

RUBRIQUE 1: Identification

1.1 Identification

Product Name: **Osmium tetroxide 4% aqueous solution**

Product Code: GF360470

1.2 Relevant identified uses of substance or mixture and not recommended uses

Identified uses: Laboratory chemicals,

1.3 Information about the security data sheet provider

Company: em-grade.com distributed by Delta
Microscopies

22bis, Saint-Ybars Road
31190 MAURESSAC - FRANCE

Phone: (33) 05 61 73 60 14

Fax: (33) 05 61 80 78 53

Email address: info@em-grade.com

1.4 Emergency call number

Emergency Call Number in France: 01 45 42 59 59 (ORFILA)

RUBRIQUE 2: Identification of hazards

2.1 Classification of substance or mixture:



GHS06 *Skull and crossbones*

Acute Tox. 3

H331

Toxic if inhaled



GHS08

Repr.2

H361

Suspected of damaging fertility or the unborn child

STOT SE 1

H370

Causes damage to organs



GHS05

Corrosion

Eye Dam. 1

H318

Causes serious eye damage



GHS07

Acute Tox.4	H302	<i>Harmful if swallowed</i>
Skin Irrit. 2	H315	<i>Causes skin irritation</i>

2.2 Labeling items:

The product is classified and labeled according to the Globally Harmonized System (GHS).

Danger pictograms



GHS05 GHS06 GHS08

Warning mention: *Danger*

Dangerous components for labelling: *tétraoxyde d'osmium*

Danger mentions:

H302	<i>Harmful if swallowed</i>
H315	<i>Causes skin irritation</i>
H318	<i>Causes serious eye damage</i>
H331	<i>Toxic if inhaled</i>
H361	<i>Suspected of damaging fertility or the unborn child</i>
H370	<i>Causes damage to organs</i>

Cautionary tips:

P310	<i>Immediately call a POISON CENTER/doctor/...</i>
P321	<i>Specific treatment (see ... on this label).</i>
P330	<i>Rinse mouth.</i>
P305+P351+P338	<i>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</i>
P362+P364	<i>Take off immediately all contaminated clothing and wash it before reuse</i>
P405	<i>Keeping under lock and key</i>
P501	<i>Eliminate content/container in accordance with local/regional/national/international I regulations.</i>

2.3 Other dangers:

Results of PBT and vPvB evaluations: Not applicable

RUBRIQUE 3: Composition/component information

3.1 Substances:
not applicable

3.2 Mixture:
Mixture of the substances listed below with nonhazardous additions.

designation	CASE No.	Number EC	% mass
Osmium Tetroxide	20816-12-0	244-058-7	>2.5-≤10%

RUBRIQUE 4: First aid

4.1 Description of first aid

General notes:

Immediately remove any clothing soiled by the product. Remove breathing apparatus only after contaminated clothing have been completely removed. In case of irregular breathing or respiratory arrest provide artificial respiration.

If inhaled

Supply fresh air and to be sure call for a doctor. In case of unconsciousness place patient stably in side position for transportation

In case of contact with the skin

Immediately wash with water and soap and rinse thoroughly.

In case of eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

If swallowed

Do not induce vomiting; immediately call for medical help.

Main symptoms and effects, acute and delayed

No other important information available.

4.2 Indications of any immediate medical care and special treatment required

No other important information available

RUBRIQUE 5: Firefighting measures

5.1 Ways to extinguish

Adapt fire suppression measures to the environment.

5.2 Specific hazards resulting from substance or mixture

No other important information available.

5.3 Advice to firefighters

Mouth respiratory protective device

RUBRIQUE 6: Measures in case of accidental dispersal

6.1 Individual precautions, protective equipment and emergency procedures

For non-emergency personnel Wear suitable protective equipment (including personal protective equipment referred to in section 8 of the safety data sheet) to prevent contamination of skin, eyes and personal clothing.

6.2 Precautions for environmental protection

Do not allow to enter sewers/ surface or ground water.

6.3 Containment and cleaning methods and equipment

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated materials as waste in accordance with point 13. Ensure sufficient ventilation.

Reference to other topics

For information for safe handling, see Chapter 7. For information on personal protective equipment, see Chapter 8. For information on disposal, see Chapter 13.

RUBRIQUE 7: Manipulation and storage

7.1 Precautions to Take for Safe Handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

Information about protection against explosions and fires: Keep respiratory protective device available

7.2 Conditions for safe storage, including possible incompatibilities

No special requirements. Keep containers closed.

7.3 Special Final Use

Laboratory use

RUBRIQUE 8: Exposure controls/individual protection

8.1 Control Settings

Components with limit values that require monitoring at the workplace:	
20816-12-0 Osmium Tetroxide	
VLEP	Long-term value: 0.002* mg/m ³ *as Os

8.2 Exposure control

General protection and hygiene measures

Keep away from food, beverages and pet food. Immediately remove soiled or moistened clothing. Wash your hands before breaks and at the end of work. Store protective clothing separately. Avoid contact with the eyes and skin.

Personal protective measures, such as personal protective equipment

Eye and face protection

Safety goggles with side protections

Skin protection

Long-sleeved clothing

Wear appropriate gloves. Consider the information given by the supplier regarding permeability and penetration times, and the specific conditions of the workplace (mechanical constraints, contact time).

Respiratory protection

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Heat hazards

nothingness

Environmental protection measures

No information available

RUBRIQUE 9: Physical and chemical properties

9.1 Information on essential physical and chemical properties

Appearance:

Physical status: Liquid

Color: Light yellow

Smell: Chlorine-like

Olfactory threshold: data not available

pH: data not available

Melting point: data not available

Boiling point/interval: 130°C (266°F)

Flashpoint: data not available

Flammability (solid, gas): the substance is not flammable

Self temperature-flammability: data not available

Explosive limit, higher: data not available

Explosive limit, lower: data not available

Density at 20oC: 1.07812 g/cm³ (8.99691 lbs/gal)

Relative density: undetermined

Relative steam density: not applicable

Decomposition temperature: data not available

Hydrosolubility: not miscible or difficile to mix

Sharing coefficient: noctanol/water: data not available

Viscosity, dynamic: not applicable

Viscosity, cinematic: not applicable

9.2 More information

void

RUBRIQUE 10: Stability and responsiveness

10.1 reactivity

None known from the information provided

10.2 Chemical stability

No decomposition in case of compliant use.

10.3 Possibility of dangerous reaction

Dangerous polymerization: No information available.

Dangerous reactions: No known dangerous reaction

10.4 Conditions to avoid

No other important information available

10.5 Incompatible materials

None known.

10.6 Dangerous composition products

None under normal conditions of use.

RUBRIQUE 11: Toxicological information

11.1 Toxicological Effects Information

Acute toxicity

Skin corrosion/skin irritation

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.

on the eye: Irritating effect.

Severe eye damage/eye irritation

Strong caustic effect. Strong irritant with the danger of severe eye injury.

Sensitization:

No sensitizing effects known

Additional toxicological information

The product shows the following dangers according to internally approved calculation methods for preparations: Toxic Irritant

Carcinogenic categories

IARC (International Agency for Research on Cancer)
None of the ingredients is listed.
NTP (National Toxicology Program)
None of the ingredients is listed
OSHA-Ca (Occupational Safety Health Administration)
None of the ingredients is listed.

RUBRIQUE 12: Ecological information

12.1 Toxicity

No other important information available.

12.2 Persistence and degradability

No other important information available.

12.3 Bioaccumulation Potential

No other important information available.

12.4 Mobility in the ground

No other important information available.

Additional ecological information: ·

General notes:

Water hazard class 1 (D)(Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system

12.5 Results of PBT and vPvB evaluations

not applicable

12.6 Other adverse effects

No other important information available.

RUBRIQUE 13: Elimination considerations

13.1 Waste Treatment Methods


Recommendation:


Must not be disposed of together with household garbage. Do not allow product to reach sewage system. ·

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

RUBRIQUE 14: Transportation information

14.1 UN Number	UN3287
DOT, ADR, IMDG, IATA	
14.2 United Nations Shipping Name	Toxic liquid, inorganic, n.o.s
DOT,	3287 TOXIC LIQUID, INORGANIC, N.O.S
ADR	TOXIC LIQUID, INORGANIC, N.O.S., MARINE POLLUTANT
IMDG	TOXIC LIQUID, INORGANIC, N.O.S.
IATA	
ADR, IATA	
	Class 6.1 <i>Toxic substances</i>
	Label 6.1
IMDG	
	Class 6.1 <i>Toxic substances</i>
	Label 6.1
14.4 Packing Group	
ADR, ADR, IMDG, IATA	II
14.5 Environment hazards	
Marine pollutant:	no
Special precautions for user substances	Warning: Toxic
Stowage Category	A
Stowage Code	SW2 Clear of living quarter
14.7 Bulk transport in accordance with Schedule II of the MARPOL Convention and the IBC	Not applicable
ADR	
Official designation	LIQUIDE INORGANIQUE TOXIQUE, N.S.A
Information to be entered in the logbook	UN3287, LIQUIDE INORGANIQUE TOXIQUE, N.S.A., (contient: Osmium tétraoxyde), 6.1, II, (D/ E)
Classification code	T4
Danger label(s)	6.1
	
Special provisions (SP)	274,802 (AND)
Excepted quantities (EQ)	Code :E1
Limited quantities (LQ)	
Transport category (TC)	2

Tunnel restriction code (TRC)	D/E
Hazard identification number	60
IMDG	
Official designation	TOXIC LIQUID, INORGANIC, N.O.S.
Information to be entered in the logbook	UN3287, TOXIC LIQUID, INORGANIC, N.O.S., (contains: osmium tetroxide), 6.1, II
Marine pollutant	-
Danger label(s)	6.1
	
Special provisions (SP)	274
Excepted quantities (EQ)	Code :E1
Limited quantities (LQ)	
UN "Model Regulation":	UN 3287 TOXIC LIQUID, INORGANIC, N.O.S., 6.1, II

RUBRIQUE 15: Regulatory information

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

Directives 2012/18/EU

Designated dangerous substances - ANNEX 1 No components included

Category SEVESO H2 ACUTE TOXICITY

Threshold quantity (tonnes) for application of low threshold requirements 50t

Threshold quantity (tonnes) for application of high threshold requirements 200t

EC REGULATION N°1907/2006 ANNEX XVII Limiting conditions:3

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the components are listed

EU regulation 2019/1148

Annex 1: Restricted explosives precursors

none of the components are listed

Annex 2: Explosive precursors subject to alert

none of the components are listed

Regulation 273/2004 on drug precursors

none of the components are listed

Regulation 111/2005 laying down rules for the monitoring of trade in drug precursors between the Community and third countries

none of the components are listed

15.2 Chemical safety assessment

Chemical safety assessment / Reports (CSA / CSR) not performed

RUBRIQUE 16: More information

These indications are based on the current state of our knowledge, but do not constitute a guarantee as to the properties of the product and do not give rise to a contractual legal relationship. They do not claim to be exhaustive and should be considered as a guide

Acronyms and abbreviations:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International

Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 3: Acute toxicity – Category 3

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

End of the SDS