

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/11/2015




Reviewed on 06/11/2015

## 1 Identification

- **Product identifier**
- **Trade name:** Silver Stain Oxidizer Concentrate
- **Catalog or product number:** 1610444, 9700999, 1610444EDU, 10040604
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Bio-Rad Laboratories, Life Science Group  
2000 Alfred Nobel Drive  
Hercules, California 94547 (510)741-1000
- **Information department:**  
Technical services, customer support  
lsg\_techserv\_us@bio-rad.com
- **Emergency telephone number:**  
1(800)424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT.  
510-741-1000

## 2 Hazard(s) identification

- **Classification of the substance or mixture**
  - Acute Tox. 4 H302 Harmful if swallowed.
  - Acute Tox. 3 H331 Toxic if inhaled.
  - Skin Corr. 1B H314 Causes severe skin burns and eye damage.
  - Eye Dam. 1 H318 Causes serious eye damage.
  - Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
  - Skin Sens. 1 H317 May cause an allergic skin reaction.
  - Muta. 1B H340 May cause genetic defects.
  - Carc. 1B H350 May cause cancer.
  - Repr. 1B H360 May damage fertility or the unborn child.
  - STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**

GHS05 GHS06 GHS08
- **Signal word** Danger
- **Hazard-determining components of labeling:**  
potassium dichromate
- **Hazard statements**  
H302 Harmful if swallowed.

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- H331 Toxic if inhaled.
- H314 Causes severe skin burns and eye damage.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H317 May cause an allergic skin reaction.
- H340 May cause genetic defects.
- H350 May cause cancer.
- H360 May damage fertility or the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.

**Precautionary statements**

- P260 Do not breathe dusts or mists.
- P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/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.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Additional information:** Contact with acids may cause release of toxic gases

**Other hazards**

**Results of PBT and vPvB assessment**

- PBT:** Not applicable.
- vPvB:** Not applicable.

**3 Composition/information on ingredients**

- Chemical characterization: Mixtures**
- Description:** Mixture of the substances listed below with non-hazardous additions.

**Listing of dangerous and non-hazardous components:**

7778-50-9	potassium dichromate	5-10%
7732-18-5	water	50-100%

**Additional information** For the wording of the listed risk phrases refer to section 15.

**4 First-aid measures**

- Description of first aid measures**
- After inhalation** Supply fresh air; consult doctor in case of complaints.
- After eye contact** Rinse opened eye for several minutes under running water.
- After swallowing** Induce vomiting and call for medical help.
- Information for doctor**
- Most important symptoms and effects, both acute and delayed** No further relevant information available.
- Indication of any immediate medical attention and special treatment needed** No further relevant information available.

**5 Fire-fighting measures**

- Extinguishing media**
- Suitable extinguishing agents**  
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**  
See Section 7 for information on safe handling  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

**7 Handling and storage**

- **Handling**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **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.
- **Specific end use(s)** No further relevant information available.

**8 Exposure controls/personal protection**

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

**7697-37-2 nitric acid**

PEL ()	5 mg/m <sup>3</sup> , 2 ppm
REL ()	Short-term value: 10 mg/m <sup>3</sup> , 4 ppm Long-term value: 5 mg/m <sup>3</sup> , 2 ppm
TLV ()	Short-term value: 10 mg/m <sup>3</sup> , 4 ppm Long-term value: 5.2 mg/m <sup>3</sup> , 2 ppm

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures** Wash hands before breaks and at the end of work.
- **Breathing equipment:** Not required.

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- **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**

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

- **Form:** Liquid
- **Color:** Dark yellow
- **Odor:** Acidic
- **Odour threshold:** Not determined.

· **pH-value at 20 °C:** <3

· **Change in condition**

- **Melting point/Melting range:** undetermined
- **Boiling point/Boiling range:** undetermined

· **Flash point:** Not applicable

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:**

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

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

· **Explosion limits:**

- **Lower:** Not determined.
- **Upper:** Not determined.

· **Vapor pressure at 20 °C:** 23 hPa

- **Density at 20 °C:** 1.06004 g/cm<sup>3</sup>
- **Relative density:** Not determined.
- **Vapour density:** Not determined.
- **Evaporation rate:** Not determined.

· **Solubility in / Miscibility with**

· **Water:** Fully miscible

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

- **dynamic:** Not determined.
- **kinematic:** Not determined.

· **Solvent content:**

· **Organic solvents:** 0.0 %

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<b>Water:</b>	89.7 %
<b>Solids content:</b>	7.6 %
<b>Other information</b>	No further relevant information available.

**10 Stability and reactivity**

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

**11 Toxicological information**

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- **Carcinogenic categories**

<b>· IARC (International Agency for Research on Cancer)</b>		
7778-50-9	potassium dichromate	1
<b>· NTP (National Toxicology Program)</b>		
7778-50-9	potassium dichromate	K
<b>· OSHA-Ca (Occupational Safety &amp; Health Administration)</b>		
None of the ingredients is listed.		

**12 Ecological information**

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water danger class 3 (Internal calculation) (Self-assessment): extremely hazardous for water.  
Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
Danger to drinking water if even extremely small quantities leak into the ground.

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- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

**13 Disposal considerations**

- **Waste treatment methods**
- **Recommendation**  
Hand over to hazardous waste disposers.  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

**14 Transport information**

· <b>UN-Number</b>	
· <b>DOT, ADR, IMDG, IATA</b>	UN3289
· <b>UN proper shipping name</b>	
· <b>DOT, IATA</b>	TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S. (potassium dichromate, nitric acid)
· <b>ADR</b>	3289 TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S. (potassium dichromate, NITRIC ACID)
· <b>IMDG</b>	TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S. (potassium dichromate, NITRIC ACID)
· <b>Transport hazard class(es)</b>	
· <b>DOT, ADR, IMDG, IATA</b>	
· <b>Class</b>	6.1 Toxic substances
· <b>Label</b>	6.1+8
· <b>Packing group</b>	
· <b>DOT, ADR, IMDG, IATA</b>	II
· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	Yes Symbol (fish and tree)
· <b>Special precautions for user</b>	Warning: Toxic substances
· <b>Danger code (Kemler):</b>	68
· <b>EMS Number:</b>	F-A,S-B
· <b>Segregation groups</b>	Acids
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.

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- **Transport/Additional information:**
- **DOT**
- **Remarks:** Special marking with the symbol (fish and tree).
- **UN "Model Regulation":** UN3289, TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S., 6.1 (8), II

**15 Regulatory information**

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- SARA (Superfund Amendants and Reauthorization Act of 1986 - USA)

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

7697-37-2 nitric acid

· **Section 313 (40CFR372.65):**

7778-50-9 potassium dichromate

7697-37-2 nitric acid

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

All ingredients are listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

7778-50-9 potassium dichromate

A1

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

7778-50-9 potassium dichromate

2

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

7778-50-9 potassium dichromate

· **National regulations**

- **Water hazard class:** Water danger class 3 (Self-assessment): extremely hazardous for water.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**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 SDS:** 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

· **Date of preparation / last revision** 06/11/2015 / -

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**· Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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)

Acute Tox. 4: Acute toxicity, Hazard Category 4

Acute Tox. 3: Acute toxicity, Hazard Category 3

Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Muta. 1B: Germ cell mutagenicity, Hazard Category 1B

Carc. 1B: Carcinogenicity, Hazard Category 1B

Repr. 1B: Reproductive toxicity, Hazard Category 1B

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

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