DISULFOTON

DIS

CAUTIONARY RESPONSE INFORMATION

Common Synonyms			
O,O-Diethyl-5-2-(ethylthio)ethyl phosphodithioate Di-syston Dithiosystox Thiodemeton	Liquid	Pale yellow	Characteristic sulfur compound
	Sinks and mixes slowly with water.		

Evacuate.
Keep people away. Avoid contact with liquid.
Avoid inhalation.
Wear goggles, a self-contained breathing apparatus and rubber overclothing (including gloves).
Notify local health and pollution control agencies.
Protect water intakes.

Fire

Fire data not available.

Exposure

CALL FOR MEDICAL AID.

VAPOR
POISONOUS IF INHALED.
Move to fresh air.
If breathing has stopped, give artificial respiration.
If breathing is difficult, give oxygen.

LIQUID
POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED.
Remove contaminated clothing and shoes.
Flush affected areas with plenty of water.
IF IN EYES, hold eyelids open and flush with plenty of water.
IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and induce vomiting.

Water Pollution

HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.
May be dangerous if it enters water intakes.
Notify local health and wildlife officials.
Notify operators of nearby water intakes.

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge
Contain
Collection Systems: Pump; Dredge

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: Not listed.
2.2 Formula: $(C_2H_5O)_2P(S)SCH_2CH_2SCH_2CH_3$
$C_8H_{19}O_2S_3P$
2.3 IMO/UN Designation: 6.1/1615
2.4 DOT ID No.: 2783
2.5 CAS Registry No.: 298-04-4
2.6 NAERG Guide No.: 152
2.7 Standard Industrial Trade Classification: 51631

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Rubber gloves, goggles, a respirator, rubber boots and other protective clothing.
3.2 Symptoms Following Exposure: INHALATION, INGESTION, OR ABSORPTION THROUGH SKIN: Can cause headache, anorexia, nausea, asthenia, vertigo, miosis, abdominal cramps, diarrhea, salivation, lacrimation, sweating, shortness of breath, substernal tightness, slow pulse, tremor, muscular cramps, ataxia, fever, cyanosis, pulmonary edema, areflexia, loss of sphincter control, convulsions, coma, shock, dyspnea and death.
3.3 Treatment of Exposure: Call physician. INHALTION AND SKIN: Speed is essential. Remove from exposure. Flood and wash exposed skin areas throughly with water. Remove contaminated clothing under a shower. In nonbreathing victim, immediately institute artifical respiration. Administer atropine, 2 mg intramuscularly when symptoms of intoxication are noted. Repeat every 3 to 8 minutes until signs of atropinization occur. (Mydriasis, dry mouth, rapid pulse, hot and dry skin.) EYES: Flush with water. INGESTION: Administer milk, water or salt water and induce vomiting repeatedly. Gastric lavage and saline catharsis.
3.4 TLV-TWA: 0.1 mg/m^3.
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Ingestion: Grade 4; LD_{50} <50 mg/kg.
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: Possible mutagen, positive in bacterial tests. Decrease in cholinesterase activity mainly in erythrocytes and mild abnormalities in liver enzyme activities in dogs.
3.10 Vapor (Gas) Irritant Characteristics: Currently not available
3.11 Liquid or Solid Characteristics: Currently not available
3.12 Odor Threshold: Currently not available
3.13 IDLH Value: Not listed.
3.14 OSHA PEL-TWA: Not listed.
3.15 OSHA PEL-STEL: Not listed.
3.16 OSHA PEL-Ceiling: Not listed.
3.17 EPA AEGL: Not listed

4. FIRE HAZARDS

4.1 Flash Point: Currently not available
4.2 Flammable Limits in Air: Currently not available
4.3 Fire Extinguishing Agents: Not pertinent
4.4 Fire Extinguishing Agents Not to Be Used: Currently not available
4.5 Special Hazards of Combustion Products: Currently not available
4.6 Behavior in Fire: Currently not available
4.7 Auto Ignition Temperature: Currently not available
4.8 Electrical Hazards: Currently not available
4.9 Burning Rate: Currently not available
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichometric Air to Fuel Ratio: 76.2 (calc.)
4.12 Flame Temperature: Currently not available
4.13 Combustion Molar Ratio (Reactant to Product): 21.0 (calc.)
4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed

5. CHEMICAL REACTIVITY

5.1 Reactivity with Water: No reaction
5.2 Reactivity with Common Materials: No reaction
5.3 Stability During Transport: Currently not available
5.4 Neutralizing Agents for Acids and Caustics: Currently not available
5.5 Polymerization: Currently not available
5.6 Inhibitor of Polymerization: Currently not available

6. WATER POLLUTION

6.1 Aquatic Toxicity:
0.064 ppm/96-hour/Bluegill/LC_{50}/hard water
0.07 to 0.082 ppm/96-hour/Bluegill/LC_{50}/soft water
7.2 ppm/96-hour/Goldfish/LC_{50}/soft water
0.28 ppm/96-hour/Guppy/LC_{50}/soft water
4.1 ppm/96-hour/Fathead minnow/LC_{50}/soft water
6.2 Waterfowl Toxicity: Oral LD_{50} Young mallard = 6.5 mg/kg 5 day LC_{50} Mallards = 400 to 500 ppm
6.3 Biological Oxygen Demand (BOD): Currently not available
6.4 Food Chain Concentration Potential: Currently not available
6.5 GESAMP Hazard Profile:
Bioaccumulation: 0
Damage to living resources: 4
Human Oral hazard: 4
Human Contact hazard: II
Reduction of amenities: XXX

7. SHIPPING INFORMATION

7.1 Grades of Purity: Technical purity - minimum 94%
7.2 Storage Temperature: Currently not available
7.3 Inert Atmosphere: Currently not available
7.4 Venting: Currently not available
7.5 IMO Pollution Category: Currently not available
7.6 Ship Type: Currently not available
7.7 Barge Hull Type: Currently not available

8. HAZARD CLASSIFICATIONS

8.1 49 CFR Category: Not listed.
8.2 49 CFR Class: Not listed.
8.3 49 CFR Package Group: Not listed.
8.4 Marine Pollutant: Yes
8.5 NFPA Hazard Classification: Not listed
8.6 EPA Reportable Quantity: 1 pound
8.7 EPA Pollution Category: X
8.8 RCRA Waste Number: P039
8.9 EPA FWPCA List: Yes

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Physical State at 15° C and 1 atm: Solid
9.2 Molecular Weight: 274.42
9.3 Boiling Point at 1 atm: 143.6°F at 0.01 mm Hg = 62°C at 0.01 mm Hg = 335.2°K at 0.01 mm Hg
9.4 Freezing Point: <–13°F = <–25°C = <–248°K
9.5 Critical Temperature: Currently not available
9.6 Critical Pressure: Currently not available
9.7 Specific Gravity: 1.144 at 20°C
9.8 Liquid Surface Tension: Currently not available
9.9 Liquid Water Interfacial Tension: Currently not available
9.10 Vapor (Gas) Specific Gravity: 9.45
9.11 Ratio of Specific Heats of Vapor (Gas): Currently not available
9.12 Latent Heat of Vaporization: Currently not available
9.13 Heat of Combustion: Currently not available
9.14 Heat of Decomposition: Currently not available
9.15 Heat of Solution: Currently not available
9.16 Heat of Polymerization: Currently not available
9.17 Heat of Fusion: Currently not available
9.18 Limiting Value: Currently not available
9.19 Reid Vapor Pressure: Currently not available

NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
	CURRENTLY NOT AVAILABLE		CURRENTLY NOT AVAILABLE		CURRENTLY NOT AVAILABLE		CURRENTLY NOT AVAILABLE

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
68	0.002		NOT PERTINENT		NOT PERTINENT		CURRENTLY NOT AVAILABLE