

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.07.2013

Revision: 09.07.2012

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Trade name

Osmium(III) chloride trihydrate

Stock number:

33480

CAS Number:

135296-80-9

EC number:

236-587-7

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

Identified use:

SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG
 A Johnson Matthey Company
 Zeppelinstr. 7b
 76185 Karlsruhe / Germany
 Tel: +49 (0) 721 84007 280
 Fax: +49 (0) 721 84007 300
 Email: tech@alfa.com
 www.alfa.com
 Product safety Tel + +049 (0) 7275 988687-0
 Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)
 Poison Information Center Mainz
 www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

Informing department:

1.4 Emergency telephone number:**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

Acute Tox. 4 H332 Harmful if inhaled.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

C; Corrosive

R34: Causes burns.

Xn; Harmful

R20/21/22: Harmful by inhalation, in contact with skin and if swallowed.

Information concerning particular hazards for human and environment:

Not applicable

Other hazards that do not result in classification

No information known.

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008**

Hazard pictograms

Signal word

Hazard statements

The substance is classified and labelled according to the CLP regulation.

GHS05, GHS07

Danger

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H332 Harmful if inhaled.

H314 Causes severe skin burns and eye damage.

P260

Do not breathe dust/fume/gas/mist/vapours/spray.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P405

Store locked up.

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

Precautionary statements**2.3 Other hazards**

Results of PBT and vPvB assessment

PBT:

Not applicable.

vPvB:

Not applicable.

SECTION 3: Composition/information on ingredients**3.1 Substances**

CAS# Designation:

135296-80-9 Osmium(III) chloride trihydrate

Identification number(s):

EC number:

236-587-7

SECTION 4: First aid measures**4.1 Description of first aid measures**

General information

After inhalation

Instantly remove any clothing soiled by the product.
 Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact

Seek immediate medical advice.

Instantly wash with water and soap and rinse thoroughly.

After eye contact

Seek immediate medical advice.

After swallowing

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

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing agents

Use fire fighting measures that suit the environment.

5.2 Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

(Contd. on page 2)
DE/E

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 01.07.2013

Revision: 09.07.2012

Trade name **Osmium(III) chloride trihydrate**

(Contd. of page 1)

5.3 Advice for firefighters
Protective equipment:

 Hydrogen chloride (HCl)
 Metal oxide

 Wear self-contained breathing apparatus.
 Wear full protective suit.
SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**
 Wear protective equipment. Keep unprotected persons away.
 Ensure adequate ventilation.
6.2 Environmental precautions:
 Do not allow material to be released to the environment without proper governmental permits.
 Do not allow product to reach sewage system or water bodies.
 Do not allow to enter the ground/soil.
6.3 Methods and material for containment and cleaning up:
 Use neutralizing agent.
 Dispose of contaminated material as waste according to item 13.
Prevention of secondary hazards:**6.4 Reference to other sections**
 Ensure adequate ventilation.
 No special measures required.
 See Section 7 for information on safe handling
 See section 8 for information on personal protection equipment.
 See Section 13 for information on disposal.
SECTION 7: Handling and storage**7.1 Precautions for safe handling**
 Keep containers tightly sealed.
 Store in cool, dry place in tightly closed containers.
 Ensure good ventilation/exhaustion at the workplace.
Information about protection against explosions and fires:

The product is not flammable

7.2 Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and containers:

No special requirements.

Information about storage in one common storage facility:

Store away from oxidizing agents.

Further information about storage conditions:
 Keep container tightly sealed.
 Store in cool, dry conditions in well sealed containers.
 Store in a locked cabinet or with access restricted to technical experts or their assistants.
 No further relevant information available.
7.3 Specific end use(s)**SECTION 8: Exposure controls/personal protection****Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

8.1 Control parameters**Components with critical values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information:

No data

8.2 Exposure controls**Personal protective equipment****General protective and hygienic measures**
 The usual precautionary measures should be adhered to in handling the chemicals.
 Keep away from foodstuffs, beverages and food.
 Instantly remove any soiled and impregnated garments.
 Wash hands during breaks and at the end of the work.
 Avoid contact with the eyes and skin.
 Maintain an ergonomically appropriate working environment.
Breathing equipment:**Protection of hands:**
 Use breathing protection with high concentrations.
 Check protective gloves prior to each use for their proper condition.
 The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
Material of gloves**Penetration time of glove material****Eye protection:**
 Impervious gloves
 Not determined
 Tightly sealed safety glasses.
Body protection:
 Full face protection
 Protective work clothing.
SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****General Information****Appearance:****Form:**

Crystalline

Colour:

Red-black

Smell:

Odourless

Odour threshold:

Not determined.

pH-value:

Not applicable.

Change in condition**Melting point/Melting range:**

Decomposes

Boiling point/Boiling range:

Not determined

Sublimation temperature / start:

Not determined

Inflammability (solid, gaseous)

Not determined.

Ignition temperature:

Not determined

Decomposition temperature:

Not determined

Self-inflammability:

Not determined.

Critical values for explosion:**Lower:**

Not determined

Upper:

Not determined

Steam pressure:

Not applicable.

Density

Not determined.

Relative density

Not determined.

Vapour density

Not applicable.

Evaporation rate

Not applicable.

(Contd. on page 3)
DE/E

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 01.07.2013

Revision: 09.07.2012

Trade name **Osmium(III) chloride trihydrate**

(Contd. of page 2)

Solubility in / Miscibility with	
Water:	Soluble
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
dynamic:	Not applicable.
kinematic:	Not applicable.
9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity	No information known.
10.2 Chemical stability	Stable under recommended storage conditions.
Thermal decomposition / conditions to be avoided:	No decomposition if used and stored according to specifications.
10.3 Possibility of hazardous reactions	Reacts with strong oxidizing agents
10.5 Incompatible materials:	Oxidizing agents
10.6 Hazardous decomposition products:	Hydrogen chloride (HCl) Metal oxide

SECTION 11: Toxicological information

11.1 Information on toxicological effects	
Acute toxicity:	Harmful if inhaled. Harmful in contact with skin. Harmful if swallowed. Danger by skin resorption. Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
LD/LC50 values that are relevant for classification:	No data
Skin irritation or corrosion:	Causes severe skin burns.
Eye irritation or corrosion:	Causes serious eye damage.
Sensitization:	No sensitizing effect known.
Germ cell mutagenicity:	No effects known.
Carcinogenicity:	No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity:	No effects known.
Specific target organ system toxicity - repeated exposure:	No effects known.
Specific target organ system toxicity - single exposure:	No effects known.
Aspiration hazard:	No effects known.
Additional toxicological information:	To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.



SECTION 12: Ecological information

12.1 Toxicity	
Aquatic toxicity:	No further relevant information available.
12.2 Persistence and degradability	No further relevant information available.
12.3 Bioaccumulative potential	No further relevant information available.
12.4 Mobility in soil	No further relevant information available.
Additional ecological information:	
General notes:	Do not allow material to be released to the environment without proper governmental permits. Water hazard class 1 (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system. Avoid transfer into the environment.
12.5 Results of PBT and vPvB assessment	
PBT:	Not applicable.
vPvB:	Not applicable.
12.6 Other adverse effects	No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods	
Recommendation	Hand over to disposers of hazardous waste. Must be specially treated under adherence to official regulations. Consult state, local or national regulations for proper disposal.
Uncleaned packagings:	
Recommendation:	Disposal must be made according to official regulations.
Recommended cleaning agent:	Water, if necessary with cleaning agent.

SECTION 14: Transport information

UN-Number	
ADR, IMDG, IATA	UN3260
14.2 UN proper shipping name	
ADR	3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Osmium(III) chloride trihydrate)
IMDG, IATA	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Osmium(III) chloride trihydrate)
14.3 Transport hazard class(es)	
ADR	
	
Class	8 (C2) Corrosive substances.
Label	8
IMDG, IATA	
	
Class	8 Corrosive substances.
Label	8

(Contd. on page 4)
DE/E

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 01.07.2013

Revision: 09.07.2012

Trade name **Osmium(III) chloride trihydrate**

(Contd. of page 3)

Packing group
ADR, IMDG, IATA

III

14.5 Environmental hazards:

Not applicable.

14.6 Special precautions for user

Warning: Corrosive substances.

Kemler Number:

80

Segregation groups

Acids

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

Transport/Additional information:**ADR****Excepted quantities (EQ):**

E1

Limited quantities (LQ)

5 kg

Transport category

3

Tunnel restriction code

E

UN "Model Regulation":

UN3260, CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Osmium(III) chloride trihydrate), 8, III

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Australian Inventory of Chemical**

Substance is not listed.

Substances**Standard for the Uniform Scheduling of**

Substance is not listed.

Drugs and Poisons**National regulations****Information about limitation of use:**Employment restrictions concerning young persons must be observed.
For use only by technically qualified individuals.**Water hazard class:**

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

Other regulations, limitations and prohibitive regulations**ELINCS (European List of Notified Chemical****Substances)**

Substance is not listed.

Substances of very high concern (SVHC)**according to REACH, Article 57****REACH - Pre-registered substances**

Substance is not listed.

Substance is not listed.

15.2 Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet: Health, Safety and Environmental Department.**Abbreviations and acronyms:**

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
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

DE/E