



Section 1. Product and Company Identification

Product Name Mitoxantrone Dihydrochloride
Product ID M3379
Chemical Name (Synonyms) Mitoxantrone hydrochloride; Novantrone
Supplier LKT Laboratories, Inc
545 Phalen Blvd.
St. Paul, MN 55130 USA
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Emergency Phone # 1-800-424-9300

Section 2. Hazards Identification

GHS Classification Germ cell mutagenicity (Category 1B) H340
Reproductive toxicity (Category 1B) H360

GHS Label elements including precautionary statements

Pictogram



Signal word Danger

Hazard and precautionary statements

Hazard statements

H340 - May cause genetic defects.
H360 - May damage fertility or the unborn child.

Precautionary statements

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P281 - Use personal protective equipment as required.
P308 + P313 - IF exposed or concerned: Get medical attention/ advice.
P405 - Store locked up.
P501 - Dispose of contents/ container to an approved waste disposal plant.

HMIS Classification Health hazard: 0
Chronic health hazard: *
Flammability: 0
Physical hazard: 0

NFPA Rating Health hazard: 0
Fire hazard: 0
Reactivity hazard: 0

Potential Health Effects Inhalation - Acute toxicity. Harmful if inhaled. May cause respiratory tract irritation.
Skin - Acute toxicity. Harmful if in contact with skin. May cause skin irritation.
Eyes - May cause eye irritation.

Ingestion - Acute toxicity. Harmful if swallowed.
May cause genetic defects. May damage fertility or the unborn child.

Section 3. Composition/Information on Ingredients

Substances	Ingredient: Title Compound	Percent: 100	
Formula	C ₂₂ H ₂₈ N ₄ O ₆ • 2HCl	Formula Wt.	517.41
CAS No.	70476-82-3	EC No.	274-619-1

Section 4. First Aid Measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
Eye Contact	Flush eyes with water as a precaution.
Skin Contact	Wash off with soap and plenty of water. Consult a physician.
Inhalation	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
Ingestion	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Section 5 . Firefighting Measures

Flash Point	Not available.
Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Firefighting Procedures	Wear self-contained breathing apparatus for firefighting if necessary.
Unusual Fire Hazards	Carbon oxides, nitrogen oxides (NO _x), hydrogen chloride gas.

Section 6. Accidental Release Measures

Personal Precautions	Use personal protective equipment. Avoid dust formation. Avoid breathing dust, vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.
Environmental Precautions	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
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.

Section 7. Handling and Storage

Handling	Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.
Storage Conditions	Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature: Ambient
Hazardous Decomposition Products	Not available.
Other Remarks	

Section 8. Exposure Controls/Personal Protection

Personal protective equipment EXPOSURE CONTROLS

Contains no substances with occupational exposure limit values. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

PERSONAL PROTECTION

Eye/face protection: Safety glasses with side-shields conforming to EN 166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body protection: Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplier air respiratory. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Section 9. Physical and Chemical Properties

Physical State	Solid.	Color	Blue/Black crystalline powder.
Boiling Point	Not available.	Volatility	Not available.
Melting Point	160-162°C	Density	Not available.
Solubility	Soluble in water, ethanol, DMSO.	pH	Not available.
Flash Point	Not available.	Ignition temperature	Not available.
Lower explosion limit	Not available.	Autoignition temperature	Not available.
Upper explosion limit	Not available.	Vapor pressure	Not available.
Water solubility	Soluble in water.	Odor	Not available.
Partition coefficient: n-octanol/water	Not available.	Odor Threshold	Not available.
Relative vapor density	Not available.	Evaporation rate	Not available.

Section 10. Stability and Reactivity

Stability	Stable under recommended storage conditions.
Materials To Avoid	Strong oxidizing agents.
Hazardous Decomposition Products	Not available.

Possibility of hazardous reactions Not available.

Conditions to avoid Not available.

Section 11. Toxicological Information

Oral LD50 Rat: 682 mg/kg
Mouse: 502 mg/kg

Skin corrosion/irritation Not available.

Inhalation LC50 Not available.

Serious eye damage/irritation Not available.

Dermal LD50 Rat: 1640 mg/kg
Rabbit: 125 mg/kg

Respiratory or skin sensitization Not available.

Other information on acute toxicity Not available.

Germ cell mutagenicity Hamster, ovary & lungs, DNA damage.
Hamster, ovary, cytogenetic analysis & sister chromatid exchange.
Mouse, leukocyte, DNA inhibition or other mutation test systems.

Reproductive Toxicity May cause congenital malformation in the fetus. Presumed human reproductive toxicant.

Aspiration Hazard Not available.

Specific organ toxicity single exposure (GHS) Not available.

Synergistic effects Not available.

Specific organ toxicity repeated exposure (GHS) Not available.

Additional Information RTECS: CB5748500

Teratogenicity Not available.

Signs and symptoms of exposure Stomach - irregularities - based on human evidence.

Potential Health Effects Inhalation - Acute toxicity. Harmful if inhaled. May cause respiratory tract irritation.
Skin - Acute toxicity. Harmful if in contact with skin. May cause skin irritation.
Eyes - May cause eye irritation.
Ingestion - Acute toxicity. Harmful if swallowed.
May cause genetic defects. May damage fertility or the unborn child.

Carcinogenicity **IARC: 2B** - Group 2B: Possibly carcinogenic to humans (1,4-Dihydroxy-5,8-bis[(2-hydroxyethyl)amino]ethyl]amino] anthraquinone dihydrochloride).
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
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.

Section 12. Ecological Information

Toxicity Not available.

Mobility in soil Not available.

PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not

conducted.

Persistence and degradability Not available.

Other adverse effects Not available.

Bioaccumulative potential Not available.

Section 13. Disposal Considerations

Waste Disposal Dispose of material according to all federal, state and local regulations.
Offer material to a licensed, professional waste disposal company to dispose of as unused product. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Section 14. Transport Information

DOT (US) Not dangerous goods.

IATA Not dangerous goods.

IMDG Not dangerous goods.

Further Information

Section 15. Regulatory Information

Reach No.

SARA 302 Components SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Components Chronic health hazard

Massachusetts Right To Know Components No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components Mitoxantrone Dihydrochloride CAS #: 70476-82-3 Revision Date:

New Jersey Right To Know Components Mitoxantrone Dihydrochloride CAS #: 70476-82-3 Revision Date:

California Prop 65 Components WARNING: This product contains a chemical known to the State of California to cause cancer or birth defects or other reproductive harm.
Mitoxantrone Dihydrochloride CAS #: 70476-82-3 Revision Date: 2015-01-23

Section 16. Other Information

Other information The information in this document is believed to be correct but is not necessarily complete. LKT does not guarantee the accuracy of the information. The burden of verifying the information in this document rests solely upon the user.

Updated 9/5/2019

For emergencies in the USA, call
CHEMTREC 800-424-9300