

**International
Bio-
Analytical
Industries,
Inc.**

A Global Energy Research & Resource Company



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MATERIAL SAFETY DATA SHEET

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Section I - Product And Company Information

Product Name URANYL ACETATE DIHYDRATE

Product Number 73943

Brand IBI

Company International Bio-Analytical Industries, Inc.

Street Address 3495 N. Dixie Hwy. Unit # 8

City, State, Zip, Country, Boca Raton, Florida USA 33431

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Section 2 - Composition/Information on Ingredient

Substance Name CAS # SARA 313

URANYL ACETATE 6159-44-0 No

Formula C₄H₆O₆U

Chemical Family Radioactive material.

Synonyms Bis(acetato)dioxouranium * Diacetatodioxouranium Uranium acetate *

Uranium oxyacetate * Uranyl acetate * Uranyl(2+) acetate

RTECS Number: YR3675000

SECTION 3 - Hazards Identification

EMERGENCY OVERVIEW

Highly Toxic (USA) Very Toxic (EU). Dangerous for the environment. Very toxic by inhalation and if swallowed. Danger of cumulative effects. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Radioactive material. Target organ(s): Liver. Kidneys. Calif.

Prop. 65 carcinogen.

HMIS RATING

HEALTH: 3*

FLAMMABILITY: 0

REACTIVITY: 0

NFPA RATING

HEALTH: 3

FLAMMABILITY: 0

REACTIVITY: 0

***additional chronic hazards present.**

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT N/A

AUTOIGNITION TEMP N/A

FLAMMABILITY N/A

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Emits toxic - fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Handle as a radioactive spill.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling And Storage

HANDLING

User Exposure: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed. Store in a cool dry place.

Section 8 - Exposure Controls/PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Use only in a chemical fume hood.

WORK PRACTICES

Use with adequate ventilation.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Government approved respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

EXPOSURE LIMITS, RTECS

Country Source Type Value

USA MSHA Standard-air TWA 0.2 MG(U)/M3
US OSHA. PEL 8H TWA 0.05 MG(U)/M3

Section 9 - Physical/Chemical Properties

Appearance Physical State: Solid

Color: Yellow

Form: Fine crystals

Property Value At Temperature or Pressure

Molecular Weight 424.15 AMU

pH N/A

BP/BP Range N/A

MP/MP Range 110 OC

Freezing Point N/A

Vapor Pressure N/A

Vapor Density N/A

Saturated Vapor Conc. N/A

SG/Density 2.89 g/cm³

Bulk Density N/A

Odor Threshold N/A

Volatile% N/A

VOC Content N/A

Water Content N/A

Solvent Content N/A

Evaporation Rate N/A

Viscosity N/A

Surface Tension N/A

Partition Coefficient N/A

Decomposition Temp. 275 OC

Flash Point N/A

Explosion Limits N/A

Flammability N/A

STORAGE

Suitable: Keep tightly closed. Store in a cool dry place.

Section 8 - Exposure Controls/PPE

ENGINEERING CONTROLS

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WORK PRACTICES

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PERSONAL PROTECTIVE EQUIPMENT

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BP/BP Range N/A

MP/MP Range 110 OC

Freezing Point N/A

Vapor Pressure N/A

Vapor Density N/A

Saturated Vapor Conc. N/A

SG/Density 2.89 g/cm³

Bulk Density N/A

Odor Threshold N/A

Volatile% N/A

VOC Content N/A

Water Content N/A

Solvent Content N/A

Evaporation Rate N/A

Viscosity N/A

Surface Tension N/A

Partition Coefficient N/A

Decomposition Temp. 275 OC

Flash Point N/A

Explosion Limits N/A

Flammability N/A

Autoignition Temp N/A

Refractive Index N/A

Optical Rotation N/A

Miscellaneous Data N/A

Solubility, Solubility in Water: 10% in H₂O, 20°C

Soluble. Incomplete
Other Solvents: DUE TO PRESENCE OF BASIC
N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

IBI - 73943

Conditions to Avoid: Protect from moisture.

Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Uranium oxides.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.

Skin Absorption: May be harmful if absorbed through the skin. Eye Contact: May cause eye irritation.

Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract. Ingestion: May be harmful if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

Kidneys. Liver. Lungs.

SIGNS AND SYMPTOMS OF EXPOSURE

Exposure may cause: Conjunctivitis. Blood effects. Symptoms may be delayed. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

TOXICITY DATA

Intraperitoneal

Mouse

24 MG/KG

LD50

CHRONIC EXPOSURE - CARCINOGEN

Result: Contains a radioactive isotope which may produce cancer and genetic mutation.

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION Contact a licensed professional waste disposal service to dispose of this material. Dispose of spilled material as radioactive waste. Consult local, state, and federal regulations on the disposal of radioactive waste. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

----- **DOT**
Proper Shipping Name: Radioactive material, excepted package-limited quantity of material
UN#: 2910
Class: 7
Packing Group: None
Hazard Label: None
IBI - 73943
PIH: Not PIH
IATA
Proper Shipping Name: Radioactive material, excepted package, limited quantity of material
IATA UN Number: 2910
Hazard Class: 7

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION

Symbol of Danger: T+ N
Indication of Danger: Very toxic. Dangerous for the environment.
R: 26/28 33 51/53
Risk Statements: Very toxic by inhalation and if swallowed. Danger of cumulative effects. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S: 20/21 45 61
Safety Statements: When using, do not eat, drink, or smoke. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid release to the environment. Refer to special instructions/safety data sheets.
US CLASSIFICATION AND LABEL TEXT
Indication of Danger: Highly Toxic (USA) Very Toxic (EU). Dangerous for the environment.

Risk Statements: Very toxic by inhalation and if swallowed. Danger of cumulative effects. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety Statements: When using, do not eat, drink, or smoke. In case of accident or if you feel unwell, seek medical advice, immediately (show the label where possible). Avoid release to the environment. Refer to special instructions/safety data sheets.

US Statements: Radioactive material. Target organ(s): Liver. Kidneys. Calif. Prop. 65 carcinogen.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No

TSCA INVENTORY ITEM: Yes

UNITED STATES - STATE REGULATORY INFORMATION

CALIFORNIA PROP - 65

California Prop - 65: This product is or contains chemicals) known to the state of California to cause cancer.

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information:

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

**The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. IBI Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.
IBI-73943**