



Material Safety Data Sheet

Last Revision: 05/03/2007

Printing Date: 05/03/2007

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: PERKACIT® TBzTD
MSDS NO. FLXP0021
Chemical Name: Tetrabenzylthiuram Disulfide
Synonyms: Thioperoxydicarbonic Diamide, tetrakis(phenylmethyl)-; Tetraphenylthioperoxydicarbonic Diamide; Thioperoxydicarbonic Diamide.
Use: Accelerator.
Manufactured By: Flexsys America L.P. 260 Springside Drive Akron OH 44333-2433 USA

Emergency Telephone: CHEMTREC: 1-800-424-9300 [TOLL FREE - USA and Territories]
703-527-3887 [ELSEWHERE - Collect Calls Accepted]
CANUTEC: 613-996-6666 [Canada]
SETIQ: 91-800-00-214 [Mexico]

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2. HAZARDS IDENTIFICATION

Emergency Overview: WARNING! Combustible dust - explosion potential. Dust may be irritating to eyes and upper respiratory tract. May cause alcohol intolerance.

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

Skin Contact: May be absorbed through the skin and contribute to the symptoms listed under ingestion. May cause skin defatting with prolonged exposure.

Inhalation: Exposure to dust particles generated from this material may cause irritation of the respiratory tract. Inhalation may cause alcohol intolerance

Ingestion: May cause alcohol intolerance (Antabuse Effect). May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Tetrabenzylthiuram Disulfide	10591-85-2	95 - 98
Tribenzylthiuram Disulfide	None	0 - 2
White Mineral Oil [-pdr-d form ONLY]	8042-47-5	1 - 2

4. FIRST AID MEASURES

In Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

On Skin: In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse. Get medical attention if irritation persists.

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DISTRIBUTION CORPORATION**
60 S. Seiberling Street • Akron, Ohio 44305

4. FIRST AID MEASURES

Inhaled:	Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get immediate medical attention.
Swallowed:	If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.
Notes To Physician:	Treat symptomatically. Exposure by ingestion, inhalation or skin absorption may cause alcohol intolerance (Antabuse Effect).

5. FIRE FIGHTING MEASURES

Flash Point (°F/C):	Not Determined
Flash Point Method:	Not Determined
Autoignition Temp. (°F/C):	440°C
Lower Explosion Limit (LEL):	20 g/m ³
Upper Explosion Limit (UEL):	Not Determined.
Extinguishing Media:	Use water fog, carbon dioxide, foam or dry chemical.
Special Exposure Hazards:	Fight fire from a safe distance and from a protected location. Use water spray to cool fire exposed surfaces. Decomposition in fire may produce toxic gases. Do not allow runoff to enter waterways.
Special Protective Equipment:	Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.
Unusual Fire/Explosion Hazards:	Minimum Ignition Energy [MIE] = 13 mJ. Minimum Ignition Energy (MIE) = <3 mJ. Kst = 129 bar.m/s. Toxic emissions may result if product is involved in a fire.

6. ACCIDENTAL RELEASE MEASURES

Spill Procedures:	Wear protective equipment specified. Avoid the generation of dust. Sweep, vacuum, or shovel and place into closable container for disposal.
Procedure for Cleaning/Absorption:	Isolate area and remove sources of friction, impact, heat, low level electrical current, and RF energy. Remove ignition sources and work with non-sparking tools. Scoop up and remove solids. Do NOT spread spilled product with water.
CERCLA Reportable Quantity (RQ):	Not Applicable

7. HANDLING AND STORAGE

Handling:	Avoid contact with eyes, skin and clothing. Avoid generating or breathing dust. Wash thoroughly with soap and water after handling. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Reclose containers of unused product. Keep containers tightly closed when not in use. Do not reuse this container.
Storage:	Store closed containers in a cool, dry, well-ventilated area. Store away from strong oxidizing materials. Avoid exposure to direct sunlight. Do not double stack.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Eye Protection:	Wear safety glasses or goggles to protect against exposure.
Skin Protection:	Normal work coveralls. Launder contaminated clothing before reuse.
Gloves:	Use gloves as a standard industrial handling procedure. All cleanable impervious glove types are acceptable.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection:	Use in a well ventilated area. Use approved NIOSH respiratory protection if TLV exceeded or if overexposure is likely. Appropriate respiratory protection shall be worn when applied engineering controls are not adequate to protect against inhalation exposure. Firefighting: Use a Positive Pressure Demand Full Face Self Contained Breathing Apparatus.
Ventilation:	General; local exhaust ventilation as necessary to control any air contaminants to within their exposure limits during the use of this product. If air is to be recirculated, it must be filtered properly.
Airborne Exposure Limits:	Nuisance Dust. OSHA PEL/8Hr-TWA = 15 mg/m ³ (Total Dust). OSHA PEL/8-Hr TWA = 05 mg/m ³ (Respirable Dust). ACGIH TLV/8-Hr TWA = 10 mg/m ³ . White Mineral Oil OSHA PEL/8-Hr TWA = 5mg/m ³ ACGIH TLV/8-Hr TWA = 5mg/m ³ .

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Off-white powder.
Odor:	SLIGHT
pH:	Not Applicable
Specific Gravity:	1.1 @ 20°C
Density:	1.124 g/cc @ 26°C
Bulk Density:	230-270 kg/m ³ TBzTD-pdr 235-365 kg/m ³ TBzTD-pdr-d
Melting Point (°F/C):	124°C Initial, 131-135°C Final
Boiling Point (°F/C):	147-149°C
Vapor Pressure:	0.82-0.90 kPa @25°C
Vapor Density (Air=1):	Not Determined
% Volatile by Volume:	<0.5% by weight
Solubility in Water:	INSOLUBLE. 0.001-0.01 mg/l @ 20.5°C
Other Solubility:	Soluble in: Benzene Carbon Disulfide Organic liquids, including fats and oils
Viscosity:	Not Applicable.
Other Data:	Decomposes above boiling point
Molecular Weight:	544.8
Molecular Formula:	C30-H28-N2-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.
Hazardous Polymerization:	WILL NOT OCCUR
Conditions to Avoid:	Avoid contact with heat, sparks, open flame, and static discharge. Avoid contact with strong oxidants such as liquid chlorine and concentrated oxygen. Dispersion of dust.
Materials to Avoid:	Contact with oxidizing agents.
Hazardous Decomposition Products:	Carbon monoxide. Oxides of nitrogen. Oxides of sulfur.
Additional Guidelines:	Not Applicable

11. TOXICOLOGICAL INFORMATION

Acute Oral LD50 (mg/kg):	>5000 mg/kg (Rat)
Acute Dermal LD50 (mg/kg):	Not Determined
Acute Inhalation LC50 (mg/l):	>5.03 mg/l (No Mortalities in 4 hours)

Target Organs / Principle Routes of Exposure: Inhalation. Dermal - skin. Eyes.

Ingestion: May cause alcohol intolerance (Antabuse Effect). May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation.

11. TOXICOLOGICAL INFORMATION

Skin Contact:	May be absorbed through the skin and contribute to the symptoms listed under ingestion. May cause skin defatting with prolonged exposure.
Inhalation:	Exposure to dust particles generated from this material may cause irritation of the respiratory tract. Inhalation may cause alcohol intolerance
Eye Contact:	Causes mild eye irritation. Mild Eye Irritation: signs/symptoms can include redness, swelling, pain and tearing.
Aggravated Conditions:	Alcohol consumption problems. Pulmonary disorders.
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. NOTE: May react with nitrosating agents during rubber vulcanization to form nitrosamines. Some nitrosamines are suspect human carcinogens.
Other Information:	Ingestion of the product may result in vomiting.
Primary Irritation Effect:	Practically non-irritating to skin. Slightly irritating to eyes. Not sensitizing in animal studies.
Carcinogenicity:	Negative in the Ames test on bacteria cells.
Genotoxicity:	Negative for genetic activity - in vitro tests. Borderline (equivocal) results have been obtained in a mouse micronucleus in vivo study.
Reproductive/Developmental Toxicity:	Not Determined.

12. ECOLOGICAL INFORMATION

Acute Fish Toxicity:	96Hr LC50 Guppy = >32 mg/l.
Acute Crustaceans Toxicity:	48Hr EC50 Daphnia Magna = > 10 mg/l
Acute Algae Toxicity:	Not Determined.
Octanol/Water Coefficient:	3.4 and 3.7 log P (two peaks)
Chemical Fate Information:	Ready Biodegradability (Modified Sturm) = Slight to nil.
Other Information:	LC50 (Earthworms) > 1000 mg/kg of dry soil. Similar compounds show a low potential for bioaccumulation and environmental persistence.

13. DISPOSAL CONSIDERATIONS

Disposal of Waste Method:	This product, if disposed as received, is a non-hazardous waste. Bury in a licensed landfill or burn in an approved incinerator according to federal, state, and local regulations. Federal, state and local disposal laws and regulations will determine the proper waste disposal/recycling/reclamation procedure. Disposal requirements are dependent on the hazard classification and will vary by location and the type of disposal selected.
Contaminated Packaging:	If empty container retains product residues, all label precautions must be observed. Transport with all closures in place. Return for reuse or dispose according to national or local regulations. Do NOT reuse container. Dispose of container according to national or local regulations.

14. TRANSPORT INFORMATION

DOT:	Not Regulated
DOT Reportable Quantity (lbs):	None
ICAO/IATA:	See DOT
IMDG:	See DOT
Marine Pollutant:	No
TDG (Canada):	See DOT
Remarks:	None

15. REGULATORY INFORMATION

Worldwide Inventory Status

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15. REGULATORY INFORMATION

USA (TSCA):	Listed
Canada (DSL):	Listed
Canada (NDSL):	Not Applicable. Listed on the DSL.
European Union (EINECS/ELINCS):	Listed
Japan (ENCS):	Listed
Korea (ECL):	Listed
Australia (AICS):	Listed
New Zealand (NZ):	Listed
Phillipines (PICCS):	Listed
China (CLECS):	Listed.

US Regulatory Rules

SARA Section 302:	Not Applicable / None
SARA 311/312 Hazard Categories:	Immediate
SARA 313 Chemical:	Not Applicable / None
RCRA Status:	Not a RCRA waste.

Other Regulations:

California Proposition 65:	NONE
New Jersey Right-to-Know List:	Not Applicable.
Pennsylvania Right to Know List:	Not Applicable.
Florida Right to Know:	Not Applicable.
Minnesota Right to Know:	Not Applicable.
Massachusetts Right to Know Law:	Not Applicable.

FDA Status 21 CFR:	Not Regulated For Use in food contact applications under 21 CFR.
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Canadian Regulations

WHMIS Hazard Class:	NON-CONTROLLED
NPRI:	Not Listed. [Canada]

16. OTHER INFORMATION

Hazard Rating Systems:

HMIS Classification:	HEALTH 1, FLAMMABILITY 1, REACTIVITY 0
NFPA Rating:	HEALTH 1, FLAMMABILITY 1, REACTIVITY 0

The following has been revised since the last issue of this MSDS: New MSDS format. Add worldwide chemical inventory information.

Additional Information: Not Applicable

Important Note: This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

END OF MSDS

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