



MATERIAL SAFETY DATA SHEET

CONTACT : **LEONID CHEMICALS**

Leonid Chemicals Pvt Ltd
62/A-2 1st Stage, Yeshwanthpur Industrial Suburb
Ashokpuram School Road
Bangalore-560 022, Karnataka, INDIA
Ph: +91-80-2337 8354, Fax: +91-80-2357 4827

Osmium(VIII)-tetroxide

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name: Osmium(VIII)-tetroxide

Catalog Numbers:

0001

Synonyms:

Osmic acid

Company Identification:

LEONID CHEMICALS

62/A-2 2nd Stage, Industrial Suburb

Yeshwanthpur, Bangalore -22, INDIA

Ph- +91-80-23378354

SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS #	:	20816-12-0
Chemical Name	:	Osmium(VIII)-tetroxide
%	:	>99,9%
EINECS#	:	244-058-7
Hazard Symbols	:	T+
Risk Phrases	:	26/27/28 34

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Very toxic by inhalation, in contact with skin and if swallowed.

Causes burns.

Potential Health Effects

Eye:

Causes eye burns. May result in corneal injury. May cause blindness.

Skin:

May be fatal if absorbed through the skin. Causes skin burns.

Ingestion:

May be fatal if swallowed. Aspiration hazard. Causes gastrointestinal irritation with nausea, vomiting and diarrhea. Causes gastrointestinal tract burns. Causes cough, sore throat, chest pain, and lightheadedness.

Inhalation:

May be fatal if inhaled. May cause severe irritation of the



respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema. Causes chemical burns to the respiratory tract. May cause bronchopneumonia and possible death.

Chronic:

Prolonged or repeated skin contact may cause dermatitis. Prolonged or repeated exposure may cause adverse reproductive effects.

SECTION 4 - FIRST AID MEASURES

Eyes:

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin:

Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion:

Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.

Inhalation:

Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician:

SECTION 5 - FIRE FIGHTING MEASURES

General Information:

Evacuate area and fight fire from a safe distance. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Oxidizer. Greatly increases the burning rate of combustible materials.

Extinguishing Media:

Use water spray, dry chemical, or foam.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions.

SECTION 7 - HANDLING and STORAGE

Handling:

Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Keep container tightly closed. Do not get on skin or in eyes. Do not ingest or inhale. Use only in a chemical fume hood.

Storage:

Do not store near combustible materials. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Poison room locked.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Personal Protective Equipment

Eyes:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Crystals

Color: colorless - yellow

Odor: chlorine-like - stench

pH: Not available.

Vapor Pressure: 11mmHg @27 deg C

Viscosity: Not available.

Boiling Point: 130 deg C @760mmHg

Freezing/Melting Point: 40 - 42 deg C

Autoignition Temperature: Not available.

Flash Point: Not available.

Explosion Limits, lower: Not available.

Explosion Limits, upper: Not available.

Decomposition Temperature:

Solubility in water: 7.24 g/100 ml water (25 °C)

Specific Gravity/Density:

Molecular Formula: O4Os
Molecular Weight: 254.2

SECTION 10 - STABILITY AND REACTIVITY

Chemical Stability:

Stable.

Conditions to Avoid:

Incompatible materials, heat.

Incompatibilities with Other Materials:

Strong oxidizing agents, reducing agents, combustible and flammable materials (e.g. alkyl resins, asphalt, gasoline, grease, methyl acetone, polystyrene, polyurethane).

Hazardous Decomposition Products:

Irritating and toxic fumes and gases.

Hazardous Polymerization: Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 20816-12-0: RN1140000

LD50/LC50:

CAS# 20816-12-0: Oral, mouse: LD50 = 162 mg/kg.

Carcinogenicity:

Osmium(VIII)-tetroxide -

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Other:

See actual entry in RTECS for complete information.

SECTION 12 - ECOLOGICAL INFORMATION

SECTION 13 - DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.

SECTION 14 - TRANSPORT INFORMATION

IATA

Shipping Name: TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.*

Hazard Class: 6.1

UN Number: 3290

Packing Group: I

IMO

Shipping Name: TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.

Hazard Class: 6.1

UN Number: 3290
Packing Group: I
RID/ADR
Shipping Name: TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S.
Hazard Class: 6.1
UN Number: 3290
Packing group: I
USA RQ: CAS# 20816-12-0: 1000 lb final RQ; 454 kg final RQ

SECTION 15 - REGULATORY INFORMATION

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T+

Risk Phrases:

R 26/27/28 Very toxic by inhalation, in contact with skin and if swallowed.

R 34 Causes burns.

Safety Phrases:

S 7/9 Keep container tightly closed and in a well-ventilated place.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 20816-12-0: 2

United Kingdom Occupational Exposure Limits

CAS# 20816-12-0: OES-United Kingdom, TWA 0.0002 ppm TWA (as Os);
0.002 mg/m³ TWA (as Os)

CAS# 20816-12-0: OES-United Kingdom, STEL 0.0006 ppm STEL (as Os);
0.006 mg/m³ STEL (as Os)

United Kingdom Maximum Exposure Limits

Canada

CAS# 20816-12-0 is listed on Canada's DSL List.

CAS# 20816-12-0 is listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 20816-12-0: OEL-ARAB Republic of Egypt: TWA 0.0002 ppm (0.002 mg/m³)

OEL-AUSTRALIA: TWA 0.0002 ppm (0.002 mg/m³); STEL 0.0006 ppm

OEL-BELGIUM: TWA 0.0002 ppm (0.0016 mg/m³); STEL 0.0006 ppm

OEL-DENMARK: TWA 0.0002 ppm (0.002 mg/m³)

OEL-FINLAND: TWA 0.0002 mg/m³; STEL 0.002 mg/m³

OEL-FRANCE: TWA 0.0002 ppm (0.002 mg/m³)

OEL-GERMANY: TWA 0.0002 ppm (0.002 mg/m³)

OEL-HUNGARY: TWA 0.002 mg/m³; STEL 0.003 mg/m³ JAN9

OEL-THE NETHERLANDS: TWA 0.0002 ppm (0.002 mg/m³)

OEL-THE PHILIPPINES: TWA 0.002 mg/m³

OEL-SWITZERLAND: TWA 0.0002 ppm (0.002 mg/m³); STEL 0.0004 ppm

OEL-UNITED KINGDOM: TWA 0.0002 ppm (0.002 mg/m³); STEL 0.0006 ppm (0.006 mg/m³)

OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV

OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

US FEDERAL

TSCA

CAS# 20816-12-0 is listed on the TSCA inventory.

SECTION 16 - ADDITIONAL INFORMATION

MSDS Creation Date: 7/16/1996 Revision #1 Date: 4/08/2004

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