



Safety Data Sheet (SDS)

Revision 1/ Review Date: 1/22/15

1. Chemical Product and Company Identification

Product Name: **TBBS- N-tert-butyl-2-benzothiazole sulfenamide**
Distributed By: HB Chemical
1665 Enterprise Parkway
Twinsburg Oh 44087
Phone - 330-920-8023
MSDS Prepared By (w Suppliers Input): HB Chemical
Chemical Name / Family:
Molecular Formula: Not Applicable
Molecular Weight via GPC, Mn: N/A
Product Use: Used as rubber antioxidant.
OSHA Status: Not Hazardous
REACH registration No.: Not available.
For emergency health, safety, and environmental information, calls 330-920-8023
For emergency transportation information, in the United States: call CHEMTREC at 800-424-9300

2. Hazard(s) Identification

2.1.1 Classification:

The substance is classified as following according to 67/548/EEC and REGULATION (EC) No 1272/2008:

REGULATION (EC) No 1272/2008	
Hazard classes/Hazard categories	Hazard statement
Skin Sens. 1	H317
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

For full text of H- phrases: see section 2.2.

67/548/EEC	
Hazards characteristics	R-Phrases
Xn	R43
N	R50/53

For full text of R- phrases: see section 16.

2.1.2 Additional hints: Not available.

2.2 label elements



Hazard Pictograms:

Signal Word(S):
Hazard Statement:

Warning

H317 May cause an allergic skin reaction.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statement:

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P273 Avoid release to the environment.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P363 Wash contaminated clothing before reuse.
P391 Collect spillage.
P501 Dispose of contents/container to local regulations.

2.3 Information pertaining to special dangers for human and environment:

2.3.1 The most important adverse physicochemical effects:

Not applicable.

2.3.2 The most important adverse human health effects:

May cause an allergic skin reaction.

2.3.3 The most important adverse environmental effects:

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

2.3.4 Other adverse hazards

Not applicable.

3. Composition / Information on Ingredients

Substance/Mixture: Substance

Hazardous ingredients:

Chemical Name	Registration No.	CAS Number	EC No.	Concentration
N-tert-butyl-2-benzothiazole sulfenamide	N/A	95-31-8	202-409-1	≥98%

4. First Aid Measures

Inhalation:

If symptoms develop, move victim away from exposure and into fresh air. Administer oxygen if breathing is difficult.

Eyes:

Flush eyes with copious quantities of water while holding eyelids open. If symptoms persist or if there is any visual difficulty, consult physician.

Skin:

Remove contaminated clothing and launder it before reuse. Wash exposed area with soap and water. If irritation persists, consult a physician.

Ingestion:

Do not induce vomiting. Rinse mouth. Give water to drink. Seek medical attention. If individual is drowsy, do not give anything by mouth.

Information to physician:

Symptoms: Dust may be irritating to the respiratory tract and cause symptoms of bronchitis. **Hazards:** Repeated contact may cause skin sensitization. **Treatment:** See Section 8 for information on exposures measures.

5. Fire-Fighting Measures

<u>Suitable Extinguishing Media:</u>	Water Spray, water mist, Dry Chemical, Carbon Dioxide CO ₂ , appropriate foam. Unsuitable extinguishing media: Water Jet.
<u>Special Fire Fighting Procedures:</u>	Do not enter confined fire space without proper protective equipment, including a NIOSH approved SCBA. Wear self-contained breathing apparatus and protective gloves.
<u>Hazardous Combustion Products:</u>	Emits toxic fumes under fire conditions: Carbon monoxide (CO), Sulfur Oxides (SO _x), nitrous gases (NO _x).

6. Accidental Release Measures

<u>Steps to be taken in case material is Spilled:</u>	Remove ignition sources. Provide adequate ventilation. Avoid inhalation of vapors or dust. Avoid skin and eye contact.
<u>Environmental Disposal Information:</u>	Avoid disposing into drainage/sewer system or directly into the aquatic environment.
<u>Waste Disposal:</u>	Pick up and arrange disposal without crating dust. Keep in suitable, closed containers for disposal. Clean up affected area. Reclaim or dispose of in accordance with local, state, and federal regulations.
<u>Additional information:</u>	See section 7 for information on safe handling. See section 8 for information on personal protection equipment. See section 13 for information on disposal.

7. Handling and Storage:

<u>Handling:</u>	Avoid contact with skin and eyes. Avoid dust generation. Take precautionary measures against static discharges.
<u>Storage:</u>	Store in a cool, dry, ventilated area. Keep containers away from sources of ignition- No smoking. Keep container tightly closed. store separately from oxidizing agents.

8. Exposure Controls / Personal Protection

<u>Exposure Limit Values:</u>	Components with occupational exposure limits resp. Biological occupational exposure limits requiring monitoring: Occupational exposure limits: OES-TEA 5.0mg/m ³ . Additional exposure limits under the conditions of use: Not available. DNEL/DMEL and PNEC-Values: Not Available.
<u>Exposure controls:</u>	Ensure good ventilation and local exhaustion of the work area. Avoid dust generation.

<u>Respiratory Protection:</u>	Avoid breathing dust. In case of insufficient ventilation, wear suitable respiratory equipment.
<u>Ventilation:</u>	Provide explosion proof ventilation as required to control vapor levels. Ventilation rates should be based upon usage conditions.
<u>Protective Gloves:</u>	Wear appropriate gloves to prevent skin exposure.
<u>Eye Protection:</u>	Wear safety glasses or chemical goggles to prevent eye contact.
<u>Skin and Body Protection:</u>	Wear suitable protective clothing to prevent skin exposure.
<u>Environmental Exposure Controls:</u>	Avoid discharge into the environment. This material and its container must be disposed of as hazardous waste. According to local regulations, Federal and official regulations.
<u>Consumer Exposure Controls:</u>	Measures related to consumer uses of the substance (as such or in Mixtures): As such. Measures related to the service life of the substance in articles: No.

9. Physical and Chemical Properties

9.1 Appearance:

Physical state:	Powder or granule
Colour:	Cream
Odour:	Faint amine like, aromatic

9.2. Important health, safety and environmental information:

9.2.1 Safety relevant basic data:

pH:	Not determined
Melting point/range (°C):	>106°C
Boiling point/range (°C) :	Not determined
Flash point (°C) :	Approx.165°C
Ignition temperature (°C) :	Approx 340-380°C
Vapour pressure (20°C) :	Negligible at room temperatures
Oxidising properties:	Not applicable
Density (g/cm ³) (25°C):	1.29 g/cm ³
Bulk density (kg/m ³) :	Not determined
Water solubility (g/l) at 20°C :	320ppm(25°C)
n-Octanol/Water (log Po/w) :	4.38
Molecular weight	238.37
Viscosity, dynamic (mPa s) :	Not applicable
Dust explosion hazard:	Not available.
Explosion limits: Lower:	10-20g/m ³
Upper:	Not determined

9.2.2 Substance group relevant properties: Environmentally hazardous substance, solid

9.3 Other information:

Not applicable

10. Stability and Reactivity

<u>Stability:</u>	Stable under recommended storage and handling condition. See section 7.
<u>Incompatibility (Materials to Avoid):</u>	Strong oxidizing agents.
<u>Conditions to Avoid:</u>	Heating > 100 °C: May catch fire.
<u>Hazardous decomposition products:</u>	Thermal decomposition products: Carbon monoxide (CO), nitrous gases (NOx), Sulfur oxides (SOx).

11. Toxicological Information

Toxicokinetics, metabolism and distribution:

Not applicable.

Acute toxicity:

LD50(Oral, Rat): 530 mg/kg

LD50(Dermal Rabbit): > 7940 mg/kg

Skin corrosion/Irritation effects: Slightly irritating to skin but not sufficient for classification.

Eye corrosion/Irritation effects: Slightly irritating to eyes but not sufficient for classification.

Sensitization: May cause an allergic skin reaction.

Repeated dose toxicity (sub-acute to chronic):

Not applicable.

STOT-single exposure:

Not applicable.

STOT-repeated exposure:

Not applicable.

CMR effects (Carcinogenicity, mutagenicity and toxicity for reproduction):

Not applicable.

12. Ecological Information

Ecotoxicity:

Acute toxicity		Time	Species	Method	Evaluation	Remarks
LC50	7.9 mg/l	96h	Fish(Lepomis macrochirus)	OECD 203	N/A	N/A
LC50	>18 mg/l	48h	Daphnia	OECD 202	N/A	N/A
EC50	N/A	96h	Algae	OECD 201	N/A	N/A

Mobility: Not applicable.

Persistence and degradability: Not readily biodegradable.

Bioaccumulative potential: Not applicable.

Results of PBT and vPvB assessment: Not applicable.

Other information: Do not allow to enter waters, waste water, or soil.

13. Disposal Considerations

Disposal methods of the substance/Mixture:

Although this product is not defined or designated as hazardous by current provisions of the Federal (EPA) Resource Conservation and Recovery Act (RCRA, 40CFR261), recognize that in appropriate dust/air ratio, dust cloud in air may have explosion potential. Incinerate or landfill waste in a properly permitted facility in accordance with federal, state and local regulations.

Disposal methods of the Contaminated Packaging:

Disposal must be made according to official regulations as the methods of substance/mixture.

14. Transport Information

D.O.T. Shipping Name

Not regulated

Canada TDG hazard Class:

Not regulated

Europe ADR/RID hazard Class:

UN 3077 Class: 9 Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (N-tert-butyl-2-benzothiazole sulfonamide) Packaging group: III

Air - ICAO (international Civil Aviation Organization)

UN 3077 Class: 9 Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (N-tert-butyl-2-benzothiazole sulfonamide) Packaging group: III

Sea - IMDG (International Maritime Dangerous Goods)

UN 3077 Class: 9 Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (N-tert-butyl-2-benzothiazole sulfonamide) Packaging group: III

15. Regulatory Information

Chemical Safety Assessment has been carried out?

YES

NO

Relevant information regarding authorization:

Not applicable.

Relevant information regarding restriction:

Not applicable.

Other EU regulations:

Employment restrictions concerning young person must be observed.

Other National regulations:

For use only by technically qualified individuals.

Not applicable

16. Other Information

Relevant R-phrases (number and full text):

R43 May cause sensitization by skin contact.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

The above information has been compiled from what we believe to be credible sources. To our knowledge the information is accurate and reliable, however, it is not guaranteed. Any recommendations issued by HB Chemical personnel or literature is derived from experience and by no means should be taken as fact or construed as a recommendation to violate of any law, regulation or patent. It is the users responsibility to determine the suitability of any HB supplied material in their application. The individual conditions of each customer are well outside of our control and we cannot be held liable for its functionality and use. Please contact our office should you need specific information beyond what is supplied above. As with all Chemical usage safety precautions beyond the stated are highly recommended.