SPI Supplies Division
Structure Probe, Inc.
206 Garfield Avenue, West Chester, PA 19381-0656
USA
Phone: 1-(610)-436-5400 **Fax:** 1-(610)-436-5755
sds@2spi.com
http://www.2spi.com
Manufacturer's CAGE: 1P573

Safety Data Sheet

Date Effective: January 4, 2017

SPI# 02406-AB, 02407-AB
SPI-Chem™ Uranyl Magnesium Acetate
(Depleted Uranium)

Section 1.1: Identification

Chemical Name/Synonyms ..... Uranyl Magnesium Acetate

Product or Trade Name ..... Uranyl Magnesium Acetate

CAS #'s 20596-93-4

Chemical Formula..... $MgUO_4(CH_3COO)_2$

Section 1.2: Relevant Uses/Restrictions

Laboratory Chemical: In electron microscopy, to stain tissues after osmium post-fixation.

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)
OSHA Hazards
Highly toxic by inhalation, Highly toxic by ingestion

2.2 Label elements
Acute toxicity, Oral (Category 2)
Acute toxicity, Inhalation (Category 2)
Specific target organ toxicity - repeated exposure (Category 2)

Pictogram

Signal Word: Danger

Hazard statements:
H301: Toxic if swallowed.
H331: Toxic if inhaled.
H373: May cause damage to organs through prolonged or repeated exposure.

Precautionary statements:
P102: Keep out of reach of children
P260: Do not breathe dust/ fume/ gas/ mist/ vapors/ 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.
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.
P284: Wear respiratory protection.
P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P304 + P340 +P310: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
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 disposal plant.

2.3 Other Hazards:
Radioactive

Hazardous Material Information System USA
Health 4
Fire Hazard 0
Reactivity 0
Personal Protection .....

NFPA Rating (estimated)
Health 4
Flammability..... 0
Reactivity 0

Section 3: Composition

3.1 Substances:

Uranyl Magnesium Acetate CAS# 20596-93-4 EC# 243-905-8

Section 4: First Aid Measures

4.1 Description of first aid measures:

General information

Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest, provide artificial respiration.

After inhalation

Supply fresh air or oxygen; call for doctor.
In case of unconsciousness, place patient stably in side position for transportation.

After skin contact

Immediately wash with water and soap and rinse thoroughly.

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

Information for doctor: No further relevant information available.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

Section 5: Fire Fighting Measures

5.1 Extinguishing media

CO_2, extinguishing powder, or water spray.

Fight larger fires with water spray or alcohol resistant foam.

5.2 Special hazards arising from the substance or mixture

Radioactive.

No further relevant information available.

5.3 Advice for firefighters

Special protective equipment and precautions for firefighters:

Mouth respiratory protective device.

Section 6: Accidental Release Measures

6.1 Personal precautions

Not required.

6.2 Environmental precautions

Do not allow to enter sewers / surface or ground water.

6.3 Methods and material for containment and cleaning up

Dispose contaminated material as waste according to Section 13.

Ensure adequate ventilation.

6.4 Reference to other sections

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

Section 7: Handling and Storage

7.1 Precautions for safe handling

Protective measures

Thorough de-dusting.
Ensure good ventilation/ exhaustion at the workplace.
Open and handle receptacle with care.

Information about protection against explosions and fires:

Keep respiratory protective device available.

7.2 Conditions for safe storage, including any incompatibilities

No special requirements.
Keep receptacle tightly sealed.
Information about storage in one common storage facility: Not required.

7.3 Specific end uses

Laboratory Chemical: In electron microscopy, to stain tissues after osmium post-fixation.
This material is not being offered for clinical or diagnostic applications, agricultural uses or for human or animal consumption.

Section 8: Exposure Controls and Personal Protection

8.1 Control parameter and Personal Protection

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.

Workplace exposure limits: Monitoring at workplace not required.

The lists that were valid during the creation were used as basis.

Biological limit values: No relevant data available.

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Breathing equipment:

In case of brief exposure or low pollution, use respiratory filter device.
In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

8.2.2 Individual protection measures

Protection of hands:

The glove material has to be impermeable and resistant to the product/the preparation.
Due to missing tests no recommendation to the clove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material should be made on consideration of the penetration times, rates of diffusion and the degradation.
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Not required.

8.2.3 Environmental exposure controls
No further relevant information available.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance: Yellow, Crystalline

Odor: Acetone-like

Odor threshold: Not determined

pH: Not applicable

Melting point/Freezing point: Undetermined

Boiling point/Boiling point range: Undetermined

Flash Point: Not applicable

Evaporation rate: Not applicable

Flammability (solid, gas): Product is not flammable

Upper/lower flammability or explosive limits: Not determined

Vapor Pressure: Not applicable

Vapor density: Not applicable

Relative density: Not applicable

Solubility in / Miscibility with water: Soluble

Partition coefficient (n-octanol/water): Not determined

auto-ignition temperature: Not determined

Decomposition temperature: Not determined

Viscosity: Not applicable

Explosive properties: Not applicable

Oxidizing Properties: Not applicable

9.2 Other information: No further relevant information available.

Section 10: Stability and Reactivity

10.1 Reactivity:
Stable

10.2 Chemical Stability
Thermal decomposition: No decomposition if used according to specifications.

10.3 Possibility of Hazardous Reactions
No dangerous reactions known.

10.4 Conditions to avoid
No further relevant information available.

10.5 Incompatible materials
Incompatible with strong oxidizing agents.

10.6 Hazardous decomposition products
No dangerous decomposition products known.

Section 11: Toxicological Information

11.1 Information on toxicological effects

a. acute toxicity
No relevant information available.

b. skin corrosion/irritation
No skin irritant effect.

c. serious eye damage/irritation
No eye irritant effect.

d. respiratory or skin sensitization
No sensitizing effects known.

e. germ cell mutagenicity
No relevant information available.

f. carcinogenicity
IARC (International Agency for Research on Cancer): Substance is not listed.
NTP (National Toxicology Program): Substance is not listed.

g. reproductive toxicity
No relevant information available.

h. STOT-single exposure
No relevant information available.

i.. STOT-repeated exposure
No relevant information available.

j. aspiration hazard
No relevant information available.

Section 12: Ecological Information

12.1 Toxicity
No relevant information available.

Aquatic toxicity: No further relevant information available.

12.2 Persistence and degradability
No further relevant information available.

12.3 Bio-accumulative potential
No further relevant information available.

12.4 Mobility in soil
No further relevant information available.

12.5 Results of PBT and vPvB assessment
PBT: Not applicable
vPvB: Not applicable

12.6 Other adverse effects
No further relevant information available.

Section 13: Disposal Considerations

13.1 Waste treatment methods
May not be disposed of together with household garbage.
Do not allow product to reach sewage system.

Uncleaned packagings:
Recommendation: disposal must be made according to official regulations.
Recommended cleansing agent: Water, if necessary with cleansing agents.

Section 14: Transport Information

DOT
UN number: UN2910
Proper shipping name: Radioactive material, excepted package-limited quantity of material
Transport hazard class: Class 7 Radioactive material

IATA
UN number: UN2910
Proper shipping name: RADIOACTIVE MATERIAL, EXCEPTED PACKAGE-LIMITED QUANTITY OF MATERIAL
Transport hazard class: Class 7 Radioactive material

IMDG
UN number: UN2910
Proper shipping name: RADIOACTIVE MATERIAL, EXCEPTED PACKAGE-LIMITED QUANTITY OF MATERIAL
Transport hazard class: Class 7 Radioactive material

14.5 Environmental hazards

Marine pollutant: No

14.6 Special precautions for user
Warning: Radioactive material

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

UN “Model Regulation”: Un2910, Radioactive material, excepted package-limited quantity of material, 7

Section 15: Regulatory Information

15.1 Safety, health and environmental regulations/ legislation specific for the substance or mixture

EPCRA/SARA Right to Know
SARA Section 355 (extremely hazardous substances): Substance is not listed.
SARA Section 313 (Specific toxic chemical listings): Substance is not listed.
TSCA (Toxic Substances Control Act): Substance is not listed.

State regulations
California Proposition 65
Chemicals known to cause cancer: Substance is not listed.
Chemicals known to cause reproductive toxicity for females: Substance is not listed.
Chemicals known to cause reproductive toxicity for males: Substance is not listed.
Chemicals known to cause developmental toxicity: Substance is not listed.

Carcinogenic categories
EPA (Environmental Protection Agency): Substance is not listed.

TLV (Threshold Limit Value established by ACGIH): Substance is not listed.

NIOSH-Ca (National Institute for Occupational Safety and Health): Substance is not listed.

OSHA-CA (Occupational Safety & Health administration): Substance is not listed.

Product related information: The product has been classified and marked in accordance with directives on hazardous materials.

Other EU regulations

Hazard symbols: V = very toxic

Risk phrases:
Very toxic by inhalation and if swallowed.
Danger of cumulative effects.

Safety phrases:
Keep away from living quarters.
Keep container in a well-ventilated place.
When using, do not eat, drink, or smoke.
Wear suitable protective clothing.

15.2 Chemical Safety Assessment
A Chemical Safety Assessment has not been carried out.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Date of Preparation: January 4, 2017.

Abbreviations and acronyms
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
CMRG: Chemical Manufacturer's Recommended Guidelines
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
AIHA: American Industrial Hygiene Association
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, Bio-accumulative and Toxicological
vPvB: very Persistent and very Bio-accumulative
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
CEIL: Ceiling

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 of fluids.

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