 14042 Workplace Air-Procedural Guidelines for Assessing Exposure to Chemical or Biological Agents

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state (20°C): Liquid

Form: Clear

Colour: Colorless - Slightly pale yellow

Odour: No data available

pH: No data available

Melting point/freezing point: 2°C

Boiling point/range: 231°C

Flash point: 107°C Flammability or explosive limits:

Lower: No data available

Upper: No data available

Vapour pressure: 4.5kPa/131°C

Vapour density: 4.66

Relative density: 1.25

Solubility(ies):

[Water] Very slightly soluble (4.3g/L)

[Other solvents] Soluble: Ether, Alcohols, Acetone

10. STABILITY AND REACTIVITY

Stability: stable

Hazards of Aggregation: No Aggregation

Hazardous reactions: No data available.

Conditions to avoid: electrostatic discharge, heat, humidity, etc.

Incompatible materials: strong oxides, strong acids, strong bases.

Hazardous decomposition products: No information available.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Oral: No information available

Inhalation: No information available

Transdermal: Not available

Skin irritation or corrosion: No information available

Eye irritation or corrosion: No information available

Respiratory or skin sensitization: No information available

Germ cell mutagenicity: No data available

Carcinogenicity: No information available

Reproductive toxicity: No information available

Specific target organ toxicity (single exposure): No information available

Specific target organ toxicity (repeated exposure): No information available

Aspiration Hazard: No information available.

Toxicokinetics, metabolism and distribution information: No information available

12. ECOLOGICAL INFORMATION

Expected behaviour of the chemical in the environment, possible environmental effects/ecotoxicity: no information available

Persistence and degradability: No information available

Bioaccumulative potential: no data available

Mobility in soil: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal method:

Recycle as much as possible.

If it cannot be recycled, it should be disposed of by incineration.

Do not dispose of this product by discharging into a sewer.

Contaminated packaging:

Return container to manufacturer or dispose of in accordance with national and local regulations.

Disposal Notes:

Please refer to relevant national and local regulations before disposal.

See Section 8 for safety precautions for handling personnel.

14. TRANSPORT INFORMATION

UN Dangerous Goods Number (UN Number): UN2810

UN shipping name: TOXIC LIQUID, ORGANIC, N.O.S.
(BENZOTHIAZOLE)

UN Hazard Classification: 6.1

Packing Category: III

Whether marine pollutants: No

15. REGULATORY INFORMATION

Regulations on the Control over Safety of Dangerous Chemicals (State Council announces on January 26, 2002 and revised on February 16,2011): Safe use and production, the storage of a dangerous chemical, transport, loading and unloading were prescribed.

16. OTHER INFORMATION

This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. The products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility



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