



Safety Data Sheet (SDS)

North American

Revision date:12/10/2014

SECTION 1: Identification

Product identifiers:

Product trade name: CURE-RITE* TBzD Accelerator
Company product number: CRTBZD
Other means of identification: Not Available

Recommended use of the chemical and restrictions on use:

Uses: Cure accelerator for rubber.
Restrictions on use: None identified

Details of the supplier:

Manufacturer/Supplier: Emerald Performance Materials, LLC
2020 Front Street, Suite 100
Cuyahoga Falls, Ohio 44221
United States
Telephone: +001-330-916-6700
FAX: +001-330-916-6734

For further information about this SDS: Email: product.compliance@emeraldmaterials.com

Emergency telephone number: Chemtrec (24 hours): USA: 1-800-424-9300; International: +001-703-527-3887.

SECTION 2: Hazard(s) identification

Information in accordance with 29 CFR 1910.1200 (Hazcom 2012) in effect on May 25, 2012:

Classification of the chemical in accordance with 29 CFR 1910.1200(d):

Combustible Dust (OSHA Defined)

Label elements in accordance with 29 CFR 1910.1200(f):

Hazard pictogram(s): Not Applicable

Signal word:

Warning

Hazard statements:

USH001 May form combustible dust concentrations in air.

Precautionary statements: Not Applicable

Supplemental information: Hazardous to the aquatic environment - Chronic Category 4, May cause long lasting harmful effects to aquatic life.

Notes: No Additional Information

Hazards not otherwise classified: No Additional Information

Information in accordance with 29 CFR 1910.1200 in effect before May 25, 2012:

Potential physical and environmental effects: May form combustible dust concentrations in air. May cause long-term adverse effects in the aquatic environment.

Potential health effects - Acute health effects: If inhaled, ingested or absorbed through the skin may cause alcohol intolerance. May be absorbed through the skin. Dust inhalation may cause respiratory irritation. Solid particles on the eye (powder/dust) may cause pain and be accompanied by irritation. Repeated or prolonged skin contact may cause irritation. Ingestion may cause irritation. WHITE MINERAL OIL: May cause eye and skin irritation. Prolonged or repeated contact may cause defatting and drying of the skin which may result in dermatitis. Aspiration into the lungs may cause mild to severe

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pulmonary injury.

Potential health effects - Chronic health effects: Prolonged or repeated contact may irritate the skin, causing dermatitis.

See Section 11 for toxicological information.

SECTION 3: Composition/information on ingredients

Mixture:

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>Weight%</u>
0010591-85-2	Tetrabenzylthiuram disulfide	95-100
0008042-47-5	White mineral oil	1-5

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits. Exact percentage values for components are proprietary in accordance with 29 CFR 1910.1200(i).

SECTION 4: First-aid measures

Description of first aid measures:

General: If irritation or other symptoms occur or persist from any route of exposure, remove the affected individual from the area: see a physician/get medical attention.

Eye contact: Immediately flush eyes with plenty of clean water for an extended time, not less than fifteen (15) minutes. Flush longer if there is any indication of residual chemical in the eye. Ensure adequate flushing of the eyes by separating the eyelids with fingers and roll eyes in a circular motion. If eye irritation persists: Get medical advice/attention.

Skin contact: Immediately remove contaminated clothing and shoes. Wash the affected area with plenty of soap and water until no evidence of the chemical remains (at least 15-20 minutes). Launder clothing before reuse. If skin irritation occurs: Get medical advice/attention.

Inhalation: If affected, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a POISON CENTER or doctor/physician if you feel unwell.

Ingestion: Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse out the mouth with water. Get medical attention immediately.

Protection of first aid responders: Wear proper personal protective clothing and equipment.

Most important symptoms and effects, both acute and delayed: Alcohol intolerance, Dizziness, Headache, Irritation, Nausea. Pre-existing skin problems may be aggravated by prolonged or repeated contact. Persons with sensitive airways (e.g., asthmatics) may react to vapors. See section 11 for additional information.

Indication of any immediate medical attention and special treatment needed, if necessary: Treat symptomatically.

SECTION 5: Fire-fighting measures

NFPA flammability class: N/A (Combustible solid)

Extinguishing media:

Suitable: Use water spray, dry chemical, or foam. Carbon dioxide may be ineffective on larger fires due to a lack of cooling capacity which may result in reignition.

Unsuitable: Avoid hose streams or any method which will create dust clouds.

Special hazards arising from the chemical:

Unusual fire/explosion hazards: Concentrated dust/air combinations may produce explosive conditions. This product has not been evaluated for dust explosion potential. As with all organic dusts, fine particles suspended in air in critical proportions and in the presence of an ignition source may ignite and/or explode. Dust may be sensitive to ignition by electrostatic discharge, electrical arcs, sparks, welding torches, cigarettes, open flame, or other significant heat sources. As a precaution, implement standard safety measures for handling finely divided organic powders. See Section 7 for suggested measures.

Hazardous combustion products: Irritating or toxic substances may be emitted upon burning, combustion or decomposition. See section 10 (10.6 Hazardous decomposition products) for additional information.

Special protective equipment and precautions for fire-fighters: Avoid hose streams or any method which will create dust clouds.

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Wear self-contained breathing apparatus (SCBA) equipped with a full facepiece and operated in a pressure-demand mode (or other positive pressure mode) and approved protective clothing. Personnel without suitable respiratory protection must leave the area to prevent significant exposure to hazardous gases from combustion, burning or decomposition. In an enclosed or poorly ventilated area, wear SCBA during cleanup immediately after a fire as well as during the attack phase of firefighting operations.

See section 9 for additional information.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures: See Section 8 for recommendations on the use of personal protective equipment. If spilled in an enclosed area, ventilate. Avoid raising powdered material due to explosion hazard. Use spark-proof and explosion-proof equipment. If inhalation of dust cannot be avoided, wear an approved particulate respirator.

Environmental precautions: Do not flush product into public sewer, water systems or surface waters.

Methods and materials for containment and cleaning up: Contain spill. Wear proper personal protective clothing and equipment. Using care to avoid dust generation, vacuum or sweep into a closed container for reuse or disposal. Use approved industrial vacuum cleaner for removal. Avoid causing dust. Place into labeled, closed container; store in safe location to await disposal. Change contaminated clothing and launder before reuse.

SECTION 7: Handling and storage

Precautions for safe handling: As with any chemical product, use good laboratory/workplace procedures. Wash thoroughly after handling this product. Always wash up before eating, smoking or using the facilities. Use under well-ventilated conditions. Avoid eye contact. Avoid repeated or prolonged skin contact. Avoid drinking, tasting, swallowing or ingesting this product. Avoid routine inhalation of dust of any kind. Exercise care when emptying containers, sweeping, mixing or doing other tasks which can create dust. Wash contaminated clothing before reuse. Provide eyewash fountains and safety showers in the work area. As a precaution to control dust explosion potential, implement the following safety measures: Eliminate ignition sources (e.g., sparks, static buildup, excessive heat, etc.). In general, dust of organic materials is a static charge generator which may be ignited by electrostatic discharge, electrical arcs, sparks, welding torches, cigarettes, open flame, or other significant heat sources. Use spark-proof tools and equipment. Bond, ground and properly vent conveyors, dust control devices and other transfer equipment. Prohibit flow of polymer, powder or dust through non-conductive ducts, vacuum hoses or pipes, etc.; only use grounded, electrically conductive transfer lines when pneumatically conveying product. Good housekeeping and controlling of dusts are necessary for safe handling of product. Prevent accumulation of dust (e.g., well-ventilated conditions, promptly vacuuming spills, cleaning overhead horizontal surfaces, etc.). A properly engineered explosion suppression system must be considered. See standards such as the National Fire Protection Association NFPA 654, "Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids"; NFPA 69, "Standard on Explosion Prevention Systems"; NFPA 68, "Standard on Explosion Protection by Deflagration Venting"; NFPA 77, "Recommended Practice on Static Electricity" and other standards as the need exists.

Conditions for safe storage, including any compatibilities: Store cool and dry, under well-ventilated conditions. Store this material away from incompatible substances (see section 10). Do not store in open, unlabeled or mislabeled containers. Keep container closed when not in use.

SECTION 8: Exposure controls / personal protection

Control parameters:

Occupational exposure limits (OEL):

Chemical Name	ACGIH - TWA	ACGIH - STEL		
Tetrabenzylthiuram disulfide	N/E	N/E		
White mineral oil	5.00 mg/m3 (inhalable fraction)	N/E		
Chemical Name	OSHA - PEL	OSHA - STEL	OSHA - Ceiling	Mexico
Tetrabenzylthiuram disulfide	N/E	N/E	N/E	N/E
White mineral oil	5.00 mg/m3 (oil mist)	N/E	N/E	5 mg/m3 TWA, 10 mg/m3 STEL (oil mist, mineral)

N/E=Not established (no exposure limits established for the listed substances for listed country/region/organization).

PNOS: ACGIH has recommended the following exposure limits for Particulates (insoluble or poorly soluble) not otherwise specified (PNOS): 10 mg/m3 TWA (inhalable particles), 3 mg/m3 TWA (respirable particles). Contains mineral oil. Under conditions which may generate mists, observe the ACGIH 5 mg/m3 TWA (inhalable fraction). OSHA exposure limits for

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Particulates not otherwise regulated are 15 mg/m3 TWA (total dust) and 5 mg/m3 TWA (respirable fraction).

Exposure controls:

Appropriate engineering controls: Always provide effective general and, when necessary, local exhaust ventilation to draw dust away from workers to prevent routine inhalation. Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the SDS. Eliminate ignition sources (e.g., sparks, static buildup, excessive heat, etc.). Prohibit flow of powder or dust through non-conductive ducts, vacuum hoses, or pipes, etc. Bond, ground, and properly vent conveyors, dust control devices and other transfer equipment. (Ventilation guidelines/techniques may be found in publications such as Industrial Ventilation: American Conference of Governmental Industrial Hygienists, 1330 Kemper Meadow Drive, Cincinnati, OH, 45240-1634, USA.) (<http://www.acgih.org/home.htm>).

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

Eye/face protection: Wear eye protection.

Skin and body protection: Wear protective gloves. Use good laboratory/workplace procedures including personal protective clothing: labcoat, safety glasses and protective gloves.

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment. If inhalation of dust cannot be avoided, wear an approved particulate respirator. Use respirator in accordance with manufacturer's use limitations and OSHA standard 1910.134 (29CFR).

Further information: Eyewash fountains and safety showers are recommended in the work area.

SECTION 9: Physical and chemical properties

Form:	Powder	pH:	Not Available
Appearance:	White to cream	Relative density:	1.31
Odor:	None	Partition coefficient (n-octanol/water):	3.4-3.7
Odor threshold:	Not Available	% Volatile by weight:	Not Available
Solubility in water:	Insoluble	VOC:	Not Available
Evaporation rate:	Not Available	Boiling point °C:	147-149 °C Decomposes
Vapor pressure:	0.86 Pa (25 °C)	Boiling point °F:	297-300 °F Decomposes
Vapor density:	Not Available	Flash point:	Not Applicable
Viscosity:	Not Available	Auto-ignition temperature:	Not Available
Melting point/Freezing point:	266-270 °F (130-132 °C)	Flammability (solid, gas):	May form combustible dust concentrations in air.
Oxidizing properties:	Not oxidizing	Flammability or explosive limits:	LFL/LEL Not Available
Explosive properties:	Not explosive		UFL/UEL Not Available
Decomposition temperature:	Not Available		

Other information: Amounts specified are typical and do not represent a specification.

SECTION 10: Stability and reactivity

Reactivity: Reaction with nitrites, nitrates and/or other nitrosating agents may lead to the formation of nitrosamines.

Chemical stability: This product is stable.

Possibility of hazardous reactions: Hazardous polymerization will not occur.

Conditions to avoid: Excessive heat and ignition sources. Avoid static discharge. Avoid dust formation.

Incompatible materials: Avoid contact with strong oxidizing agents. Avoid contact with nitrosating agents.

Hazardous decomposition products: Carbon dioxide, carbon monoxide, oxides of nitrogen, and oxides of sulfur.

SECTION 11: Toxicological information

Information on likely routes of exposure:

General: Caution must be exercised through the prudent use of protective equipment and handling procedures to minimize exposure. If inhaled, ingested or absorbed through the skin may cause alcohol intolerance.

Eyes: Solid particles on the eye (powder/dust) may cause pain and be accompanied by irritation.

Skin: Repeated or prolonged skin contact may cause irritation.

Inhalation: Dust inhalation may cause respiratory irritation.

Ingestion: Ingestion may cause irritation.

Symptoms/effects, acute and delayed: Alcohol intolerance, Dizziness, Headache, Irritation, Nausea

Acute toxicity information: Not classified (based on available data, the classification criteria are not met).

<u>Chemical Name</u>	<u>Inhalation LC50</u>	<u>Species</u>	<u>Oral LD50</u>	<u>Species</u>	<u>Dermal LD50</u>	<u>Species</u>
Tetrabenzylthiuram disulfide	>5.03 mg/L (4 hours)	Rat/ adult	> 5000 mg/kg	Rat/ adult	N/E	
White mineral oil	>2500 mg/L (4 hours, mists)	Rat/ adult	>5000 mg/kg	Rat/ adult	>2000 mg/kg	Rabbit/ adult

Skin corrosion/irritation: Not classified (based on available data, the classification criteria are not met).

<u>Chemical Name</u>	<u>Skin Irritation</u>	<u>Species</u>
Tetrabenzylthiuram disulfide	Non-irritant	Rabbit/ adult
White mineral oil	N/E	

Serious eye damage/irritation: Not classified (based on available data, the classification criteria are not met).

<u>Chemical Name</u>	<u>Eye Irritation</u>	<u>Species</u>
Tetrabenzylthiuram disulfide	Slight Irritant	Rabbit/ adult
White mineral oil	N/E	

Respiratory or skin sensitization: Not classified (based on available data, the classification criteria are not met).

<u>Chemical Name</u>	<u>Skin sensitisation</u>	<u>Species</u>
Tetrabenzylthiuram disulfide	Non-sensitizer	Guinea Pig/ adult
White mineral oil	N/E	

Carcinogenicity: Not classified.

Carcinogenic status: The components of this mixture are not known to be listed or regulated by IARC, NTP, OSHA or ACGIH.
NOTE: May react with nitrosating agents during rubber vulcanization to form nitrosoamines. Some nitrosoamines are suspect human carcinogens.

Germ cell mutagenicity: Not classified (based on available data, the classification criteria are not met). TETRABENZYLTHIURAM DISULFIDE: Ames test: negative.

Reproductive toxicity: Not classified.

Specific target organ toxicity (STOT) - single exposure: Not classified (based on available data, the classification criteria are not met).

Specific target organ toxicity (STOT) - repeated exposure: Not classified.

Aspiration hazard: Not classified (technical impossibility to obtain the data).

Other toxicity information: No additional information available.

SECTION 12: Ecological information

Ecotoxicity: TETRABENZYLTHIURAM DISULFIDE: This product showed no toxicity to fish, algae, or invertebrates at the solubility limit.

<u>Chemical Name</u>	<u>Fish 96 hour LC50</u>	<u>Fish 96 hour LC50</u>	<u>Fish Chronic NOEC</u>
Tetrabenzylthiuram disulfide	>32 mg/L	N/E	N/E
White mineral oil	>10000 mg/L	N/E	N/E
<u>Chemical Name</u>	<u>Invertebrates 48 hour EC50</u>	<u>Invertebrates 24 hour EC50</u>	<u>Invertebrates Chronic NOEC</u>
Tetrabenzylthiuram disulfide	>10 mg/L	N/E	N/E
White mineral oil	N/E	N/E	N/E
<u>Chemical Name</u>	<u>Algae 96 hour EC50</u>	<u>Algae 72 hour EC50</u>	<u>Algae Chronic NOEC</u>

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<u>Chemical Name</u>	<u>Algae 96 hour EC50</u>	<u>Algae 72 hour EC50</u>	<u>Algae Chronic NOEC</u>
Tetrabenzylthiuram disulfide	N/E	>0.01 mg/L	N/E
White mineral oil	N/E	N/E	N/E

Persistence and degradability:

<u>Chemical Name</u>	<u>Biodegradation</u>
Tetrabenzylthiuram disulfide	Not readily biodegradable
White mineral oil	Not readily biodegradable (OECD 301B)

Bioaccumulative potential:

<u>Chemical Name</u>	<u>Bioconcentration Factor (BCF)</u>	<u>Log Kow</u>
Tetrabenzylthiuram disulfide	N/E	3.4-3.7
White mineral oil	N/E	>6

Mobility in soil:

<u>Chemical Name</u>	<u>Mobility in soil (Koc/Kow)</u>
Tetrabenzylthiuram disulfide	N/E
White mineral oil	N/E

Other adverse effects: No additional information available.

SECTION 13: Disposal considerations

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.

See Section 8 for recommendations on the use of personal protective equipment.

SECTION 14: Transport information

The information below is provided to assist in documentation. It may supplement the information on the package. The package in your possession may carry a different version of the label depending on the date of manufacture. Depending on inner packaging quantities and packaging instructions, it may be subject to specific regulatory exceptions.

UN number: N/A

UN proper shipping name:

Not regulated - See Bill of Lading for Details

Transport hazard class(es):

U.S. DOT hazard class: N/A
Canada TDG hazard class: N/A
Europe ADR/RID hazard class: N/A
IMDG Code (ocean) hazard class: N/A
ICAO/IATA (air) hazard class: N/A

A "N/A" listing for the hazard class indicates the product is not regulated for transport by that regulation.

Packing group: N/A

Environmental hazards:

Marine pollutant: Not Applicable
Hazardous substance (USA): Not Applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code: Not Applicable

Special precautions for user: Not Applicable

SECTION 15: Regulatory information

Safety, health and environment regulations/legislation specific for the product:

U.S. federal and state regulations/legislation:

This SDS has been prepared in accordance with the hazard criteria of the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

U.S. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Reportable Quantity (RQ):

Not Applicable

U.S. Superfund Amendments and Reauthorization Act (SARA) - SARA Section 313:

None Known

California Proposition 65:

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:
None known to be present or none in reportable amounts for occupational exposure as per OSHA's approval of the California Hazard Communication Standard, Federal Register, page 31159 ff, 6 June 1997.

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards:

None known to be present or none in reportable amounts for occupational exposure as per OSHA's approval of the California Hazard Communication Standard, Federal Register, page 31159 ff, 6 June 1997.

Canada regulations/legislation:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

Canadian Workplace Hazardous Material Information System (WHMIS) classification: Not controlled

Canadian Ingredient Disclosure List:

None known to be present or none in reportable amounts

Mexico regulations/legislation:

This SDS contains the information required by NOM-018-STPS-2000 Workplace Hazardous Chemical Substances Communication and Identification Standard.

Chemical inventories:

<u>Regulation</u>	<u>Status</u>
Canadian Domestic Substances List (DSL):	Y
Canadian Non-Domestic Substances List (NDSL):	N
U.S. Toxic Substances Control Act (TSCA):	Y

A "Y" listing indicates all intentionally added components are either listed or are otherwise compliant with the regulation. A "N" listing indicates that for one or more components: 1) there is no listing on the public inventory; 2) no information is available; or 3) the component has not been reviewed.

SECTION 16: Other information

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HMIS (Hazardous Materials Identification System) Ratings:

Health: 1 Flammability: 1 Reactivity (Stability): 0 Personal Protection: X

NFPA (National Fire Protection Association) Ratings:

Health: 1 Flammability: 1 Instability: 0

Key: 0=Insignificant; 1=Slight; 2=Moderate; 3=High; 4=Extreme. An asterisk appearing after the HMIS Health numerical rating denotes a chronic hazard.

Hazardous Materials Identification System (HMIS), National Paint and Coating Association, rating applies to product "as packaged" (i.e., ambient temperature). Ratings are based upon HMIS® III and NFPA 704 (2007). An asterisk appearing after the HMIS Health® III numerical rating denotes a chronic hazard. National Fire Protection Association (NFPA) rating identifies the severity of hazards of material during a fire emergency

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(i.e., "on fire").

Legend:

* : Trademark owned by Emerald Performance Materials, LLC.

ACGIH: American Conference of Governmental Industrial Hygienists

N/A: Not Applicable

N/E: None Established

STEL: Short Term Exposure Limit

TWA: Time Weighted Average (exposure for 8-hour workday)

Users Responsibility/Disclaimer of Liability:

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this product. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state, and local laws and local regulations remains the responsibility of the user.

This bulletin cannot cover all possible situations which the user may experience during processing. Each aspect of your operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin should be provided to your employees or customers. It is your responsibility to develop appropriate work practice guidelines and employee instructional programs for your operation.

Safety Data Sheet Preparer:

Product Compliance Department

Emerald Performance Materials, LLC

2020 Front Street, Suite 100

Cuyahoga Falls, Ohio 44221

United States