FLEXSYS

Material Safety Data Sheet

Last Revision: 05/07/2007
Printing Date: 05/07/2007

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: VOCOL® ZBPD

MSDS NO. FLXP0057

Chemical Name: Zinc, bis(O,O-Dibutylphosphorodithioato-.kappa.S,.kappa.S')-
Synonyms: Vocol; ZBPD; Zinc-O,O,O´,O´-tetrabutylbis(phosphorodithioate); Zinc-O,O-di-n-butylphosphorodithioate.
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: DANGER! Causes severe eye irritation. Will damage tissue. Causes moderate skin irritation. Heating or acid contact may release highly toxic Hydrogen Sulfide.

Eye Contact: Causes severe eye irritation. Will damage tissue. May harm vision. Vapor and/or liquid causes irritation.

Skin Contact: Causes moderate skin irritation. Causes drying of the skin. May cause a rash and itching of the skin. Animal tests show a potential for skin sensitization. No incidents involving human skin sensitization/allergic reaction are known to the manufacturer.

Inhalation: Vapors that are toxic as well as irritating to the respiratory tract may be produced upon heating this material. Highly toxic Hydrogen Sulfide gas may be released upon heating or contact with acids.

Ingestion: Illness may occur after a single swallowing of relatively large quantities of this material.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Zinc-O,O-di-n-butylphosphorodithioate	6990-43-8	100

4. FIRST AID MEASURES

In Eyes: In case of contact or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

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 shoes and discard. Remove contaminated clothing and launder before reuse.

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: Provide symptomatic/supportive care as necessary.

5. FIRE FIGHTING MEASURES

Flash Point (°F/C): 383 °F / 195°C
Flash Point Method: Cleveland Open Cup
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. Sprinkler and/or deluge systems recommended for bulk storage areas. Closed containers may explode in fire. 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: 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 carbon monoxide, sulfur oxides, phosphorous pentoxide and hydrogen sulfide gases.

6. ACCIDENTAL RELEASE MEASURES

Spill Procedures: Isolate the area. Stop leak if safe to do so. Wear impervious personal protective equipment to protect eyes, skin and clothing.

Procedure for Cleaning/Absorption: Absorb spill with inert material such as sand, dry earth or vermiculite. Scoop up and remove solids. Do NOT spread spilled product with water. Ventilate area thoroughly.

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 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 acids. Partial crystallization may occur at low temperatures. Warm gently to dissolve solids. Avoid exposure to direct sunlight.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Eye Protection: Chemical goggles recommended. Wear a face shield for additional protection if a splashing hazard exists.

Skin Protection: Rubber apron. Wear rubber boots. Normal work coveralls. Launder contaminated clothing before reuse. Discard contaminated shoes.

Gloves: Use gloves as a standard industrial handling procedure. All cleanable impervious glove types are acceptable. Consult glove manufacturer for best type of glove for specific tasks.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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.

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: OSHA PEL/8-Hr TWA: None Established. Hydrogen Sulfide: OSHA PEL/8Hr TWA = 10 ppm OSHA STEL = 15 ppm. ACGIH TLV/8Hr TWA = 10 ppm ACGIH STEL = 15 ppm.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear yellow-green oily liquid.
Odor:	SHARP, PUNGENT
pH:	4.0 minimum
Specific Gravity:	1.21 - 1.32 @ 15.6°C
Density:	1.2
Bulk Density:	1260 kg/m^3 @ 25°C
Melting Point (°F/C):	<32°F / 0°C
Boiling Point (°F/C):	Not Determined - Degradation above 100°C.
Vapor Pressure:	Not Determined
Vapor Density (Air=1):	Not Determined
% Volatile by Volume:	Not Determined
Solubility in Water:	INSOLUBLE
Other Solubility:	Soluble in: Acetone Alcohol Benzene
Viscosity:	490 cps @ 25°C 76 cps @ 60°C
Other Data:	Phosphorous Content: 10.7-11.5%. Zinc Content: 11.4-13.2%. Sulfur Content: 2.0-23.6%.
Molecular Weight:	548.03
Molecular Formula:	C16-H36-O4-P2-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. Stable if protected from heat and exposure to air.
Hazardous Polymerization:	WILL NOT OCCUR
Conditions to Avoid:	Keep away from heat, sparks and flame. Temperatures above 100°C. Contact with acids.
Materials to Avoid:	Contact with acids.
Hazardous Decomposition Products:	Carbon monoxide. Carbon dioxide. Oxides of sulfur. Hydrogen sulfide Oxides of phosphorus
Additional Guidelines:	Thermal decomposition begins above 100°C. Hydrogen Sulfide may be released.

11. TOXICOLOGICAL INFORMATION

Acute Oral LD50 (mg/kg):	1800 mg/kg (Rat)
Acute Dermal LD50 (mg/kg):	>5010 mg/kg (Rabbit)
Acute Inhalation LC50 (mg/l):	Not Determined

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

Ingestion: Illness may occur after a single swallowing of relatively large quantities of this material.

11. TOXICOLOGICAL INFORMATION

Skin Contact:	Causes moderate skin irritation. Causes drying of the skin. May cause a rash and itching of the skin. Animal tests show a potential for skin sensitization. No incidents involving human skin sensitization/allergic reaction are known to the manufacturer.
Inhalation:	Vapors that are toxic as well as irritating to the respiratory tract may be produced upon heating this material. Highly toxic Hydrogen Sulfide gas may be released upon heating or contact with acids.
Eye Contact:	Causes severe eye irritation. Will damage tissue. May harm vision. Vapor and/or liquid causes irritation.
Aggravated Conditions:	Pulmonary disorders. Dermal ailments. Eye ailments. Respiratory 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.
Other Information:	Under certain conditions, highly toxic Hydrogen Sulfide gas will evolve.
Primary Irritation Effect:	STRONG eye irritant. Moderate skin irritant. Possible sensitizer.
Carcinogenicity:	Negative in standard tests using bacteria and/or yeast cells.
Genotoxicity:	No adverse effects in standard tests using yeast cells. Negative for genetic activity - in vitro tests. Negative for genetic activity - in vivo tests.
Reproductive/Developmental Toxicity:	Not Determined.

12. ECOLOGICAL INFORMATION

Acute Fish Toxicity:	96Hr LC50 Rainbow Trout = 49.0 mg/l. 96Hr LC50 Bluegill Sunfish = 120.0 mg/l.
Acute Crustaceans Toxicity:	48Hr EC50 Daphnia Magna = 7.3 mg/l
Acute Algae Toxicity:	Not Determined.
Octanol/Water Coefficient:	Log P = 4.21 [Estimated]
Chemical Fate Information:	Not Determined.
Other Information:	Not Available

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, transporation 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:	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

USA (TSCA):	Listed
Canada (DSL):	Listed

15. REGULATORY INFORMATION

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 Catagories:	Immediate
SARA 313 Chemical:	As "Zinc Compounds"; De Minimis concentration = 1.0%.
RCRA Status:	Not a RCRA waste.

Other Regulations:

California Proposition 65:	NONE
New Jersey Right-to-Know List:	As "Zinc Compounds". NJ Substance #3012.
Pennsylvania Right to Know List:	As "Zinc Compounds".
Florida Right to Know:	Not Applicable.
Minnesota Right to Know:	As "Zinc Compounds".
Massachusetts Right to Know Law:	As "Zinc Compounds".
FDA Status 21 CFR:	Not Regulated For Use in food contact applications under 21 CFR.

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%.

16. OTHER INFORMATION

Hazard Rating Systems:

HMIS Classification:	HEALTH 3, FLAMMABILITY 1, REACTIVITY 1
NFPA Rating:	HEALTH 3, FLAMMABILITY 1, REACTIVITY 1

The following has been revised since the last issue of this MSDS:	New MSDS format.
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].

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*****