

Safety data sheet
According to Regulation n. 1907/2006 and Regulation 878/2020
Methanesulfonate Silver



Revision n. 6 – 24.09.2024
 Replaces revision 5 - 22.11.2022

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Chemical name Methanesulfonate Silver
Product code 198
C.A.S. Registry Number 2386-52-9
EC Number 219-199-2
INDEX Not available
Molecular weight 202,97 g/mol
Raw formula CH₃AgO₃S

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

Recommended uses Industrial use. Additive for electroplating
Uses advised against Non in particular

1.3 Details of the supplier of the safety data sheet

Name FAGGI ENRICO S.P.A.
Address Via Majorana, 101/103 50019 Sesto Fiorentino FI
Telephone number 055311861
Fax number 055311791
Competent person responsible for the safety data sheet lorenzo.magaldi@faggi.it

1.4 Emergency telephone number 111 - Medical helpline operating in England, in Scotland (NHS 24) and in Wales (NHS Direct Wales)

1.5 Registration number Exempt under Article 6(1)

2. HAZARDS IDENTIFICATION

2.1 Classification of the mixture according to Regulation (EC) n. 1272/2008

Hazard class	Category codes	Hazards indications
Met. Corr.	1	H290
Acute tox.(oral)	4	H302
Acute tox. (dermal)	4	H312
Skin corr.	1C	H314
Eye Dam.	1	H318
Acute tox (inhalation)	4	H332
STOT SE	3	H335

2.2 Label elements

Pictograms



Signal word DANGER

Hazard statements

H290	May be corrosive to metals.
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage.
H312	Harmful in contact with skin
H332	Harmful if inhaled
H335	May cause respiratory irritation

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Precautionary advice	P260	Do not breathe dust / fume / gas / mist / vapors / spray.
	P280	Wear protective gloves / clothing / eye protection / face protection
	P301 + P330 + P331	IF SWALLOWED: rinse mouth. DO NOT induce vomiting
	P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
	P305 + P351 + P338	IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
	P501	Dispose of the product / container in accordance with national regulations

2.3 Other hazards

It does NOT contain PBT / vPvB substances according to Regulation (EC) 1907/2006, annex XIII
 It does NOT contain substances that interfere with the endocrine system in accordance with Regulation (EC) 1907/2006 art.59 paragraph 1 and in accordance with the criteria established in Regulation (EU) 2017/2100 and Regulation (EU) 2018/605.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance: Methanesulfonate Silver

CAS Number	2386-52-9
EC Number	219-199-2
INDEX	Not available
ATE	500 mg/kg bw
M Factor (acute)	Not applicable
M Facto (chronic)	Not applicable

4. FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	Take the person to a very well-ventilated area and for safety consult a doctor. If the person is unconscious, keep him in a stable position on his side during transport.
Ingestion	Call a doctor immediately. Make victim drink water (two glasses at least).
Contact with skin	Immediately wash with water and rinse thoroughly.
Contact with eyes	Rinse with plenty of running water for at least 15 minutes while keeping the eyelids open (remove contact lenses if it is easy to do so). Consult an ophthalmologist.

Recommendations:

• Need to see a doctor immediately	YES
• Possibility of delayed effects following exposure	YES
• Move the exposed individual from the place of exposure to the open air	YES
• Remove the clothing and shoes of the exposed individual	YES
• How to handle contaminated clothing	With gloves
• For those providing first aid, wear PPE	YES

4.2 Most important symptoms and effects, both acute and delayed

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In case of inhalation or ingestion: sore throat, cough, burning sensation. Shortness of breath, difficulty in breathing. Blue Lips, nails and skin. Vertigo, headache, nausea. Confusional state, convulsions, unconsciousness. Symptoms can be delayed. Abdominal pain, burning sensation. Shock or collapse.

In case of skin contact: pain, redness, burns, blisters.

In case of eye contact: redness, pain. Severe deep burns. Loss of vision

4.3 Indication of any immediate medical attention and special treatment needed

Contact a doctor immediately. It is of the utmost importance to clean the entire contaminated area of the body, including scalp and nails.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media CO2, powder or water spray. Extinguish large fires with water spray or alcohol-resistant foam

Unsuitable extinguishing media none

5.2 Special hazards arising from the substance or mixture

Avoid breathing fumes. In the event of a fire, the following may develop: carbon monoxide, sulfur oxides, silver oxides.

5.3 Advice for firefighters

Prevent the water used to extinguish the fire from flowing into the sewer, groundwater or surface water.

Normal fire-fighting clothing, such as self-contained open-circuit compressed air breathing apparatus (EN137), flame retardant suit (EN469), flame retardant gloves (EN659) and firefighter boots (HOA29 or A30)

General information

Equipment

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Keep away from contaminated area and keep upwind

6.1.2. For emergency responders

Wear:

Gloves for chemical risks compliant with EN420 EN374 Standards

Complete clothing compliant with the UNI EN 13034: 2006 standard

Semi-face masks with ABEK2P3 R filters conforming to EN14387: 2004 + A1: 2008

6.2 Environmental precautions

Prevent infiltration into the sewer, groundwater and surface water. In case of infiltration into bodies of water or sewers or in case of penetration into the ground, notify the competent authorities.

6.3 Methods and material for containment and cleaning up

6.3.1. Advice in order to contain a spill

Collect materials limiting the formation of dust

6.3.2. Advice in order to clean-up a spill

Wash contaminated area with water

6.3.3 Other information

None

6.4 Reference to other sections

None

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7. HANDLING AND STORAGE

7.1. Precautions for safe handling

7.1.1. *Raccomentations in order to manipulate the substance or the mixture in a safe manner, such as containment measures and prevention of fire and aerosol and powders formation*

Store in original and labeled packaging. Use under suction. Close the jars immediately after use. Use is permitted only to trained and informed personnel.

7.1.2. *General recommendation on work hygiene*

Do not eat, drink and smoke in work areas. Wash your hands after use. Remove contaminated clothing and protective equipment before entering eating areas

7.2. Conditions Safe storage, including any incompatibilities

7.2.1. *Risk management associated with explosive atmospheres, corrosive conditions, flammability hazards, incompatible substances or mixtures, evaporative conditions, potential ignition sources*

Store in an area without drains or access to sewers

7.2.2. *Containment of the effects of weather conditions, pressure, temperature, sunlight, humidity and vibrations*

Keep away from moisture and direct light.

7.2.3. *Conditions for keeping substances / mixtures intact*

Keep in a cool and dry place in hermetically closed containers

7.2.4. *Provisions relating to ventilation, specific design of storage rooms or containers, quantitative limits in storage conditions, compatibility of packaging*

Store in an area without drains or access to sewers

7.3. Specific end use(s)

Industrial use. Additive for electroplating

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters (related to metallic Silver species)

DNEL

Consumer (dermal): long-term systemic effects 8.33 mg/kg bw/day (human (calculated))

Worker: (Dermal): long-term systemic effects 19.44 mg/kg bw/dai (human (calculated))

Consumer (inhalation): long-term systemic effects 1.44 mg/m³ (human (calculated))

Consumer (inhalation): acute systemic effects 1.44 mg/m³ (human (calculated))

PNEC

Freshwater: 12 µg/L

Marine water: 1.2 µg/L

Sewer treatment plant: 100 mg/L

Sediment (freshwater): 0.0251 mg/kg sediment dry weight

Sediment (marine water): data not available

Soil: 1.83 µg/kg soil dry weight

8.2. Exposure controls

Provide for appropriate air intake/exhaust in the workplace and on the operating machine. Provide for the installation of an emergency shower and an eye shower.

8.2.1. *Appropriate engineering controls*

Use under a fume hood. Periodically check the range of the hood. Periodically carry out personal environmental samplings and clinical examinations.

8.2.2. *Individual protection measures, such as personal protective equipment*

Eye/face protection

Splash goggles compliant with Directive 89/686 / EEC and with standard EN166: 2001

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Skin protection (hands)	Chemical gloves according to EN 420 EN 374 Glove material: PVC, nitril rubber Material thickness: 0.1 mm Penetration time: ≥ 480 min DIN EN374 method
Skin protection (body)	Complete antacid clothing compliant with the UNI EN 13034: 2006 type 6 standard
Respiratory protection	Semi-face mask with P2 filters
Thermal hazards	The substance does not present a thermal hazard

8.2.3. Environmental exposure controls

Maintain suction in all environments using localized collection systems and ambient air exchange. Convey the aspirated volumes to an abatement system and then into the atmosphere. Do not use recirculating air suction systems. Avoid any spillage into the environment.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	Solid white or grey / white
Color	white or grey / white
Odor	Odorless
Melting point / freezing point	270 ° C
Boiling point or initial boiling point and boiling range	Not applicable
Flammability	Not inflammable
Lower and upper explosive limits	Not applicable
Flash point	Not applicable
Self-ignition temperature	Not applicable
Decomposition temperature	Ca 370 ° C
pH	1 (10 g / l @ 20 ° C)
Cinematic viscosity	Not applicable
Solubility	Completely soluble in water
Production coefficient n-octanol / water (logarithmic value)	Not applicable
Vapor pressure	Not applicable
Density and / or relative density	1.40 g / cm ³
Relative vapor density	Not applicable
Characteristics of the particles	Data not available

9.2. Other information

None

10. STABILITY AND REACTIVITY

10.1 Reactivity

Data not available

10.2 Chemical stability

The product is stable when used according to regulations. Possibility of thermal decomposition

10.3 Possibility of hazardous reactions

Reaction with basis

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10.4	Conditions to avoid No information available	
10.5	Incompatible materials No information available	
10.6	Hazardous decomposition products Carbon monoxide, sulfur oxides, silver oxides	
11.	TOXICOLOGICAL INFORMATION	
11.1	Information on hazard classes as defined in Regulation (EC) No 1272/2008	
	Acute toxicity	ATE 500 mg/kg bw
	Skin corrosion / irritation	Corrosive for skin
	Serious eye damage/irritation	Corrosive for eyes
	Respiratory or skin sensitization	Based on available data, the classification criteria are not met
	Germ cell mutagenicity	Data not available
	Carcinogenicity	Data not available
	Reproductive toxicity	Data not available
	STOT – single exposure	Irritation of respiratory tract
	STOT – repeated exposure	Data not available
11.2	Information on other hazards Silver compounds can cause permanent skin discoloration (argyria)	
12.	ECOLOGICAL INFORMATION	
12.1	Toxicity	Data not available
12.2	Persistence and degradability	Not applicable
12.3	Bioaccumulative potential	Not applicable
12.4	Mobility in soil	No data available
12.5	Results of PBT and vPvB assessment	No data available
12.6	Endocrine disrupting properties	No known effects
12.7	Other adverse effects	None known
13.	DISPOSAL CONSIDERATIONS	
13.1.	Waste treatment methods Dispose of both the substance and its packaging as hazardous waste and deliver them to an authorized facility.	
14.	TRANSPORT INFORMATION	
14.1	UN number or ID number	1759
14.2	Official UN shipping name	Corrosive solid n.o.s. (Ag methanesulfonate)
14.3	Transport hazard class(es) ADR/RID/IMDG/ICAO-IATA: Class: ADR/RID/IMDG/ICAO-IATA: Label: ADR: Tunnel restriction code IMDG - EmS:	8 8 + mark environmental hazard E F-A S-B
14.4	Packing group	III
14.5	Dangers for the environment ADR/RID/ICAO-IATA: IMDG: Marine Contaminant:	Product dangerous for the environment yes
14.6	Special precautions for user	

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Transport must be carried out by vehicles authorized for the transport of dangerous goods according to the provisions of the current edition of the A.D.R. Agreement. and the applicable national provisions. Transport must be carried out in the original packaging and, in any case, in packaging which is made of materials which cannot be attacked by the contents, and which are not likely to generate dangerous reactions. Those responsible for loading and unloading dangerous goods must have received appropriate training on the risks presented by the preparation and on any procedures to be adopted in the event of emergency situations.

14.7 Maritime transport in bulk according to IMO instruments

Bulk transport is not foreseen

15. REGULATORY INFORMATION

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

	Applicability
Reg. (EC) 1907/2006 / EC Reach	YES
Reg. (EC) 1272/2008 CLP and subsequent changes and additions	YES
Reg. (CE) 2037/2000 "Substances that deplete the ozone layer"	NO
Reg. (EC) 850/2004 "Persistent organic pollutants"	NO
Reg. (EC) 689/2008 "export and import of dangerous chemicals"	NO
Substance listed in Annex I of Dir. 2012/18 / EU so-called Seveso	NO
Legislative Decree 81/2008 Consolidated Law on health and safety at work	YES
Directive 2014/103 / EU "Adr"	YES
Reg. (CE) 1907/2006/CE Reach art. 59 – Candidate List of Substances of Very High Concern (SVHC)	NO
Reg. (CE) 1907/2006/CE Reach - Annex XIV – Authorisation List	NO
Reg. (CE) 1907/2006/CE Reach - Annex XVII – Restriction List	Limited use
https://echa.europa.eu/it/substances-restricted-under-reach	Item 75 (check link)

15.2 Chemical safety assessment

A chemical safety assessment was not carried out

16. OTHER INFORMATION

Changes compared to the previous edition

Changes to sections: 1-8-11-14-16

Acronim and abbreviation legend

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

GHS: Globally Harmonized System of Classification and Labeling of Substances

EINECS: European Inventory of Chemical Substances

CAS: Chemical Abstract Service

STA: Acute Toxicity Estimate

PBT: Persistent, Bioaccumulative and Toxic.

vPvB: (very persistent and very bioaccumulative). Very persistent and very bioaccumulative

LD: lethal dose

PNEC: predicted no effect concentration

DNEL: derived no effect level

TLV (ceiling value): threshold limit value

STEL: short-term exposure limit

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EU-OEL: European occupational exposure limit

TWA: time-weighted average

EC: effective concentration

NOAEL: no observed adverse effect level

LC: lethal concentration

NOEC: no observed effect concentration

LOEC: lowest observed effect concentration

Bw: body weight

Koc: organic carbon-water partition coefficient

Main references and data sources

ECHA's data bank on registered substances and soon to be registered substances:

<https://chem.echa.europa.eu/>

Adequate training for workers in order to ensure the protection of human health and the environment

Chemical Risk Training pursuant to Legislative Decree 81/08 Title IX dangerous substances

PPE training