

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	<b>Iridium</b>
Chemical Formula	Ir
Molecular Weight	192.22 g/mol
CAS No.	7439-88-5
EC No.	231-095-9
Supplier Address*	ISOFLEX USA PO Box 472615 San Francisco CA 94147 United States
Telephone	+1 415-440-4433
Fax	+1 415-563-4433
Emergency Phone Number (both supplier and manufacturer)	Infotrac/ +1 800-535-5053  *May include subsidiaries or affiliate companies/divisions
Email	<a href="mailto:iusa@isoflex.com">iusa@isoflex.com</a>
Website	<a href="http://www.isoflex.com">www.isoflex.com</a>
Preparation Information	ISOFLEX USA Product Safety +1 415-440-4433

## 2. HAZARDS IDENTIFICATION

### Emergency Overview:

OSHA Hazards

Flammable solid, irritant

GHS Label elements, including precautionary statements

Signal word Danger

### Hazard statement(s)

**H228** Flammable solid

**H319** Causes serious eye irritation

### Precautionary statement(s)

**P210** Keep away from heat/sparks/open flames/hot surfaces. NO SMOKING.

**P305 + P351 + P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**NFPA Ratings:** (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

**Health Hazard = 2      Flammability = 0      Reactivity = 3**



**HMIS Ratings:** (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

**Health Hazard = 2      Flammability = 0      Physical Hazard = 3**

<b>HEALTH HAZARD</b>	<b>2</b>
<b>FLAMMABILITY</b>	<b>0</b>
<b>PHYSICAL HAZARD</b>	<b>3</b>
<b>PERSONAL PROTECTION</b>	

#### Potential Health Effects

*Inhalation*

May be harmful if inhaled. Causes respiratory tract irritation.

*Skin*

May be harmful if absorbed through skin. Causes skin irritation.

*Eyes*

Causes eye irritation

*Ingestion*

May be harmful if swallowed

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### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name:	Iridium
CAS No.:	7439-88-5
Chemical Formula:	Ir
Molecular Weight:	192.22 g/mol

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### 4. FIRST AID MEASURES

*General Advice*

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

*Inhalation Exposure*

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

*Dermal Exposure*

Wash off with soap and plenty of water; consult a physician.

*Eye Exposure*

Rinse thoroughly with plenty of water for at least 15

minutes; consult a physician.

*Oral Exposure*

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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## 5. FIREFIGHTING MEASURES

*Suitable Extinguishing Media*

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

### **Firefighters**

*Protective Equipment*

Wear self-contained breathing apparatus for firefighting if necessary.

*Further Information*

Use water spray to cool unopened containers.

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## 6. ACCIDENTAL RELEASE MEASURES

*Personal Precautions*

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

*Environmental Precautions*

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

*Methods for Cleaning Up*

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

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## 7. HANDLING AND STORAGE

*Handling*

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition. NO SMOKING. Take measures to prevent the buildup of electrostatic charge.

*Storage*

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

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

*Exposure Guidelines*

Contains no substances with occupational exposure limit values

### **Personal Protective Equipment**

*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).

*Hand Protection*

Handle with gloves.

*Eye Protection*

Safety glasses with side-shields conforming to EN166

*Skin and Body Protection*

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

## Hygiene Measures

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

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## 9. PHYSICAL AND CHEMICAL CHARACTERISTICS

### Appearance

<i>Form</i>	Powder
<i>Color</i>	Light grey

### Safety Data

pH:	No data available
Melting Point:	2450 °C (4442 °F)
Boiling Point:	4130 °C (7466 °F)
Flash Point:	Not applicable
Flammability (Solid, Gas):	The substance or mixture is a flammable solid with the subcategory 1.
Ignition Temperature:	No data available
Lower Explosion Limit:	No data available
Upper Explosion Limit:	No data available
Density:	22.65 g/mL
Water Solubility:	No data available

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## 10. STABILITY AND REACTIVITY

<i>Chemical Stability</i>	Stable under recommended storage conditions
<i>Conditions to Avoid</i>	Heat, flames and sparks
<i>Materials to Avoid</i>	Strong oxidizing agents, halogens, tin/tin oxides, lead, zinc, hazardous decomposition products, hazardous decomposition products formed under fire conditions -- Iridium oxides

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## 11. TOXICOLOGICAL INFORMATION

<i>Acute Toxicity</i>	No data available
<i>Skin Corrosion/Irritation</i>	No data available
<i>Serious Eye Damage/Eye Irritation</i>	No data available
<i>Respiratory or Skin Sensitization</i>	No data available
<i>Germ Cell Mutagenicity</i>	No data available

### Carcinogenicity:

IARC

No component of this product present at levels

greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC.

*ACGIH* No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

*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 (GHS)* No data available

*Specific Target Organ Toxicity / Repeated Exposure (GHS)* No data available

*Aspiration Hazard* No data available

### Potential Health Effects

*Inhalation* tract irritation May be harmful if inhaled; causes respiratory

*Ingestion* May be harmful if swallowed

*Skin* skin irritation May be harmful if absorbed through skin; causes

*Eyes* Causes eye irritation

*Signs and Symptoms of Exposure* To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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## 12. ECOLOGICAL INFORMATION

*Toxicity* No data available

*Persistence and Degradability* No data available

*Bioaccumulative Potential* No data available

*Mobility in Soil* No data available

*PBT and vPvB Assessment* No data available

*Other Adverse Effects* No data available

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## 13. DISPOSAL CONSIDERATIONS

*Product* Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting, as this material is highly flammable. Observe all federal, state and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

*Contaminated Packaging* Dispose of as unused product.

## 14. TRANSPORT INFORMATION

### DOT (US)

<i>Proper Shipping Name</i>	Metal powders, flammable, n.o.s.
<i>UN No.</i>	3089
<i>Class</i>	4.1
<i>Packing Group</i>	II
<i>Marine Pollutant</i>	No
<i>Poison Inhalation Hazard</i>	No

### IMDG

<i>Proper Shipping Name</i>	METAL POWDER, FLAMMABLE, N.O.S.
<i>UN No.</i>	3089
<i>Class</i>	4.1
<i>Packing Group</i>	II
<i>EMS No.</i>	F-G, S-G
<i>Marine Pollutant</i>	No

### IATA

<i>Proper Shipping Name</i>	Metal powder, flammable, n.o.s.
<i>UN No.</i>	3089
<i>Class</i>	4.1
<i>Packing Group</i>	II

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## 15. REGULATORY INFORMATION

<b>OSHA Hazards</b>	Flammable solid, Irritant
<b>DSL Status</b>	All components of this product are on the Canadian DSL list.
<b>SARA 302 Components</b>	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
<b>SARA 313 Components</b>	This material does not contain any chemical components with known CAS numbers that exceed the threshold ( <i>De Minimis</i> ) reporting levels established by SARA Title III, Section 313.
<b>SARA 311/312 Hazards</b>	Fire Hazard, Acute Health Hazard
<b>Massachusetts Right to Know Components</b>	No components are subject to the Massachusetts Right to Know Act.
<b>Pennsylvania Right to Know Components</b>	<i>Iridium</i> / CAS No. 7439-88-5
<b>New Jersey Right to Know Components</b>	<i>Iridium</i> / CAS No. 7439-88-5

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## 16. OTHER INFORMATION

<i>Prepared By</i>	ISOFLEX USA PO Box 29475
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San Francisco CA 94147  
United States

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*Revision Number* 4  
*Revision Note* Update supplier address

### **ISOFLEX USA's Commonly Used Abbreviations and Acronyms\***

ACGIH	American Conference of Governmental Industrial Hygienists
ADR	European Agreement Concerning the International Carriage of Dangerous Goods by Road
ALARA	As Low As Is Reasonably Achievable
AMU	Atomic Mass Unit
ANSI	American National Standards Institute
BLS	Basic Life Support
BOD5	Biochemical Oxygen Demand
CAM	Continuous Air Monitor
CAS	Chemical Abstracts Service (division of the American Chemical Society)
CEN	European Committee for Standardization
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CLP	Classification, Labelling and Packaging (European Union)
COD	Chemical Oxygen Demand
CPR	Controlled Products Regulations (Canada)
CWA	Clean Water Act (USA)
DAC	Derived Air Concentration (USA)
DOE	United States Department of Energy (USA)
DOT	United States Department of Transportation (USA)
DSL	Domestic Substances List (Canada)
EC50	Half Maximal Effective Concentration
EINECS	European Inventory of Existing Commercial Chemical Substances
EHS	Environmentally Hazardous Substance
ELINCS	European List of Notified Chemical Substances
EMS	Emergency Response Procedures for Ships Carrying Dangerous Goods
EPA	Environmental Protection Agency (USA)
EPCRA	Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986
GHS	Globally Harmonized System
HMIS	Hazardous Materials Identification System (USA)
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	Intermediate Bulk Containers
ICAO	International Civil Aviation Organization
IDLH	Immediately Dangerous to Life or Health
IMDG	International Maritime Code for Dangerous Goods
LC50	Lethal concentration, 50 percent
LD50	Lethal dose, 50 percent
LDLO	Lethal Dose Low
LOEC	Lowest-Observed-Effective Concentration
MARPOL	International Convention for the Prevention of Pollution from Ships
MSHA	Mine Safety and Health Administration (USA)
NCRP	National Council on Radiation Protection & Measurements (USA)
NDSL	Non-Domestic Substances List (Canada)
NFPA	National Fire Protection Association (USA)



NIOSH	National Institute for Occupational Safety and Health (USA)
NOEC	No Observed Effect Concentration
N.O.S.	Not Otherwise Specified
NRC	Nuclear Regulatory Commission (USA)
NTP	National Toxicology Program (USA)
OSHA	Occupational Safety and Health Administration (USA)
PBT	Persistent Bioaccumulative and Toxic Chemical
PEL	Permissible Exposure Limit
PIH	Poisonous by Inhalation Hazard
RCRA	Resource Conservation and Recovery Act (USA)
RCT	Radiation Control Technician
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals (Europe)
RID	Regulations Concerning the International Transport of Dangerous Goods by Rail
RQ	Reportable Quantity
RTECS	Registry of Toxic Effects of Chemical Substances
SARA	Superfund Amendments and Reauthorization Act (USA)
SNUR	Significant New Use Rule (TSCA)
TDG	Transportation of Dangerous Goods (Canada)
TIH	Toxic by Inhalation Hazard
TLV	Threshold Limit Value
TPQ	Threshold Planning Quantity
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
UN	United Nations (Number)
VOC	Volatile Organic Compound
vPvB	Very Persistent Very Bioaccumulative Chemical
WGK	Wassergefährdungsklassen (Germany: Water Hazard Classes)
WHMIS	Workplace Hazardous Materials Information System

\*One or more of the above-listed items may not appear in this document.

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