

Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

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Revision: 13.02.2026
Version number 1

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

- 1.1 Product identifier
- Trade name: silver
- 1.2 Relevant identified uses of the substance or mixture and uses advised against
Currently no such applications are identified.
- Application of the substance / the mixture alcohol based metallic marker ink

SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.

- 2.2 Label elements
- Labelling according to Regulation (EC) No 1272/2008
The product is classified and labelled according to the CLP regulation.
- Hazard pictograms



GHS02



GHS05

- Signal word *Danger*
- Hazard-determining components of labelling:
propan-1-ol
- Hazard statements
H225 Highly flammable liquid and vapour.
H318 Causes serious eye damage.
- Precautionary statements
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 Use explosion-proof [electrical/ventilating/lighting] equipment.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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.
P310 Immediately call a POISON CENTER/doctor.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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- 2.3 Other hazards
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

- 3.2 Mixtures
- Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 64-17-5 EINECS: 200-578-6 Reg.nr.: 01-2119457610-43	ethanol ⊠ Flam. Liq. 2, H225; ⊠ Eye Irrit. 2, H319	25-<50%
CAS: 71-23-8 EINECS: 200-746-9 Reg.nr.: 01-2119486761-29	propan-1-ol ⊠ Flam. Liq. 2, H225; ⊠ Eye Dam. 1, H318; ⊠ STOT SE 3, H336	10-<25%
CAS: 7429-90-5 EINECS: 231-072-3 Reg.nr.: 01-2119529243-45	aluminium powder (stabilised) ⊠ Flam. Sol. 2, H228	10-<25%
CAS: 107-98-2 EINECS: 203-539-1 Reg.nr.: 01-2119457435-35	1-methoxy-2-propanol ⊠ Flam. Liq. 3, H226; ⊠ STOT SE 3, H336	5-<10%

- Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- 4.1 Description of first aid measures
- General information: Immediately remove any clothing soiled by the product.
- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: Immediately rinse with water.
- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing: If symptoms persist 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:
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- 5.3 Advice for firefighters
- Protective equipment: No special measures required.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Wear protective clothing.
- 6.2 Environmental precautions:
Prevent seepage into sewage system, workpits and cellars.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- 6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralising agent.
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
- 6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

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SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Storage class:** 3
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

- **Ingredients with limit values that require monitoring at the workplace:**

107-98-2 1-methoxy-2-propanol (5-<10%)

IOELV	Short-term value: 568 mg/m ³ , 150 ppm
	Long-term value: 375 mg/m ³ , 100 ppm
	Skin

- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Appropriate engineering controls** No further data; see section 7.
- **Individual protection measures, such as personal protective equipment**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
- **Respiratory protection:** Not required.
- **Hand protection**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

If only a short-term loading of the glove material by splashes is expected, tricoted gloves with higher wearability for the better acceptance of the users are recommended.

Material of gloves

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Nitrile rubber, NBR

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· Eye/face protection



Tightly sealed goggles

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Physical state

Liquid

· Colour:

According to product specification

· Odour:

Product specific

· Odour threshold:

Not determined.

· Melting point/freezing point:

Undetermined.

· Boiling point or initial boiling point and boiling range

78 °C (64-17-5 ethanol)

· Flammability

Highly flammable.

· Lower and upper explosion limit

· Lower:

2.1 Vol % (71-23-8 propan-1-ol)

· Upper:

15 Vol % (64-17-5 ethanol)

· Flash point:

13 °C (64-17-5 ethanol)

· Auto-ignition temperature:

287 °C (107-98-2 1-methoxy-2-propanol)

· Decomposition temperature:

Not determined.

· pH

Not determined.

· Viscosity:

· Kinematic viscosity

Not determined.

· Dynamic at 20 °C:

5.6 mPas

· Solubility

· water:

Fully miscible.

· Partition coefficient n-octanol/water (log value)

Not determined.

· Vapour pressure at 20 °C:

59 hPa (64-17-5 ethanol)

· Vapour pressure at 50 °C:

280 hPa

· Density and/or relative density

· Density at 20 °C:

0.9 g/cm³

· Relative density

Not determined.

· Vapour density

Not determined.

· 9.2 Other information

The physical and chemical properties given in Section 9.1 are rough data only, which are partially derived from the component's data of the mixture. These data are no binding product specifications.

· Appearance:

· Form:

Fluid

· Important information on protection of health and environment, and on safety.

-

· Ignition temperature:

Product is not selfigniting.

· Explosive properties:

Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Solvent content:

· Organic solvents:

Not determined

· Water:

Not determined

· Solids content:

Not determined

· Change in condition

· Evaporation rate

Not determined.

· Information with regard to physical hazard classes

· Explosives

none

· Flammable gases

none

· Aerosols

none

· Oxidising gases

none

· Gases under pressure

none

· Flammable liquids

Highly flammable liquid and vapour.

· Flammable solids

none

· Self-reactive substances and mixtures

none

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- Pyrophoric liquids none
- Pyrophoric solids none
- Self-heating substances and mixtures none
- Substances and mixtures, which emit flammable gases in contact with water none
- Oxidising liquids none
- Oxidising solids none
- Organic peroxides none
- Corrosive to metals none
- Desensitised explosives none

SECTION 10: Stability and reactivity

- 10.1 Reactivity No further relevant information available.
- 10.2 Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- 10.3 Possibility of hazardous reactions No dangerous reactions known.
- 10.4 Conditions to avoid No further relevant information available.
- 10.5 Incompatible materials: No further relevant information available.
- 10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 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.

- LD/LC50 values relevant for classification:

64-17-5 ethanol

Oral	LD50	7,060 mg/kg (rat)
Inhalative	LC50/4 h	20,000 mg/l (rat)

- Primary irritant effect:
- Skin corrosion/irritation Based on available data, the classification criteria are not met.
- Serious eye damage/irritation Causes serious eye damage.
- Respiratory or skin sensitisation 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.
- Aspiration hazard Based on available data, the classification criteria are not met.
- 11.2 Information on other hazards

- Endocrine disrupting properties

None of the ingredients is listed.

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.
- 12.5 Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.
- 12.6 Endocrine disrupting properties
The product does not contain substances with endocrine disrupting properties.
- 12.7 Other adverse effects
- Additional ecological information:
- General notes:
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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Must not reach sewage water or drainage ditch undiluted or unneutralised.

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SECTION 13: Disposal considerations

- 13.1 Waste treatment methods
- Recommendation
 Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- Uncleaned packaging:
- Recommendation: Disposal must be made according to official regulations.
- Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- 14.1 UN number or ID number
 • ADR, IMDG, IATA UN1263
- 14.2 UN proper shipping name
 • ADR 1263 PAINT
 • IMDG PAINT
 • IATA Paint
- 14.3 Transport hazard class(es)
 • ADR

 • Class 3 (F1) Flammable liquids.
 • Label 3

- IMDG, IATA

 • Class 3 Flammable liquids.
 • Label 3
- 14.4 Packing group
 • ADR, IMDG, IATA II
- 14.5 Environmental hazards: Not applicable.
- 14.6 Special precautions for user Warning: Flammable liquids.
 • Hazard identification number (Kemler code): 33
 • EMS Number: F-E, S-E
 • Stowage Category B
- 14.7 Maritime transport in bulk according to IMO instruments Not applicable.
- Transport/Additional information:

- ADR
 • Limited quantities (LQ) 5L
 • Excepted quantities (EQ) Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml
- Transport category 2
 • Tunnel restriction code D/E

- IMDG
 • Limited quantities (LQ) 5L
 • Excepted quantities (EQ) Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

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- UN "Model Regulation": UN 1263 PAINT, 3, II

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Directive 2012/18/EU
- Named dangerous substances - ANNEX I None of the ingredients is listed.
- Seveso category P5c FLAMMABLE LIQUIDS
- Qualifying quantity (tonnes) for the application of lower-tier requirements 5,000 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements 50,000 t
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

- DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment - Annex II

None of the ingredients is listed.

- REGULATION (EU) 2019/1148

- Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

- Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

- Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

- Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed.

- National regulations:

- Technical instructions (air):

Class	Share in %
NK	50-<75

- Waterhazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
- 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Relevant phrases

H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

H228 Flammable solid.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

- Abbreviations and acronyms:

ADR: Accord relatif au transport international 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 Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids - Category 2

Flam. Liq. 3: Flammable liquids - Category 3

Flam. Sol. 2: Flammable solids - Category 2

Eye Dam. 1: Serious eye damage/eye irritation - Category 1

Eye Irrit. 2: Serious eye damage/eye irritation - Category 2

STOT SE 3: Specific target organ toxicity (single exposure) - Category 3

- * Data compared to the previous version altered.

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