

Material Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Rubber Vulcanization Accelerator TBSI

Manufactured By: Haicheng Chemical Assistant Factory
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2. HAZARDS IDENTIFICATION

Emergency Overview: WARNING! Combustible dust - explosion potential. This material is irritating to skin, eyes and respiratory tract. May cause allergic skin reaction.

Eye Contact: May cause mild eye irritation. Mild Eye Irritation: signs/symptoms can include redness, swelling, pain and tearing.

Skin Contact: May cause mild skin irritation. May cause skin defatting with prolonged exposure. May cause a rash and itching of the skin. May cause an allergic skin reaction.

Inhalation: Causes moderate respiratory irritation. Irritates mucous membranes. Irritation (upperrespiratory): signs/symptoms can include soreness of the nose and throat, coughing and sneezing.

Ingestion: Swallowing a relatively large amount of this material is unlikely to produce serious illness or death.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical description N-tert-Butyl-di-(2-benzothiazolesulfen)imide

Composition / information on ingredients

Number	% w/w	CAS-number	Chemical name
1	87.0-94.0	3741-80-8	N-tert-Butyl-di(2-benzothiazolesulfen)imide
2	0-5.0	120-78-5	Dibenzothiazyl disulfide
3	0-2.0	95-31-8	N-tert-Butyl-2-benzothiazolesulfenamide

Number	EC-number	Annex-1 number	Symbol(s) (EUclassification)	Risk-phrase(s)
1	407-430-1	613-180-00-6	N	R50/53
2	204-424-9	613-135-00-0	Xi N	R31 R43 R50/53
3	202-409-1		Xi	R43 R53

4. FIRST AID MEASURES

Symptoms and effects: Dust may be irritating to the respiratory tract and cause symptoms of bronchitis.

First aid

General: In all cases of doubt, or when symptoms persist, seek medical attention.

Inhalation: Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get immediate medical attention.

Skin: Remove all contaminated clothing immediately. Wash off with plenty of soap and

Eye: water. Seek medical advice if irritation develops. Launder clothes before reuse. 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: Only when conscious, rinse mouth, give plenty of water to drink. DO NOT induce vomiting. Seek medical advice.

Advice to physician: No specific recommendations.

5. FIRE FIGHTING MEASURES

Extinguishing media Waterspray, water mist, foam, dry chemical powder, CO2

Unsuitable extinguishing media No specific recommendations

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.

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.

7. HANDLING AND STORAGE

Handling Good industrial practice in housekeeping and personal hygiene should be followed.

Fire and explosion prevention Avoid dust accumulation. Take precautionary measures against static discharges.

Dust/air mixtures may ignite violently upon exposure to sparks or sources of ignition. dust explosion class: St -2.
 KSt: 267 - 281 bar.m/s
 Maximum rate of pressure rise: 982 - 1036. Maximum corrected explosion pressure: 8.4 bar. Storage requirements Store in a dry and cool place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls Avoid dust generation.

Exposure limits

Name			
N-tert-Butyl-di(2-benzothiazolesulfen)imide	WEL (TWA):	4 mg/m ³	(respirable dust).
Dibenzothiazyl disulfide	OES-TWA	10.0 mg/m ³	inhalable dust
	OES-TWA	4.0 mg/m ³	respirable dust
N-tert-Butyl-2-benzothiazolesulfenamide	OES-TWA	5.0 mg/m ³	

Personal protection

Respiratory Avoid breathing dust. In case of dust formation use dust mask.

Hand Wear protective gloves.

Eye Wear safety goggles.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Yellowish powder
Odor:	SLIGHT
pH:	Not Applicable
Specific Gravity:	1.35 @ 25°C
Bulk Density:	1350 kg/m ³
Melting Point (°F/°C):	262.4°F / 128°C
Boiling Point (°F/°C):	Decomposes before boiling
Vapor Pressure:	Negligible: 5.3 X 10 ⁽⁻⁶⁾ hPa
Vapor Density (Air=1):	Not Applicable
% Volatile by Volume:	<0.5%
Solubility in Water:	0.0029 mg/L @ 25°C
Other Solubility:	Soluble in: Acetone Organic liquids, including fats and oils
Viscosity:	Not Applicable
Other Data:	Ash content = 0.5% max.
Molecular Weight:	403.61
Molecular Formula:	C18-H17-N3-S4

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable when stored at room temperature in closed, original container. Stable under normal conditions of handling, use and transportation. Stable if protected from heat and exposure to air. Loses potency with time. Protect from moisture.
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	Keep away from heat, sparks and flame.
Materials to Avoid:	Reducing agents. Contact with acids. Avoid contamination of product with small amounts of water. Do not store near Crystex Insoluble Sulfur.
Hazardous Decomposition Products:	Carbon monoxide. Oxides of nitrogen. Oxides of sulfur. Amines
Additional Guidelines:	Amine vapors can cause insoluble sulfur to revert to soluble form.

11. TOXICOLOGICAL INFORMATION

Acute Oral LD50 (mg/kg):	>5000 mg/kg (Rat)
Acute Dermal LD50 (mg/kg):	>2000 mg/kg (Rabbit)
Acute Inhalation LC50 (mg/l):	Not Determined
Target Organs / Principle Routes of Exposure:	Eyes. Inhalation. Dermal - skin.
Ingestion:	Swallowing a relatively large amount of this material is unlikely to produce serious illness or death.
Skin Contact:	May cause mild skin irritation. May cause skin defatting with prolonged exposure.
Inhalation:	Causes moderate respiratory irritation. Irritates mucous membranes. Irritation (upperrespiratory): signs/symptoms can include soreness of the nose and throat, coughing and sneezing.
Eye Contact:	May cause mild eye irritation. Mild Eye Irritation: signs/symptoms can include redness, swelling, pain and tearing.
Aggravated Conditions:	Pulmonary disorders. Dermal ailments. Eye, skin, respiratory, blood, liver and/or kidney ailments. This material or its emissions may cause an allergic or sensitization reaction and thereby aggravate systemic disease.
Carcinogenicity Comment:	This product, or one of its ingredients present at 0.1% or more, is NOT listed as a carcinogen or suspected carcinogen by NTP, IARC or OSHA.
Other Information:	Decomposition products and fumes from vulcanization and cross-linking may cause eye, skin and respiratory sensitization. May be a skin sensitizer. Product releases amine vapors cure

Primary Irritation Effect: Similar	Practically non-irritating to skin and eyes. Not sensitizing in animal studies.
Carcinogenicity:	compounds have at least some potential for allergic skin reactions in humans after prolonged and repeated exposures.
Genotoxicity:	Negative in standard tests using bacteria and/or yeast cells.
Reproductive/Developmental Toxicity:	Negative for genetic activity - in vitro tests. Negative for genetic activity - in vivo tests.
	No evidence of teratogenicity in animal studies using rats, mice and/or hamsters.

12. ECOLOGICAL INFORMATION

Acute Fish Toxicity:	96Hr LC50 Fathead Minnow = >2.7 mg/l.
Acute Crustaceans Toxicity:	48Hr EC50 Daphnia Magna = Highly Toxic (<1.0 mg/l)
Acute Algae Toxicity:	96Hr EC50 Algae = >0.87 mg/l
Octanol/Water Coefficient:	Log P = 6.7 [Measured].
Chemical Fate Information:	Biodegradation by CO2 evolution: 32% @ 10 mg/L after 57 days.
Other Information:	Tests indicate this material will not bioaccumulate or persist in the environment.

13. DISPOSAL CONSIDERATIONS

Disposal of Waste Method:	This material is not a RCRA hazardous waste. Bury in a licensed landfill or burn in an approved incinerator according to federal, state, and local regulations. Empty containers should be handled in a manner not to cause dusting during collection, transportation and disposal.
Contaminated Packaging:	If empty container retains product residues, all label precautions must be observed. Store away from ignition sources. Transport with all closures in place. Return for reuse or dispose according to national or local regulations. Dispose of container according to national or local regulations.

14. TRANSPORT INFORMATION

Land transport (ADR/RID/GGVSE)	This product is not regulated as a hazardous material or dangerous goods for transportation.
Sea transport (IMDG-Code/GGVSee)	This product is not regulated as a hazardous material or dangerous goods for transportation.
Air transport (ICAO-TI/IATA-DGR)	This product is not regulated as a hazardous material or dangerous goods for transportation.
Additional information	No data available.

15. REGULATORY INFORMATION

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

EU regulation:

Authorisations:	No information available.
Restrictions on use:	No information available.
EINECS:	The substance is listed in the inventory.
DSD (67/548/EEC):	The substance is not listed in the Annex I.

Other chemical regulation:

USA - TSCA:	The substance is listed in the inventory.
Canada - DSL:	The substance is listed in the inventory.
Australia - AICS:	The substance is listed in the inventory.
Korea - ECL:	The substance is listed in the inventory.
Japan - ENCS:	The substance is listed in the inventory.
China - IECSC:	The substance is listed in the inventory.

Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

16. OTHER INFORMATION

Should be taken safety measures, including workplace ventilation and other effective measures to prevent accidents.

Avoid burning caused by electrostatic discharge

This safety data sheet is based on existing knowledge and experience, to describe the product's safety guidelines.