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MATERIAL SAFETY DATA SHEET

CHEMICAL PRODUCT AND COMPANY INFORMATION

MIREX UNLABELED **Product Description**

Cambridge Isotope Laboratories, Inc. 50 Frontage Rd ANDOVER, MA 01810 USA

E-mail cilsales@isotope.com Web Site www.isotope.com

Phone Numbers

Emergency Contact Chemtrec

Emergency Phone 1-800-424-9300 (24 hours)

Customer Service

Phone

1-800-322-1174 (8:30-5:30 EST)

Transportation 1-202-483-7616 (24 hours)

2 **HAZARDS IDENTIFICATION**

OSHA Hazards

Carcinogen, Target Organ Effect, Toxic by ingestion, Toxic by skin absorption

Target Organs

Liver

GHS Classification

Acute toxicity, Oral (Category 3) Acute toxicity, Dermal (Category 3) Carcinogenicity (Category 2) Reproductive toxicity (Category 2) Acute aquatic toxicity (Category 1) Chronic aquatic toxicity (Category 1)

GHS Label Information

Signal Word Danger

Hazards Identification

Health hazard Skull & crossbones Environment





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Hazard Statement(s)

Toxic if swallowed or in contact with skin.

Suspected of causing cancer.

Suspected of damaging fertility or the unborn child.

Very toxic to aquatic life with long lasting effects.

Precautionary Statement(s)

Obtain special instructions before use.

Do not handle until all saftey precautions have been read and understood.

Wash skin thoroughly after handling.

Do not eat, drink, or smoke when using this product.

Avoid release to the environment.

Wear protective gloves/protective clothing/eye protection/face protection.

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

IF ON SKIN: Wash with plenty of soap and water.

IF exposed or concerned: Get medical/attention.

Specific measures (see supplemental first aid instructions on this label).

Rinse mouth.

Remove/take off immediately all contaminated clothing.

Wash contaminated clothing before reuse.

Collect spillage.

Store locked up.

Dispose of contents/ container to an approved waste disposal plant.

HMIS Ratings

Chronic Health 0 Physical Flammability 0 2 Health

NFPA Codes

0 Fire 2 Health Reactivity 0

Potential Health Effects

Eyes Contact may cause eye irritation.

Ingestion Toxic if swallowed.

Inhalation May be harmful if inhaled. May cause respiratory tract irritation. Skin Toxic if absorbed through skin. May cause skin irritation.

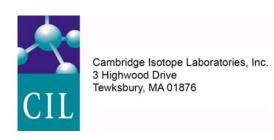
COMPOSITION / INFORMATION ON INGREDIENTS

Composition / Information on Ingredients

Chemical Formula C10Cl12

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Molecular Weight 545.5 CAS No. 2385-85-5 EC No. 219-196-6 Index No. 602-077-00-1

FIRST AID MEASURES

First Aid Measures

Eyes Flush eye with water for 15 minutes. Get medical attention.

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a Ingestion

physician.

Inhalation If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a

physician.

Skin Wash with soap and plenty of water. Consult a physician.

Additional Information Move out of dangerous area. Consult a physician and show this safety data sheet.

5 FIRE FIGHTING MEASURE

Fire Fighting Measures

Extinguishing Media Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

Hazardous Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen

Decomposition chloride gas.

Fire Fighting Equipment

Wear self contained breathing apparatus for fire fighting if necessary.

ACCIDENTAL RELEASE MEASURES 6

Accidental Release Measures

Personal Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate

Precautions ventilation.

Environmental Precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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Methods and materials for containment and cleanup

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7 HANDLING AND STORAGE

Precautions for Safe Handling

Handling Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate

exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks

Conditions for Safe Storage

Storage Store at room temperature away from light and moisture.

EXPOSURE CONTROL / PERSONAL PROTECTION

Personal Protecton

Work Hygienic

Eyes - Face Wear safety glasses with side shields (or goggles) and a face shield.

Skin Choose body protection according to the amount and concentration of the dangerous substance at

the work place.

Respiratory When appropriate, use NIOSH/CEN approved respirator.

Protective Clothing Wear suitable protective clothing and gloves.

Practices and at the end of workday.

PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties (Unlabeled Compound)

Solid Form

No data available Color

Odor No data available No data available Odor Threshold

рΗ No data available

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Melting Point 485°C

Boiling Point No data available Flashpoint No data available No data available **Evaporation Rate**

Fammability

Flammable Limits No data available Lower Explosion No data available

No data available

No data available

No data available

Limit

Upper Explosion

Limit

Vapor Pressure No data available Vapor Density No data available Density No data available Solubility in Water No data available Partition Coefficient log Pow: 5.28 Auto Ignition No data available

Temperature

Decomposition

Temperature

Viscosity

10 STABILITY AND REACTIVITY

Stability and Reactivity

Chemical Stability Stable if stored under recommended conditions.

Conditions to Avoid Not available

Hazardous decomposition

Formed under fire conditions: Carbon oxides, Hydrogen chloride gas

products

Materials to avoid Strong oxidizing agents

11 **TOXICOLOGICAL INFORMATION**

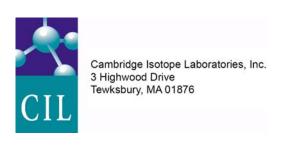
Acute Toxicity

LD50 Dermal 800 mg/kg Behavioral: Somnolence (general depressed activity); Diarrhea

Rabbit

LD50 Oral Rat 235 mg/kg Serious No data available

Damage/Eye Irritation



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Skin No data available

Corrosion/Irritation

Inhalation No data available

Respiratory or Skin Sensitization

Not available

Germ Cell Genotoxicity in vitro - rat - Oral Mutagenicity Other mutation test systems

> Genotoxicity in vivo - mouse - Oral Other mutation test systems

Genotoxicity in vivo

Mouse

Oral - Other mutation test systems

Carcinogenicity Carcinogenicity - rat - Oral

Tumorigenic: Carcinogenic by RTECS criteria. Liver: Tumors.

Carcinogenicity - rat - Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Liver: Tumors.

Carcinogencity - mouse - Oral

Tumorigenic: Carcinogenic by RTECS crteria. Liver: Tumors.

Limited evidence of carcinogenicity in animal studies.

IARC 2B- Group 2B: Possibly carcinogenic to humans.

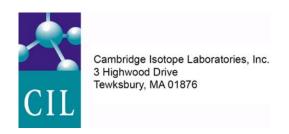
ACGIH No component of this product present at levels greater than or equal to 0.1% is identifiable as a

carcinogen or potential carcinogen by ACGIH.

NTP Reasonably anticipated to be a human carcinogen.

OSHA No component of this product present at levels greater than or equal to 0.1% is identified as a

carcinogen or potential carcinogen by OSHA.



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Reproductive Toxicity

Suspected human reproductive toxicant no data available

Reproductive toxicity - rat - Oral

Maternal Effects: Ovaries, fallopian tubes. Maternal Effects: Uterus, Cervix, vagina. Effects on

Embryo or fetus: Fetotoxicity (except death, e.g., stunted fetus)

Reproductive toxicity - rat - Oral

Effects on Fertility: Male fertility index (e.g., # males impregnating females per # males exposed to fertile nonpregnant females).

Reproductive toxicity - rat - Oral

Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Specific Developmental Abnormalities: Cardiovascular (circulatory) system. Specific Developmental Abnormalities: Other developmental abnormalities.

Reproductive toxicity - rat - Oral

Effects on Fertility: Litter size (e.g.: # fetuses per litter; measured before birth). Specific Development Abnormalities: Homeostasis Specific Development Abnormalities: Musculoskeletal system.

Reproductive toxicity - rat - Subcutaneous Maternal Effects: Uterus, cervix, vagina.

Reproductive toxicity - rat - Unreported

Effects on Newborn: Stillbirth. Effects on Newborn: Viability index (e.g., # alive at day 4 per #

born alive)

Reproductive toxicity - mouse - Oral

Effects on Fertility: Other measures of fertility

Reproductive toxicity - mouse - Oral

Effects on Newborn: Live birth index (# fetuses per litter; measured after birth). Effects on

Newborn: Viability index (e.g., # alive at day 4 per # born alive).

Reproductive toxicity - Mammal - Unreported

Effects on Newborn: Stillbirth. Effects on Newborn: Viability index (e.g., # alive at day 4 per # born alive).

Developmental Toxicity - rat - Oral

Specific Developmental Abnormalities: Blood and lymphatic system (including speen and marrow).

Specific Developmental Abnormalities: Homeostasis

Developmental toxicity - Mammal - Unreported

Specific Developmental Abnormalities: Eye, ear. Specific Development Abnormalities: Cardiovascular

(circulatory) system. Specific Developmental Abnormalities: Respiratory system.



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Specific Target Organ Toxicity

Single Exposure No data available Repeated Exposure No data available

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence

Other Information

RTECS PC8225000

12 ECOLOGICAL INFORMATION

Toxicity

Toxicity to Fish

LC50

Oncorhynchus mykiss (rainbow trout) - 0.023 mg/l - 96 h

Daphnia magna (Water flea) - 2.6 mg/l - 2.6 mg/l - 48 h

Toxicity to Daphnia

and Other Aquatic

Invertebrates EC50
Persistance and Not available

Degradability

Bioaccumulative

Potential

Bioaccumulation Pimephales promelas (fathead minnow) - 32 d - 1.2 ug/l

Bioconcentration factor (BCF): 18,100

Mobility in Soil Not available

PBT and vPvB

Assessment

Not available

Other Adverse

Effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

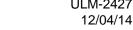
13 DISPOSAL CONSIDERATIONS

Disposal Considerations

Product Disposal Waste materials should be disposed of under conditions which meet Federal, State, and Local

environmental control regulations.

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14 TRANSPORT INFORMATION

Transportation Information-DOT/IATA/IMDG

UN Number 2811

Prop. Ship. Name Toxic solids, organic, n.o.s., (Mirex)

Hazard Class Packing Group

Marine Pollutant Marine pollutant

Poison Inhalation No

Hazard

15 **REGULATORY INFORMATION**

Regulatory Information

Carcinogen, Target Organ Effect, Toxic by ingestion, Toxic by skin absorption

SARA

Sara 302 No chemicals in this material are subject to the reporting requirements.

Component

Sara 313 No chemicals in this material are subject to the reporting requirements.

Component

SARA 311/312 Hazards

Acute (Y/N) Υ

Chronic (Y/N) Υ

STATE REGULATIONS

Massachusetts Yes

Right to Know

Pennsylvania Right Yes

to Know

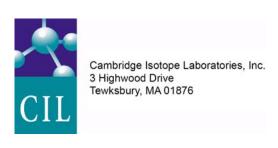
New Jersey Right Yes

to Know

California WARNING! This product contains a chemical known by the state of California to cause cancer.

Proposition 65

Canada



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DSL Status

No

ΕU

Hazard

Toxic. Harmful. Dangerous for the environment.

Safety Statements

Keep locked up.

When using do not eat, drink or smoke.

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water Wear suitable protective clothing, gloves and eye/face protection.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

If swallowed, seek medical advice immediately and show this container or label.

Avoid exposure - obtain special instructions before use.

Dispose of this material and its container at hazardous or special waste collection point

Avoid release to the environment. Refer to special instructions/safety data sheet

If swallowed, rinse mouth with water (only if the person is conscious)

Risk Statements

Toxic in contact with skin and if swallowed.

Limited evidence of a carcinogenic effect.

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Possible risk of impaired fertility.

Possible risk of harm to the unborn child.

16 **OTHER INFORMATION**

Additional MSDS Information

This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the

corresponding unlabeled compound.

Approved On

12/04/14

Version Number