

Material Safety Data Sheet

Printing date 01/17/2008

Reviewed on 05/03/2007

1 Identification of substance:

- **Product details:**
- **Trade name:** Silver Complex Solution
- **Catalog or product number:** 1610462, 1610462EDU
- **Application of the substance / the preparation:** Laboratory chemicals
- **Manufacturer/Supplier:**
Bio-Rad Laboratories, Life Science Group
2000 Alfred Nobel Drive
Hercules, California 94547 (510)741-1000
- **Information department:** Technical services, customer support.
- **Emergency information:**
1(800)424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT.
510-741-1000
1(800)424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT.

2 Composition/Information on components:

- **Chemical characterization:**
- **CAS No. Description:**
7732-18-5 water
- **Identification number(s):**
- **EINECS Number:** 231-791-2
- **Additional information:** For the wording of the listed risk phrases refer to section 16.
- **Chemical characterization**

Listing of dangerous and non-hazardous components:

CAS: 7761-88-8 EINECS: 231-853-9	silver nitrate	C, N; R 34-50/53	1.0-2.5%
CAS: 6484-52-2 EINECS: 229-347-8 RTECS: BR9050000	ammonium nitrate	O; R 8-9	1.0-2.5%

3 Hazards identification

- **Emergency overview:** not applicable
- **Information pertaining to particular dangers for man and environment**
R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
- **Classification system**
The classification was made according to OSHA 29CFR 1910.1200 and 1910.1030, and is expanded upon from company and/or literature information.

4 First aid measures

- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **After skin contact** Generally the product does not irritate the skin.
- **After eye contact** Rinse opened eye for several minutes under running water.
- **After swallowing** Induce vomiting and call for medical help.

Material Safety Data Sheet

Printing date 01/17/2008

Reviewed on 05/03/2007

Trade name: Silver Complex Solution

(Contd. of page 1)

5 Fire fighting measures

- **Suitable extinguishing agents** CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Person-related safety precautions:** Not required
- **Measures for environmental protection:**
 Inform respective authorities in case of seepage into water course or sewage system.
 Dilute with plenty of water.
 Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collecting:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

7 Handling and storage

- **Handling**
- **Information for safe handling:**
 No special measures required.
 No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** According to product specification
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.

8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal protective equipment**
- **General protective and hygienic measures** Wash hands before breaks and at the end of work.
- **Breathing equipment:** Not required.
- **Protection of hands:** Protective gloves.
- **Material of gloves** Synthetic gloves
- **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.
- **Eye protection:** Safety glasses

9 Physical and chemical properties:

· **General Information**

Form:	liquid
Color:	Colorless
Odor:	Odorless

(Contd. on page 3)

Material Safety Data Sheet

Printing date 01/17/2008

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Trade name: Silver Complex Solution

(Contd. of page 2)

· **Change in condition**
Melting point/Melting range: 0°C
Boiling point/Boiling range: 100°C

· **Flash point:** Not applicable

· **Danger of explosion:** Product does not present an explosion hazard.

· **Vapor pressure at 20°C:** 23 hPa

· **Density at 20°C:** 1 g/cm³

· **Solubility in / Miscibility with**
Water: Fully miscible

· **Organic solvents:** 0.0 %

· **Water:** 96.0 %

· **Solids content:** 4.0 %

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Dangerous reactions** No dangerous reactions known
- **Dangerous products of decomposition:** No dangerous decomposition products known

11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritant effect.
- **Sensitization:** No sensitizing effects known.

12 Ecological information:

- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **General notes:**
 Water hazard class 2 (Self-assessment): hazardous for water.
 Do not allow product to reach ground water, water course or sewage system.
 Danger to drinking water if even small quantities leak into the ground.
 Harmful to aquatic organisms

13 Disposal considerations

- **Product:**
- **Recommendation**
 Hand over to hazardous waste disposers.
 Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 4)

Material Safety Data Sheet

Printing date 01/17/2008

Reviewed on 05/03/2007

Trade name: Silver Complex Solution

(Contd. of page 3)

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- **DOT regulations:**
- **Hazard class:** -
- **Land transport ADR/RID (cross-border)**
- **ADR/RID class:** -
- **Maritime transport IMDG:**
- **IMDG Class:** -
- **Marine pollutant:** No
- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** -

15 Regulations

- **SARA (Superfund Amendments and Reauthorization Act of 1986 - USA)**

- **Section 302/304 (40CFR355.30 / 40CFR355.40):**

Substance not listed.

- **Section 313 (40CFR372.65):**

6484-52-2 | ammonium nitrate

- **TSCA (Toxic Substances Control Act):**

Substance is listed.

- **Carcinogenicity categories**

- **EPA (Environmental Protection Agency)**

Substance is not listed.

- **IARC (International Agency for Research on Cancer)**

Substance is not listed.

- **NTP (National Toxicology Program)**

Substance is not listed.

- **TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

- **MAK (German Maximum Workplace Concentration)**

Substance is not listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

- **Markings according to EU guidelines:**

Observe the general safety regulations when handling chemicals

(Contd. on page 5)

Material Safety Data Sheet

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(Contd. of page 4)

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials

· Risk phrases:

52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

· Safety phrases:

60 This material and its container must be disposed of as hazardous waste.

61 Avoid release to the environment. Refer to special instructions/Safety data sheets

· National regulations

· **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.

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.

· **Department issuing MSDS:** Environmental Health and Safety.

· Contact:

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

· *** Data compared to the previous version altered.**