

**ENDOSULFAN (MIXED ISOMERS)****0742**

March 1998

**CAS No: 115-29-7**  
**RTECS No: RB9275000**  
**UN No: 2761**  
**EC No: 602-052-00-5**

(1,4,5,6,7,7-Hexachloro-8,9,10-trinorborn-5-en-2,3-ylenebismethylene)sulfite  
 6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide  
 $C_9H_6Cl_6O_3S$   
 Molecular mass: 406.9

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
<b>FIRE</b>	Not combustible. Liquid formulations containing organic solvents may be flammable. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings: all extinguishing agents allowed.
<b>EXPLOSION</b>			In case of fire: keep drums, etc., cool by spraying with water.

EXPOSURE		PREVENT DISPERSION OF DUST! STRICT HYGIENE! AVOID EXPOSURE OF ADOLESCENTS AND CHILDREN!	IN ALL CASES CONSULT A DOCTOR!
<b>Inhalation</b>	(see Ingestion).	Local exhaust or breathing protection.	Fresh air, rest. Refer for medical attention.
<b>Skin</b>	MAY BE ABSORBED! (See Ingestion).	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
<b>Eyes</b>		Face shield, or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
<b>Ingestion</b>	Blue lips or fingernails. Confusion. Convulsions. Diarrhoea. Dizziness. Headache. Laboured breathing. Nausea. Unconsciousness. Vomiting. Weakness.	Do not eat, drink, or smoke during work. Wash hands before eating.	Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Rest. Refer for medical attention.

SPILLAGE DISPOSAL	PACKAGING & LABELLING
Do NOT wash away into sewer. Sweep spilled substance into sealable containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. (extra personal protection: chemical protection suit including self-contained breathing apparatus).	T Symbol N Symbol R: 24/25-36-50/53 S: (1/2-)28-36/37-45-60-61 UN Hazard Class: 6.1 UN Pack Group: II Do not transport with food and feedstuffs. Severe marine pollutant.

EMERGENCY RESPONSE	STORAGE
Transport Emergency Card: TEC (R)-61G41b.	Provision to contain effluent from fire extinguishing. Separated from acids, bases, iron, food and feedstuffs. Dry. Well closed.

### IMPORTANT DATA

**Physical State; Appearance**

PURE: COLOURLESS CRYSTALS ; TECHNICAL: BROWN FLAKES, WITH CHARACTERISTIC ODOUR.

**Chemical Dangers**

The substance decomposes on heating, producing toxic fumes including sulfur oxides, chlorine fumes. Reacts with bases causing toxic (sulfur dioxides fumes) hazard. Attacks iron.

**Occupational Exposure Limits**

TLV: 0.1 mg/m<sup>3</sup> (as TWA), A4 (skin) (ACGIH 1997).

**Routes of Exposure**

The substance can be absorbed into the body by inhalation, through the skin, and by ingestion.

**Inhalation Risk**

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly on spraying or when dispersed, especially if powdered.

**Effects of Short-term Exposure**

The substance may cause effects on the central nervous system, blood, resulting in irritability, convulsions and renal failure. Exposure at high levels may result in death. The effects may be delayed. Medical observation is indicated.

### PHYSICAL PROPERTIES

Melting point: (technical):70-100°C; (pure):106°C

Density: 1.7

Solubility in water: none

Vapour pressure, Pa at 80°C: 1.2

Octanol/water partition coefficient as log Pow: 3.55-3.62

### ENVIRONMENTAL DATA

The substance is very toxic to aquatic organisms. This substance may be hazardous to the environment; special attention should be given to birds, and soil organisms. In the food chain important to humans, bioaccumulation takes place, specifically in aquatic organisms. The substance may cause long-term effects in the aquatic environment. Avoid release to the environment in circumstances different to normal use.

### NOTES

Use of alcoholic beverages enhances the harmful effect. If the substance is formulated with solvent(s) also consult the card(s) (ICSC) of the solvent(s). Carrier solvents used in commercial formulations may change physical and toxicological properties. Do NOT take working clothes home. Beosit, Chlortiepin, Cycloclan, Devisulphan, Endocel, Endosol, Hildan, Insectophene, Malix, Rasayansulfan, Thifor, Thimul, Thiodan, Thionex, and Thiosulfan are trade names.

### ADDITIONAL INFORMATION

**LEGAL NOTICE**

Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible for the use which might be made of this information