REVISION Nº.: 1

PRECIOUS METAL REFINERIES

IMPALA SPRINGS

ISSUED DATE: 23 September 2025

WORK PROCEDURE TASK **SAFETY DATA SHEET – RHODIUM**

SECTION: RHODIUM

DOCUMENT NO.: **SDS-016**

DISTRIBUTION CONTROL SHEET

Nº	LOCATION	TITLE	
1	SHEQ Manger	SHEQ Manager	(Electronic)
2	Despatch	Process Supervisor	(Electronic)
3	Plant Manager's Office	Plant Manager - Rhodium	(Electronic)
4	Manager PMR	Manager PMR Snr	(Electronic)
5	Lab Manager's Office	Laboratory Manager	(Electronic)
6	Marketing	Marketing Executive Manager	(Electronic)
7	Marketing	Sales Admin Superintendent	(Electronic)
8	IRS	IRS Superintendent	(Electronic)
9	Head Office	Group Head Investor Relations and Corporate Communications	(Hardcopy)

NOTE: This quality-controlled document is available on SAP. Notification of distribution records, as sent to all parties identified, are kept.

Product code	:	Not available
Version	:	1
Date of issue	:	Not available
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	:	Rhodium Powder
EC number	:	Not available
UK (GB) REACH Registration number	:	Not available
Legal Identity	:	Not Applicable
CAS number	:	Not available 6
Product code	:	Not available
Product type	:	Powder.
Other means of identification	:	Impala Rhodium, Rhodium Metal

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

Catalytic reactions in industry, used to coat optic fibres, optical mirrors, crucibles, thermocouple elements and headlight reflectors. It is used as an electrical contact material as it has a low electrical resistance and is highly resistant to corrosion.

1.3. Details of the supplier of the safety data sheet

Supplier Name	:	Impala Platinum Ltd – Refineries
Address	:	P.O. Box 222 SPRINGS 1560 GAUTENG Republic of South Africa
Contact Person (s)	:	Laboratory Manager – Jamie Welman Tel: +27 11 360 3255 E-mail: jamie.welman@implats.co.za
	:	Rhodium Section Manager – Heine Jonck Tel: +27 11 360 3509 E-mail: heine.jonck@implats.co.za

1.4. Emergency telephone number

For emergency information – see above for Impala Platinum contacts.
South Africa Poisons Information Centre (24 hours): 0861-555-777 (South Africa only)

SECTION 2: Hazard Identification

2.1. Classification of the substance or mixture

Product definition : Not available
Classification according to GHS: SANS 10234

Health Hazard:

Acute toxicity, oral	Category 1	:	H303-May be harmful if swallowed
Respiratory sensitization	Category 1	:	H333-May be harmful if inhaled
Skin sensitization	Category 1	:	H317-Prolonged skin contact may cause an allergic skin reaction
Environmental Hazard:	Category 4	:	May cause long lasting harmful effects in aquatic Life

Hazard Summary:

Health Hazard:	:	May be harmful if swallowed and/or inhaled. May cause skin irritation during dust generation.
Environmental Hazard	:	May cause long lasting adverse effects in aquatic environment.
Specific Hazard	:	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 inhale furnace fumes.

2.2. Label elements

Hazard Pictograms :

Signal word : Danger

Health statements :
H303 -May be harmful if swallowed.
H317-May cause an allergic reaction.
H333-May be harmful if inhaled.

Precautionary statements Prevention :
P201-Obtain special instruction before use.
P202-Do not handle until all safety precautions have been read and understood.
P261-Avoid breathing dust/fume
P264-Wash thoroughly after handling
P270-Do not eat, drink or smoke when using this product.
P273-Avoid release to the environment.
P280-Wear protective gloves, protective clothing and eye protection.
P285-In case of inadequate ventilation wear respiratory protection.

Response	:	P330-Rinse mouth P363-Wash contaminated clothing before re-use P302+P352-IF ON SKIN: Wash well with plenty of soap and water P308+P313-If exposed or concerned get medical advice/attention P304+P340-IF IHALED: Remove to fresh air and keep at rest in a position comfortable for breathing P305+P351+P338-IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. P337+P313-If eye irritation persists get medical advice/attention P333+P313-If skin irritation or rash occurs get medical advice/attention.
Storage	:	Not applicable.
Disposal	:	P501-Dispose of contents/container to hazardous or special waste collection point.
Supplemental label elements	:	Not applicable.

2.3. Other Hazards

Not a BPT or vPvB substance or mixture. No other acute or chronic health impact noted.

SECTION 3: Composition / Information on Ingredients

3.1. Substances

Ingredient	:	Rhodium
Formula	:	Rh
CAS Nº	:	7440-16-6
Poison Sched	:	None allocated
Conc.Pt	:	≥99.90%
RTECS Nº	:	VI9069000
EC No	:	231-125-0
ICSC Nº	:	1247
Hazchem	:	None allocated
UN No	:	None allocated
D.G. Class	:	None allocated
PKG Group	:	None allocated
EPG	:	None allocated
Sub/Tert.Risk	:	None allocated

SECTION 4: First aid measures

4.1. Description of first aid measures

Eye contact : Flush gently with running water for minimum 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

Skin contact : Remove contaminated clothing and gently flush affected areas with soap and water
Seek medical attention if irritation develops.
Launder clothing before re-use

Ingestion : Seek immediate medical attention if ingestion occurs.
Do not induce vomiting

First Aid Facilities: Eye wash facilities should be available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Flash Point	:	Not applicable
Flammable Limits	:	Not applicable
Auto-ignition Point	:	Not applicable
Fire Extinguishing Medi	:	Non -flammable
Special Fire Fighting Procedure	:	None
Hazardous Chemical Code	:	None allocated

NOTE: Unlike some finely divided Rhodium 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.

6.2. Environmental precautions

Environmental precautions : May cause long lasting harmful effects in aquatic life.
Do not flush residues to drains.
Absorb all residues.

Methods and material for containment and cleaning up

Solid : Sweep up an place in sealed container.

Solution : Absorb with moist sand or similar and place in sealed containers for reprocessing or recover.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Packaging Material : Packed in plastic bags sealed in tins which in turn are sealed in boxes.

Handling : Before use, read the product label.
Use safe work practices to avoid eye or skin contact and inhalation of dust or fumes
Observe good personal hygiene
Prohibit eating, drinking and smoking in contaminated areas (e.g. if container is damaged)
Wash hands before eating or smoking.

7.2. Conditions for safe storage, including any incompatibilities

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

Transport : Not regulated for transport purposes.

SECTION 8: Exposure controls / personal protection

8.1. Control parameters

Occupational exposure limits – Rhodium (ACGIH, edition 2008

Exposure limit values
TLV-TWA:1 mg/m^3 (metal/insoluble compounds); 0.01mg/m^3 (soluble rhodium)

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 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

Hand protection : 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.
Environmental Exposure controls	:	Do not inhale dust / powder Use with adequate natural ventilation. Where a dust inhalation hazard exists, mechanical extraction is recommended. Maintain dust / fume levels below the recommended exposure standard.

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

Appearance	:	Pale grey metallic powder
Odour	:	Odourless
Flammability (solid, gas)	:	Non-Flammable
Flash point	:	Not Relevant
Lower flammability or explosive limits	:	Not Relevant
Upper flammability or explosive limits	:	Not Relevant
Auto-ignition temperature	:	Not Relevant
Boiling Point	:	3727°C
Melting point	:	1966°C
Evaporation Rate	:	Not Relevant
pH	:	Not Relevant
% Volatiles	:	Not Relevant
Specific Gravity	:	12.41
Vapour Pressure	:	Not Relevant
Relative density	:	2.1-2.8 (variable) g/cm^3
Solubility (Water)	:	Insoluble
Molecular Weight	:	102.91 g/mole
Rh concentration	:	≥99.90

SECTION 10: Stability and reactivity

10.1. Reactivity

Avoid conditions which create dust or fumes. Materials to avoid are strong oxidizing agents and strong acids.

10.2. Flammability:

Non-flammable. May evolve toxic metal oxides when heated. Very fine dust may explode in very high concentrations if exposed to high energy heat or ignition sources (highly unlikely in current form). May evolve flammable – explosive hydrogen gas in contact with strong acids.

10.3. Hazardous decomposition products

None, Exposure to high temperatures (>1000°C), generation of dust.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity – Rhodium

Result	Species	Dose	Exposure
Rhodium powder is non-toxic			
May cause irritation of the gastro-intestinal tract			

Acute toxicity – Rhodium Salts

Result	Species	Dose	Exposure
May be more toxic – eg Rhodium Chloride LD50 Oral	Rat	1302 mg/kg	-

Irritation / Corrosion

Product / Ingredient name	Result	Species	Score	Exposure	Observation
Rhodium Salts	Irritation and skin sensitization	-		-	-

Conclusion / Summary

Skin : Possible sensitizer

Eyes : Eye irritation, lachrymation, pain, redness, conjunctivitis and possible corneal burn with prolonged contact.

Respiratory : Non-irritant: Rhodium metal is unlikely to cause irritation except as a dust. Rhodium salts are irritating to eyes, skin and mucous membranes and may cause sensitization.

Sensitisation

Conclusion / Summary

Skin : Low irritant: Prolonged and repeated exposure to dust/powder may result in irritation due to mechanical action. Possible sensitizer. Direct contact with rhodium salts may result in irritation and skin sensitization.

Eyes : Irritant – Exposure may result in eye irritation, lachrymation, pain, redness, conjunctivitis and possible corneal burn with prolonged contact.

Respiratory : Non-irritant – Rhodium metal is unlikely to cause irritation except as a dust. Rhodium salts are irritating to eyes, skin and mucous membranes and may cause sensitization.

Germ Cell Mutagenicity –

Test	Experiment	Result
Rhodium Salt	Have not been fully investigated	-

Conclusion / summary : Not classified

Carcinogenicity

Conclusion / summary : Not classified

Non-carcinogenic : Rhodium salts are listed as a non-carcinogenic in (all U.S.)
: 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)

Water-soluble Rhodium compounds have caused tumours in laboratory animals.

Reproductive toxicity – Rhodium Salts

Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
Positive	-	Mutation in Bacteria and tumors Not fully investigated	Laboratory animals	Oral	-

Conclusion / summary : Pregnant woman should avoid contact with Rhodium salts

Teratogenicity

Conclusion / summary :

Specific target organ toxicity (single exposure)

Product / Ingredient name	Category	Route of exposure	Target organs
Rhodium Salts	-	-	Respiratory tract irritation

Rhodium Salts may cause possible damage to the respiratory tract, GI tract, skin, eyes, teeth and immune system. However, the effects have not been fully investigated.

Specific target organ toxicity (repeated exposure)
Rhodium Salts may cause possible damage to the respiratory tract, GI tract, skin, eyes, teeth and immune system. However, the effects have not been fully investigated.

Aspiration hazard

Inhalation: Low irritant

Information on likely routes of exposure : Inhalation of dust may result in upper respiratory tract irritation
: Rhodium metal poses a low hazard, but Rhodium salts are potential irritants and sensitisers.

SECTION 12:Ecological information

13.1. Toxicity

Rhodium Salts

Due to the very low solubility of Rhodium powder it does not directly pose any ecological threat. However, if converted to soluble Rhodium salts it may have the following effects:

Result	Species	Exposure
Persistence	Hazard of Platinum persistence in the environment	-
Bio accumulative potential	Hazard of Rhodium accumulation	-
Biomagnification	Potential hazard of Rhodium magnification	-
Biodegradability	No information available	-

Soluble Rhodium Salts

Result	Species	Exposure
Potentially toxic to aquatic organisms Effects in the aquatic environment	Aquatic organisms	Long Term
LC50 Scud 0.8mg/l		196 hours
LC50 Scud >3.2mg/l		196 hours
Unknown	Soil organisms	unknown
No data available	Plants and terrestrial animals	unknown

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 data available

The environmental effects of Rhodium and its compounds have not been fully evaluated.

SECTION 13:Disposal considerations

13.1. Waste treatment methods

Product Methods of disposal	:	**Disposer**
Waste Disposal	:	Disposer must comply with state and local laws. This material can me metallurgically recycled by Impala Platinum, South Africa, which is a pre-authorized facility for the environmentally sound recovery of metals. Collect and reuse where possible. Minimise dust generation. Contact Impala Refineries Laboratory Manager on +27 11 360 3255 or Rhodium Section Manager on +27 11 360 3199
Legislation	:	Dispose of in accordance with relevant local legislation.

SECTION 14:Transport information

14.1. Not classified as a dangerous good

NOT REGULATED FOR TRANSORT PURPOSES

Packing	:	in plastic bags sealed in tins which in turn are sealed in boxes
UN-Number	:	Not applicable
IMDG-CODE	:	Not applicable
ICAO / IATA	:	Not applicable
RID/ADR	:	Not applicable

SECTION 15:Regulatory information

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

United States
CERCLA Sections 102a/103 (40 CFR 302.4)
Not regulated.

Canada:

WHMIS Classification

D2B (toxic material)

EU/EC Classification:

X_n (Harmful)

Not classified in Annex I of Directive 67/548/EEC (will change with implementation of GHS/REACH)

Regulation (EC) No. 1907/2006 of the European Parliament and the council of December 2006.

SECTION 16:Other information

Abbreviations and acronyms :

mg/m3	:	Milligrams per cubic meter
ppm	:	Parts Per Million
TWA/ES	:	Time Weighted Average of Exposure Standard
pH	:	Relates to hydrogen ion concentration – this value will relate to a scale of 0-14, where 0 is highly acidic and 14 is highly alkaline.
CAS Nº	:	Chemical Abstract Service number – used to uniquely identify chemical compounds
M	:	Moles per litre, a unit of concentration
IARC	:	International Agency for Research on Cancer
RTECS	:	The Registry of Toxic Effects of Chemical Substances
ICSC	:	International Chemical Safety Card.
EC No	:	European Commission Number
EU	:	European Union
AUS	:	Australia

Respirators : In general, the use of respirators should be limited and engineering controls employed to avoid exposure
If respiratory equipment must be worn ensure correct respirator selection and training is undertaken.
Remember that some respirators may be extremely uncomfortable when used for long periods.
The use of air powered, or air supplied respirators should be considered where prolonged or repeated use is necessary.

Colour Rating System : Amber
Chem Alert reports are assigned a colour rating of Green, Amber or Red for the purpose of providing users with a quick and easy means of determining the hazardous nature of a product.
Safe handling recommendations are provided in all Chem Alert reports to clearly identify how users can control the hazards and thereby reduce the risk (or likelihood) of adverse effects.
As a general guideline a Green colour rating indicates a low hazard and Amber colour rating indicates a moderate hazard and a Red colour indicates rating indicates a high hazard.
Whilst all due care has been taken in the preparation of the Colour Rating System, it is intended as a guide only and does not provide any warranty in relation to the accuracy of the colour Rating System.
As far as is lawfully possible, Impala accepts no liability or responsibility whatsoever for the actions or omissions of any person in reliance on the Colour Rating System.

Personal Protective Equipment Guidelines : The recommendation for protective equipment contained within this Chem Alert report is provided as guide only.
Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.
Information provided by Risk Management Technologies is summarized for ease of use.
Additional technical information is available by calling +27 11 360 3255 or 27 11 360 3199.

Health Effects From Exposure: It should be noted that the effects from exposure to this will depend on several factors including frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application.
Given that it is impractical to prepare a Chem Alert report which encompasses all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

The buyer assumes all risks with the use and handling of the material. The seller assumes no responsibility for injury or damage caused by use of the material even if reasonable safety procedures are followed.
The information contained in this sheet is developed from what is believed to be accurate and reliable sources but the seller makes no warranties, either expressed or implied, and assumes no responsibility for the accuracy or completeness of the data contained herein.

Hazard Information

References:

RTECS: Registry of toxic effects of Chemical Substances, NIOSH, edition January 1999
Sax's Dangerous Properties of Industrial Materials (8th edition), RJ Lewis Sr
Material Safety Data Sheet: Platinum Standard solution National Institute of Standards and Technology (USA) August 2006.
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
ENVIRONMENTAL HEALTH CRITERIA 125 Platinum WHO;
http://www.inchem.org/documents/ehc/ehc/ehc125.htm

Report Status:

Impala Platinum Ltd. have exercised reasonable care in the preparation of the information contained in this SDS, however, it assumes no responsibility or liability to the accuracy and suitability of such information, for application to the Buyer's intended purposes or consequences of its use. As regulatory standards and guideline recommendations are revised from time to time, Impala gives no assurance that the information contained in this SDS will be current at the time that the SDS is used. It is the responsibility of the Buyer/User to ensure that the most recent version of this document is available.

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