

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 27.08.2018

Version 3.1

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## SECTION 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Catalogue No. 119203

Product name Silver chloride 99+ for analysis 99+ EMSURE®

REACH Registration Number A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

CAS-No. 7783-90-6

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

Identified uses Reagent for analysis  
For additional information on uses please refer to the Merck Chemicals portal ([www.merckgroup.com](http://www.merckgroup.com)).

### 1.3 Details of the supplier of the safety data sheet

Company Merck KGaA \* 64271 Darmstadt \* Germany \* Phone:+49 6151 72-0

Responsible Department LS-QHC \* e-mail: [prodsafe@merckgroup.com](mailto:prodsafe@merckgroup.com)

1.4 Emergency telephone number Please contact the regional company representation in your country.

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## SECTION 2. Hazards identification

### 2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

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Corrosive to metals, Category 1, H290

Acute aquatic toxicity, Category 1, H400

Chronic aquatic toxicity, Category 1, H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 2.2 Label elements

**Labelling (REGULATION (EC) No 1272/2008)**

*Hazard pictograms*



*Signal word*

Warning

*Hazard statements*

H290 May be corrosive to metals.

H410 Very toxic to aquatic life with long lasting effects.

*Precautionary statements*

Prevention

P273 Avoid release to the environment.

**Reduced labelling (≤125 ml)**

*Hazard pictograms*



*Signal word*

Warning

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## 2.3 Other hazards

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None known.

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## SECTION 3. Composition/information on ingredients

### 3.1 Substance

Formula	AgCl	AgCl (Hill)
EC-No.	232-033-3	
Molar mass	143,32 g/mol	

### Hazardous components (REGULATION (EC) No 1272/2008)

*Chemical name (Concentration)*

CAS-No.	Registration number	Classification
silver chloride ( $\geq 80\%$ - $\leq 100\%$ )		

7783-90-6      \*)

Corrosive to metals, Category 1, H290  
Acute aquatic toxicity, Category 1, H400  
Chronic aquatic toxicity, Category 1, H410  
M-Factor: 1.000

\*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 3.2 Mixture

Not applicable

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## SECTION 4. First aid measures

### 4.1 Description of first aid measures

After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

After eye contact: rinse out with plenty of water. Remove contact lenses.

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After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

## 4.2 Most important symptoms and effects, both acute and delayed

We have no description of any symptoms of toxicity.

## 4.3 Indication of any immediate medical attention and special treatment needed

No information available.

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## SECTION 5. Firefighting measures

### 5.1 Extinguishing media

#### *Suitable extinguishing media*

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapours.

Fire may cause evolution of:

Hydrogen chloride gas

### 5.3 Advice for firefighters

#### *Special protective equipment for firefighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

#### *Further information*

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

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Advice for emergency responders:

Protective equipment see section 8.

## 6.2 Environmental precautions

Do not let product enter drains.

## 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

## 6.4 Reference to other sections

Indications about waste treatment see section 13.

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## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

*Advice on safe handling*

Observe label precautions.

*Hygiene measures*

Change contaminated clothing. Wash hands after working with substance.

### 7.2 Conditions for safe storage, including any incompatibilities

*Requirements for storage areas and containers*

No metal containers.

*Storage conditions*

Protected from light.

Tightly closed. Dry.

Recommended storage temperature see product label.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

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## SECTION 8. Exposure controls/personal protection

### 8.1 Control parameters

### 8.2 Exposure controls

#### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

#### Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

##### *Eye/face protection*

Safety glasses

##### *Hand protection*

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

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This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

## *Other protective equipment*

protective clothing

## *Respiratory protection*

required when dusts are generated.

Recommended Filter type: Filter P 1 (acc. to DIN 3181) for solid particles of inert substances

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

## **Environmental exposure controls**

Do not let product enter drains.

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## **SECTION 9. Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

Form	powder
Colour	white
Odour	odourless
Odour Threshold	Not applicable
pH	No information available.
Melting point	455 °C
Boiling point/boiling range	1.547 °C at 1.013 hPa

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Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapour pressure	Not applicable
Relative vapour density	No information available.
Density	5,56 g/cm <sup>3</sup> at 20 °C
Relative density	No information available.
Water solubility	0,00188 g/l at 25 °C
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

## 9.2 Other data



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Ignition temperature	Not applicable
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Corrosion	May be corrosive to metals.
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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

See section 10.3

### 10.2 Chemical stability

Sensitivity to light

### 10.3 Possibility of hazardous reactions

Risk of explosion with:

Ammonia, Alkali metals, powdered aluminium

Violent reactions possible with:

peroxi compounds, sulfoxides

### 10.4 Conditions to avoid

no information available

### 10.5 Incompatible materials

Metals

### 10.6 Hazardous decomposition products

in the event of fire: See section 5.

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## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

*Acute oral toxicity*

LD50 Rat: > 5.110 mg/kg

OECD Test Guideline 401

*Acute inhalation toxicity*

This information is not available.

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## *Acute dermal toxicity*

This information is not available.

## *Skin irritation*

Rabbit

Result: No skin irritation

OECD Test Guideline 404

## *Eye irritation*

Rabbit

Result: No eye irritation

OECD Test Guideline 405

## *Sensitisation*

This information is not available.

## *Germ cell mutagenicity*

This information is not available.

## *Carcinogenicity*

This information is not available.

## *Reproductive toxicity*

This information is not available.

## *Teratogenicity*

This information is not available.

## *Specific target organ toxicity - single exposure*

This information is not available.

## *Specific target organ toxicity - repeated exposure*

This information is not available.

## *Aspiration hazard*

This information is not available.

### **11.2 Further information**

Hazardous properties cannot be excluded, but are relatively improbable due to the compound's poor water solubility.

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12. Ecological information

### 12.1 Toxicity

#### *Toxicity to fish*

semi-static test LC50 Pimephales promelas (fathead minnow): 0,0012 mg/l; 96 h

Analytical monitoring: yes

US-EPA

(referred to the cation) The value is given in analogy to the following substances: Silver nitrate

#### *Toxicity to daphnia and other aquatic invertebrates*

semi-static test LC50 Daphnia magna (Water flea): 0,00022 mg/l; 48 h

Analytical monitoring: yes

(referred to the cation) (ECHA) The value is given in analogy to the following substances: Silver nitrate

#### *Toxicity to fish (Chronic toxicity)*

flow-through test EC10 Oncorhynchus mykiss (rainbow trout): 0,00017 mg/l; 196 d

Analytical monitoring: yes

OECD Test Guideline 210

(referred to the cation) The value is given in analogy to the following substances: Silver nitrate

#### *Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)*

semi-static test EC10 Daphnia magna (Water flea): 0,0021 mg/l; 21 d

Analytical monitoring: yes

(ECHA) The value is given in analogy to the following substances: Silver nitrate

### 12.2 Persistence and degradability

#### *Biodegradability*

The methods for determining the biological degradability are not applicable to inorganic substances.

### 12.3 Bioaccumulative potential

No information available.

### 12.4 Mobility in soil

No information available.

### 12.5 Results of PBT and vPvB assessment

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The Safety Data Sheets for catalogue items are available at [www.merckgroup.com](http://www.merckgroup.com)

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PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

## 12.6 Other adverse effects

Discharge into the environment must be avoided.

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## SECTION 13. Disposal considerations

### *Waste treatment methods*

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14. Transport information

### Land transport (ADR/RID)

14.1 UN number	UN 3077
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (SILVER CHLORIDE)
14.3 Class	9
14.4 Packing group	III
14.5 Environmentally hazardous	yes
14.6 Special precautions for user	yes
Tunnel restriction code	-

Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

### Inland waterway transport (ADN)

Not relevant

### Air transport (IATA)

14.1 UN number	UN 3077
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (SILVER CHLORIDE)
14.3 Class	9
14.4 Packing group	III
14.5 Environmentally hazardous	yes

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**14.6 Special precautions for user** no

Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

## Sea transport (IMDG)

**14.1 UN number** UN 3077

**14.2 Proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (SILVER CHLORIDE)

**14.3 Class** 9

**14.4 Packing group** III

**14.5 Environmentally hazardous** yes

**14.6 Special precautions for user** yes

EmS F-A S-F

Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not relevant

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## SECTION 15. Regulatory information

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

#### *EU regulations*

Major Accident Hazard SEVESO III

Legislation ENVIRONMENTAL HAZARDS

E1

Quantity 1: 100 t

Quantity 2: 200 t

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

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Regulation (EC) No 850/2004 of the European  
Parliament and of the Council of 29 April 2004 on  
persistent organic pollutants and amending  
Directive 79/117/EEC

not regulated

Substances of very high concern (SVHC)

This product does not contain substances  
of very high concern according to  
Regulation (EC) No 1907/2006 (REACH),  
Article 57 above the respective regulatory  
concentration limit of  $\geq 0.1\%$  (w/w).

*National legislation*

Storage class 10 - 13

## 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

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## SECTION 16. Other information

### Full text of H-Statements referred to under sections 2 and 3.

H290	May be corrosive to metals.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

### Training advice

Provide adequate information, instruction and training for operators.

### Labelling

*Hazard pictograms*



*Signal word*

Warning

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## *Hazard statements*

H290 May be corrosive to metals.

H410 Very toxic to aquatic life with long lasting effects.

## *Precautionary statements*

Prevention

P273 Avoid release to the environment.

## **Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

## **Regional representation**

This information is given on the authorised Safety Data Sheet for your country.

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*The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.*