

1. Identification of the substances/ mixture and of the company/ undertaking**1.1 Product Identifiers**

Product Code RM6346
Product Name Osmium tetroxide solution, 2% w/v

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

Identified uses Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Produced by HiMedia Laboratories Pvt. Ltd.
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1.4 Emergency Tel. No.

Emergency Tel.No. Please contact the regional HiMedia representation in your country

2. Hazards Identification**2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]**

Acute toxicity,oral (Category 3)
Acute toxicity,dermal (Category 4)
Skin corrosion/irritation (Category 2)
Serious eye damage/eye irritation (Category 1)
Acute toxicity,inhalation (Category 1, 2)
Sensitisation, respiratory (Category 1)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Toxic by inhalation, in contact with skin and if swallowed.

2.2 Label elements**Labelling according Regulation (EC) No 1272/2008 [CLP]**

Pictogram



Signal word Danger

Hazard Statement(s)

H301 Toxic if swallowed
H312 Harmful in contact with skin
H315 Causes skin irritation
H318 Causes serious eye damage
H330 Fatal if inhaled
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled

Precautionary Statement(s)

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P284 Wear respiratory protection.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.

According to European Directive 67/548/EEC as amended.

Symbol(s)



R-Phrase(s)

R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

S-Phrase(s)

S36/37 Wear suitable protective clothing and gloves.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

2.3 Other hazards - none

3. Composition/Information on Ingredients

3.1 Substances

Synonym : Osmic acid; Osmium (VIII) oxide solution

Molecular Formula **O s O₄**

Molecular Weight. 254.23

Component		Concentration
Osmium tetroxide solution, 2% w/v		
CAS-No.	20816-12-0	
EC-No.	244-058-7	
Index-No.	076-001-00-5	

4. First Aid Measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

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

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

No data available

4.3 Indication of immediate medical attention and special treatment needed

No data available

5. Fire Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Nature of decomposition products not known.

5.3 Precautions for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

No data available

6 Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

6.2 Environmental precautions

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

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see Section 13.

7 Handling and Storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Normal measures for preventive fire protection.

7.3 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended Storage Temperature : Store below 30°C

7.3 Specific end uses

No data available

8 Exposure Controls/Personal Protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Hygiene measure

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

Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (Without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific work place.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK(EN 14387) respirator cartridges as a backup to the 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).

Environment exposure controls

Do not empty into drains

9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Colourless to yellow liquid
Odour	No data available
Odour Threshold	No data available
Odour Threshold	No data available
pH	No data available
Melting/freezing point	No data available
Initial boiling point and boiling range	No data available
Flash point	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density	No data available
Water Solubility	No data available
Partition coefficient: n-octanol/Water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

9.2 Other safety information

No data available

10 Stability and Reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

No data available

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

Other decomposition products - No data available

11 Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Specific target organ toxicity- single exposure

No data available

Aspiration hazard

No data available

Potential Health Effects

Inhalation.

Refer Section 2

Skin

Refer Section 2

Eyes

Refer Section 2

Ingestion

Refer Section 2

Additional Information

RTECS : Not Available

12 Ecological Information

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 PBT and vPvB assessment

No data available

12.6 Other adverse effects

No data available

13 Disposal Considerations

13.1 Waste treatments methods

Product

Offer surplus and non-recyclable solutions to a licenced disposal company. Contact a licenced professional waste disposal service to dispose of this material.

13.2 Contaminated packaging

Dispose of as unused product.

14 Transport Information

14.1 UN-No.

ADR/RID: 3287 IMDG: 3287 IATA: 3287

14.2 UN proper shipping name

ADR/RID : Osmium tetroxide solution, 2% w/v

IMDG : Osmium tetroxide solution, 2% w/v

IATA : Osmium tetroxide solution, 2% w/v

14.3 Transport hazard class(es)

ADR/RID: 6.1 IMDG: 6.1 IATA: 6.1

14.4 Packaging group

ADR/RID: 2 IMDG: 2 IATA: 2

14.5 Environmental hazards

ADR/RID: No IMDG: Marine Pollutant:No IATA: No

14.6 Special precautions for use

No data available

15 Regulatory Information

This safety datasheet complies with the requirements of Regulation(EC) No.1907/2006

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

No data available

15.2 Chemical Safety Assessment

No data available

16 Other Information

Further information

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