

# Endrin aldehyde

sc-257411



The Power is Question

## Material Safety Data Sheet

Hazard Alert Code Key:

EXTREME

HIGH

MODERATE

LOW

## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### PRODUCT NAME

Endrin aldehyde

### STATEMENT OF HAZARDOUS NATURE

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

### NFPA



### SUPPLIER

Santa Cruz Biotechnology, Inc.  
2145 Delaware Avenue  
Santa Cruz, California 95060  
800.457.3801 or 831.457.3800

### EMERGENCY

ChemWatch

Within the US & Canada: 877-715-9305

Outside the US & Canada: +800 2436 2255

(1-800-CHEMCALL) or call +613 9573 3112

### SYNONYMS

C12-H8-Cl6-O, "1, 2, 4-methenocyclopenta[cd]pentalene-5-carboxaldehyde, ", "2, 2a, 3, 3, 4, 7-hexachlorodecahydro-, (1alpha, 2beta, 2abeta, 4beta, 4abeta, ", "5beta, 6beta, 6bbeta, 7R\*)-", cyclodiene

## Section 2 - HAZARDS IDENTIFICATION

### CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability:	1	
Toxicity:	2	
Body Contact:	2	
Reactivity:	1	
Chronic:	2	

Min/Nil=0  
Low=1  
Moderate=2  
High=3  
Extreme=4



### CANADIAN WHMIS SYMBOLS



## EMERGENCY OVERVIEW

### RISK

Harmful if swallowed.

May cause long-term adverse effects in the aquatic environment.

### POTENTIAL HEALTH EFFECTS

#### ACUTE HEALTH EFFECTS

##### SWALLOWED

■ Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.

■ Organochlorine pesticides excite the central nervous system, causing shortness of breath, cough, narrowing of airways and throat spasms.

In the muscles it can cause twitches, spastic movements and seizures.

##### EYE

■ Although the material is not thought to be an irritant, direct contact with the eye may cause transient discomfort characterized by tearing or conjunctival redness (as with windburn).

Slight abrasive damage may also result.

##### SKIN

■ Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.

■ There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons.

■ Chlorinated cyclodiene pesticides are absorbed through the skin.

Central nervous system effects can occur, including hyperexcitability of muscle, which can cause twitching, jerks and convulsions.

■ Exposure to the material may result in a skin inflammation called chloracne.

This is characterized by white- and blackheads, keratin cysts, spots, excessive discoloration.

■ Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.

Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

##### INHALED

■ The material is not thought to produce respiratory irritation (as classified using animal models).

Nevertheless inhalation of dusts, or fume, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.

■ Inhalation of dusts, generated by the material during the course of normal handling, may be damaging to the health of the individual.

■ Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.

##### CHRONIC HEALTH EFFECTS

■ Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.

Exposure to the material may cause concerns for human fertility, on the basis that similar materials provide some evidence of impaired fertility in the absence of toxic effects, or evidence of impaired fertility occurring at around the same dose levels as other toxic effects, but which are not a secondary non-specific consequence of other toxic effects.

Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung.

Human exposure to cyclodienes can cause reduction of blood cell numbers, leukemia and anemia. Prolonged exposure causes cumulative effects such as irritability, drowsiness, loss of appetite and acute exposure symptoms.

Exposure to organochlorine pesticides for long periods can cause multiple nervous system infections and disorders involving the brain and autonomic nerves with headache, dizziness, "pins and needles", tremor in the limbs, disturbances in nerves supplying blood vessels, pain in the bowel and stiffening of the bile duct, rapid heartbeat, hollow heart sounds and a tight pain in the chest. There can be blood problems with loss of platelets and white blood cells, change in blood cell distribution, anemia, loss of appetite and weight.

## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
endrin aldehyde	7421-93-4	>98

## Section 4 - FIRST AID MEASURES

##### SWALLOWED

· IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY. · Where Medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:

##### EYE

■ If this product comes in contact with the eyes: · Wash out immediately with fresh running water. · Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

##### SKIN

■ If skin contact occurs: · Immediately remove all contaminated clothing, including footwear · Flush skin and hair with running water (and soap if available).

##### INHALED

· If fumes or combustion products are inhaled remove from contaminated area. · Lay patient down. Keep warm and rested.

## NOTES TO PHYSICIAN

- Organochlorines are well absorbed from the lungs, gastrointestinal tract and skin.
- Intoxication from acute oral exposures generally begins within 45 minutes to several hours.
- Diazepam is the anticonvulsant of choice. [Phenobarbitone, sodium phenobarbitone or in repeated convulsions sodium pentothal (2.5% solution) may also be given - calcium gluconate may also be helpful] (Manufacturers; David Gray and Hoechst).

## Section 5 - FIRE FIGHTING MEASURES

Vapour Pressure (mmHG):	Negligible
Upper Explosive Limit (%):	Not available
Specific Gravity (water=1):	Not available
Lower Explosive Limit (%):	Not available

### EXTINGUISHING MEDIA

- Foam.
- Dry chemical powder.

### FIRE FIGHTING

- Alert Emergency Responders and tell them location and nature of hazard.
  - Wear full body protective clothing with breathing apparatus.
- When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 800 metres in all directions.

### GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS

- Combustible solid which burns but propagates flame with difficulty.
  - Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust may burn rapidly and fiercely if ignited.
- Combustion products include: carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), hydrogen chloride, phosgene, other pyrolysis products typical of burning organic material.
- May emit clouds of acrid smoke.
- May emit poisonous fumes.

### FIRE INCOMPATIBILITY

- Avoid contamination with oxidizing agents i.e. nitrates, oxidizing acids, chlorine bleaches, pool chlorine etc. as ignition may result.

### PERSONAL PROTECTION

- Glasses:  
Chemical goggles.
- Gloves:
- Respirator:  
Type AB-P Filter of sufficient capacity

## Section 6 - ACCIDENTAL RELEASE MEASURES

### MINOR SPILLS

- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Control personal contact by using protective equipment.
- Use dry clean up procedures and avoid generating dust.
- Place in a suitable, labelled container for waste disposal.

### MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Emergency Responders and tell them location and nature of hazard.

## Section 7 - HANDLING AND STORAGE

### PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
  - Wear protective clothing when risk of exposure occurs.
- Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source.
- Do NOT cut, drill, grind or weld such containers.
  - In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.

### RECOMMENDED STORAGE METHODS

- Lined metal can, Lined metal pail/drum
  - Plastic pail.
- For low viscosity materials
- Drums and jerricans must be of the non-removable head type.

· Where a can is to be used as an inner package, the can must have a screwed enclosure.

**STORAGE REQUIREMENTS**

- Store in original containers.
- Keep containers securely sealed.

**Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**

**EXPOSURE CONTROLS**

Source	Material	TWA ppm	TWA mg/m³	STEL ppm	STEL mg/m³	Peak ppm	Peak mg/m³	TWA F/CC	Notes
Canada - British Columbia Occupational Exposure Limits	endrin aldehyde (Diesel fuel, as total hydrocarbons, Inhalable)		100 (V)						Skin
Canada - British Columbia Occupational Exposure Limits	endrin aldehyde (Kerosene /Jet fuels, as total hydrocarbon vapour, Revised 2003)		200 (P)						Skin
Canada - Alberta Occupational Exposure Limits	endrin aldehyde (Kerosene/Jet fuels, as total hydrocarbon vapour)		200						
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	endrin aldehyde (Diesel fuel as total hydrocarbons, (vapour))		100		150				Skin
Canada - Alberta Occupational Exposure Limits	endrin aldehyde (Diesel fuel, as total hydrocarbons)		100						

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**PERSONAL PROTECTION**



**RESPIRATOR**

Type AB-P Filter of sufficient capacity

**EYE**

- Safety glasses with side shields.
- Chemical goggles.

**HANDS/FEET**

■ Wear chemical protective gloves, eg. PVC.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: such as:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended.
- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended.
- Contaminated gloves should be replaced.

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

- Neoprene gloves.

**OTHER**

- Overalls.
- Eyewash unit.

**ENGINEERING CONTROLS**

- Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.
- Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.

**Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**

**PHYSICAL PROPERTIES**

Solid.

Does not mix with water.

State	Divided solid	Molecular Weight	380.91
Melting Range (°F)	304- 307	Viscosity	Not Applicable
Boiling Range (°F)	Not available	Solubility in water (g/L)	Partly miscible
Flash Point (°F)	Not available	pH (1% solution)	Not applicable
Decomposition Temp (°F)	Not Available	pH (as supplied)	Not applicable
Autoignition Temp (°F)	Not available	Vapour Pressure (mmHG)	Negligible
Upper Explosive Limit (%)	Not available	Specific Gravity (water=1)	Not available
Lower Explosive Limit (%)	Not available	Relative Vapor Density (air=1)	Not Applicable
Volatile Component (%vol)	Negligible	Evaporation Rate	Not Applicable

**APPEARANCE**

Crystalline solid; does not mix well with water (50 ppm).

**Section 10 - CHEMICAL STABILITY**

**CONDITIONS CONTRIBUTING TO INSTABILITY**

- Presence of elevated temperatures.
- Presence of heat source and ignition source.
- Presence of incompatible materials.
- Product is considered stable.

**STORAGE INCOMPATIBILITY**

- Avoid reaction with oxidizing agents.

For incompatible materials - refer to Section 7 - Handling and Storage.

**Section 11 - TOXICOLOGICAL INFORMATION**

endrin aldehyde

**TOXICITY AND IRRITATION**

ENDRIN ALDEHYDE:

- unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY	IRRITATION
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Oral (rat) LD50: 500 mg/kg \* Nil Reported

\* Chem Service

**CARCINOGEN**

VPVB_(VERY~	US - Maine Chemicals of High Concern List	Carcinogen	EU Carcinogen
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**SKIN**

endrin aldehyde	Canada - Alberta Occupational Exposure Limits - Skin	Substance Interaction	1
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**Section 12 - ECOLOGICAL INFORMATION**

May cause long-term adverse effects in the aquatic environment.

This material and its container must be disposed of as hazardous waste.

### Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
endrin aldehyde	HIGH		LOW	LOW

## Section 13 - DISPOSAL CONSIDERATIONS

### Disposal Instructions

All waste must be handled in accordance with local, state and federal regulations.

! Puncture containers to prevent re-use and bury at an authorized landfill.

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

DO NOT allow wash water from cleaning equipment to enter drains. Collect all wash water for treatment before disposal.

- Recycle wherever possible.
- Consult manufacturer for recycling options or consult Waste Management Authority for disposal if no suitable treatment or disposal facility can be identified.

## Section 14 - TRANSPORTATION INFORMATION

DOT:

Symbols: None Hazard class or Division: 6.1

Identification Numbers: UN2761 PG: III

Label Codes: 6.1 Special provisions: IB8, IP3, T1, TP33

Packaging: Exceptions: 153 Packaging: Non- bulk: 213

Packaging: Exceptions: 153 Quantity limitations: 100 kg

Passenger aircraft/rail:

Quantity Limitations: Cargo 200 kg Vessel stowage: Location: A aircraft only:

Vessel stowage: Other: 40

Hazardous materials descriptions and proper shipping names:

Organochlorine pesticides, solid, toxic

### Air Transport IATA:

ICAO/IATA Class: 6.1 ICAO/IATA Subrisk: None

UN/ID Number: 2761 Packing Group: III

Special provisions: A3

Cargo Only

Packing Instructions: 200 kg Maximum Qty/Pack: 100 kg

Passenger and Cargo Passenger and Cargo

Packing Instructions: 677 Maximum Qty/Pack: 670

Passenger and Cargo Limited Quantity Passenger and Cargo Limited Quantity

Packing Instructions: 10 kg Maximum Qty/Pack: Y645

Shipping Name: ORGANOCHLORINE PESTICIDE, SOLID, TOXIC \*  
(CONTAINS ENDRIN ALDEHYDE)

### Maritime Transport IMDG:

IMDG Class: 6.1 IMDG Subrisk: None

UN Number: 2761 Packing Group: III

EMS Number: F-A , S-A Special provisions: 61 223 274

Limited Quantities: 5 kg

Shipping Name: ORGANOCHLORINE PESTICIDE, SOLID, TOXIC  
(contains endrin aldehyde)

## Section 15 - REGULATORY INFORMATION

### endrin aldehyde (CAS: 7421-93-4) is found on the following regulatory lists;

"US - California Occupational Safety and Health Regulations (CAL/OSHA) - Hazardous Substances List", "US - Massachusetts Oil & Hazardous Material List", "US - Pennsylvania - Hazardous Substance List", "US CERCLA Priority List of Hazardous Substances", "US CWA (Clean Water Act) - Priority Pollutants", "US Department of Transportation (DOT) List of Hazardous Substances and Reportable Quantities - Hazardous Substances Other Than Radionuclides", "US EPA National Priorities List - Superfund Chemical Data Matrix (SCDM) - Hazard Ranking System - Hazardous Substance Benchmarks", "US List of Lists - Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112(r) of the Clean Air Act", "US RCRA (Resource Conservation & Recovery Act) - Appendix IX to Part 264 Ground-Water

## Section 16 - OTHER INFORMATION

*Reasonable care has been taken in the preparation of this information, but the author makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The author makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. For additional technical information please call our toxicology department on +800 CHEMCALL.*

■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:  
[www.chemwatch.net/references](http://www.chemwatch.net/references).

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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