

SPI Supplies Division

Structure Probe, Inc.

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Manufacturer's CAGE: 1P573

Safety Data Sheet

Date Effective: May 16, 2016

SPI Catalog # 02624-AB
SPI-Chem™ Uranyl Acetate (Depleted Uranium)

Section 1.1: Identification

Chemical Name/Synonyms Uranyl Acetate dihydrate

Product or Trade Name Uranyl Acetate dihydrate

CAS #'s..... 6159-44-0

Chemical Formula..... $C_4H_6O_6U \cdot 2H_2O$

Section 1.2: Relevant Uses/Restrictions

Relevant Use: Laboratory chemicals for research, testing & analysis, and educational use. Not intended for clinical or diagnostic uses.

Section 1.3: Supplier of the Safety Data Sheet

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Section 1.4: Emergency telephone number

Emergencies

Contacting CHEMTREC:

24 Hour Emergency Use Only #'s...

Worldwide phone: 1-(703)-741-5970

Toll-free phone: 1-(800)-424-9300 USA + Canada only

Section 2: Hazard Identification

2.1 Classification of the substance

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 2), H300

Acute toxicity, Inhalation (Category 2), H330

Specific target organ toxicity – repeated exposure (Category 2), H373

Acute aquatic toxicity (Category 2), H401

Chronic aquatic toxicity (Category 2), H411

2.2 Label elements

Pictogram



Signal Word: Danger

Hazard statements:

H300 + H330: Fatal if swallowed or if inhaled

H373: May cause damage to organs through prolonged or repeated exposure.

H401: Toxic to aquatic life

H411: Toxic to aquatic life with long lasting effects.

Precautionary statements:

P260: Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

P264: Wash skin thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P271: Use only outdoors or in a well-ventilated area.

P273: Avoid release to the environment.

P284: Wear respiratory protection.

P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P310: Immediately call a POISON CENTER or doctor/ physician.

P320: Specific treatment is urgent (see supplemental first aid instructions on this label).

P330: Rinse mouth.

P391: Collect spillage.

P403 + P233: Store in a well-ventilated place. Keep container tightly closed.

P405: Store locked up.

P501: Dispose of contents/ container to an approved waste disposal plant.

2.3 Other Hazards:

Radioactive.

Hazardous Material Information System USA

Health..... 3

Fire Hazard..... 0

Reactivity..... 0

Personal Protection.....

NFPA Rating (estimated)

Health..... 4

Flammability..... 0

Reactivity..... 0

Section 3: Composition

3.1 Substances:

$C_4H_6O_6U \cdot 2H_2O$ Uranly Acetate ~100%
CAS-No. : 6159-44-0 EC-No. : 208-767-5 Index-No. : 092-002-00-3

Molecular Weight : 424.15 g/mol

Section 4: First Aid Measures

4.1 Description of first aid measures:

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

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

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

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

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

no data available

Section 5: Fire Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Uranium oxides

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

no data available

Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

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

6.4 Reference to other sections

For disposal see section 13.

Section 7: Handling and Storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

Section 8: Exposure Controls and Personal Protection

8.1 Control parameters

Components with workplace control parameters

Component CAS-No. Value Control parameters

Basis Bis(acetato-O)dioxouranium dihydrate

6159-44-0 TWA 0.2 mg/m³ USA. ACGIH Threshold Limit Values (TLV)

Remarks Confirmed human carcinogen

TWA 0.05 mg/m³ USA. Occupational Exposure Limits

(OSHA) – Table Z-1 Limits for Air Contaminants

TWA 0.05 ppm

USA. OSHA – TABLE Z-1 Limits for Air Contaminants – 1910.1000

STEL 0.6 mg/m³ USA. ACGIH Threshold Limit Values (TLV)

Confirmed human carcinogen

TWA 0.05 mg/m³ USA. Occupational Exposure Limits

(OSHA) – Table Z-1 Limits for Air Contaminants

TWA 0.05 mg/m³ USA. OSHA – TABLE Z-1 Limits for Air Contaminants – 1910.1000

TWA 0.05 mg/m³ USA. NIOSH Recommended Exposure Limits

Potential Occupational Carcinogen

See Appendix A

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Face shield and safety glasses 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.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatri® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatri® (KCL 740 / Aldrich Z677272, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method:

EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, 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 N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

9.1 Information on basic physical and chemical properties

- a) Appearance Form: crystalline Color: yellow
- b) Odor: no data available
- c) Odor Threshold: no data available
- d) pH: no data available
- e) Melting point/freezing point: no data available
- f) Initial boiling point and boiling range: no data available
- g) Flash point: no data available
- h) Evaporation rate: no data available
- i) Flammability (solid, gas): no data available
- j) Upper/lower flammability or explosive limits: no data available
- k) Vapor pressure: no data available
- l) Vapor density: no data available
- m) Relative density: 2.890 g/cm³
- n) Water solubility: no data available
- o) Partition coefficient: octanol/water: no data available

- p) Auto-ignition temperature: no data available
- q) Decomposition temperature: 275 °C (527 °F)
- r) Viscosity: no data available
- s) Explosive properties: no data available
- t) Oxidizing properties: no data available

9.2 Other safety information

no data available

Section 10: Stability and Reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

Other decomposition products – no data available

In the event of fire: see section 5

Section 11: Toxicological Information

Information on the likely routes of exposure

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral – rat – 204 mg/kg

Remarks: Behavioral:Tremor. Skin and Appendages: Other: Hair. Nutritional and Gross Metabolic:Changes in:Body temperature decrease.

Dermal: no data available

LD50 Subcutaneous – rat – 8.300 mg/kg

Remarks: Behavioral:Tremor. Skin and Appendages: Other: Hair. Nutritional and Gross Metabolic:Changes in:Body temperature decrease.

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

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

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

probable, possible or confirmed human carcinogen by IARC.

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.

Reproductive toxicity

no data available

Specific target organ toxicity – single exposure

no data available

Specific target organ toxicity – repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

no data available

Additional Information

RTECS: Not available

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

Section 12: Ecological Information

12.1 Toxicity

no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

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

12.6 Other adverse effects

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

Toxic to aquatic life with long lasting effects.

no data available

Section 13: Disposal Considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

Section 14: Transport Information

DOT (US)

UN number: 2910

Proper shipping name: Toxic solid, inorganic, n.o.s. (Bis(acetato-O)dioxouranium dihydrate)

Hazard Class: 7

Reportable Quantity (RQ): 100 lbs

Marine pollutant: No

Poison Inhalation Hazard: No

IATA

UN number: 2910

Proper shipping name: Toxic solid, inorganic, n.o.s. (Bis(acetato-O)dioxouranium dihydrate)

Hazard Class: 7

Further information

Radioactive material, excepted package – limited quantity of material

IMDG

UN number: 2910 EMS-No: F-A, S-A

Proper shipping name: TOXIC SOLID, INORGANIC, N.O.S. (Bis(acetato-O)dioxouranium dihydrate)

Marine pollutant: Marine pollutant

Section 15: Regulatory Information**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 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

Bis(acetato-O)dioxouranium dihydrate

CAS-No.

6159-44-0

Revision Date

1993-04-24

Pennsylvania Right To Know Components

CAS-No. Revision Date

Bis(acetato-O)dioxouranium dihydrate 6159-44-0 1993-04-24

New Jersey Right To Know Components

Bis(acetato-O)dioxouranium dihydrate

CAS-No.

6159-44-0

Revision Date

1993-04-24

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Date of preparation: May 16, 2016.

Abbreviations and acronyms

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxicological

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
STEL: Short Term Exposure Limit

Section 16: Other Information

Disclaimer of Liability:

Caution! Do not use SPI Supplies products or materials in applications involving implantation within the body; direct or indirect contact with the blood pathway; contact with bone, tissue, tissue fluid, or blood; or prolonged contact with mucous membranes. Products offered by SPI Supplies are not designed or manufactured for use in implantation in the human body or in contact with internal body fluids or tissues. SPI Supplies will not provide to customers making devices for such applications any notice, certification, or information necessary for such medical device use required by US FDA (Food and Drug Administration) regulation or any other statute. SPI Supplies and Structure Probe, Inc. make no representation, promise, express warranty or implied warranty concerning the suitability of these materials for use in implantation in the human body or in contact with internal body tissues or fluids.

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