



**Precautionary Statements**
**: Prevention:**

P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 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.

**Response:**

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.  
 P304 + P340 + P311 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor.  
 P307 + P311 IF exposed: Call a POISON CENTER or doctor/ physician.  
 P391 Collect spillage.

**Disposal:**

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

**Other hazards**

None known.

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**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Substance

**Components**

Chemical name	CAS RN	Concentration (% w/w)*
Cesium lead Iodide	18041-25-3	>= 90 - <= 100

\*Actual concentration is withheld as a trade secret

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**SECTION 4. FIRST AID MEASURES**
**If inhaled**

If breathed in, move person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician.

**In case of skin contact**

Take off all contaminated clothing immediately. If on skin, rinse well with water. Call a POISON CENTER or doctor/ physician.

**In case of eye contact**

Rinse thoroughly with plenty of water. If easy to do, remove contact lens, if worn. Call a POISON CENTER or doctor/ physician.

**If swallowed**

Immediately call a POISON CENTER or doctor/ physician. Rinse mouth.

**Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2 or section 11)

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**SECTION 5. FIRE-FIGHTING MEASURES****Extinguishing media Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Special hazards arising from the substance or mixture**

Hydrogen iodide, lead oxides.

Ambient fire may liberate hazardous vapors.

**Special protective equipment for fire-fighters**

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

**Further information**

Suppress (knock down) gases/vapors/mists with a water spray jet.

Prevent fire extinguishing water from contaminating surface water or the ground water system.

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**SECTION 6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Avoid breathing dust. Ensure adequate ventilation.

Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

**Environmental precautions**

Should not be released into the environment.

**Methods and materials for containment and cleaning up**

Pick up and arrange disposal without creating dust. Cover drains. Sweep up and shovel. Dispose of properly. Clean up affected area.

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**SECTION 7. HANDLING AND STORAGE****Precautions for safe handling**

Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Wash hands and face thoroughly after handling.

Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

Use only under a chemical fume hood.

Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance.

Normal measures for preventive fire protection.

For precautions see section 2.

### Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Light sensitive. Store in a cool and shaded area. Protect from moisture. Keep under inert gas. Keep locked up or in an area accessible only to authorized persons.

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Chemical name	CAS RN	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Cesium lead Iodide	18041-25-3	PEL	0.05 mg/m3 (Lead)	OSHA CARC
		TWA	0.05 mg/m3 (Lead)	NIOSH REL
		TWA	0.05 mg/m3 (Lead)	ACGIH

The value is given in analogy to the following substances: Lead(II) iodide

### Biological occupational exposure limits

Chemical name	CAS RN	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Cesium lead Iodide	18041-25-3	Lead (Lead)	In blood	Not critical	200 µg/l	ACGIH BEI

The value is given in analogy to the following substances: Lead(II) iodide

### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### Personal protective equipment

Respiratory protection : Dustproof gas mask, Self-contained breathing apparatus  
 Hand protection : Impervious gloves  
 Eye protection : Safety glasses, Face-shield  
 Skin and body protection : Impervious protective clothing

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Solid form (powder/crystals)  
 Color : yellow  
 Odor : no data available

Odor Threshold	: no data available
pH	: no data available
Melting point	: no data available
Boiling point/range	: no data available
Flash point	: no data available
Evaporation rate	: no data available
Flammability	: no data available
Upper/lower flammability	: no data available
Explosive limits	: no data available
Vapor pressure	: no data available
Vapor density	: no data available
Relative density	: no data available
Solubility(ies)	: no data available
Partition coefficient	: no data available
Auto-ignition temperature	: no data available
Decomposition Temp	: no data available
log Pow	: no data available
Viscosity	: no data available
Oxidizing properties	: no data available
Molecular weight	: 720.82 g/mol

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## SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No data available
Chemical stability	: No data available
Possibility of hazardous reactions	: No data available
Conditions to avoid	: Exposure to light. Exposure to moisture.
Incompatible materials	: Oxidizing agents
Hazardous decomposition products	: Hydrogen halides, Metal oxides

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## SECTION 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

Oral	: No data available
Inhalation	: No data available
Dermal	: No data available

### Skin corrosion/irritation

No data available

### Serious eye damage/eye irritation

No data available

### Respiratory or skin sensitization

No data available

### Germ cell mutagenicity

No data available

### Carcinogenicity

IARC: Group 2A: Probably carcinogenic to humans (Cesium lead iodide).

NTP: Reasonably anticipated to be a human carcinogen (Cesium lead iodide).

OSHA: OSHA specifically regulated carcinogen (Cesium lead iodide).

**Reproductive toxicity**

May cause congenital malformation in the fetus.

Known human reproductive toxicant.

**Specific target organ toxicity - single exposure**

Target Organs : Blood, Nervous system, Kidney

Assessment : Causes damage to organs.

**Specific target organ toxicity - repeated exposure**

Target Organs : Blood, Nervous system, Kidney

Assessment : Causes damage to organs through prolonged or repeated exposure

Target Organs : Systemic toxicity

Assessment : May cause damage to organs through prolonged or repeated exposure

**Aspiration hazard**

No data available

**Additional Information**

Anemia, prolonged exposure to iodides may produce iodism in sensitive individuals. Symptoms of exposure include: skin rash, running nose, headache and irritation of the mucous membrane. For severe cases the skin may show pimples, boils, hives, blisters and black and blue spots. Iodides are readily diffused across the placenta. Neonatal deaths from respiratory distress secondary to goiter have been reported. Iodides have been known to cause drug-induced fevers, which are usually of short duration. Lead salts have been reported to cross the placenta and to induce embryo- and feto- mortality. They also have teratogenic effect in some animal species. No teratogenic effects have been reported with exposure to organometallic lead compounds. Adverse effects of lead on human reproduction, embryonic and fetal development, and postnatal (e.g., mental) development have been reported. Excessive exposure can affect blood, nervous, and digestive systems. The synthesis of hemoglobin is inhibited and results in anemia. If left untreated, neuromuscular dysfunction, possible paralysis, and encephalopathy can result. Additional symptoms of overexposure include: joint and muscle pain, weakness of the extensor muscles (frequently the hand and wrist), headache, dizziness, abdominal pain, diarrhea, constipation, nausea, vomiting, blue line on the gums, insomnia, and metallic taste. High body levels produce increased cerebrospinal pressure, brain damage, and stupor leading to coma and often death.

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**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity**

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

**Persistence and degradability**

No data available

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**Other adverse effects****Product:**

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82  
Protection of Stratospheric Ozone - CAA Section 602  
Class I Substances  
Remarks: This product neither contains, nor was  
manufactured with a Class I or Class II ODS as defined by  
the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A,  
App.A + B).

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**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues : Waste material must be disposed of in accordance with the national  
and local regulations. Leave chemicals in original containers. No  
mixing with other waste. Handle uncleaned containers like the product  
itself. Before disposal of used container, remove contents completely.

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**SECTION 14. TRANSPORT INFORMATION****International Regulations****IATA-DGR**

UN/ID No. : UN 2291  
Proper shipping name : Lead compound, soluble, n.o.s.  
Class : 6.1  
Packing group : III

**IMDG-Code**

UN number : UN 2291  
Proper shipping name : LEAD COMPOUND, SOLUBLE, N.O.S.  
Class : 6.1  
Packing group : III  
EmS Code : F-A, S-A  
Marine pollutant : yes

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**Domestic regulation****49 CFR**

UN/ID/NA number : UN 2291  
 Proper shipping name : Lead compounds, soluble, n.o.s.  
 Class : 6.1  
 Packing group : III  
 ERG Code : 151  
 Marine pollutant : yes

### Special precautions for user

The transport classification(s) provided herein are for informational purposes only and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## SECTION 15. REGULATORY INFORMATION

### CERCLA Reportable Quantity

Components	CAS RN	Component RQ (lbs)	Calculated product RQ (lbs)
Cesium lead Iodide	18041-25-3	10	10

### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : Acute Health Hazard  
 Chronic Health Hazard  
**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

Cesium lead Iodide 18041-25-3 >= 90 - <= 100 %

### Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

Cesium lead Iodide 18041-25-3 >= 90 - <= 100 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

### Clean Water Act

The following Hazardous Substances are listed under the U.S. Clean Water Act, Section 311, Table 116.4A:

Cesium lead Iodide 18041-25-3 >= 90 - <= 100 %



The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

Cesium lead Iodide 18041-25-3  $\geq 90 - \leq 100 \%$

The following Hazardous Substances are listed under the U.S. Clean Water Act Section 307. This product does not contain any priority pollutants related to the U.S. Clean Water Act:

Cesium lead Iodide 18041-25-3  $\geq 90 - \leq 100 \%$

## **US State Regulations**

### **Massachusetts Right to Know**

Product does not contain any listed chemicals

### **Maine Chemicals of High Concern**

Product does not contain any listed chemicals

### **Vermont Chemicals of High Concern**

Product does not contain any listed chemicals

### **Washington Chemicals of High Concern**

Product does not contain any listed chemicals

### **California Prop. 65 Components**

WARNING: This product can expose you to chemicals including Cesium lead Iodide (lead compound), which is/are known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### **California List of Hazardous Substances**

Cesium lead Iodide (lead compound) 18041-25-3

### **California Permissible Exposure Limits for Chemical Contaminants**

Cesium lead Iodide (lead compound) 18041-25-3

### **TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

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## **SECTION 16. OTHER INFORMATION**

The information was prepared sincerely based on the information obtained and is believed to be correct but is not exhaustive and will be used solely as a guideline. It does not represent any guarantee of the properties of the product. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility. PY Materials, LLC shall not be held liable for any damage resulting from handling or from contact with the above product.