



## Material Safety Data Sheet

Last Revision: 04/27/2007

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### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** PERKACIT® TMTM  
**MSDS NO.** FLXP0009  
**Chemical Name:** Tetramethylthiuram Monosulfide  
**Synonyms:** Monothiurad; Bis(dimethyldithiocarbamoyl)sulfide  
**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]

**Prepared By:** Flexsys America Product Safety: Phone (330) 668-8281 FAX (330) 668-8345  
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### 2. HAZARDS IDENTIFICATION

**Emergency Overview:** WARNING! Dust may be irritating to eyes and upper respiratory tract. Fine dust clouds may form explosive mixtures with air. Highly toxic to fish and aquatic invertebrates. May cause sensitization by skin contact. 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 cause an allergic skin reaction. May be absorbed through the skin and product effects similiar to those caused by inhalation and/or 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 %
Tetramethylthiuram Monosulfide	97-74-5	> 97.0
White Mineral Oil	8042-47-5	0.6 - 2.0

### 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.

FLXP0009

MARKETED BY  
**HARWICK STANDARD  
DISTRIBUTION CORPORATION**  
60 S. Seiberling Street • Akron, Ohio 44305

#### 4. FIRST AID MEASURES

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

#### 5. FIRE FIGHTING MEASURES

<b>Flash Point (°F/C):</b>	318°F / >150°C
<b>Flash Point Method:</b>	Pensky-Martens Open Cup
<b>Autoignition Temp. (°F/C):</b>	>200°C
<b>Lower Explosion Limit (LEL):</b>	Not determined.
<b>Upper Explosion Limit (UEL):</b>	Not determined.
<b>Extinguishing Media:</b>	Use water fog, carbon dioxide, foam or dry chemical.
<b>Special Exposure Hazards:</b>	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.
<b>Special Protective Equipment:</b>	Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.
<b>Unusual Fire/Explosion Hazards:</b>	Toxic emissions may result if product is involved in a fire.

#### 6. ACCIDENTAL RELEASE MEASURES

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

#### 7. HANDLING AND STORAGE

<b>Handling:</b>	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.
<b>Storage:</b>	Store closed containers in a cool, dry, well-ventilated area. Store away from strong oxidizing materials. Avoid exposure to direct sunlight.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>Eye Protection:</b>	Wear safety glasses or goggles to protect against exposure.
<b>Skin Protection:</b>	Normal work coveralls. Launder contaminated clothing before reuse.
<b>Gloves:</b>	Use gloves as a standard industrial handling procedure. Appropriate chemical resistant gloves should be worn.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>Respiratory Protection:</b>	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.
<b>Ventilation:</b>	General; local exhaust ventilation as necessary to control any air contaminants to within their exposure limits during the use of this product.
<b>Airborne Exposure Limits:</b>	Nuisance Dust. OSHA PEL/8Hr-TWA = 15 mg/m <sup>3</sup> (Total Dust). OSHA PEL/8-Hr TWA = 05 mg/m <sup>3</sup> (Respirable Dust). ACGIH TLV/8-Hr TWA = 10 mg/m <sup>3</sup> . White Mineral Oil OSHA PEL/8-Hr TWA = 5mg/m <sup>3</sup> ACGIH TLV/8-Hr TWA = 5mg/m <sup>3</sup> .

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Yellow Powder or Granules.
<b>Odor:</b>	SLIGHT AROMATIC
<b>pH:</b>	Not Applicable
<b>Specific Gravity:</b>	1.4 @20°C
<b>Density:</b>	1.38
<b>Bulk Density:</b>	400-440 kg/m <sup>3</sup> @20°C
<b>Melting Point (°F/C):</b>	213°F / 101°C
<b>Boiling Point (°F/C):</b>	Not Determined
<b>Vapor Pressure:</b>	Not Determined
<b>Vapor Density (Air=1):</b>	Not Applicable
<b>% Volatile by Volume:</b>	<0.5% by weight
<b>Solubility in Water:</b>	15 ppm
<b>Other Solubility:</b>	Soluble in: Benzene Carbon Disulfide Organic liquids, including fats and oils
<b>Viscosity:</b>	Not Applicable
<b>Other Data:</b>	None Available.
<b>Molecular Weight:</b>	208.38
<b>Molecular Formula:</b>	C6-H12-N2-S3

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	Stable when stored at room temperature in closed, original container. Stable under normal conditions of handling, use and transportation.
<b>Hazardous Polymerization:</b>	WILL NOT OCCUR
<b>Conditions to Avoid:</b>	Not determined.
<b>Materials to Avoid:</b>	Avoid contact with acidic, basic or oxidizing agents.
<b>Hazardous Decomposition Products:</b>	Carbon monoxide. Oxides of nitrogen. Oxides of sulfur.
<b>Additional Guidelines:</b>	Not Applicable

## 11. TOXICOLOGICAL INFORMATION

<b>Acute Oral LD50 (mg/kg):</b>	1320 mg/kg (Rat)
<b>Acute Dermal LD50 (mg/kg):</b>	>2000 mg/kg (Rabbit)
<b>Acute Inhalation LC50 (mg/l):</b>	Not Determined

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

<b>Ingestion:</b>	May cause alcohol intolerance (Antabuse Effect). May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation.
<b>Skin Contact:</b>	May cause an allergic skin reaction. May be absorbed through the skin and product effects similar to those caused by inhalation and/or ingestion. May cause skin defatting with prolonged exposure.
<b>Inhalation:</b>	Exposure to dust particles generated from this material may cause irritation of the respiratory tract. Inhalation may cause alcohol intolerance

## 11. TOXICOLOGICAL INFORMATION

<b>Eye Contact:</b>	Causes mild eye irritation. Mild Eye Irritation: signs/symptoms can include redness, swelling, pain and tearing.
<b>Aggravated Conditions:</b>	Alcohol consumption problems.
<b>Carcinogenicity Comment:</b>	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.
<b>Other Information:</b>	Ingestion, inhalation or skin absorption may cause alcohol intolerance [Antabuse effect].
<b>Primary Irritation Effect:</b>	Practically non-irritating to skin. Slightly irritating to eyes.
<b>Carcinogenicity:</b>	Negative in standard tests using bacteria and/or yeast cells.
<b>Genotoxicity:</b>	Both negative and weak positive results in standard tests using animals and animal cells. Negative for genetic activity - in vivo tests.
<b>Reproductive/Developmental Toxicity:</b>	No evidence of teratogenicity in animal studies using rats, mice and/or hamsters.

## 12. ECOLOGICAL INFORMATION

<b>Acute Fish Toxicity:</b>	96Hr LC50 Rainbow Trout 2.3 mg/l 96Hr LC50 Bluegill Sunfish 2.6 mg/l
<b>Acute Crustaceans Toxicity:</b>	96Hr EC50 Daphnia Magna 1.6 mg/l
<b>Acute Algae Toxicity:</b>	96Hr EC50 1.00 mg/l
<b>Octanol/Water Coefficient:</b>	Log P = 0.75 [Estimated]
<b>Chemical Fate Information:</b>	Bioconcentration Factor: 2
<b>Other Information:</b>	Similar compounds show a low potential for bioaccumulation and environmental persistence.

## 13. DISPOSAL CONSIDERATIONS

<b>Disposal of Waste Method:</b>	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.
<b>Contaminated Packaging:</b>	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

<b>DOT:</b>	UN 3077, Environmentally Hazardous Substance, Solid, N.O.S., (Tetramethylthiuram Monosulfide), 9, III
<b>DOT Reportable Quantity (lbs):</b>	None
<b>ICAO/IATA:</b>	See DOT
<b>IMDG:</b>	See DOT
<b>Marine Pollutant:</b>	No
<b>TDG (Canada):</b>	See DOT

**Remarks:** NOTE: NEW shipping description effective May 21, 2007.

## 15. REGULATORY INFORMATION

### Worldwide Inventory Status

**USA (TSCA):** Listed

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## 15. REGULATORY INFORMATION

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 Delayed
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:	Regulated for Use under the following sections of 21 CFR: 177.2600 Rubber Articles Intended for Repeated Use in Food Contact. 175.105 Components of Adhesives.
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### Canadian Regulations

WHMIS Hazard Class:	D2B TOXIC MATERIALS / Materials Causing Other Toxic Effects
NPRI:	Not Listed. [Canada]

## 16. OTHER INFORMATION

### Hazard Rating Systems:

HMIS Classification:	HEALTH 2, 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. Transport information or classification has been changed/corrected.

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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