

### SECTION 1: Identification

#### 1.1. Identification

Product form	: Substance
Trade name	: Uranyl Formate
CAS-No.	: 16984-59-1
Product code	: 24762
Formula	: C4H2O6U.H2O

#### 1.2. Recommended use and restrictions on use

Recommended use	: Use as laboratory reagent, Manufacture of substances
-----------------	--

#### 1.3. Supplier

##### Supplier

Polysciences  
400 Valley Road  
Warrington, PA 18976 - United States  
T +1 215 343 6484 - F +1 215 343 0214  
[info@polysciences.com](mailto:info@polysciences.com) - [www.polysciences.com](http://www.polysciences.com)

#### 1.4. Emergency telephone number

Emergency number	: 24-hour emergency phone number ChemTel 1-800-255-3924
------------------	---

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Acute toxicity (oral) Category 3	Toxic if swallowed
Acute toxicity (inhalation) Category 3	Toxic if inhaled

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

Hazard pictograms (GHS US)



Signal word (GHS US)	: Danger
Hazard statements (GHS US)	: Toxic if swallowed or if inhaled
Precautionary statements (GHS US)	: Avoid breathing dust/fume/gas/mist/vapors/spray. Wash hands, forearms and face thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. If swallowed: Immediately call a poison center or doctor. If inhaled: Remove person to fresh air and keep comfortable for breathing.

#### 2.3. Other hazards which do not result in classification

No additional information available

#### 2.4. Unknown acute toxicity (GHS US)

Not applicable

### SECTION 3: Composition/Information on ingredients

#### 3.1. Substances

Name	Product identifier	%	GHS US classification
Uranyl Formate (Main constituent)	(CAS-No.) 16984-59-1	≈ 100	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Inhalation), H331

# Uranyl Formate

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of hazard classes and H-statements : see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

- |                                       |   |
|---------------------------------------|---|
| First-aid measures general            | : Call a physician immediately.   |
| First-aid measures after inhalation   | : Remove person to fresh air and keep comfortable for breathing. Call a doctor. |
| First-aid measures after skin contact | : Wash skin with plenty of water.   |
| First-aid measures after eye contact  | : Rinse eyes with water as a precaution.  |
| First-aid measures after ingestion    | : Rinse mouth. Call a physician immediately.                                    |

### 4.2. Most important symptoms and effects (acute and delayed)

- |   |   |
|---|---|
| Potential Adverse human health effects and symptoms | : Irritation: may cause irritation to the respiratory system. Toxic if inhaled. |
|---|---|

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

- |                              |                                  |
|------------------------------|----------------------------------|
| Suitable extinguishing media | : Water spray. Dry powder. Foam. |
|------------------------------|----------------------------------|

### 5.2. Specific hazards arising from the chemical

- |  |                                |
|--|--------------------------------|
| Hazardous decomposition products in case of fire | : Toxic fumes may be released. |
|--|--------------------------------|

### 5.3. Special protective equipment and precautions for fire-fighters

- |                                |  |
|--------------------------------|--|
| Protection during firefighting | : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. |
|--------------------------------|--|

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

- |                  |                                     |
|------------------|-------------------------------------|
| General measures | : Avoid contact with skin and eyes. |
|------------------|-------------------------------------|

#### 6.1.1. For non-emergency personnel

- |                      |  |
|----------------------|--|
| Protective equipment | : Wear recommended personal protective equipment.  |
| Emergency procedures | : Ventilate spillage area. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapors/spray. |

#### 6.1.2. For emergency responders

- |                      |   |
|----------------------|---|
| Protective equipment | : Do not attempt to take action without suitable protective equipment. Breathing apparatus. Gloves. Safety glasses. Use personal protective equipment as required. For further information refer to section 8: "Exposure controls/personal protection". |
| Emergency procedures | : Ventilate area.   |

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

- |                         |   |
|-------------------------|---|
| For containment         | : Collect spillage.   |
| Methods for cleaning up | : Mechanically recover the product. Clean up immediately by sweeping or vacuum. Collect spillage. |
| Other information       | : Dispose of materials or solid residues at an authorized site.                                   |

### 6.4. Reference to other sections

For further information refer to section 13.

# Uranyl Formate

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Wear personal protective equipment. Provide adequate ventilation to minimize dust and/or vapor concentrations. Use personal protective equipment as required. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area.
- Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wear personal protective equipment. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store at room temp. Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.
- Incompatible products : Oxidizing agent.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Uranyl Formate (16984-59-1)

No additional information available

#### 8.2. Appropriate engineering controls

- Appropriate engineering controls : Do not breathe dust. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure that there is a suitable ventilation system. Provide adequate ventilation to minimize dust concentrations. Ensure good ventilation of the work station.
- Environmental exposure controls : Avoid creating or spreading dust. Avoid release to the environment.

#### 8.3. Individual protection measures/Personal protective equipment

##### Personal protective equipment:

Gloves. Safety glasses. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

##### Eye protection:

In case of dust production: protective goggles. Chemical goggles or face shield. Where excessive dust may result, wear goggles. Safety glasses

##### Skin and body protection:

Long sleeved protective clothing

##### Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

##### Personal protective equipment symbol(s):



### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

- Physical state : Solid
- Appearance : Yellow solid.
- Color : Yellow
- Odor : No data available
- Odor threshold : No data available
- pH : No data available

# Uranyl Formate

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Melting point	: ≈ 110 °C
Freezing point	: Not applicable
Boiling point	: no data
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: no data
Relative vapor density at 20°C	: no data
Relative density	: No data available
Molecular mass	: ≈ 378.08 g/mol
Solubility	: Soluble.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Toxic if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Toxic if inhaled.

ATE US (oral)	100 mg/kg body weight
ATE US (gases)	700 ppmV/4h
ATE US (vapors)	3 mg/l/4h
ATE US (dust, mist)	0.5 mg/l/4h

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified

# Uranyl Formate

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Likely routes of exposure	: Inhalation.
Potential Adverse human health effects and symptoms	: Irritation: may cause irritation to the respiratory system. Toxic if inhaled.
Other information	: Likely routes of exposure: ingestion, inhalation, skin and eye.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : Toxic to aquatic life with long lasting effects.

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

Regional legislation (waste)	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.

### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

Transport document description	: UN2910 Radioactive material, excepted package-limited quantity of material, 7
UN-No.(DOT)	: UN2910
Proper Shipping Name (DOT)	: Radioactive material, excepted package-limited quantity of material
Class (DOT)	: 7 - Class 7 - Radioactive material 49 CFR 173.403
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 421;422
DOT Packaging Bulk (49 CFR 173.xxx)	: 421, 422
DOT Special Provisions (49 CFR 172.102)	: 368 - Non-bulk flexible, fibreboard or wooden packagings must be sift-proof and water-resistant or must be fitted with a sift-proof and water-resistant liner.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 421, 422
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
Emergency Response Guide (ERG) Number	: 161
Other information	: No supplementary information available.

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

##### Uranyl Formate (16984-59-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

# Uranyl Formate

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 15.2. International regulations

#### CANADA

##### Uranyl Formate (16984-59-1)

Listed on the Canadian NDSL (Non-Domestic Substances List)

#### EU-Regulations

##### National regulations

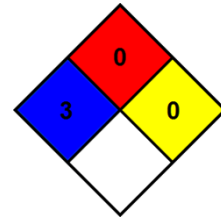
No additional information available

### 15.3. US State regulations

## SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

NFPA health hazard	: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.
NFPA fire hazard	: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.
NFPA reactivity	: 0 - Material that in themselves are normally stable, even under fire conditions.
Hazard Rating	
Health	: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
Flammability	: 0 Minimal Hazard - Materials that will not burn
Physical	: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.



SDS US (GHS HazCom 2012)

*POLYSCIENCES, INC. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose. POLYSCIENCES, INC. makes no representations or warranties, either expressed or implied of merchantability, fitness for particular purposes with respect to the information set forth herein or to which the information refers. Accordingly, POLYSCIENCES, INC. will not be responsible for damages resulting from the use of or reliance upon this information.*