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SAFETY DATA SHEET

SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Identifier

Product Name : Thanecure® ZM
CAS Number : Mixture
Product Description : Dichloro[2,2'-dithiobis[benzothiazole]] zinc complex mixture

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Use(s) : Used in rubber industry as vulcanization accelerator.
Restrictions on Use(s) : None known.

1.3 Supplier : TSE Industries, Inc.
5260 113th Avenue North
Clearwater, FL 33760
Tel: (727) 573-7676
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SDS Contact : SDSInquiry@TSE-Industries.com
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North America: +1-800-535-5053

SECTION 2: Hazards Identification

2.1 Classification of the Substance or Mixture

Product Definition : Mixture
Physical Hazards : Not Classified as physical hazard according to 2012 OSHA Hazard Communication Standard: 29 CFR1910.1200.
Health Hazards : Not Classified as physical hazard according to 2012 OSHA Hazard Communication Standard: 29 CFR1910.1200.

This mixture has not been tested as a whole and classification is based on the toxicity of individual components. Acute toxicity of 100% of this mixture is not available.

2.2 Label Elements : None needed based on classification criteria

2.3 Hazard Not Otherwise Classified

Asphixiant : None
Combustible Dust : None

SECTION 3: Composition/information on ingredients

Substance/Mixture : Mixture

PRODUCT/INGREDIENT NAME	CAS#	%
Dichloro[2,2'-dithiobis[benzothiazole]] zinc complex	22405-83-0	50
Hydrated Amorphous Silica	112926-00-8	50

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

SECTION 4: First aid measures

4.1 Description of First Aid Measures

- Eye Contact** : Immediately flush eyes with plenty of water for at least 15 min., occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Administer oxygen or artificial respiration as needed. Get medical attention immediately if irritation symptoms occur.
- Skin Contact** : Remove contaminated clothing and shoes. Flush contaminated skin with plenty of soap and water for at least 15 minutes. Wash clothing before reuse. Get medical attention if symptoms occur.
- Ingestion** : Do not induce vomiting unless directed to do so by medical personnel. Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- Protection of First-Aiders** : No action shall be taken involving any personal risk or without suitable training.

4.2 Most Important Symptoms of Exposure

- Acute** : Exposure to airborne concentration above PEL may cause eye irritation and redness, coughing, irritation of the nose, throat and lungs.
- Delayed** : Prolong or repeated contact may dry skin and cause irritation

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

- Notes to Physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

SECTION 5: Firefighting Measures

5.1 Extinguishing Media

- Suitable Extinguishing Media** : Dry chemical, CO₂, foam.
- Unsuitable Extinguishing Media** : None known.

5.2 Special Hazards Arising from the Substance or Mixture

- Hazards from the Substance or Mixture** : Fine dust clouds may form explosive mixture with air.
- Hazardous Thermal Decomposition Products** : Carbon dioxide, carbon monoxide, metal oxides, sulfur and nitrogen oxides.

5.3 Advice for Firefighters

- Special Protective Actions for Firefighters** : Move container(s) from fire area if it can be done without risk. Cool material with water spray until well after the fire is out. Do not scatter spilled material with high-pressure water streams.
- Special Protective Equipment for Firefighters** : Fire-fighters should wear NFPA compliant firefighting protective equipment and self-contained breathing apparatus (SCBA).

SECTION 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

- Emergency Response Personnel** : Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment as specified in Section 8 of this SDS. Remove ignition sources.

- 6.2 Environmental Precautions** : Avoid dispersal of spilled material and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution.

6.3 Methods and Materials for Containment and Cleaning Up

- Small Spill** : Move containers from spill area. Vacuum or sweep up material and place it in an approved labeled container. Seal the container and dispose according to instructions in section 13 of this SDS.
- Large Spill** : Not anticipated.

SECTION 7: Handling and Storage

7.1 Handling

- Protective Measures** : Wear appropriate personal protective equipment, as specified in section 8 of this SDS, while handling this material.
- Handling** : Use only in well-ventilated areas. Avoid contact with eyes. Avoid generation and breathing of dust. Do not eat, drink or smoke while handling this material. Clean any spills immediately and decontaminate surface according to procedure in section 6.

7.2 Storage

- : Store in accordance with local regulations. Store in original container in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Do not store in unlabeled containers.

SECTION 8: Exposure Controls/Personal Protection

8.1 Occupational Exposure Limits

Name	CAS#	Regulatory Limits (OSHA PEL)		Recommended Limits (ACGIH TLV)	
		mppcf	mg/ m ³	ppm	mg/ m ³
Hydrated Amorphous Silica	112926-00-8	20	80/%SiO ₂	NA	NA
Dust or Particulates not otherwise specified	NA	-	15* 5**	-	10* 3**

*Total Dust

**Respirable Dust

- Recommended Monitoring** : Personal and workplace atmosphere monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

8.2 Exposure Controls

- Engineering Controls** : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. Use process enclosures, local ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended statutory limits.
- Environmental Controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual Protection Measures

- Hygiene Measures** : Remove contaminated clothing. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location
- Eye/Face Protection** : Eye protection complying with OSHA 1910.133 standard.
- Hand Protection** : Chemical-resistant, impervious gloves complying with OSHA 1910.138 standard should be worn at all times when handling chemical products. Recommended gloves: Nitrile rubber
- Body Protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Use permeation resistant clothing when spray mist/vapors are anticipated.
- Foot Protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Foot protection should comply with OSHA 1910.136 standard.

Respiratory Protection : Use air-purifying respirator complying with OSHA 1910.134 standard if vapors form. Recommended air-purifying respirator cartridge is an organic vapor with particulate filter (Combination OV/P100) cartridge.

SECTION 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Appearance

Physical State	:	Solid powder
Color	:	Yellow
Odor	:	Amine
Odor Threshold	:	No data available
pH	:	6 [conc.(%w/w):10%]
Melting Point/Freezing Point	:	>290°C (°F)
Initial Boiling Point & Boiling Range	:	No data available
Flash Point	:	No data available
Evaporation Rate	:	No data available
Flammability	:	No data available
Upper/Lower Flammability or Explosive Limits	:	No data available
Vapor Pressure	:	No data available
Vapor Density	:	No data available
Relative Density	:	1.85 mg/cm ³ @ 21°C(70°F)
Solubility(ies)	:	Insoluble in water
Partition Coefficient: n-octano/water	:	No data available
Auto-ignition Temperature	:	No data available
Decomposition Temperature	:	No data available
Viscosity	:	No data available

9.2 Other Information : None

SECTION 10: Stability and Reactivity

10.1 Reactivity	:	No specific test data related to reactivity available for this product or ingredients.
10.2 Chemical Stability	:	Stable at room temperature in closed containers under normal storage and handling conditions (70°F and 14.7psig).
10.3 Possibility of Hazardous Polymerization	:	Under normal conditions of storage and use, hazardous reactions will not occur. Will not polymerize. May form explosive dust/air mixtures.
10.4 Conditions to Avoid	:	Avoid dust formation. Avoid sparks and other source of ignition. Avoid contact with incompatible materials. Calcining may start on temperatures above 800°C, which may result in crystalline formation or mixing additives may alter toxicological properties.
10.5 Incompatible Materials	:	Potassium, oxidizing materials, alkalis and moisture.
10.6 Hazardous Decomposition Products	:	Carbon dioxide, carbon monoxide, metal oxides, sulfur and nitrogen oxides.

SECTION 11: Toxicological Information

Information on toxicological effects of material is not available at this time. Individual component information and calculations method have been used to evaluate health and physical hazards of the mixture.

Toxicity Data for Dichloro[2,2'-dithiobis[benzothiazole]] zinc complex mixture : Not data available.

Toxicity Data for Hydrated Amorphous Silica

Acute Toxicity : Not data available.
 Sensitization : Not data available.
 Skin Irritation : Not data available.
 Eye Irritation : Not data available.
 Repeated Dose Toxicity : Not data available.
 Mutagenicity : Not data available.
 Carcinogenicity : Not data available.
 Reproductive Toxicity : Not data available.
 Teratogenicity : Not data available.
 Specific Target Organ Toxicity (single exposure) : Not data available.
 Specific Target Organ Toxicity (repeated exposure) : Not data available.
 Aspiration Hazard : Not data available.

Information on the Likely Routes of Exposure : Not data available.

Potential Acute Health Effects

Eye Contact : No significant irritation expected other than possible mechanical irritation.
 Inhalation : Exposure to airborne concentrations above statutory recommended exposure limits may cause irritation to the nose throat and lungs.
 Skin Contact : Prolong or repeated contact may dry skin and cause irritation.
 Ingestion : No specific data.

Delayed and Immediate Effects and also Chronic Effects from Short and Long Term Exposure

Short Term Exposure

Potential Immediate Effects : Not available.
 Potential Delayed Effects : Not available.

Long Term Exposure

Potential Immediate Effects : Not available.
 Potential Delayed Effects : Not available.

Potential Chronic Health Effects

General : Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
 Carcinogenicity : This product contains no listed carcinogenic substances above the cut-off value as defined by IARC, NTP, ACGIH or OSHA.
 Mutagenicity : No known significant effects or critical hazards.
 Teratogenicity : No known significant effects or critical hazards.
 Developmental Effects : No known significant effects or critical hazards.
 Fertility Effects : No known significant effects or critical hazards.

Other Information : None

SECTION 12: Ecological Information

12.1 Ecotoxicity : Not data available.
 12.2 Persistence and Degradability : Not data available.
 12.3 Bioaccumulative Potential : Not data available.

- 12.4 **Mobility in Soil** : Not data available.
- Soil/Water Partition Coefficient (K_{oc})** : Not data available.
- Mobility** : Not data available.
- 12.5 **Other Adverse Effects** : Not data available.

SECTION 13: Disposal Considerations

13.1 Waste Treatment Methods

- Methods of Disposal** : Dispose product via a licensed waste disposal contractor in accordance with existing federal, state and local environmental laws. Incineration is the preferred method.
- Empty Container Disposal** : Empty container contains product residue. Do not reuse. If container is to be disposed, ensure all product residue is removed prior to disposal.
- Special Precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

SECTION 14: Transport Information

- Land Transport (DOT)** : Not regulated.
- Sea Transport (IMODG)** : Not regulated.
- Air Transport (ICAO/IATA)** : Not regulated.
- Additional Transportation Information** : Not regulated.

SECTION 15: Regulatory Information

U.S. EPA CERCLA Hazardous Substances (40CFR302.4) :

Components

None

Reportable quantity

U.S. EPA SARA TITLE III: Section 311/312 Categorizations (40CFR370) : Acute Health Hazard

U.S. EPA Emergency Planning and Community Right-to-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substances (40CFR 355, Appendix A) : None

U.S. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65)-Supplier Notification Required : This product does not contain a chemical which is listed in Section 313 at or above 'de minimis' concentrations.

U.S. Toxic Substances Control Act : All components of this material are in compliance with the current inventory requirements.

State Right-to-Know Information

The following chemical is specifically listed by individual states; other product specific health and safety data in other sections of the SDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>	<u>State</u>
	None		

California Proposition 65

To the best of our knowledge, this product does not contain chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

SECTION 16: Other information

Abbreviations and Acronyms

ATE	:	Acute Toxicity Estimate
DNEL	:	Derived No Effect Level
ACGIH	:	American Conference of Governmental Industrial Hygienists
CASRN	:	Chemical Abstracts Service Registry Number
IARC	:	International Agency for Research on Cancer
N/A	:	Not Applicable
N/D	:	Not Determined
N/E	:	Not Established
NTP	:	National Toxicology Program
OSHA	:	Occupational Safety & Health Administration
PEL	:	Permissible Exposure Limit
PPE	:	Personal Protective Equipment
STEL	:	Short Term (15 min) Exposure Limit
STP	:	Standard Temperature and Pressure
TLV	:	Threshold Limit Value
TWA	:	Time Weighted Average (8 hr.) Time Weighted Average (8 hr.)

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