

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name **Silver chloride**

Stock number: 87342
CAS Number: 7783-90-6
EC number: 232-033-3

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

Met. Corr. 1 H290 May be corrosive to metals.

 GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.
Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

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

 N: Dangerous for the environment

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Information concerning particular hazards

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

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



GHS05 GHS09

Signal word

Warning

Hazard statements

H290 May be corrosive to metals.
H410 Very toxic to aquatic life with long lasting effects.
P273 Avoid release to the environment.

Precautionary statements

P234 Keep only in original container.
P390 Absorb spillage to prevent material damage.
P391 Collect spillage.
P406 Store in corrosive resistant container with a resistant inner liner.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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: 7783-90-6 Silver chloride

Identification number(s): 232-033-3

EC number:

SECTION 4: First aid measures

4.1 Description of first aid measures

After inhalation

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.
Seek medical treatment.

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

Product is not flammable. Use fire fighting measures that suit the surrounding fire.

5.2 Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:
Hydrogen chloride (HCl)
Silver oxides

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5.3 Advice for firefighters
Protective equipment: 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: Collect mechanically.

Prevention of secondary hazards: No special measures required.

6.4 Reference to other sections 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 in the dark.
Store away from oxidising agents.
Store away from ammonia

Further information about storage conditions: Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Protect from the effects of light.

7.3 Specific end use(s) No further relevant information available.

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:

7783-90-6 Silver chloride (100,0%)

AGW (Germany) Long-term value: 0,01E mg/m³
2(1);DFG,EU,10

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.
Maintain an ergonomically appropriate working environment.

Breathing equipment: Use breathing protection with high concentrations.

Protection of hands: 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 Impervious gloves

Penetration time of glove material Not determined

Eye protection: Safety glasses

Body protection: Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form: Powder/crystalline/beads

Colour: White

Smell: Odourless

Odour threshold: Not determined.

pH-value: Not applicable.

Change in condition

Melting point/Melting range: 455 °C

Boiling point/Boiling range: 1550 °C

Sublimation temperature / start: Not determined

Inflammability (solid, gaseous) Not determined.

Ignition temperature: Not determined

Decomposition temperature: Not determined

Self-inflammability: Not determined.

Danger of explosion: Not determined.

Critical values for explosion:

Lower: Not determined

Upper: Not determined

Steam pressure: Not applicable.

Density at 20 °C 5,56 g/cm³

Relative density Not determined.

Vapour density Not applicable.

Evaporation rate Not applicable.

Solubility in / Miscibility with Water: Insoluble

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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:	Oxidising agents Ammonia Light
10.6 Hazardous decomposition products:	Hydrogen chloride (HCl) Silver oxides

SECTION 11: Toxicological information

11.1 Information on toxicological effects	The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.
Acute toxicity:	
LD/LC50 values that are relevant for classification:	No data
Skin irritation or corrosion:	May cause irritation
Eye irritation or corrosion:	May cause irritation
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.
Subacute to chronic toxicity:	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.
Ecotoxicological effects:	
Remark:	Very toxic for fish
Additional ecological information:	
General notes:	Do not allow product to reach ground water, water bodies or sewage system. Do not allow material to be released to the environment without proper governmental permits. Water hazard class 2 (Self-assessment): hazardous for water. Danger to drinking water if even small quantities leak into soil. Also poisonous for fish and plankton in water bodies. May cause long lasting harmful effects to aquatic life. Avoid transfer into the environment. Very toxic for aquatic organisms
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.

SECTION 14: Transport information

UN-Number ADR, IMDG, IATA	UN3077
14.2 UN proper shipping name ADR	3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Silver chloride)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Silver chloride), MARINE POLLUTANT
IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Silver chloride)
14.3 Transport hazard class(es) ADR	
	
Class Label IMDG, IATA	9 (M7) Miscellaneous dangerous substances and articles. 9
	
Class	9 Miscellaneous dangerous substances and articles.

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Label	9
Packing group ADR, IMDG, IATA	III
14.5 Environmental hazards: Marine pollutant:	Yes (P) Symbol (fish and tree)
Special marking (ADR): Special marking (IATA):	Symbol (fish and tree) Symbol (fish and tree)
14.6 Special precautions for user Kemler Number: EMS Number:	Warning: Miscellaneous dangerous substances and articles. 90 F-A,S-F
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): Limited quantities (LQ) Transport category Tunnel restriction code	E1 5 kg 3 E
UN "Model Regulation":	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Silver chloride), 9, III

SECTION 15: Regulatory information

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

Australian Inventory of Chemical Substances	Substance is listed.
Standard for the Uniform Scheduling of Medicines and Poisons National regulations	Substance is not listed.
Information about limitation of use:	For use only by technically qualified individuals.
Water hazard class:	Water hazard class 2 (Self-assessment); hazardous for water.
Other regulations, limitations and prohibitive regulations ELINCS (European List of Notified Chemical Substances) Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.	Substance is not listed.
REACH - Pre-registered substances	Substance is not listed.
15.2 Chemical safety assessment:	Substance is listed. 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 SDS: Abbreviations and acronyms:	Health, Safety and Environmental Department. 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 P: Marine Pollutant 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 vPvB: very Persistent and very Bioaccumulative ACGIH: American Conference of Governmental Industrial Hygienists (USA) OSHA: Occupational Safety and Health Administration (USA) NTP: National Toxicology Program (USA) IARC: International Agency for Research on Cancer EPA: Environmental Protection Agency (USA) Met. Corr. 1: Corrosive to metals, Hazard Category 1 Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1 Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1
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