

Safety data sheet
According to Regulation n. 1907/2006 and Regulation 878/2020
AG POWDER



Revision n. 5 – 25.09.2025
 Replaces revision n. 4 – 10.10.2024

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

- 1.1** Product identifier
- | | |
|------------------------|---------------|
| Chemical name | Silver |
| Product code | 28 |
| C.A.S. Registry Number | 7440-22-4 |
| INDEX number | Not available |
| EINECS number | 231-131-3 |
| Chemical formula | Ag |
- 1.2** **Relevant identified uses of the substance or mixture and uses advised against**
 Recommended uses: Industrial use. Use in electroplating processes Carbon-, electro-medicine- and automotive technology
 Uses advised against: none 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** 01-2119555669-21-XXXX

2. HAZARDS IDENTIFICATION

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

Hazard class	Category codes	Hazards indications
Aquatic acute	1	H400
Aquatic chronic	1	H410

2.2 **Label elements:**
Pictograms



Signal word	WARNING	
Hazard statement	H400	Very toxic to aquatic life
	H410	Very toxic to aquatic life with long lasting effects
Precautionary advise	P273	Avoid release to the environment

- 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.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance: Silver

CAS number 7440-22-4

EC number 231-131-3

INDEX number Not available

ATE ATE (inhalation) (rat): > 5.16 mg/l according to OECD Guideline 436

ATE (ingestion) (rat): 125 mg/kg bw according to OECD Guideline 408

M factor (acute) 10

M factor (chronic) 10

4. FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation Move the person to a well-ventilated area and position them so that breathing is easy. If the person is unconscious, keep them in a stable side position during transport.

Ingestion Call a doctor or poison control center immediately if they feel unwell.

Contact with skin Immediately rinse thoroughly with water.

Contact with eyes To be safe, rinse with plenty of running water for at least 15 minutes, holding the eyelids open (remove contact lenses if easily possible).

Recommendations:

- **Need to see a doctor immediately** NO
- **Possibility of delayed effects following exposure** NO
- **Move the exposed individual from the place of exposure to the open air** YES
- **Remove the clothing and shoes of the exposed individual** NO
- **How to handle contaminated clothing** Use gloves
- **For those providing first aid, wear PPE** YES

4.2 Most important symptoms and effects, both acute and delayed

None

4.3 Indication of any immediate medical attention and special treatment needed

If unwell, consult a doctor.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media Water spray. Dry powder. Foam.

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

In case of fire, toxic fumes may be released.

5.3 Advice for firefighters

Normal firefighting clothing, such as open-circuit compressed air breathing apparatus (EN137), flame-retardant overalls (EN469), flame-retardant gloves (EN659) and firefighter's boots (HOA29 or A30)

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Move away from the contaminated area

6.1.2. For emergency responders

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Wear :

Gloves for chemical risks compliant with EN420 EN374 Standards

Complete clothing compliant with the UNI EN 13034: 2006 standard

Semi-face masks with P2 filters conforming to EN14387: 2004 + A1: 2008

6.2 Environmental precautions

Prevent infiltration into the sewer, groundwater and surface water

6.3 Methods and material for containment and cleaning up

6.3.1. Recommendations on how to contain a spill

Avoid dust formation by moistening the area with water and collecting with shovels or brooms. Collect the material with shovels or similar.

6.3.2. Advice in order to clean-up a spill

Flush the contaminated area with water. Prevent leakage into sewers, groundwater, and surface water.

6.3.3 Other information

None

6.4 Reference to other sections

None

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 aereosol and powders formation*

Use under extractor hood while wearing the PPE provided.

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*

No particular recommendations

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

Keep away from light

7.2.3. *Conditions for keeping substances / mixtures intact*

Keep containers as closed as possible

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

Store in a cool, ventilated area

7.3. Specific end use(s)

Industrial use. Use in electroplating processes Carbon-, electro- medicine- and automotive technology

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

DNEL

Based on the ECHA RAC-35 assessment of argyria as “non-adverse”, recent studies and the current scientific consensus on argyria, it was concluded that “no adverse effects have been identified” for metallic silver in powdered and massive form and therefore no DNEL needed to be derived.

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PNEC

Freshwater: 0.04 µg/L

Marine water: 0.86 µg/L

Sewer treatment plant: 0.025 mg/L

Sediment (freshwater): 438.13 mg/kg sediment dry weight

Sediment (marine water): 438.13 mg/kg sediment dry weight

Soil: 1.41 mg/kg soil dry weight

8.2.

Exposure controls

8.2.1. Appropriate engineering controls

Periodically check the flow rate of the extractor hood.

8.2.2. Individual protection measures, such as personal protective equipment

Eye/face protection

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

Skin protection (hands)

Chemical gloves compliant with EN420 and EN374 standards.

Glove material: latex, nitrile rubber.

Material thickness: no specification required.

Breakthrough time: no specification required.

Skin protection (body)

Complete clothing compliant with the UNI EN 13034: 2006 standard

Respiratory protection

Half-face mask with P2 filters in case of insufficient ventilation

Thermal hazards

The substance does not present thermal hazards

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 dust
Color	Metallic grey
Odor	Odourless
Melting point / freezing point	961 ° C
Boiling point or initial boiling point and boiling range	2187 °C
Flammability	Not flammable
Lower and upper explosive limits	Not explosive
Flash point	Not flammable
Self-ignition temperature	Not flammable
Decomposition temperature	Not applicable
pH	Not applicable
Kinematic viscosity	Not applicable
Solubility	0.03 µg/l at 20 °C
Partition coefficient n-octanol / water (logarithmic value)	Not applicable
Vapor pressure	Negligible at 20 ° C
Density and / or relative density	10.5 g/cm ³ at 20 °C
Relative vapor density	Nt applicable

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Characteristics of the particles

D10 = 2 µm

D50 = 11 µm

D90 = 25.4 µm

9.2. Other information

None

10. STABILITY AND REACTIVITY

10.1 Reactivity

No reactivity under normal conditions of use, transport and storage

10.2 Chemical stability

The product is stable under normal working conditions

10.3 Possibility of hazardous reactions

No relevant information

10.4 Conditions to avoid

strong heating

10.5 Incompatible materials

Nessuno

10.6 Hazardous decomposition products

The product does not decompose under normal conditions of use.

11. TOXICOLOGICAL INFORMATION

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Based on available data, the classification criteria are not met.
ATE (inhalation) (rat): > 5.16 mg/l according to OECD Guideline 436
ATE (ingestion) (rat): 125 mg/kg bw according to OECD Guideline 408

Skin corrosion / irritation

Based on available data, the classification criteria are not met

Serious eye damage/irritation

Based on available data, the classification criteria are not met

Respiratory or skin sensitization

Based on available data, the classification criteria are not met

Germ cell mutagenicity

Based on available data, the classification criteria are not met

Carcinogenicity

Based on available data, the classification criteria are not met

Reproductive toxicity

Based on available data, the classification criteria are not met

STOT – single exposure

Based on available data, the classification criteria are not met

STOT – repeated exposure

Based on available data, the classification criteria are not met

11.2 Information on other hazards

None

12. ECOLOGICAL INFORMATION

12.1 Toxicity

PNEC

Freshwater: 0.04 µg/L

Marine water: 0.86 µg/L

Sewer treatment plant: 0.025 mg/L

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		Sediment (freshwater): 438.13 mg/kg sediment dry weight
		Sediment (marine water): 438.13 mg/kg sediment dry weight
		Soil: 1.41 mg/kg soil dry weight
		LC50 (fish): 4.7 µg/l
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	Not applicable
12.6	Endocrine disrupting properties	No known effects
12.7	Other adverse effects	None
13.	DISPOSAL CONSIDERATIONS	
13.1.	Waste treatment methods	
	The substance and its packaging must be disposed of as hazardous waste by authorized companies.	
14.	TRANSPORT INFORMATION	
14.1	UN number or ID number	UN3077
14.2	Official UN shipping name	
	ADR/RID/AND/IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Silver)
14.3	Transport hazard class(es)	
	ADR/RID/ADN/IMDG/ICAO-IATA: Class:	9
	ADR/RID/ADN/IMDG/ICAO-IATA: Label:	9 + mark dangerous for environment
	ADR: Tunnel restriction code	(-)
	IMDG - EmS:	F-A, S-F
14.4	Packing group	III
14.5	Dangers for the environment	
	ADR/RID/ADN/ICAO-IATA:	Dangerous for the environment
	IMDG: Marine Contaminant:	yes
14.6	Special precautions for user	
	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

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Substance listed in Annex I of Dir. 2012/18 / EU so-called Seveso	YES
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	No limited use
https://echa.europa.eu/it/substances-restricted-under-reach	(check link)
Water hazard class according to German regulation WGK (Wassergefährdungsklasse)	WGK: 3

15.2

Chemical safety assessment

A chemical safety assessment was carried out

16.

OTHER INFORMATION

Changes compared to the previous edition

Changes to sections: 3-4-5-6-8-9-11-14-15-16

Acronim and abbreviation legend

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

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

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

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

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

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PPE training