



Material Safety Data Sheet

Last Revision: 04/16/2007

Printing Date: 05/03/2007

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: PERKACIT® ZMBT

MSDS NO. FLXP0004

Chemical Name: Zinc 2-Mercaptobenzothiazole

Synonyms: ZMBT; Bantex; Zinc Salt of 2-Mercaptobenzothiazole

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: CAUTION! May irritate the eyes. May irritate the skin.

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

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

Inhalation: May cause mild respiratory irritation. Vapors given off by heated product may be harmful or irritating.

Ingestion: May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Zinc 2-Mercaptobenzothiazole	155-04-4	82 - 86
2-Mercaptobenzothiazole	149-30-4	14 - 18

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: Remove contaminated clothing. Wash skin with water, using soap if available. Remove contaminated clothing and launder before reuse. Get medical attention if irritation persists.

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.

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4. FIRST AID MEASURES

Notes To Physician: Provide symptomatic/supportive care as necessary. Treatment based on sound judgment of physician and individual reactions of patient.

5. FIRE FIGHTING MEASURES

Flash Point (°F/C): Not Determined
Flash Point Method: Not Determined
Autoignition Temp. (°F/C): Not Determined.
Lower Explosion Limit (LEL): Not Determined
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. Combustible dust when in a finely divided and highly suspended state. Use water spray to cool fire exposed surfaces. Do not allow runoff to enter waterways.
Special Protective Equipment: Fire fighters should wear full impervious protective clothing, including self-contained breathing equipment.
Unusual Fire/Explosion Hazards: Toxic emissions may result if product is involved in a fire. Fire produces highly toxic sulfur dioxide gas.

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. Isolate spill and stop leak where safe. 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: Good hygienic practices should be observed. Work clothes should be washed separately at the end of each work day. Disposable clothing should be discarded with material. Avoid generating or breathing dust. Avoid contact with eyes, skin and clothing. Reclose containers of unused product. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. 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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Eye Protection: Wear safety glasses or goggles to protect against exposure. Eye protection is not required during typical product use conditions
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.
Respiratory Protection: 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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation:	General; local exhaust ventilation as necessary to control any air contaminants to within their exposure limits during the use of this product. Adequate ventilation should be provided to keep dust concentrations below acceptable exposure limits. Discharge from the ventilation system should comply with the applicable air pollution control regulations. Eliminate ignition sources.
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 .

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Off-white to pale yellow fine powder
Odor:	SLIGHT
pH:	Not Applicable
Specific Gravity:	1.7 @ 25°C
Density:	1700 kg/m ³
Bulk Density:	470 - 510 kg/m ³
Melting Point (°F/C):	572°F / 300°C
Boiling Point (°F/C):	Not Determined
Vapor Pressure:	Negligible
Vapor Density (Air=1):	Not Applicable
% Volatile by Volume:	0.5% max (3 hrs @ 60°C)
Solubility in Water:	INSOLUBLE
Other Solubility:	Soluble in: Dilute base (NaOH)
Viscosity:	Not Applicable
Other Data:	Zinc Content: 15 - 18%
Molecular Weight:	397.9
Molecular Formula:	C14-H8-N2-S4-Zn

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:	Keep away from heat, sparks and flame. Dispersion of dust. Avoid contact with strong oxidants such as liquid chlorine and concentrated oxygen.
Materials to Avoid:	Strong oxidizing agents. Strong acids.
Hazardous Decomposition Products:	Carbon monoxide. Oxides of nitrogen. Oxides of sulfur. Toxic zinc metal fumes
Additional Guidelines:	Not Applicable

11. TOXICOLOGICAL INFORMATION

Acute Oral LD50 (mg/kg):	7500 mg/kg (Rat)
Acute Dermal LD50 (mg/kg):	>7940 mg/kg (Rabbit)
Acute Inhalation LC50 (mg/l):	Not Determined

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

Ingestion:	May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation.
Skin Contact:	May cause an allergic skin reaction. May cause a rash and itching of the skin. May cause skin defatting with prolonged exposure.
Inhalation:	May cause mild respiratory irritation. Vapors given off by heated product may be harmful or irritating.
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 ailments.

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11. TOXICOLOGICAL INFORMATION

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.
Primary Irritation Effect:	Practically non-irritating
Carcinogenicity:	Negative in standard tests using bacteria and/or yeast cells.
Genotoxicity:	Negative for genetic activity - in vitro tests.
Reproductive/Developmental Toxicity:	For component MBT: A National Toxicology Program (NTP) 2-year study on rats and mice concluded that there was "some evidence of carcinogenic activity" in treated rats. For component ZMBT: No effects seen in experiments using chicken embryos.

12. ECOLOGICAL INFORMATION

Acute Fish Toxicity:	96Hr LC50 Bluegill Sunfish = 1.50 mg/l. 96Hr LC50 Fathead Minnow = 11.0 mg/l.
Acute Crustaceans Toxicity:	48Hr EC50 Daphnia Magna = 4.1 mg/l.
Acute Algae Toxicity:	96Hr EC50 Algae = 0.25 mg/l.
Octanol/Water Coefficient:	Log P = 5.02 [Estimated]
Chemical Fate Information:	Biodegradation based on CO2 evolution: Very Slow.
Other Information:	Aquatic toxicity for components is generally moderate to high for most species.

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

DOT:	UN3077, Environmentally Hazardous Substance, Solid, N.O.S., (2-Mercaptobenzothiazole), 9, III
DOT Reportable Quantity (lbs):	None
ICAO/IATA:	See DOT
IMDG:	See DOT
Marine Pollutant:	No
TDG (Canada):	See DOT

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

15. REGULATORY INFORMATION

Worldwide Inventory Status

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

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15. REGULATORY INFORMATION

Phillipines (PICCS):

Listed

China (CLECS):

Listed.

US Regulatory Rules

SARA Section 302:

None Found

SARA 311/312 Hazard Categories:

Immediate Delayed

SARA 313 Chemical:

As "Zinc Compounds"; De Minimis concentration = 1.0%.
Component 2-Mercaptobenzothiazole.

RCRA Status:

Not a RCRA waste.

Other Regulations:

California Proposition 65:

NONE

New Jersey Right-to-Know List:

As "Zinc Compounds". NJ Substance #3012. Component 2-Mercaptobenzothiazole: New Jersey Substance ID# 3710.

Pennsylvania Right to Know List:

As "Zinc Compounds".

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.
178.3120 Animal Glue.

Canadian Regulations

WHMIS Hazard Class:

D2B TOXIC MATERIALS / Materials Causing Other Toxic Effects

NPRI:

Listed under the category "Zinc and Its Compounds", NPRI Part 1, Group 1, ID# 231 [Canada]. Minimum concentration to report = 1%. Component 2-Mercaptobenzothiazole: NPRI Part 1, Group 1, ID# 148, minimum concentration 1%.

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. Transport information or classification has been changed/corrected. Add NPRI information [Canada].

Additional Information:

"Zinc Compounds" are included on the Connecticut, California, Michigan and Illinois Hazardous Materials Lists (USA). "Zinc Compounds" are also regulated as a Clean Water Act regulated substance [USA].

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END OF MSDS

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