



# Qualikems Lifesciences Pvt. Ltd.

(Formerly known as Qualikems fine chem Pvt Ltd)

Works : Plot No. 68-69,G.I.D.C Industrial Estate,Nandesari,Vadodara-391340 (Gujarat)

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

### Product identifiers

Product name : Silver nitrate

CAS-No. : 7761-88-8

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

Identified uses : Laboratory chemicals, Manufacture of substances

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

Company : Plot No. 68-69, G.I.D.C. Industrial Estate,  
Nandesari, Vadodara – 391340  
Gujrat.

### Emergency telephone

Emergency Phone # : +91-265-2842531

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## SECTION 2: Hazards identification

### Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Oxidizing solids (Category 2), H272

Corrosive to Metals (Category 1), H290

Skin corrosion (Sub-category 1B), H314

Serious eye damage (Category 1), H318

Short-term (acute) aquatic hazard (Category 1), H400

Long-term (chronic) aquatic hazard (Category 1), H410

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

### Label elements

#### Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal Word	Danger
Hazard statement(s)	
H272	May intensify fire; oxidizer.
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H410	Very toxic to aquatic life with long lasting effects.
Precautionary statement(s)	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dusts or mists.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none

### Reduced Labeling (<= 125 ml)

Pictogram



Signal Word	Danger
Hazard statement(s)	
H314	Causes severe skin burns and eye damage.
Precautionary statement(s)	
P260	Do not breathe dusts or mists.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none

### Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Formula	:	AgNO <sub>3</sub>
Molecular weight	:	169,87 g/mol
CAS-No.	:	7761-88-8

EC-No. : 231-853-9  
Index-No. : 047-001-00-2

Component	Classification	Concentration
<b>Silver nitrate</b>		
CAS-No. 7761-88-8 EC-No. 231-853-9 Index-No. 047-001-00-2	Ox. Sol. 2; Met. Corr. 1; Skin Corr. 1B; Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 1; H272, H290, H314, H318, H400, H410 Concentration limits: >= 1 %: Met. Corr. 1, H290; M-Factor - Aquatic Acute: 1.000 - Aquatic Chronic: 100	<= 100 %

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

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#### **SECTION 4: First aid measures**

##### **Description of first-aid measures**

###### **General advice**

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

###### **If inhaled**

After inhalation: fresh air. Call in physician.

###### **In case of skin contact**

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

###### **In case of eye contact**

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

###### **If swallowed**

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

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#### **SECTION 5: Firefighting measures**

##### **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.

**Special hazards arising from the substance or mixture**

Nitrogen oxides (NO<sub>x</sub>)

Silver/silver oxides

Container explosion may occur under fire conditions.

Not combustible.

Has a fire-promoting effect due to release of oxygen.

Ambient fire may liberate hazardous vapours.

**Advice 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/vapors/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****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.

For personal protection see section 8.

**Environmental precautions**

Do not let product enter drains.

**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.

**Reference to other sections**

For disposal see section 13.

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**SECTION 7: Handling and storage****Precautions for safe handling****Advice on protection against fire and explosion**

Keep away from open flames, hot surfaces and sources of ignition.

**Hygiene measures**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

**Conditions for safe storage, including any incompatibilities****Storage conditions**

No metal containers.

Tightly closed. Do not store near combustible materials.

Light sensitive.

**Storage class**

Storage class (TRGS 510): 5.1B: Oxidizing hazardous materials

**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**

**Control parameters**

**Ingredients with workplace control parameters**

**Exposure controls**

**Personal protective equipment**

**Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

**Skin protection**

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)).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

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)).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

**Body Protection**

protective clothing

**Respiratory protection**

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type P2

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.

## Control of environmental exposure

Do not let product enter drains.

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### SECTION 9: Physical and chemical properties

#### Information on basic physical and chemical properties

- |                                                 |                                                                                  |
|-------------------------------------------------|----------------------------------------------------------------------------------|
| a) Physical state                               | solidcrystalline                                                                 |
| b) Color                                        | colorless                                                                        |
| c) Odor                                         | odorless                                                                         |
| d) Melting point/freezing point                 | Melting point/range: 212 °C - dec.                                               |
| e) Initial boiling point and boiling range      | 440 °C - Decomposes on heating.                                                  |
| f) Flammability (solid, gas)                    | The product is not flammable.                                                    |
| g) Upper/lower flammability or explosive limits | No data available                                                                |
| h) Flash point                                  | Not applicable                                                                   |
| i) Autoignition temperature                     | No data available                                                                |
| j) Decomposition temperature                    | No data available                                                                |
| k) pH                                           | No data available                                                                |
| l) Viscosity                                    | Viscosity, kinematic: No data available<br>Viscosity, dynamic: No data available |
| m) Water solubility                             | No data available                                                                |
| n) Partition coefficient: n-octanol/water       | log Pow: 5                                                                       |
| o) Vapor pressure                               | No data available                                                                |
| p) Density                                      | 4,350 g/cm <sup>3</sup>                                                          |
| Relative density                                | No data available                                                                |
| q) Relative vapor density                       | No data available                                                                |
| r) Particle characteristics                     | No data available                                                                |
|                                                 |                                                                                  |
| s) Explosive properties                         | No data available                                                                |
| t) Oxidizing properties                         | The substance or mixture is classified as oxidizing with the category 2.         |

#### Other safety information

No data available

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## SECTION 10: Stability and reactivity

### Reactivity

No data available

### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .  
Decomposes on exposure to light.

### Possibility of hazardous reactions

No data available

### Conditions to avoid

Light.  
no information available

### Incompatible materials

Aluminum, Mild steelMetals

### Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - male and female - 3.804 mg/kg  
(OECD Test Guideline 401)

LC50 Inhalation - Rat - male and female - 4 h - > 0,075 mg/l - aerosol

(OECD Test Guideline 403)

LD50 Dermal - Rat - male and female - > 2.000 mg/kg  
(OECD Test Guideline 402)

#### Skin corrosion/irritation

Skin - reconstructed human epidermis (RhE)

Result: Corrosive - 3 - 60 min

(OECD Test Guideline 431)

Remarks: (Regulation (EC) No 1272/2008, Annex VI)

#### Serious eye damage/eye irritation

Remarks: Causes serious eye damage.

Risk of permanent damage due to staining of the cornea.

#### Respiratory or skin sensitization

No data available

#### Germ cell mutagenicity

Test Type: Micronucleus test

Test system: Human lymphocytes

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 487

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: Positive results were obtained in some in vitro tests.

**Carcinogenicity**

No data available

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Additional Information**

**Endocrine disrupting properties**

**Product:**

Assessment

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Repeated dose toxicity - Rat - male and female - Oral - 52 Days - NOAEL (No observed adverse effect level) -  $\geq$  250 mg/kg

RTECS: VW4725000

May cause argyria (a slate-gray or bluish discoloration of the skin and deep tissues due to the deposit of insoluble albuminate of silver)., Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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**SECTION 12: Ecological information**

**Toxicity**

Toxicity to fish	semi-static test LC50 - Pimephales promelas (fathead minnow) - 0,0012 mg/l - 96 h (US-EPA)
Toxicity to daphnia and other aquatic invertebrates	semi-static test LC50 - Daphnia magna (Water flea) - 0,00022 mg/l - 48 h Remarks: (ECHA)
Toxicity to fish(Chronic toxicity)	flow-through test NOEC - Pimephales promelas (fathead minnow) - 0,351 mg/l - 32 d Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity) semi-static test EC10 - Ceriodaphnia dubia (water flea) - 0,00248 mg/l - 7 d (US-EPA)

**Persistence and degradability**

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

**Bioaccumulative potential**

Bioaccumulation Cyprinus carpio (Carp) - 41 d at 20 °C(Silver nitrate)

Bioconcentration factor (BCF): 70

**Mobility in soil**

No data available

**Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**Endocrine disrupting properties**

**Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**Other adverse effects**

No data available

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**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**Product**

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**

**UN number**

ADR/RID: 1493

IMDG: 1493

IATA: 1493

**UN proper shipping name**

ADR/RID: SILVER NITRATE

IMDG: SILVER NITRATE

IATA: Silver nitrate

**Transport hazard class(es)**

ADR/RID: 5.1

IMDG: 5.1

IATA: 5.1

**Packaging group**

ADR/RID: II

IMDG: II

IATA: II

**Environmental hazards**

ADR/RID: yes

IMDG Marine pollutant: yes

IATA: no

**Special precautions for user**

Tunnel restriction code : (E)

Further information : No data available

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**SECTION 15: Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture**

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

**National legislation**

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

: ENVIRONMENTAL HAZARDS

: OXIDISING LIQUIDS AND SOLIDS

: ENVIRONMENTAL HAZARDS

**Other regulations**

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

**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.**

H272	May intensify fire; oxidizer.
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H400	May intensify fire; oxidizer.
H410	May be corrosive to metals.

**Further Information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Qualikems Lifesciences Pvt. Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See <http://www.qualikems.com> for additional terms and conditions of sale.