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ISSUED DATE: <b>11 November 2025</b>	WORK PROCEDURE TASK	<b>SAFETY DATA SHEET – IRIDIUM</b>
	SECTION:	IRIDIUM
	DOCUMENT N <sup>o</sup> .:	<b>SDS-019</b>

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**Product code** : IR METAL  
**Version** : 1  
**Date of issue** : 11.11.2025  
**Date of previous issue** : No previous validation

## SECTION 1: Identification of the substance / mixture and of the company / undertaking

### 1.1. Product Identifier

**Product name** : Iridium Powder  
**Chemical name** : Iridium  
**Formula** : Ir

### Relevant identified uses of the substance or mixture and uses advised against Specific uses

Manufacture of Iridium chemicals for use in catalysts, and electrode coatings as metal or alloys for corrosion and heat-resistant applications.

### 1.2. Details of the supplier of the safety data sheet

**Supplier Name** : Impala Platinum Ltd – Refineries  
**Address** : Base Metals Refinery  
 P.O. Box 222  
 SPRINGS  
 1560  
 GAUTENG  
 Republic of South Africa

: Impala Platinum Ltd – Refineries  
 Corner East Geduld Road & Cowles Street

**Contact Person (s)** : Jamie Welman – PML Manager  
 Tel: +27 11 360 3111  
 E-mail: [jamie.welman@implats.co.za](mailto:jamie.welman@implats.co.za)  
[www.implats.co.za](http://www.implats.co.za)

### 1.3. Emergency telephone number

See above for Refineries contacts.  
 Impala Platinum Refineries: +27(0) 11 360 3777  
 Poison Centre – Tygerberg Hospital, Belville, Cape +27(0) 21 931 6129

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## SECTION 2: Hazard Identification

### 2.1. Classification of the substance or mixture

Low Toxicity – Iridium Salts

### 2.2. Label elements

Hazard Pictograms :



Signal word :

Warning

Hazard statements :

Harmful – if swallowed, - in contact with skin, inhaled.

Before use read Safety Data Sheet

Storage / Label :

Each container should be labelled

### 2.3. Other Hazards

The product may cause adverse health effects with high-level dust generation, inhalation or prolonged skin contact. May for Iridium salts on contact with acids.

Other hazards which do not result in Classification :

If dissolved, ensure adequate enclosure or ventilation: do not breathe mists and avoid solution contact with eyes, skin and clothing – may cause sensitization or allergic reaction. If melted do not breathe the fumes

## SECTION 3: Composition / Information on Ingredients

### 3.1. Substances

#### Product / Ingredient name – Iridium

Identifiers	%	Classification	Type
Iridium  CAS#: 7439-88-5 EINECS NUMBER: 231-095-9	99.90-99.99 %	Major components: Typical wt%	[*]

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**Eye contact** : Flush gently with running water for at least 15 minutes. Seek medical attention if irritation develops.

**Inhalation** : If over exposure occurs leave exposure area immediately. If other than minor symptoms are displayed, seek immediate medical attention.

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- Skin contact** : Gently flush affected areas with soap and water. Seek medical attention if irritation develops.
- Ingestion** : If poisoning occurs, contact a doctor or poisons information centre on +27-21-931-6129. Do not induce vomiting. Give a glass of water to drink. Seek urgent medical attention.

#### 4.2. Most important symptoms and effects, both acute and delayed

- Eye contact** : Irritation
- Inhalation** : Over exposure leave area / seek medical attention
- Skin contact** : Irritation
- Ingestion** : Seek medical attention

#### 4.3. Indication of any immediate medical attention and special treatment needed

Do not induce vomiting – give a glass of water to drink

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media** : Does not burn
- Unsuitable extinguishing media** : Not applicable

#### 5.2. Special hazards arising from the substance or mixture

None

#### 5.3. Advice for firefighters

- Special protective equipment for firefighters** : None

**NOTE:** Unlike some finely divided Iridium powder supplied by other companies, the material supplied by Impala Platinum is non-flammable and therefore DOES NOT present a fire hazard.

### SECTION 6: Accidental release measures

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

- Personal precautions** : If spilt (bulk) wear goggles and PVC or rubber gloves. Where a dust inhalation hazard exists (i.e. when used in large quantities) wear a Class P1 (particulate) respirator.

#### Environmental precautions

- Environmental precautions** : Prevent this material from entering surface waters.

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

- Solid** : Sweep up and place in sealed container
- Solution** : Absorb with moist sand or similar and place in sealed containers for reprocessing or recovery.

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**SECTION 7: Handling and Storage**

**7.1. Precautions for safe handling**

**Handling** : Avoid inhalation of dust or fumes  
 Avoid contact with skin or eyes  
 Use local ventilation which is adequate to limit exposure to levels not exceeding occupational exposure limits.  
 Activities generating dust should be avoided.

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

Store in tightly sealed containers in a cool, dry and well-ventilated area removed from oxidizing agents, acids and foodstuffs.  
 Ensure containers are adequately labeled, protected from physical damage and sealed when not in use.  
 Check regularly for leaks or spills.

**7.3. Specific end use(s)**

**Recommendations** : Not available  
**Industrial sector specific solutions** : Not available

**SECTION 8: Exposure controls / personal protection**

**8.1. Control parameters**

**Occupational exposure limits – Iridium**

Exposure limit values
ACGIH, edition 1999

**Occupational exposure Standard – Iridium**

Exposure limit values
(TWA) 10mg/m <sup>3</sup> (nuisance dust)

**8.2. Exposure controls**

**Individual protection measures**

**Hygiene measures** : Practice good housekeeping and personal hygiene procedures.  
 No eating, drinking or smoking in work area.  
 Wash hands thoroughly before eating, drinking or smoking.  
 Avoid ingestion, inhalation and skin and eye contact.  
 Medical examinations, monitoring, record keeping and hygiene facilities are recommended.

**Eye / face protection** : Wear dust-proof goggles

**Skin / hand protection** : Safety shoes, overalls or similar full-body work clothes should be worn and laundered daily.  
 This protective clothing should not be worn at home.  
 Wear suitable gloves (PVC or rubber)

**Respiratory protection** : Use an appropriate and approved respirator for toxic dust or fume if airborne concentration is likely to exceed the occupational exposure limits.

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## SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

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

<b>Appearance</b>	:	Dark grey metallic powder
<b>Odour</b>	:	Not available
<b>Melting point/freezing point</b>	:	2466°C; 4471 °F
<b>Initial boiling point and boiling range</b>	:	4428°C; 8002 °F
<b>Flammability (solid, gas)</b>	:	non-flammable
<b>Flash point</b>	:	Not applicable
<b>pH</b>	:	Not applicable
<b>Partition coefficient: n- octanol/water</b>	:	Not applicable
<b>Vapour pressure</b>	:	Unknown
<b>Relative density</b>	:	Unknown
<b>Explosive properties</b>	:	Not applicable
<b>Oxidising properties</b>	:	Not applicable
<b>Auto flammability</b>	:	Not applicable
<b>Relative density</b>	:	2.1 – 2.8 (variable)
<b>Solubility</b>	:	Hydrosolubility: insoluble in water liposolubility (solvent-oil): insoluble in solvent oil

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No specific data.

### 10.2. Chemical stability

The material is stable under normal circumstances.

### 10.3. Possibility of hazardous reactions

No specific data.

### 10.4. Conditions to avoid

Exposure to high temperatures (>1000°C ), generation of dust.

### 10.5. Incompatible materials

Avoid contact with acids or strong oxidizing agents

### 10.6. Hazardous decomposition products

Nil

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

**Acute toxicity – Iridium powder**

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Result	Species	Dose	Exposure
Iridium Powder is non-toxic	-	-	May cause irritation of the gastro-intestinal tract.

**Acute toxicity – Iridium salts**

Non-irritant: Low irritant

Prolonged and repeated exposure to dust/powder may result in irritation due to mechanical action.

Possible sensitizer.

Direct contact with Iridium salts may result in irritation and skin sensitization

**Irritation / Corrosion**

Product / Ingredient name	Result	Species	Score	Exposure	Observation
Iridium Salts	Eyes- irritation, lachrymation, burning sensation and conjunctivitis and possible corneal burns with prolonged contact	-	-	-	-

**Conclusion / Summary**

**Skin** : Skin and mucous membranes and may cause sensitization.

**Eyes** : Iridium salts are irritating to the eyes

**Respiratory** : Non-irritant: Iridium metal is unlikely to cause irritation except as a dust.

**Sensitisation**

**Conclusion / Summary**

**Skin** : May cause sensitization

**Eyes** : Irritation to the eyes

**Respiratory** : Not classified

Mutagenicity – Iridium Salts	Experiment	Result
-	-	Not fully investigated

**Carcinogenicity**

**Conclusion / summary** : **Non-carcinogenic: Iridium salts are listed as non-carcinogenic in (all U.S)**

**Reproductive toxicity – Iridium Salt**

: In the National Toxicity Program (NTP) Report on Carcinogens  
 In the International Agency for Research on Cancer (IARC) monographs  
 By the Occupational Safety and Health Administration (OSHA)

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**Reproductive toxicity – Iridium Chloride**

- : Has caused mutations in bacteria and tumours in laboratory animals  
However, the effects have not been fully investigated.
- : **Pregnant women should avoid contact with Iridium Salt**

**Conclusion / summary** : Have caused tumours in laboratory animals  
Water-soluble Iridium compounds

**Teratogenicity**

**Conclusion / summary** : Not classified

**Specific target organ toxicity (single exposure)**

Product / Ingredient name	Category	Route of exposure	Target organs
Iridium salts	-	-	Possible damage to the respiratory tract. GI tract, skin, eyes, teeth and immune system. Effects have not been fully investigated.

**Specific target organ toxicity (Repeated exposure)**

Product / Ingredient name	Category	Route of exposure	Target organs
Rhodium salts	-	-	Possible damage to the respiratory tract. GI tract, skin, eyes, teeth and immune system. Effects have not been fully investigated

**Aspiration hazard**

Not available

**Information on likely routes of exposure** : Inhalation – Low irritant

**Potential acute health effects**

**Inhalation** : Inhalation of dust may result in upper respiratory tract irritation Iridium metal poses a low hazard but Iridium salts are potential irritants and sensitizers.

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## SECTION 12: Ecological information

### 12.1 Toxicity

**Conclusion / Summary** : Due to the very low solubility of Iridium powder it does not directly pose any ecological threat.  
However, if converted to soluble Iridium salts it may have effects.

### 12.2 Persistence and degradability

**Conclusion / summary** : Hazard of Iridium persistency in the environment

### 12.3 Bioaccumulate potential

**Conclusion / summary**

**Bio accumulative potential** : Hazard of Iridium accumulation  
**Biomagnification** : Potential hazard of Iridium magnification  
**Biodegradability** : No information available

### 12.4 Ecotoxicity / Mobility in soil

**Soil/water partition coefficient (KOC)** : Unknown, no information available  
**Mobility** : Not available  
**Aquatic organisms** : Potentially toxic to aquatic organisms  
May cause long term adverse effects in the aquatic environment.  
**Plants and terrestrial animals** : Unknow – no information available

### 12.5 Results of PBT and vPvB assessment

**Non available**

### 12.6 Other adverse effects

**Ozone depletion potential** : does not contain ozone depleting substances.  
**Photochemical ozone creation potential** : not applicable  
**Global warming potential** : not applicable  
**Effects on wastewater treatment plants** : Unknown – no information available

**The environmental effects of Iridium and its compounds have not bee fully evaluated.**

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**Product Methods of disposal** : Disposer must comply with state and local laws.  
This material can be metallurgically recycled by Impala Platinum, South Africa, which is a pre-authorized facility for the environmentally sound recovery of metal.

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## SECTION 14:Transport information

### 14.1. UN number Not Regulated for Transport Purposes

<b>Packing</b>	:	In plastic bottles sealed in tins which in turn is sealed in boxes
<b>UN-Nr</b>	:	Not applicable
<b>IMDG-Code</b>	:	Not applicable
<b>ICAO / IATA</b>	:	Not applicable
<b>RID / ADR</b>	:	Not applicable

## SECTION 15:Regulatory information

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

**United states: CERCLA Section 102a/103 (40CFR302.4 – Not regulated**

**Canada: WHMIS Classification: D2B (toxic material)**

**EU/EC Classification: X<sub>n</sub> (Harmful) not classified in Annex I of Directive 67/548/EEC (will change with implementation of GHS/REACH)**

## SECTION 16:Other information

### 16.1 Hazard Information References

**RTECS:** Registry of toxic effects of Chemical Substances, NIOSH, edition January 1999

**Sax's Dangerous Properties of Industrial Materials (8<sup>th</sup> edition), RJ Lewis Sr.**

Screening of Platinum Group Metals: Pt, Rh, Pd SWECO VIAK Screening Report 2007:2 (For Swedish Environmental Protection Agency)

ECOTOX database: <http://cfpub.epa.gov/ecotox>

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