

## MATERIAL SAFETY DATA SHEET - MSDS

### 1. Identification of the substance/preparation and of the company/undertaking

#### Identification of the product:

**Name of material:** Silver nitrate 5%, solution Art.Nrn.: 30223.10, Inner package: Glass bottle

#### Use of the substance/preparation:

analytical chemistry, laboratory reagent, titrant in volumetric analysis, photography, manufacture of dyes.

#### Manufacturer/supplier identification:

##### Company:

Gatt-Koller GmbH

Swarovskistrasse 74

A-6067 Absam

Tel.: 0043-5223-44216-0

Fax.: 0043-5223-43216

#### Emergency Telephone:

Tel.: 0049-551-19240

### 2. Composition/information on ingredients

**Description:** Aqueous solution.

#### Identification and amount of the components:

Dangerous components:

Product: Silver nitrate

EC no. (EINECS) 231-853-9 CAS: 7761-88-8 EC Index: 047-001-00-2

R: 34-50/53 Symbol: C (Corrosive); N (Dangerous for the environment)

Content: 5%

### 3. Hazards identification

#### Hazards classification for the substance according to the european directives:

Irritating to eyes and skin. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 4. First aid measures

**After inhalation:** Fresh air. Summon doctor.

**After skin contact:** wash off with plenty of water. Dab with polyethylene glycol 400. Immediately remove contaminated clothing.

**After ingestion:** make victim drink plenty of water, avoid vomiting (risk of perforation!) . Immediately summon doctor. Do not attempt to neutralize.

**After eye contact:** rinse out with plenty of water for at least 10 minutes with the eyelid held wide open. Immediately summon eye specialist.

### 5. Fire-fighting measures

**Suitable extinguishing media:** To suit environment.

**Special risks:** Non-combustible. Has a fire-promoting effect due to release of oxygen. Formation of dangerous vapours possible in event of fire.

The following may develop in event of fire: nitrogen oxides.

**Special protective equipment for fire fighting:** Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.

**Further information:** Contain escaping vapours with water. Prevent fire-fighting water from entering surface water or groundwater.

### 6. Accidental release measures

**Person-related precautionary measures:** Avoid substance contact. Do not inhale vapours/aerosols.

**Environmental precautions:** Do not allow to enter sewerage system.

**Procedures for cleaning / absorption:** Take up dry. Forward for disposal. Clean up.

### 7. Handling and storage

**Handling:** No further requirements.

**Storage:** Store tightly closed and dry. Away from combustible materials and sources of ignition and heat. Protected from light. Storage temperature: no restrictions.

### 8. Exposure controls/personal protection

**Exposure limit values:** (MAK, Germany): 0,01 mg/m<sup>3</sup>

#### Exposure controls:

**Occupational exposure controls:** The personal protective equipment must be selected according to the working place, based on the concentration and amount of the dangerous substance. The supplier should

indicate the stability of the personal protective equipment to chemical reagents.

**Respiratory protection:** required when dusts are generated.

**Hand protection:** required

**Eye protection:** required

**Skin protection:** Apply skin- protective barrier cream.

**Industrial hygiene:** Immediately change contaminated clothing. Wash hands and face after working with substance.

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

#### **General information:**

**Form:** liquid

**Colour:** colourless

**Odour:** odourless

#### **Important health, safety and environmental information:**

**pH value:** (20 °C) ~ 4-5

**Boiling temperature:** ---

**Flash point:** ---

**Explosion limits (low):** ---

**Explosion limits (high):** ---

**Vapour pressure:** ---

**Density (20 °C):** ca.1,0 g/cm<sup>3</sup>

**Solubility in water: (20 °C):** miscible

**Viscosity:** ---

**Refractive index:** ---

**Melting temperature:** ---

**Ignition temperature:** ---

### **10. Stability and reactivity**

**Conditions to be avoided:** No information available.

**Substances to be avoided:** nonmetals, organic substances, alkali hydroxides, acetylides, acetylene, aldehydes, nitriles, ammonia/alcohols, ammonium compounds, combustible substances, hydrazine and derivatives, carbides, organic nitro compounds, heat (decomposition), magnesium (in powder form)/water, alcohols.

**Hazardous decomposition products:** In event of fire: see chapter 5.

**Further information:** light-sensitive.

### **11. Toxicological information**

#### **Acute toxicity:**

The literature data available to us do not conform with the labelling prescribed by the EC. The EU has dossiers which have not been published.

**LD<sub>50</sub>(oral, rat):** 1173 mg/kg (pure substance)

#### **Subacute to chronic toxicity:**

**Teratogenicity:** Available data are not enough to value the teratogenicity of the product. Available data are not enough to value the alteration of the reproductive capacity.

#### **Further toxicological information:**

**After skin contact:** burns

**After eye contact:** burns, burns of mucous membranes. Risk of corneal clouding.

**After ingestion:** (large amounts): vomiting, decomposition, death, spasms (gastrointestinal tract).

#### **Further information:**

The following applies to soluble silver compounds in general: Only very slightly absorbable via the gastrointestinal tract. Strong irritations after contact with eyes and skin.

The following applies to nitrites/nitrates in general:

**After absorption of large quantities:** methaemoglobinaemia Further hazardous properties cannot be excluded.

### **12. Ecological information**

**Ecotoxic effects:** Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### **Further ecologic data:**

The following applies to silver compounds in general:

Ag cations are toxics for aquatic organisms.

**Bacterial toxicity:** Ps. putida: toxic from: 0,006 mg/l

**Protozoa toxicity:** U. parduczi: toxic from: 0,1 mg/l

**Daphnia toxicity:** Daphnia magna EC<sub>50</sub>: 0,004 mg/l

**Algal toxicity:**

M. aeruginosa: toxic from: 0,0007 mg/l

Sc. quadricauda: toxic from: 0,009 mg/l

Do not allow to enter waters, waste water, or soil!

### **13. Disposal considerations**

**Product:** There are no uniform EU Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EU member countries through corresponding laws and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste.

**Packaging:** Disposal in compliance with official regulations. Handle contaminated packaging in the same way as the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

### **14. Transport information**

Not subject to transport regulations.

### **15. Regulatory information**

**EC-classification:** This product has been included in the dangerous substances index with its corresponding EC index number, so it has been classified according to the 67/548/EEC directive and its later adaptations.

**Symbol:** Xi (Irritating), N (Dangerous for the environment)

**R-phrases:** 36/38-50/53

Irritating to eyes and skin. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**S-phrases:** 26-36/37/39-45-61-60 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible) Avoid release to the environment. Refer to special instructions/Safety data sheets. This material and/or its container must be disposed of as hazardous waste.

**EC-Index-No:** 047-001-00-2

### **German regulations**

Water pollution class

2 (nonpolluting substance) VwVwS Anh. 4

Storage class VCI

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### **16. Other information**

**Text of any R phrases of the dangerous components of the mixture:**

Product: Silver nitrate

R34: Causes burns. R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Reason for the revision:** General update.

**Date:** 19/01/2007

The information supplied in this data sheet, is based on the present state of our knowledge. The purpose of this information, is only to describe the security measures to follow in the handling of the product.

Therefore it does not represent a guarantee about the properties of the product.

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