

Otto Chemie Pvt Ltd

An ISO 9001 : 2015 & GMP Certified Company
101, Aarkay Ruby Industrial Estate (1B), Opp Shree Narayan Industrial Estate,
Chinchpada, Vasai East, Waliv, Maharashtra 401208. Tel : + 91 98200 41841
Email : info@ottokemi.com Web : www.ottokemi.com

Creation Date: 24-05-2025

Revision Date: 18-10-2030

MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1. Product identifiers

Product name: Osmium nanopowder, APS 20-30 nm, 99%+
Product Code: ON 0100
CAS No: 7440-04-2

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use: Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet

Company identification
OTTO CHEMIE PVT LTD
101, Aarkay Ruby Industrial Estate(1B), Opp Shree Narayan Industrial Estate,
Chinchpada, Vasai East, Waliv, Maharashtra 401208.
Email info@ottokemi.com

1.4. Emergency telephone number

Phone no. : + 91 22 2207 0099 (9:00am - 6:00 pm).

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Flammable solids, (Category 2)

Skin irritation, (Category 2)

Serious eye damage, (Category 1)

Specific target organ toxicity -

single exposure, (Category 3),

Respiratory system

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal Word

Hazard Statements

H228

H315

H318

H335

Precautionary Statements

P210

P240

P241

P280

P302 + P352

P305 + P351 + P338

Supplemental Hazard
Statements

Reduced Labeling (<= 125 ml)

Pictogram

Signal Word

Hazard Statements

H318

H228: Flammable solid.

H315: Causes skin irritation.

H318: Causes serious eye damage.

H335: May cause respiratory irritation.

Danger

Flammable solid.

Causes skin irritation.

Causes serious eye damage.

May cause respiratory irritation.

Keep away from heat, hot surfaces, sparks, open flames and
other ignition sources. No smoking.

Ground and bond container and receiving equipment.

Use explosion-proof electrical/ ventilating/ lighting/ equipment.

Wear protective gloves/ protective clothing/ eye protection/ face
protection.

IF ON SKIN: Wash with plenty of water.

IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue
rinsing.

none

Danger

Causes serious eye damage.

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Precautionary Statements
P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue
rinsing.
none

Supplemental Hazard
Statements

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Formula : Os
Molecular weight : 190,23 g/mol
CAS-No. : 7440-04-2
EC-No. : 231-114-0

Component	Classification	Concentration
Osmium powder		
CAS-No. 7440-04-2 EC-No. 231-114-0	Flam. Sol. 2; Skin Irrit. 2; Eye Dam. 1; STOT SE 3; H228, H315, H318, H335	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water Foam Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Nature of decomposition products not known.

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Combustible.

Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

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

5.4 Further information

None

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact.

Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Keep away from heat and sources of ignition.

Store under inert gas.

Storage class

Storage class (TRGS 510): 4.1B: Flammable solid hazardous materials

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

8.2 Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatril® L

Splash contact

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Material: Nitrile rubber
Minimum layer thickness: 0,11 mm
Break through time: 480 min
Material tested: KCL 741 Dermatrill® L
Body Protection
Flame retardant antistatic protective clothing.
Respiratory protection
required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type P2

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Physical state

powder

b) Color

No data available

c) Odor

No data available

d) Melting

Melting point/range: 3.045 °C - lit.

point/freezing point

5.027 °C - lit.

e) Initial boiling point
and boiling range

f) Flammability (solid,
gas)

The substance or mixture is a flammable solid with the category 2.

g) Upper/lower
flammability or
explosive limits

No data available

h) Flash point

Not applicable

i) Autoignition
temperature

No data available

j) Decomposition
temperature

No data available

k) pH

No data available

l) Viscosity

Viscosity, kinematic: No data available

Viscosity, dynamic: No data available

m) Water solubility

No data available

n) Partition coefficient:

Not applicable for inorganic substances

n-octanol/water

o) Vapor pressure

No data available

p) Density

22,61 g/cm³ - lit.

Relative density

No data available

q) Relative vapor
density

No data available

r) Particle

No data available

characteristics

s) Explosive properties

No data available

t) Oxidizing properties

none

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

10.2 Chemical stability

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The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Violent reactions possible with:

Strong oxidizing agents

Exothermic reaction with:

Chlorine

Fluorine

phosphorus

sulfur

hydrogen peroxide

Risk of ignition or formation of inflammable gases or vapours with:

Fluorine

phosphorus

sulfur

Risk of explosion with:

hydrogen peroxide

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

Oxygen, Halogens, Phosphorus

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals:

Oral LD50 Rat: 1500 mg/kg; Dermal LD50 Rabbit: 2000mg/kg

Inhalation LC50 Rat: > 50mg/L.

Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH.

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant).

Special Remarks on Toxicity

to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

SECTION 12: Ecological information

12.1 Toxicity

No data available

12.2 Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment

: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

No data available

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SECTION 14: Transport information

14.1 UN number		
ADR/RID: 3089	IMDG: 3089	IATA: 3089
14.2 UN proper shipping name		
ADR/RID: METAL POWDER, FLAMMABLE, N.O.S.		
IMDG: METAL POWDER, FLAMMABLE, N.O.S.		
IATA: Metal powder, flammable, n.o.s.		
14.3 Transport hazard class(es)		
ADR/RID: 4.1	IMDG: 4.1	IATA: 4.1
14.4 Packaging group		
ADR/RID: II	IMDG: II	IATA: II
14.5 Environmental hazards		
ADR/RID: no	IMDG Marine pollutant: no	IATA: no
14.6 Special precautions for user		
Tunnel restriction code	: (E)	
Further information	: No data available	

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.
Other regulations
Take note of Dir 94/33/EC on the protection of young people at work.
15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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