

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/10/2018

Reviewed on 09/10/2018

## 1 Identification

- **Product identifier**
- **Trade name:** GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4
- **Article number:** 16538-05, 16538-10, 16538-05-SP
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 Electron Microscopy Sciences  
 1560 Industry Road  
 USA-Hatfield, PA 19440  
 Tel: 215-412-8400 Fax: 215-412-8450  
 email: info@emsdiasum.com  
 www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
 ChemTrec 1-800-424-9300 Contract CCN7661  
 1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS05



GHS07



GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

Glutaraldehyde

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**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

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· **Hazard statements**

- Harmful if inhaled.
- Causes skin irritation.
- Causes serious eye damage.
- May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- May cause an allergic skin reaction.
- May cause respiratory irritation.

· **Precautionary statements**

- Avoid breathing dust/fume/gas/mist/vapors/spray
- Wash thoroughly after handling.
- Use only outdoors or in a well-ventilated area.
- Contaminated work clothing must not be allowed out of the workplace.
- Wear protective gloves / eye protection / face protection.
- [In case of inadequate ventilation] wear respiratory protection.
- If on skin: Wash with plenty of water.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Immediately call a poison center/doctor.
- Specific treatment (see on this label).
- Take off contaminated clothing and wash it before reuse.
- If skin irritation or rash occurs: Get medical advice/attention.
- If experiencing respiratory symptoms: Call a poison center/doctor.
- Wash contaminated clothing before reuse.
- Store in a well-ventilated place. Keep container tightly closed.
- Store locked up.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



· **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 nonhazardous additions.

· **Dangerous components:**

|          |                |           |
|----------|----------------|-----------|
| 111-30-8 | Glutaraldehyde | >2.5-≤10% |
|----------|----------------|-----------|

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**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

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## 4 First-aid measures

- **Description of first aid measures**

- **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- **After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

- **After swallowing:** Immediately call a doctor.

- **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:** Use fire fighting measures that suit the environment.

- **Special hazards arising from the substance or mixture** No further relevant information available.

- **Advice for firefighters**

- **Protective equipment:** Mouth respiratory protective device.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.

- **Environmental precautions:**

Inform respective authorities in case of seepage into water course or sewage system.

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).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

- **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.

- **Protective Action Criteria for Chemicals**

- **PAC-1:**

|          |                |         |
|----------|----------------|---------|
| 111-30-8 | Glutaraldehyde | 0.2 ppm |
|----------|----------------|---------|

- **PAC-2:**

|          |                |       |
|----------|----------------|-------|
| 111-30-8 | Glutaraldehyde | 1 ppm |
|----------|----------------|-------|

- **PAC-3:**

|          |                |       |
|----------|----------------|-------|
| 111-30-8 | Glutaraldehyde | 5 ppm |
|----------|----------------|-------|

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**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

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## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **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:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **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:**

### 111-30-8 Glutaraldehyde

|     |  |
|-----|--|
| REL | Ceiling limit value: 0.8 mg/m <sup>3</sup> , 0.2 ppm<br>See Pocket Guide App. C              |
| TLV | Ceiling limit value: 0.2 mg/m <sup>3</sup> , 0.05 ppm<br>DSEN;RSEN ;activated or inactivated |

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **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 skin.  
Avoid contact with the eyes and skin.
- **Breathing equipment:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



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

- **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.

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· **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:**



Tightly sealed goggles

## 9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

· **Form:**

Fluid

· **Color:**

According to product specification

· **Odor:**

Characteristic

· **Odor threshold:**

Not determined.

· **pH-value at 20 °C (68 °F):**

7.4

· **Change in condition**

· **Melting point/Melting range:**

Undetermined.

· **Boiling point/Boiling range:**

100 °C (212 °F)

· **Flash point:**

Not applicable.

· **Flammability (solid, gaseous):**

Not flammable.

· **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 (68 °F):**

23 hPa (17.3 mm Hg)

· **Density:**

Not determined.

· **Relative density**

Not determined.

· **Vapor density**

Not determined.

· **Evaporation rate**

Not determined.

· **Solubility in / Miscibility with**

· **Water:**

Not miscible or difficult to mix.

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

· **Viscosity:**

· **Dynamic:**

Not determined.

· **Kinematic:**

Not determined.

· **Solvent content:**

· **Water:**

96.9 %

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**VOC content:** 0.00 %  
0.0 g/l / 0.00 lb/gal

**Solids content:** 0.0 %  
· **Other information** No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **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:**

· **LD/LC50 values that are relevant for classification:**

**111-30-8 Glutaraldehyde**

|        |      |                      |
|--------|------|----------------------|
| Oral   | LD50 | 134 mg/kg (rat)      |
| Dermal | LD50 | 2,560 mg/kg (rabbit) |

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:**  
Sensitization possible through inhalation.  
Sensitization possible through skin contact.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful  
Irritant

- **Carcinogenic categories**

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

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

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.

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- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:**  
   Toxic for fish  
   Harmful to fish
- **Additional ecological information:**
- **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.  
   Also poisonous for fish and plankton in water bodies.  
   Toxic for aquatic organisms  
   Harmful to aquatic organisms
- **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:**  
   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.

## 14 Transport information

- |  |                 |
|--|-----------------|
| · <b>UN-Number</b>   |                 |
| · <b>DOT, ADR, IMDG, IATA</b>  | Void            |
| · <b>UN proper shipping name</b>   |                 |
| · <b>DOT, ADR, IMDG, IATA</b>  | Void            |
| · <b>Transport hazard class(es)</b>  |                 |
| · <b>DOT, ADR, IMDG, IATA</b>  |                 |
| · <b>Class</b>   | Void            |
| · <b>Packing group</b>   |                 |
| · <b>DOT, ADR, IMDG, IATA</b>  | Void            |
| · <b>Environmental hazards:</b>  | Not applicable. |
| · <b>Special precautions for user</b>  | Not applicable. |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |
| · <b>UN "Model Regulation":</b>  | Void            |

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**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

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## 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

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

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

111-30-8 | Glutaraldehyde

A4

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

None of the ingredients is listed.

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS05   GHS07   GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

Glutaraldehyde

· **Hazard statements**

Harmful if inhaled.

Causes skin irritation.

Causes serious eye damage.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

May cause respiratory irritation.

· **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapors/spray

Wash thoroughly after handling.

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Use only outdoors or in a well-ventilated area.  
 Contaminated work clothing must not be allowed out of the workplace.  
 Wear protective gloves / eye protection / face protection.  
 [In case of inadequate ventilation] wear respiratory protection.  
 If on skin: Wash with plenty of water.  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
 Continue rinsing.  
 Immediately call a poison center/doctor.  
 Specific treatment (see on this label).  
 Take off contaminated clothing and wash it before reuse.  
 If skin irritation or rash occurs: Get medical advice/attention.  
 If experiencing respiratory symptoms: Call a poison center/doctor.  
 Wash contaminated clothing before reuse.  
 Store in a well-ventilated place. Keep container tightly closed.  
 Store locked up.  
 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **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.

· **Date of preparation / last revision** 09/10/2018 / -

· **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)  
 NFPA: National Fire Protection Association (USA)  
 HMIS: Hazardous Materials Identification System (USA)  
 VOC: Volatile Organic Compounds (USA, EU)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative  
 NIOSH: National Institute for Occupational Safety  
 OSHA: Occupational Safety **Health**  
**TLV: Threshold Limit Value**  
**PEL: Permissible Exposure Limit**  
**REL: Recommended Exposure Limit**  
**Acute Tox. 4: Acute toxicity – Category 4**  
**Skin Irrit. 2: Skin corrosion/irritation – Category 2**  
**Eye Dam. 1: Serious eye damage/eye irritation – Category 1**  
**Resp. Sens. 1: Respiratory sensitisation – Category 1**  
**Skin Sens. 1: Skin sensitisation – Category 1**  
**STOT SE 3: Specific target organ toxicity (single exposure) – Category 3**

US

# Safety Data Sheet

## according to WHS Regulations

Printing date 10.09.2018

Revision: 10.09.2018

### 1 Identification

- **Product identifier**
- **Trade name:** GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4
- **Article number:** 16538-05, 16538-10, 16538-05-SP
- **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:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: [info@emsdiasum.com](mailto:info@emsdiasum.com)  
[www.emsdiasum.com](http://www.emsdiasum.com)
- ProSciTech Pty Ltd  
11 Carlton Street, Kirwan QLD 4817 Australia  
Telephone Number: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)  
Emergency Contact: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)  
Website: [ems.proscitech.com](http://ems.proscitech.com)
- Emgrid Australia Pty. Ltd.  
P.O. Box 118  
The Patch VIC 3792  
Australia  
Tel: 03 9752 1785  
Fax: 03 9752 1784  
Website: [www.emgrid.com.au](http://www.emgrid.com.au)
- **Further information obtainable from:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### 2 Hazard(s) Identification

- **Classification of the substance or mixture**



GHS08 health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

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**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

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STOT SE 3 H335 May cause respiratory irritation.

· **Label elements**

· **GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms**



GHS05 GHS07 GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labelling:**

Glutaraldehyde

· **Hazard statements**

Harmful if inhaled.

Causes skin irritation.

Causes serious eye damage.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

May cause respiratory irritation.

· **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing should not be allowed out of the workplace.

Wear protective gloves / eye protection / face protection.

Wear respiratory protection.

**IF ON SKIN:** Wash with plenty of water.

**IF INHALED:** Remove victim to fresh air and keep at rest in a position comfortable for breathing.

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Immediately call a POISON CENTER/doctor.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

If skin irritation or rash occurs: Get medical advice/attention.

If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

Wash contaminated clothing before reuse.

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition and Information on Ingredients

· **Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

|          |                |           |
|----------|----------------|-----------|
| 111-30-8 | Glutaraldehyde | >2.5-≤10% |
|----------|----------------|-----------|

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**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

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

### 4 First Aid Measures

- **Description of first aid measures**
- **General information:**  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Call for a doctor immediately.
- **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:** Use fire extinguishing methods suitable to surrounding conditions.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
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).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **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**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** No special measures required.

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# Safety Data Sheet

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**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

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- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls and personal protection

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

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

#### 111-30-8 Glutaraldehyde

|     |  |
|-----|--|
| NES | Peak limitation: 0.41 mg/m <sup>3</sup> , 0.1 ppm<br>Sen |
| WES | Peak limitation: 0.41 mg/m <sup>3</sup> , 0.1 ppm<br>Sen |

- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **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 skin.  
Avoid contact with the eyes and skin.
- **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



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

- **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.
- **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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-AU

# Safety Data Sheet

## according to WHS Regulations

Printing date 10.09.2018

Revision: 10.09.2018

Trade name: **GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(Contd. of page 4)

· **Eye protection:**

Tightly sealed goggles

### 9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**· **General Information**· **Appearance:**

|                         |                                    |
|-------------------------|------------------------------------|
| <b>Form:</b>            | Fluid                              |
| <b>Colour:</b>          | According to product specification |
| <b>Odour:</b>           | Characteristic                     |
| <b>Odour threshold:</b> | Not determined.                    |

· **pH-value at 20 °C:** 7.4· **Change in condition**

|   |               |
|---|---------------|
| <b>Melting point/freezing point:</b>            | Undetermined. |
| <b>Initial boiling point and boiling range:</b> | 100 °C        |

· **Flash point:** Not applicable.· **Flammability (solid, gas):** Not applicable.· **Decomposition temperature:** Not determined.· **Auto-ignition temperature:** Product is not selfigniting.· **Explosive properties:** Product does not present an explosion hazard.· **Explosion limits:**

|               |                 |
|---------------|-----------------|
| <b>Lower:</b> | Not determined. |
| <b>Upper:</b> | Not determined. |

· **Vapour pressure at 20 °C:** 23 hPa· **Density:** Not determined.· **Relative density** Not determined.· **Vapour density** Not determined.· **Evaporation rate** Not determined.· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

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

|                   |                 |
|-------------------|-----------------|
| <b>Dynamic:</b>   | Not determined. |
| <b>Kinematic:</b> | Not determined. |

· **Solvent content:**

|                 |        |
|-----------------|--------|
| <b>Water:</b>   | 96.9 % |
| <b>VOC (EC)</b> | 0.00 % |

· **Solids content:** 0.0 %

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AU

## Safety Data Sheet according to WHS Regulations

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**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

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· **Other information**

No further relevant information available.

### 10 Stability and Reactivity

- **Reactivity** No further relevant information available.
- **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**

- **LD/LC50 values relevant for classification:**

**111-30-8 Glutaraldehyde**

|        |      |                      |
|--------|------|----------------------|
| Oral   | LD50 | 134 mg/kg (rat)      |
| Dermal | LD50 | 2,560 mg/kg (rabbit) |

- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** Strong irritant with the danger of severe eye injury.
- **Respiratory or skin sensitisation**  
Sensitisation possible through inhalation.  
Sensitisation possible through skin contact.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Harmful  
Irritant

### 12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:**  
Toxic for fish  
Harmful to fish
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (German Regulation) (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.

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## Safety Data Sheet according to WHS Regulations

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**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(Contd. of page 6)

*Also poisonous for fish and plankton in water bodies.*

*Toxic for aquatic organisms*

*Harmful to aquatic organisms*

· **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**

*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.

### 14 Transport information

· **UN-Number**

· **ADG, ADN, IMDG, IATA** *not regulated*

· **UN proper shipping name**

· **ADG, ADN, IMDG, IATA** *not regulated*

· **Transport hazard class(es)**

· **ADG, ADN, IMDG, IATA**

· **Class** *not regulated*

· **Packing group**

· **ADG, IMDG, IATA** *not regulated*

· **Environmental hazards:** *Not applicable.*

· **Special precautions for user** *Not applicable.*

· **Transport in bulk according to Annex II of Marpol and the IBC Code**

*Not applicable.*

· **UN "Model Regulation":**

*not regulated*

### 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Australian Inventory of Chemical Substances**

*All ingredients are listed.*

· **Standard for the Uniform Scheduling of Medicines and Poisons**

111-30-8 | Glutaraldehyde

S2, S5, S6

· **GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).

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# Safety Data Sheet

## according to WHS Regulations

Printing date 10.09.2018

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**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(Contd. of page 7)

· **Hazard pictograms**



GHS05    GHS07    GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labelling:**

*Glutaraldehyde*

· **Hazard statements**

*Harmful if inhaled.*

*Causes skin irritation.*

*Causes serious eye damage.*

*May cause allergy or asthma symptoms or breathing difficulties if inhaled.*

*May cause an allergic skin reaction.*

*May cause respiratory irritation.*

· **Precautionary statements**

*Avoid breathing dust/fume/gas/mist/vapours/spray.*

*Wash thoroughly after handling.*

*Use only outdoors or in a well-ventilated area.*

*Contaminated work clothing should not be allowed out of the workplace.*

*Wear protective gloves / eye protection / face protection.*

*Wear respiratory protection.*

*IF ON SKIN: Wash with plenty of water.*

*IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.*

*IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*

*Continue rinsing.*

*Immediately call a POISON CENTER/doctor.*

*Specific treatment (see on this label).*

*Take off contaminated clothing and wash it before reuse.*

*If skin irritation or rash occurs: Get medical advice/attention.*

*If experiencing respiratory symptoms: Call a POISON CENTER/doctor.*

*Wash contaminated clothing before reuse.*

*Store in a well-ventilated place. Keep container tightly closed.*

*Store locked up.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **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.*

· **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*

*IATA: International Air Transport Association*

*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)*

*VOC: Volatile Organic Compounds (USA, EU)*

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**Safety Data Sheet**  
according to WHS Regulations

Printing date 10.09.2018

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**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(Contd. of page 8)

*LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Acute Tox. 4: Acute toxicity – Category 4**Skin Irrit. 2: Skin corrosion/irritation – Category 2**Eye Dam. 1: Serious eye damage/eye irritation – Category 1**Resp. Sens. 1: Respiratory sensitisation – Category 1**Skin Sens. 1: Skin sensitisation – Category 1**STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*

-AU-

# Safety Data Sheet

acc. to OSHA HCS

Printing date 09/10/2018

Reviewed on 09/10/2018

## 1 Identification

- **Product identifier**
- **Trade name:** GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4
- **Article number:** 16538-05, 16538-10, 16538-05-SP
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Respiratory Sensitizer - Category 1

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS05 Corrosion

Serious Eye Damage - Category 1

H318 Causes serious eye damage.



GHS07

Acute Toxicity (Inhalation) - Category 4

H332 Harmful if inhaled.

Skin Irritation - Category 2

H315 Causes skin irritation.

Skin Sensitizer - Category 1

H317 May cause an allergic skin reaction.

Specific Target Organ Toxicity - Single Exposure -  
Category 3

H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS05



GHS07



GHS08

- **Signal word** Danger

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# Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 09/10/2018

**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(Contd. of page 1)

· **Hazard-determining components of labeling:**

Glutaraldehyde

· **Hazard statements**

Harmful if inhaled.

Causes skin irritation.

Causes serious eye damage.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

May cause respiratory irritation.

· **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing should not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

[In case of inadequate ventilation] wear respiratory protection.

If on skin: Wash with plenty of water.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Immediately call a poison center/doctor.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

If skin irritation or rash occurs: Get medical advice/attention.

If experiencing respiratory symptoms: Call a poison center/doctor.

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 3

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = \*3

Fire = 0

Reactivity = 0

### 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

|          |                |            |
|----------|----------------|------------|
| 111-30-8 | Glutaraldehyde | 1-5% w/w * |
|----------|----------------|------------|

\* Actual concentration ranges are withheld as a trade secret.

CA

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acc. to OSHA HCS

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Reviewed on 09/10/2018

**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(Contd. of page 2)

## 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Immediately call a doctor.
- **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:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
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).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **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**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **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:** No special requirements.
- **Information about storage in one common storage facility:** Not required.

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CA

# Safety Data Sheet

## acc. to OSHA HCS

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**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(Contd. of page 3)

- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **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:**

#### 111-30-8 Glutaraldehyde

EL Ceiling limit value: 0.05 ppm

S(D), S(R)

EV Ceiling limit value: 0.05 ppm

activated and inactivated

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **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 skin.

Avoid contact with the eyes and skin.

- **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- **Protection of hands:**



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

- **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.

- **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:**



Tightly sealed goggles

CA

(Contd. on page 5)

# Safety Data Sheet

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**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(Contd. of page 4)

## 9 Physical and chemical properties

|   |                                    |
|---|------------------------------------|
| · <b>Information on basic physical and chemical properties</b>              |                                    |
| · <b>General Information</b>  |                                    |
| · <b>Appearance:</b>  |                                    |
| · <b>Form:</b>  | Fluid                              |
| · <b>Color:</b>   | According to product specification |
| · <b>Odor:</b> Characteristic   |                                    |
| · <b>Odor threshold:</b> Not determined.                                    |                                    |
| · <b>pH-value at 20 °C:</b> 7.4   |                                    |
| · <b>Change in condition</b>  |                                    |
| · <b>Melting point/Melting range:</b>                                       | Undetermined.                      |
| · <b>Boiling point/Boiling range:</b>                                       | 100 °C                             |
| · <b>Flash point:</b> Not applicable.                                       |                                    |
| · <b>Flammability (solid, gaseous):</b> Not flammable.                      |                                    |
| · <b>Decomposition temperature:</b> Not determined.                         |                                    |
| · <b>Auto igniting:</b> Product is not selfigniting.                        |                                    |
| · <b>Danger of explosion:</b> Product does not present an explosion hazard. |                                    |
| · <b>Explosion limits:</b>  |                                    |
| · <b>Lower:</b>   | Not determined.                    |
| · <b>Upper:</b>   | Not determined.                    |
| · <b>Vapor pressure at 20 °C:</b> 23 hPa                                    |                                    |
| · <b>Density:</b> Not determined.   |                                    |
| · <b>Relative density</b> Not determined.                                   |                                    |
| · <b>Vapor density</b> Not determined.                                      |                                    |
| · <b>Evaporation rate</b> Not determined.                                   |                                    |
| · <b>Solubility in / Miscibility with</b>                                   |                                    |
| · <b>Water:</b>   | Not miscible or difficult to mix.  |
| · <b>Partition coefficient (n-octanol/water):</b> Not determined.           |                                    |
| · <b>Viscosity:</b>   |                                    |
| · <b>Dynamic:</b>   | Not determined.                    |
| · <b>Kinematic:</b>   | Not determined.                    |
| · <b>Solvent content:</b>   |                                    |
| · <b>Water:</b>   | 96.9 %                             |
| · <b>Solids content:</b> 0.0 %  |                                    |
| · <b>Other information</b> No further relevant information available.       |                                    |

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **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.

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# Safety Data Sheet

acc. to OSHA HCS

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**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(Contd. of page 5)

· **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

### 111-30-8 Glutaraldehyde

|        |      |                      |
|--------|------|----------------------|
| Oral   | LD50 | 134 mg/kg (rat)      |
| Dermal | LD50 | 2,560 mg/kg (rabbit) |

· **Primary irritant effect:**

· **on the skin:** Irritant to skin and mucous membranes.

· **on the eye:** Strong irritant with the danger of severe eye injury.

· **Sensitization:**

Sensitization possible through inhalation.

Sensitization possible through skin contact.

· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Irritant

· **Carcinogenic categories**

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

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

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.

· **Ecotoxicological effects:**

· **Remark:**

Toxic for fish

Harmful to fish

· **Additional ecological information:**

· **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.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

Harmful to aquatic organisms

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

(Contd. on page 7)



# Safety Data Sheet

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**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(Contd. of page 6)

· **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
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.

## 14 Transport information

|  |                 |
|--|-----------------|
| · <b>UN-Number</b>   |                 |
| · <b>DOT, TDG, ADN, IMDG, IATA</b>   | Void            |
| · <b>UN proper shipping name</b>   |                 |
| · <b>DOT, TDG, ADN, IMDG, IATA</b>   | Void            |
| · <b>Transport hazard class(es)</b>  |                 |
| · <b>DOT, TDG, ADN, IMDG, IATA</b>   |                 |
| · <b>Class</b>   | Void            |
| · <b>Packing group</b>   |                 |
| · <b>DOT, TDG, IMDG, IATA</b>  | Void            |
| · <b>Environmental hazards:</b>  | Not applicable. |
| · <b>Special precautions for user</b>  | Not applicable. |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |
| · <b>UN "Model Regulation":</b>  | Void            |

## 15 Regulatory information

|   |
|---|
| · <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b> |
| · <b>Sara</b>   |
| · <b>Section 355 (extremely hazardous substances):</b>  |
| None of the ingredients is listed.  |
| · <b>Section 313 (Specific toxic chemical listings):</b>  |
| None of the ingredients is listed.  |
| · <b>TSCA (Toxic Substances Control Act):</b>   |
| All ingredients are listed.   |
| · <b>Canadian substance listings:</b>   |
| · <b>Canadian Domestic Substances List (DSL)</b>  |
| All ingredients are listed.   |
| · <b>Canadian Ingredient Disclosure list (limit 0.1%)</b>   |
| None of the ingredients is listed.  |

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# Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 09/10/2018

**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(Contd. of page 7)

· **Canadian Ingredient Disclosure list (limit 1%)**

|          |                |
|----------|----------------|
| 111-30-8 | Glutaraldehyde |
|----------|----------------|

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS05    GHS07    GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

*Glutaraldehyde*

· **Hazard statements**

*Harmful if inhaled.*

*Causes skin irritation.*

*Causes serious eye damage.*

*May cause allergy or asthma symptoms or breathing difficulties if inhaled.*

*May cause an allergic skin reaction.*

*May cause respiratory irritation.*

· **Precautionary statements**

*Avoid breathing dust/fume/gas/mist/vapours/spray.*

*Wash thoroughly after handling.*

*Use only outdoors or in a well-ventilated area.*

*Contaminated work clothing should not be allowed out of the workplace.*

*Wear protective gloves/protective clothing/eye protection/face protection.*

*[In case of inadequate ventilation] wear respiratory protection.*

*If on skin: Wash with plenty of water.*

*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*

*Continue rinsing.*

*Immediately call a poison center/doctor.*

*Specific treatment (see on this label).*

*Take off contaminated clothing and wash it before reuse.*

*If skin irritation or rash occurs: Get medical advice/attention.*

*If experiencing respiratory symptoms: Call a poison center/doctor.*

*Store in a well-ventilated place. Keep container tightly closed.*

*Store locked up.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **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.*

· **Date of the latest revision of the safety data sheet** 09/10/2018 / -

· **Abbreviations and acronyms:**

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*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)*

*NFPA: National Fire Protection Association (USA)*

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**Safety Data Sheet**  
**acc. to OSHA HCS**

Printing date 09/10/2018

Reviewed on 09/10/2018

**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

*HMIS: Hazardous Materials Identification System (USA)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

(Contd. of page 8)

CA

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 10.09.2018

Revision: 10.09.2018

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

- **1.1 Product identifier**
- **Trade name:** GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4
- **Article number:** 16538-05, 16538-10, 16538-05-SP
- **1.2 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
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: [info@emsdiasum.com](mailto:info@emsdiasum.com)  
[www.emsdiasum.com](http://www.emsdiasum.com)
- **Further information obtainable from:** Product safety department
- **1.4 Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### SECTION 2: Hazards identification

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



GHS08 health hazard

Resp. Sens. 1      H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS05 corrosion

Eye Dam. 1      H318 Causes serious eye damage.



GHS07

Acute Tox. 4      H332 Harmful if inhaled.

Skin Irrit. 2      H315 Causes skin irritation.

Skin Sens. 1      H317 May cause an allergic skin reaction.

STOT SE 3      H335 May cause respiratory irritation.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

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

(Contd. on page 2)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 10.09.2018

Revision: 10.09.2018

**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(Contd. of page 1)

**· Hazard pictograms**


GHS05 GHS07 GHS08

**· Signal word Danger**
**· Hazard-determining components of labelling:**

Glutaraldehyde

**· Hazard statements**

H332 Harmful if inhaled.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

H412 Harmful to aquatic life with long lasting effects.

**· Precautionary statements**

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.

P321 Specific treatment (see on this label).

P362+P364 Take off contaminated clothing and wash it before reuse.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

**· vPvB:** Not applicable.

### SECTION 3: Composition/information on ingredients

**· 3.2 Chemical characterisation: Mixtures**
**· Description:** Mixture of substances listed below with nonhazardous additions.

**· Dangerous components:**

|                                    |   |           |
|------------------------------------|---|-----------|
| CAS: 111-30-8<br>EINECS: 203-856-5 | Glutaraldehyde<br>⚠ Acute Tox. 3, H301; Acute Tox. 2, H330; ⚠ Resp. Sens. 1, H334; ⚠ Skin Corr. 1B, H314; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 2, H411;<br>⚠ Skin Sens. 1A, H317; STOT SE 3, H335 | >2.5-≤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:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

**· After inhalation:**

Supply fresh air and to be sure call for a doctor.

(Contd. on page 3)

## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 10.09.2018

Revision: 10.09.2018

**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(Contd. of page 2)

- In case of unconsciousness place patient stably in side position for transportation.*
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Call for a doctor immediately.
- **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:** Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Not required.
- **6.2 Environmental precautions:**  
*Inform respective authorities in case of seepage into water course or sewage system.*  
*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).*  
*Dispose contaminated material as waste according to item 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.*  
*See Section 13 for disposal information.*

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
*Ensure good ventilation/exhaustion at the workplace.*  
*Prevent formation of aerosols.*
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

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

(Contd. on page 4)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 10.09.2018

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**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(Contd. of page 3)

### · 8.1 Control parameters

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

##### **111-30-8 Glutaraldehyde**

|     |  |
|-----|--|
| WEL | Short-term value: 0.2 mg/m <sup>3</sup> , 0.05 ppm |
|     | Long-term value: 0.2 mg/m <sup>3</sup> , 0.05 ppm  |
|     | Sen  |

· **Additional information:** The lists valid during the making were used as basis.

### · 8.2 Exposure controls

#### · **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 skin.

Avoid contact with the eyes and skin.

#### · **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

#### · **Protection of hands:**



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

#### · **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.

#### · **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:**



Tightly sealed goggles

## SECTION 9: Physical and chemical properties

### · 9.1 Information on basic physical and chemical properties

#### · **General Information**

#### · **Appearance:**

**Form:** Fluid

**Colour:** According to product specification

· **Odour:** Characteristic

· **Odour threshold:** Not determined.

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**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 10.09.2018

Revision: 10.09.2018

Trade name: **GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(Contd. of page 4)

|  |   |
|--|---|
| · <b>pH-value at 20 °C:</b>                      | 7.4   |
| · <b>Change in condition</b>                     |   |
| <b>Melting point/freezing point:</b>             | Undetermined.                                 |
| <b>Initial boiling point and boiling range:</b>  | 100 °C  |
| · <b>Flash point:</b>                            | Not applicable.                               |
| · <b>Flammability (solid, gas):</b>              | Not applicable.                               |
| · <b>Decomposition temperature:</b>              | Not determined.                               |
| · <b>Auto-ignition temperature:</b>              | Product is not selfigniting.                  |
| · <b>Explosive properties:</b>                   | Product does not present an explosion hazard. |
| · <b>Explosion limits:</b>                       |   |
| <b>Lower:</b>                                    | Not determined.                               |
| <b>Upper:</b>                                    | Not determined.                               |
| · <b>Vapour pressure at 20 °C:</b>               | 23 hPa  |
| · <b>Density:</b>                                | Not determined.                               |
| · <b>Relative density</b>                        | Not determined.                               |
| · <b>Vapour density</b>                          | Not determined.                               |
| · <b>Evaporation rate</b>                        | Not determined.                               |
| · <b>Solubility in / Miscibility with water:</b> | Not miscible or difficult to mix.             |
| · <b>Partition coefficient: n-octanol/water:</b> | Not determined.                               |
| · <b>Viscosity:</b>                              |   |
| <b>Dynamic:</b>                                  | Not determined.                               |
| <b>Kinematic:</b>                                | Not determined.                               |
| · <b>Solvent content:</b>                        |   |
| <b>Water:</b>                                    | 96.9 %  |
| <b>VOC (EC)</b>                                  | 0.00 %  |
| <b>Solids content:</b>                           | 0.0 %   |
| · <b>9.2 Other information</b>                   | No further relevant information available.    |

### **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.

GB

(Contd. on page 6)



**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 10.09.2018

Revision: 10.09.2018

Trade name: **GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(Contd. of page 5)

### SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**

· **Acute toxicity**

Harmful if inhaled.

· **LD/LC50 values relevant for classification:**

**111-30-8 Glutaraldehyde**

|        |      |                      |
|--------|------|----------------------|
| Oral   | LD50 | 134 mg/kg (rat)      |
| Dermal | LD50 | 2,560 mg/kg (rabbit) |

· **Primary irritant effect:**

· **Skin corrosion/irritation**

Causes skin irritation.

· **Serious eye damage/irritation**

Causes serious eye damage.

· **Respiratory or skin sensitisation**

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

· **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**

May cause respiratory irritation.

· **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.

### 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.

· **Ecotoxicological effects:**

· **Remark:**

Toxic for fish

Harmful to fish

· **Additional ecological information:**

· **General notes:**

Water hazard class 2 (German Regulation) (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.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

Harmful to aquatic organisms

· **12.5 Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

GB

(Contd. on page 7)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 10.09.2018

Revision: 10.09.2018

**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(Contd. of page 6)

### **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.

### **SECTION 14: Transport information**

- |  |                 |
|--|-----------------|
| · <b>14.1 UN-Number</b>  |                 |
| · <b>ADR, ADN, IMDG, IATA</b>  | not regulated   |
| · <b>14.2 UN proper shipping name</b>  |                 |
| · <b>ADR, ADN, IMDG, IATA</b>  | not regulated   |
| · <b>14.3 Transport hazard class(es)</b>   |                 |
| · <b>ADR, ADN, IMDG, IATA</b>  |                 |
| · <b>Class</b>   | not regulated   |
| · <b>14.4 Packing group</b>  |                 |
| · <b>ADR, IMDG, IATA</b>   | not regulated   |
| · <b>14.5 Environmental hazards:</b>   | Not applicable. |
| · <b>14.6 Special precautions for user</b>                                       | Not applicable. |
| · <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b> | Not applicable. |
| · <b>UN "Model Regulation":</b>  | not regulated   |

### **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.
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **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**
- H301 Toxic if swallowed.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H330 Fatal if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.
- H400 Very toxic to aquatic life.

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**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 10.09.2018

Revision: 10.09.2018

**Trade name: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

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*H411 Toxic to aquatic life with long lasting effects.*

**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*

*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)*

*VOC: Volatile Organic Compounds (USA, EU)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*Acute Tox. 3: Acute toxicity – Category 3*

*Acute Tox. 2: Acute toxicity – Category 2*

*Acute Tox. 4: Acute toxicity – Category 4*

*Skin Corr. 1B: Skin corrosion/irritation – Category 1B*

*Skin Irrit. 2: Skin corrosion/irritation – Category 2*

*Eye Dam. 1: Serious eye damage/eye irritation – Category 1*

*Resp. Sens. 1: Respiratory sensitisation – Category 1*

*Skin Sens. 1: Skin sensitisation – Category 1*

*Skin Sens. 1A: Skin sensitisation – Category 1A*

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

*Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1*

*Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2*

*Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3*

GB

# Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 10.09.2018

Herziening van: 10.09.2018

## RUBRIEK 1: Identificatie van de stof of het mengsel en van de vennootschap/onderneming

### · 1.1 Productidentificatie

· **Handelsnaam:** GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4

· **Artikelnummer:** 16538-05, 16538-10, 16538-05-SP

· **1.2 Relevant geïdentificeerd gebruik van de stof of het mengsel en ontraden gebruik**  
Geen verdere relevante informatie verkrijgbaar.

· **Toepassing van de stof / van de bereiding** Laboratoriumchemicaliën

### · 1.3 Details betreffende de verstrekker van het veiligheidsinformatieblad

#### · **Fabrikant/leverancier:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

Tel: 215-412-8400 Fax: 215-412-8450

email: [info@emsdiasum.com](mailto:info@emsdiasum.com)

[www.emsdiasum.com](http://www.emsdiasum.com)

Aurion

Binnenhaven 5

6709 PD Wageningen

The Netherlands

Tel: 31 317 415094

Fax: 31 317 415955

email: [info@aurion.nl](mailto:info@aurion.nl)

· **Inlichtingengevende sector:** Product safety department

### · 1.4 Telefoonnummer voor noodgevallen:

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

## RUBRIEK 2: Identificatie van de gevaren

### · 2.1 Indeling van de stof of het mengsel

· **Indeling overeenkomstig Verordening (EG) nr. 1272/2008**



GHS08 gezondheidsgevaar

Resp. Sens. 1 H334 Kan bij inademing allergie- of astmasymptomen of ademhalingsmoeilijkheden veroorzaken.



GHS05 corrosie

Eye Dam. 1 H318 Veroorzaakt ernstig oogletsel.



GHS07

Acute Tox. 4 H332 Schadelijk bij inademing.

Skin Irrit. 2 H315 Veroorzaakt huidirritatie.

Skin Sens. 1 H317 Kan een allergische huidreactie veroorzaken.

STOT SE 3 H335 Kan irritatie van de luchtwegen veroorzaken.

Aquatic Chronic 3 H412 Schadelijk voor in het water levende organismen, met langdurige gevolgen.

(Vervolg op blz. 2)

# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

datum van de druk: 10.09.2018

Herziening van: 10.09.2018

**Handelsnaam: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(Vervolg van blz. 1)

- **2.2 Etiketteringselementen**
- **Etikettering overeenkomstig Verordening (EG) nr. 1272/2008**  
Het product is geclassificeerd en geëtiketteerd volgens de CLP-verordening.
- **Gevarenpictogrammen**



GHS05 GHS07 GHS08

- **Signaalwoord** Gevaar
- **Gevaaraanduidende componenten voor de etikettering:**  
Glutaaraldehyd
- **Gevarenaanduidingen**  
H332 Schadelijk bij inademing.  
H315 Veroorzaakt huidirritatie.  
H318 Veroorzaakt ernstig oogletsel.  
H334 Kan bij inademing allergie- of astmasymptomen of ademhalingsmoeilijkheden veroorzaken.  
H317 Kan een allergische huidreactie veroorzaken.  
H335 Kan irritatie van de luchtwegen veroorzaken.  
H412 Schadelijk voor in het water levende organismen, met langdurige gevolgen.
- **Veiligheidsaanbevelingen**  
P305+P351+P338 **BIJ CONTACT MET DE OGEN:** voorzichtig afspoelen met water gedurende een aantal minuten; contactlenzen verwijderen, indien mogelijk; blijven spoelen.  
P310 Onmiddellijk een ANTIGIFCENTRUM/arts raadplegen.  
P321 Specifieke behandeling vereist (zie op dit etiket).  
P362+P364 Verontreinigde kleding uittrekken en wassen alvorens deze opnieuw te gebruiken.  
P405 Achter slot bewaren.  
P501 De inhoud en de verpakking verwerken volgens de plaatselijke/regionale/nationale/internationale voorschriften.
- **2.3 Andere gevaren**
- **Resultaten van PBT- en zPzB-beoordeling**
- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.

### RUBRIEK 3: Samenstelling en informatie over de bestanddelen

- **3.2 Chemische karakterisering: Mengsels**
- **Beschrijving:** Mengsel van na elkaar aangevoerde stoffen met ongevaarlijke bijmengingen.

- **Gevaarlijke inhoudstoffen:**

|                   |  |           |
|-------------------|--|-----------|
| CAS: 111-30-8     | Glutaaraldehyd   | >2,5-≤10% |
| EINECS: 203-856-5 | Acute Tox. 3, H301; Acute Tox. 2, H330;  Resp. Sens. 1, H334;  Skin Corr. 1B, H314;  Aquatic Acute 1, H400; Aquatic Chronic 2, H411;  Skin Sens. 1A, H317; STOT SE 3, H335 |           |

- **Aanvullende gegevens:**  
De woordelijke inhoud van de opgegeven aanwijzingen inzake de mogelijke gevaren is te vinden in hoofdstuk 16.

(Vervolg op blz. 3)

# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

datum van de druk: 10.09.2018

Herziening van: 10.09.2018

Handelsnaam: **GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(Vervolg van blz. 2)

### RUBRIEK 4: Eerstehulpmaatregelen

#### · 4.1 Beschrijving van de eerstehulpmaatregelen

##### · Algemene informatie:

Het is mogelijk dat vergiftigingssymptomen pas na vele uren optreden. Om deze reden is medische controle gedurende minstens 48 uur na een ongeval noodzakelijk.

##### · Na het inademen:

Veel verse lucht toedienen en voor alle zekerheid een arts raadplegen.

Bij bewusteloosheid ligging en vervoer in stabiele zijligging.

##### · Na huidcontact: Onmiddellijk met water en zeep afwassen en goed naspoelen.

##### · Na oogcontact: Ogen met open ooglid een aantal minuten onder stromend water afspoelen en dokter raadplegen.

##### · Na inslikken: Onmiddellijk arts raadplegen.

#### · 4.2 Belangrijkste acute en uitgestelde symptomen en effecten

Geen verdere relevante informatie verkrijgbaar.

#### · 4.3 Vermelding van de vereiste onmiddellijke medische verzorging en speciale behandeling

Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 5: Brandbestrijdingsmaatregelen

#### · 5.1 Blusmiddelen

##### · Geschikte blusmiddelen: Brandblusmaatregelen op omgeving afstemmen.

#### · 5.2 Speciale gevaren die door de stof of het mengsel worden veroorzaakt

Geen verdere relevante informatie verkrijgbaar.

#### · 5.3 Advies voor brandweerlieden

##### · Speciale beschermende kleding: Ademhalingstoestel aantrekken.

### RUBRIEK 6: Maatregelen bij het accidenteel vrijkomen van de stof of het mengsel

#### · 6.1 Persoonlijke voorzorgsmaatregelen, beschermde uitrusting en noodprocedures

Niet nodig.

#### · 6.2 Milieuvoorzorgsmaatregelen:

Bij indringen in afvalwater of riolering moet de bevoegde instantie gewaarschuwd worden.

Niet in de riolering/het oppervlaktewater/het grondwater laten terechtkomen.

#### · 6.3 InsluTINGS- en reinigingsmethoden en -materiaal:

Met vloeistofbindend materiaal (zand, bergmeel, zuurbinder, universele binder, zaagmeel) opnemen.

Besmet materiaal zoals afval volgens punt 13 verwijderen.

Voor voldoende ventilatie zorgen.

#### · 6.4 Verwijzing naar andere rubrieken

Informatie inzake veilig gebruik - zie hoofdstuk 7.

Informatie inzake persoonlijke beschermingsuitrusting - zie hoofdstuk 8.

Informatie inzake berging - zie hoofdstuk 13.

### RUBRIEK 7: Hantering en opslag

#### · 7.1 Voorzorgsmaatregelen voor het veilig hanteren van de stof of het mengsel

Voor goede ventilatie/afzuiging op de werkplaatsen zorgen.

Aërosolvorming vermijden.

##### · Informatie m.b.t. brand- en ontploffingsgevaar: Geen bijzondere maatregelen noodzakelijk.

#### · 7.2 Voorwaarden voor een veilige opslag, met inbegrip van incompatibele producten

##### · Opslag:

##### · Eisen ten opzichte van opslagruimte en tanks: Geen bijzondere eisen.

##### · Informatie m.b.t. gezamenlijke opslag: Niet noodzakelijk.

##### · Verdere inlichtingen over eisen m.b.t. de opslag: Tanks ondoordringbaar gesloten houden.

(Vervolg op blz. 4)

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· **7.3 Specifiek eindgebruik** Geen verdere relevante informatie verkrijgbaar.

## RUBRIEK 8: Maatregelen ter beheersing van blootstelling/persoonlijke bescherming

- **Aanvullende gegevens m.b.t. de inrichting van technische installaties:** Geen aanvullende gegevens. Zie 7.
- **8.1 Controleparameters**
- **Bestanddelen met grenswaarden die m.b.t. de werkruimte in acht genomen moeten worden:**  
Het produkt bevat geen relevante hoeveelheden van stoffen, die met betrekking tot de werkplaatsen, qua grenswaarden gecontroleerd moeten worden.
- **Aanvullende gegevens:** Als basis dienden lijsten die bij opstelling geldig waren.
- **8.2 Maatregelen ter beheersing van blootstelling**
- **Persoonlijke beschermingsvoorzieningen:**
- **Algemene beschermings- en gezondheidsmaatregelen:**  
Verwijderd houden van eet- en drinkwaren.  
Verontreinigde kleding onmiddellijk uittrekken.  
Vóór de pauze en aan het einde van werktijd handen wassen.  
Aanraking met de huid vermijden.  
Aanraking met de ogen en de huid vermijden.
- **Ademhalingsbescherming:**  
Bij korte of geringe belasting ademfiltertoestel; bij intensieve resp. langdurige expositie een van de omringende lucht onafhankelijk ademhalingsstoestel gebruiken.
- **Handbescherming:**



Veiligheidshandschoenen

- Het handschoenmateriaal moet ondoorlatend en bestand zijn tegen het product / de stof / de bereiding.  
Op grond van falende testen kan geen aanbeveling voor handschoenmateriaal voor het product / de bereiding / het chemicaliënmengsel afgegeven worden.  
Kies handschoenmateriaal rekening houdend met de penetratietijden, de permeatiegraden en de degradatie.
- **Handschoenmateriaal**  
De keuze van een geschikte handschoen is niet alleen afhankelijk van het materiaal, maar ook van andere kwaliteitskenmerken en verschilt van fabrikant tot fabrikant. Aangezien het product uit meerdere stoffen is samengesteld, is de duurzaamheid van de handschoenmaterialen niet vooraf berekenbaar en moet derhalve vóór het gebruik worden getest.
  - **Doordringingstijd van het handschoenmateriaal**  
De precieze penetratietijd kunt u te weten komen bij de handschoenfabrikant; houd er rekening mee.
  - **Oogbescherming:**



Nauw aansluitende veiligheidsbril

## RUBRIEK 9: Fysische en chemische eigenschappen

- **9.1 Informatie over fysische en chemische basiseigenschappen**
- **Algemene gegevens**
- **Voorkomen:**  
**Vorm:** Vloeibaar

(Vervolg op blz. 5)

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(Vervolg van blz. 4)

|   |   |
|---|---|
| <b>Kleur:</b>                                     | Volgens de produktbeschrijving                  |
| · <b>Geur:</b>                                    | Karakteristiek                                  |
| · <b>Geurdrempelwaarde:</b>                       | Niet bepaald.                                   |
| · <b>pH-waarde bij 20 °C:</b>                     | 7,4   |
| · <b>Toestandsverandering</b>                     |   |
| <b>Smelt-/vriespunt:</b>                          | Niet bepaald.                                   |
| <b>Beginkookpunt en kooktraject:</b>              | 100 °C  |
| · <b>Vlampunt:</b>                                | Niet bruikbaar.                                 |
| · <b>Ontvlambaarheid (vast, gas):</b>             | Niet bruikbaar.                                 |
| · <b>Ontledingstemperatuur:</b>                   | Niet bepaald.                                   |
| · <b>Zelfontbrandingstemperatuur:</b>             | Het produkt ontbrandt niet uit zichzelf.        |
| · <b>Ontploffingseigenschappen:</b>               | Het produkt is niet ontploffingsgevaarlijk.     |
| · <b>Ontploffingsgrenzen:</b>                     |   |
| <b>Onderste:</b>                                  | Niet bepaald.                                   |
| <b>Bovenste:</b>                                  | Niet bepaald.                                   |
| · <b>Dampspanning bij 20 °C:</b>                  | 23 hPa  |
| · <b>Dichtheid:</b>                               | Niet bepaald.                                   |
| · <b>Relatieve dichtheid</b>                      | Niet bepaald.                                   |
| · <b>Dampdichtheid</b>                            | Niet bepaald.                                   |
| · <b>Verdampingssnelheid</b>                      | Niet bepaald.                                   |
| · <b>Oplosbaarheid in/mengbaarheid met Water:</b> | Niet resp. gering mengbaar.                     |
| · <b>Verdelingscoëfficiënt: n-octanol/water:</b>  | Niet bepaald.                                   |
| · <b>Viscositeit</b>                              |   |
| <b>Dynamisch:</b>                                 | Niet bepaald.                                   |
| <b>Kinematisch:</b>                               | Niet bepaald.                                   |
| · <b>Oplosmiddelgehalte:</b>                      |   |
| <b>Water:</b>                                     | 96,9 %  |
| <b>VOC (EG)</b>                                   | 0,00 %  |
| <b>Gehalte aan vaste bestanddelen:</b>            | 0,0 %   |
| · <b>9.2 Overige informatie</b>                   | Geen verdere relevante informatie verkrijgbaar. |

## RUBRIEK 10: Stabiliteit en reactiviteit

- **10.1 Reactiviteit** Geen verdere relevante informatie verkrijgbaar.
- **10.2 Chemische stabiliteit**
- **Thermische afbraak / te vermijden omstandigheden:** Geen afbraak bij gebruik volgens voorschrift.
- **10.3 Mogelijke gevaarlijke reacties** Geen gevaarlijke reacties bekend.
- **10.4 Te vermijden omstandigheden** Geen verdere relevante informatie verkrijgbaar.
- **10.5 Chemisch op elkaar inwerkende materialen:** Geen verdere relevante informatie verkrijgbaar.
- **10.6 Gevaarlijke ontledingsproducten:** Geen gevaarlijke ontbindingsproducten bekend.

NL

(Vervolg op blz. 6)



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### RUBRIEK 11: Toxicologische informatie

#### · 11.1 Informatie over toxicologische effecten

##### · Acute toxiciteit

Schadelijk bij inademing.

#### · Indelingsrelevantie LD/LC50-waarden:

##### 111-30-8 Glutaaraldehyd

|         |      |                      |
|---------|------|----------------------|
| Oraal   | LD50 | 134 mg/kg (rat)      |
| Dermaal | LD50 | 2.560 mg/kg (rabbit) |

#### · Primaire aandoening:

##### · Huidcorrosie/-irritatie

Veroorzaakt huidirritatie.

##### · Ernstig oogletsel/oogirritatie

Veroorzaakt ernstig oogletsel.

##### · Sensibilisatie van de luchtwegen/de huid

Kan bij inademing allergie- of astmasymptomen of ademhalingsmoeilijkheden veroorzaken.

Kan een allergische huidreactie veroorzaken.

##### · CMR-effecten (kankerverwekkendheid, mutageniteit en giftigheid voor de voortplanting)

- **Mutageniteit in geslachtscellen** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Kankerverwekkendheid** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Giftigheid voor de voortplanting** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

##### · STOT bij eenmalige blootstelling

Kan irritatie van de luchtwegen veroorzaken.

- **STOT bij herhaalde blootstelling** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Gevaar bij inademing** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

### RUBRIEK 12: Ecologische informatie

#### · 12.1 Toxiciteit

- **Aquatische toxiciteit:** Geen verdere relevante informatie verkrijgbaar.

- **12.2 Persistentie en afbreekbaarheid** Geen verdere relevante informatie verkrijgbaar.

- **12.3 Bioaccumulatie** Geen verdere relevante informatie verkrijgbaar.

- **12.4 Mobiliteit in de bodem** Geen verdere relevante informatie verkrijgbaar.

#### · Ecotoxische effecten:

##### · Opmerking:

Giftig voor vissen.

Schadelijk voor vissen.

##### · Verdere ecologische informatie:

##### · Algemene informatie:

Waterbezwaarlijkheid (NL): A(2) vergiftig voor in water levende organismen kan in het aquatische milieu op lange termijn schadelijke effecten veroorzaken

Gevaar voor water klasse 2 (D) (Zelfclassificatie): gevaar voor water

Niet lozen in grondwater, in oppervlaktewater of in riolering.

Gevaar voor drinkwater zelfs bij uitlopen van geringe hoeveelheden in de ondergrond.

In oppervlaktewater ook giftig voor vissen en plankton.

giftig voor in het water levende organismen

schadelijk voor in het water levende organismen

##### · 12.5 Resultaten van PBT- en zPzB-beoordeling

- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.

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· **12.6 Andere schadelijke effecten** Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 13: Instructies voor verwijdering

- **13.1 Afvalverwerkingsmethoden**
- **Aanbeveling:** Mag niet tesamen met huisvuil gestort worden of in de riolering terechtkomen.
- **Niet gereinigde verpakkingen:**
- **Aanbeveling:** Afvalverwijdering volgens overheidsbepalingen.

### RUBRIEK 14: Informatie met betrekking tot het vervoer

- |   |                     |
|---|---------------------|
| · <b>14.1 VN-nummer</b>   |                     |
| · <b>ADR, ADN, IMDG, IATA</b>   | Niet van toepassing |
| · <b>14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN</b>      |                     |
| · <b>ADR, ADN, IMDG, IATA</b>   | Niet van toepassing |
| · <b>14.3 Transportgevarenklasse(n)</b>   |                     |
| · <b>ADR, ADN, IMDG, IATA</b>   |                     |
| · <b>klasse</b>   | Niet van toepassing |
| · <b>14.4 Verpakkingsgroep:</b>   |                     |
| · <b>ADR, IMDG, IATA</b>  | Niet van toepassing |
| · <b>14.5 Milieugevaren:</b>  | Niet bruikbaar.     |
| · <b>14.6 Bijzondere voorzorgen voor de gebruiker</b>                             | Niet bruikbaar.     |
| · <b>14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code</b> | Niet bruikbaar.     |
| · <b>VN "Model Regulation":</b>   | Niet van toepassing |

### RUBRIEK 15: Regelgeving

· **15.1 Specifieke veiligheids-, gezondheids- en milieureglementen en -wetgeving voor de stof of het mengsel**

· **SZW-lijst van kankerverwekkende stoffen**

geen der bestanddelen staat op de lijst.

· **SZW-lijst van mutagene stoffen**

geen der bestanddelen staat op de lijst.

· **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Vruchtbaarheid**

geen der bestanddelen staat op de lijst.

· **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Ontwikkeling**

geen der bestanddelen staat op de lijst.

· **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Borstvoeding**

geen der bestanddelen staat op de lijst.

· **Richtlijn 2012/18/EU**

· **Gevaarlijke stoffen die met naam genoemd worden - BIJLAGE I** geen der bestanddelen staat op de lijst.

· **Verordening (EG) nr. 1907/2006 BIJLAGE XVII** Beperkingsvoorwaarden: 3

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- **Nationale voorschriften:**
- **Gevaarklasse v. water:**  
Waterbezwaarlijkheid (NL): A(2) vergiftig voor in water levende organismen kan in het aquatische milieu op lange termijn schadelijke effecten veroorzaken
- **15.2 Chemischeveiligheidsbeoordeling:** Een chemische veiligheidsbeoordeling is niet uitgevoerd.

### RUBRIEK 16: Overige informatie

Deze gegevens zijn gebaseerd op de huidige stand van onze kennis. Zij beschrijven echter geen garantie van produkteigenschappen en vestigen geen contractuele rechtsbetrekking.

- **Relevante zinnen**

- H301 Giftig bij inslikken.
- H314 Veroorzaakt ernstige brandwonden en oogletsel.
- H317 Kan een allergische huidreactie veroorzaken.
- H330 Dodelijk bij inademing.
- H334 Kan bij inademing allergie- of astmasymptomen of ademhalingsmoeilijkheden veroorzaken.
- H335 Kan irritatie van de luchtwegen veroorzaken.
- H400 Zeer giftig voor in het water levende organismen.
- H411 Giftig voor in het water levende organismen, met langdurige gevolgen.

- **Afkortingen en acroniemen:**

- 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
- 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)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Acute Tox. 3: Acute toxiciteit – Categorie 3
- Acute Tox. 2: Acute toxiciteit – Categorie 2
- Acute Tox. 4: Acute toxiciteit – Categorie 4
- Skin Corr. 1B: Huidcorrosie/irritatie – Categorie 1B
- Skin Irrit. 2: Huidcorrosie/irritatie – Categorie 2
- Eye Dam. 1: Ernstig oogletsel/oogirritatie – Categorie 1
- Resp. Sens. 1: Sensibilisatie van de luchtwegen – Categorie 1
- Skin Sens. 1: Sensibilisatie van de huid – Categorie 1
- Skin Sens. 1A: Sensibilisatie van de huid – Categorie 1A
- STOT SE 3: Specifieke doelorgaantoxiciteit bij eenmalige blootstelling – Categorie 3
- Aquatic Acute 1: Gevaar voor het aquatisch milieu - acuut aquatisch gevaar – Categorie 1
- Aquatic Chronic 2: Gevaar voor het aquatisch milieu - aquatisch gevaar op lange termijn – Categorie 2
- Aquatic Chronic 3: Gevaar voor het aquatisch milieu - aquatisch gevaar op lange termijn – Categorie 3

# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

Date d'impression : 10.09.2018

Révision: 10.09.2018

### RUBRIQUE 1: Identification de la substance/du mélange et de la société/l'entreprise

- **1.1 Identificateur de produit**
- **Nom du produit:** GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4
- **Code du produit:** 16538-05, 16538-10, 16538-05-SP
- **1.2 Utilisations identifiées pertinentes de la substance ou du mélange et utilisations déconseillées**  
Pas d'autres informations importantes disponibles.
- **Emploi de la substance / de la préparation** Produits chimiques pour laboratoires
- **1.3 Renseignements concernant le fournisseur de la fiche de données de sécurité**
- **Producteur/fournisseur:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: [info@emsdiasum.com](mailto:info@emsdiasum.com)  
[www.emsdiasum.com](http://www.emsdiasum.com)
- **Service chargé des renseignements:** Product safety department
- **1.4 Numéro d'appel d'urgence:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### RUBRIQUE 2: Identification des dangers

- **2.1 Classification de la substance ou du mélange**
- **Classification selon le règlement (CE) n° 1272/2008**



GHS08 danger pour la santé

Resp. Sens. 1      H334 Peut provoquer des symptômes allergiques ou d'asthme ou des difficultés respiratoires par inhalation.



GHS05 corrosion

Eye Dam. 1      H318 Provoque des lésions oculaires graves.



GHS07

Acute Tox. 4      H332 Nocif par inhalation.

Skin Irrit. 2      H315 Provoque une irritation cutanée.

Skin Sens. 1      H317 Peut provoquer une allergie cutanée.

STOT SE 3      H335 Peut irriter les voies respiratoires.

Aquatic Chronic 3 H412 Nocif pour les organismes aquatiques, entraîne des effets néfastes à long terme.

- **2.2 Éléments d'étiquetage**
- **Étiquetage selon le règlement (CE) n° 1272/2008** Le produit est classifié et étiqueté selon le règlement CLP.

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Nom du produit: **GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

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· **Pictogrammes de danger**

GHS05 GHS07 GHS08

· **Mention d'avertissement Danger**· **Composants dangereux déterminants pour l'étiquetage:**

glutaral

· **Mentions de danger**

H332 Nocif par inhalation.

H315 Provoque une irritation cutanée.

H318 Provoque des lésions oculaires graves.

H334 Peut provoquer des symptômes allergiques ou d'asthme ou des difficultés respiratoires par inhalation.

H317 Peut provoquer une allergie cutanée.

H335 Peut irriter les voies respiratoires.

H412 Nocif pour les organismes aquatiques, entraîne des effets néfastes à long terme.

· **Conseils de prudence**

P305+P351+P338 **EN CAS DE CONTACT AVEC LES YEUX:** rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.

P310 Appeler immédiatement un CENTRE ANTIPOISON/un médecin.

P321 Traitement spécifique (voir sur cette étiquette).

P362+P364 Enlever les vêtements contaminés et les laver avant réutilisation.

P405 Garder sous clef.

P501 Éliminer le contenu/réceptacle conformément à la réglementation locale/régionale/nationale/internationale.

· **2.3 Autres dangers**· **Résultats des évaluations PBT et vPvB**· **PBT:** Non applicable.· **vPvB:** Non applicable.

### RUBRIQUE 3: Composition/informations sur les composants

· **3.2 Caractérisation chimique: Mélanges**· **Description:** Mélange des substances mentionnées à la suite avec des additifs non dangereux.· **Composants dangereux:**

|                   |  |           |
|-------------------|--|-----------|
| CAS: 111-30-8     | glutaral   | >2,5-≤10% |
| EINECS: 203-856-5 | Acute Tox. 3, H301; Acute Tox. 2, H330;  Resp. Sens. 1, H334;  Skin Corr. 1B, H314;  Aquatic Acute 1, H400; Aquatic Chronic 2, H411;  Skin Sens. 1A, H317; STOT SE 3, H335 |           |

· **Indications complémentaires:** Pour le libellé des phrases de risque citées, se référer au chapitre 16.

### RUBRIQUE 4: Premiers secours

· **4.1 Description des premiers secours**· **Remarques générales:**

Les symptômes d'intoxication peuvent apparaître après de nombreuses heures seulement; une surveillance médicale est donc nécessaire au moins 48 heures après un accident.

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- **Après inhalation:**  
Donner de l'air frais en abondance et consulter un médecin pour plus de sécurité.  
En cas d'inconscience, coucher et transporter la personne en position latérale stable.
- **Après contact avec la peau:** Laver immédiatement à l'eau et au savon et bien rincer.
- **Après contact avec les yeux:**  
Rincer les yeux, pendant plusieurs minutes, sous l'eau courante en écartant bien les paupières et consulter un médecin.
- **Après ingestion:** Consulter immédiatement un médecin.
- **4.2 Principaux symptômes et effets, aigus et différés** Pas d'autres informations importantes disponibles.
- **4.3 Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires**  
Pas d'autres informations importantes disponibles.

### RUBRIQUE 5: Mesures de lutte contre l'incendie

- **5.1 Moyens d'extinction**
- **Moyens d'extinction:** Adapter les mesures d'extinction d'incendie à l'environnement.
- **5.2 Dangers particuliers résultant de la substance ou du mélange**  
Pas d'autres informations importantes disponibles.
- **5.3 Conseils aux pompiers**
- **Équipement spécial de sécurité:** Porter un appareil de protection respiratoire.

### RUBRIQUE 6: Mesures à prendre en cas de dispersion accidentelle

- **6.1 Précautions individuelles, équipement de protection et procédures d'urgence** Pas nécessaire.
- **6.2 Précautions pour la protection de l'environnement:**  
En cas de pénétration dans les eaux ou les égouts, avvertir les autorités compétentes.  
Ne pas rejeter dans les canalisations, dans les eaux de surface et dans les nappes d'eau souterraines.
- **6.3 Méthodes et matériel de confinement et de nettoyage:**  
Recueillir les liquides à l'aide d'un produit absorbant (sable, kieselguhr, neutralisant d'acide, liant universel, sciure).  
Evacuer les matériaux contaminés en tant que déchets conformément au point 13.  
Assurer une aération suffisante.
- **6.4 Référence à d'autres rubriques**  
Afin d'obtenir des informations pour une manipulation sûre, consulter le chapitre 7.  
Afin d'obtenir des informations sur les équipements de protection personnels, consulter le chapitre 8.  
Afin d'obtenir des informations sur l'élimination, consulter le chapitre 13.

### RUBRIQUE 7: Manipulation et stockage

- **7.1 Précautions à prendre pour une manipulation sans danger**  
Veiller à une bonne ventilation/aspiration du poste de travail.  
Eviter la formation d'aérosols.
- **Préventions des incendies et des explosions:** Aucune mesure particulière n'est requise.
- **7.2 Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités**
- **Stockage:**
- **Exigences concernant les lieux et conteneurs de stockage:** Aucune exigence particulière.
- **Indications concernant le stockage commun:** Pas nécessaire.
- **Autres indications sur les conditions de stockage:** Tenir les emballages hermétiquement fermés.
- **7.3 Utilisation(s) finale(s) particulière(s)** Pas d'autres informations importantes disponibles.

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### RUBRIQUE 8: Contrôles de l'exposition/protection individuelle

· **Indications complémentaires pour l'agencement des installations techniques:**

Sans autre indication, voir point 7.

· **8.1 Paramètres de contrôle**

· **Composants présentant des valeurs-seuil à surveiller par poste de travail:**

**111-30-8 glutaral**

|     |  |
|-----|--|
| VME | Valeur momentanée: 0,8 mg/m <sup>3</sup> , 0,2 ppm<br>Valeur à long terme: 0,4 mg/m <sup>3</sup> , 0,1 ppm |
|-----|--|

· **Remarques supplémentaires:**

Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.

· **8.2 Contrôles de l'exposition**

· **Equipement de protection individuel:**

· **Mesures générales de protection et d'hygiène:**

Tenir à l'écart des produits alimentaires, des boissons et de la nourriture pour animaux.

Retirer immédiatement les vêtements souillés ou humectés.

Se laver les mains avant les pauses et en fin de travail.

Eviter tout contact avec la peau.

Eviter tout contact avec les yeux et avec la peau.

· **Protection respiratoire:**

En cas d'exposition faible ou de courte durée, utiliser un filtre respiratoire; en cas d'exposition intense ou durable, utiliser un appareil de respiration indépendant de l'air ambiant.

· **Protection des mains:**



Gants de protection

Le matériau des gants doit être imperméable et résistant au produit / à la substance / à la préparation.

À cause du manque de tests, aucune recommandation pour un matériau de gants pour le produit / la préparation / le mélange de produits chimiques ne peut être donnée.

Choix du matériau des gants en fonction des temps de pénétration, du taux de perméabilité et de la dégradation.

· **Matériau des gants**

Le choix de gants appropriés dépend non seulement du matériau, mais aussi d'autres critères de qualité qui peuvent varier d'un fabricant à l'autre. Puisque le produit représente une préparation composée de plusieurs substances, la résistance des matériaux des gants ne peut pas être calculée à l'avance et doit, alors, être contrôlée avant l'utilisation.

· **Temps de pénétration du matériau des gants**

Le temps de pénétration exact est à déterminer par le fabricant des gants de protection et à respecter.

· **Protection des yeux:**



Lunettes de protection hermétiques

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### RUBRIQUE 9: Propriétés physiques et chimiques

|  |  |
|--|--|
| · <b>9.1 Informations sur les propriétés physiques et chimiques essentielles</b> |  |
| · <b>Indications générales</b>   |  |
| · <b>Aspect:</b>   |  |
| <b>Forme:</b>  | Liquide  |
| <b>Couleur:</b>  | Selon désignation produit                          |
| · <b>Odeur:</b>  | Caractéristique                                    |
| · <b>Seuil olfactif:</b>   | Non déterminé.                                     |
| · <b>valeur du pH à 20 °C:</b>   | 7,4  |
| · <b>Changement d'état</b>   |  |
| <b>Point de fusion/point de congélation:</b>                                     | Non déterminé.                                     |
| <b>Point initial d'ébullition et intervalle d'ébullition:</b>                    | 100 °C   |
| · <b>Point d'éclair</b>  | Non applicable.                                    |
| · <b>Inflammabilité (solide, gaz):</b>   | Non applicable.                                    |
| · <b>Température de décomposition:</b>   | Non déterminé.                                     |
| · <b>Température d'auto-inflammabilité:</b>                                      | Le produit ne s'enflamme pas spontanément.         |
| · <b>Propriétés explosives:</b>  | Le produit n'est pas explosif.                     |
| · <b>Limites d'explosion:</b>  |  |
| <b>Inférieure:</b>   | Non déterminé.                                     |
| <b>Supérieure:</b>   | Non déterminé.                                     |
| · <b>Pression de vapeur à 20 °C:</b>   | 23 hPa   |
| · <b>Densité:</b>  | Non déterminée.                                    |
| · <b>Densité relative</b>  | Non déterminé.                                     |
| · <b>Densité de vapeur:</b>  | Non déterminé.                                     |
| · <b>Taux d'évaporation:</b>   | Non déterminé.                                     |
| · <b>Solubilité dans/miscibilité avec l'eau:</b>                                 | Pas ou peu miscible                                |
| · <b>Coefficient de partage: n-octanol/eau:</b>                                  | Non déterminé.                                     |
| · <b>Viscosité:</b>  |  |
| <b>Dynamique:</b>  | Non déterminé.                                     |
| <b>Cinématique:</b>  | Non déterminé.                                     |
| · <b>Teneur en solvants:</b>   |  |
| <b>Eau:</b>  | 96,9 %   |
| <b>VOC (CE)</b>  | 0,00 %   |
| <b>Teneur en substances solides:</b>   | 0,0 %  |
| · <b>9.2 Autres informations</b>   | Pas d'autres informations importantes disponibles. |

### RUBRIQUE 10: Stabilité et réactivité

- **10.1 Réactivité** Pas d'autres informations importantes disponibles.
- **10.2 Stabilité chimique**
- **Décomposition thermique/conditions à éviter:** Pas de décomposition en cas d'usage conforme.
- **10.3 Possibilité de réactions dangereuses** Aucune réaction dangereuse connue.
- **10.4 Conditions à éviter** Pas d'autres informations importantes disponibles.

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- **10.5 Matières incompatibles:** Pas d'autres informations importantes disponibles.
- **10.6 Produits de décomposition dangereux:** Pas de produits de décomposition dangereux connus

### RUBRIQUE 11: Informations toxicologiques

- **11.1 Informations sur les effets toxicologiques**
- **Toxicité aiguë**  
Nocif par inhalation.

- **Valeurs LD/LC50 déterminantes pour la classification:**

#### 111-30-8 glutaral

|          |      |                     |
|----------|------|---------------------|
| Oral     | LD50 | 134 mg/kg (rat)     |
| Dermique | LD50 | 2.560 mg/kg (lapin) |

- **Effet primaire d'irritation:**
- **Corrosion cutanée/irritation cutanée**  
Provoque une irritation cutanée.
- **Lésions oculaires graves/irritation oculaire**  
Provoque des lésions oculaires graves.
- **Sensibilisation respiratoire ou cutanée**  
Peut provoquer des symptômes allergiques ou d'asthme ou des difficultés respiratoires par inhalation.  
Peut provoquer une allergie cutanée.
- **Effets CMR (cancérogène, mutagène et toxique pour la reproduction)**
- **Mutagénicité sur les cellules germinales**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Cancérogénicité** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité pour la reproduction**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité spécifique pour certains organes cibles - exposition unique**  
Peut irriter les voies respiratoires.
- **Toxicité spécifique pour certains organes cibles - exposition répétée**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Danger par aspiration** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

### RUBRIQUE 12: Informations écologiques

- **12.1 Toxicité**
- **Toxicité aquatique:** Pas d'autres informations importantes disponibles.
- **12.2 Persistance et dégradabilité** Pas d'autres informations importantes disponibles.
- **12.3 Potentiel de bioaccumulation** Pas d'autres informations importantes disponibles.
- **12.4 Mobilité dans le sol** Pas d'autres informations importantes disponibles.
- **Effets écotoxiques:**
- **Remarque:**  
Toxique chez les poissons.  
Nocif pour les poissons.
- **Autres indications écologiques:**
- **Indications générales:**  
Catégorie de pollution des eaux 2 (D) (Classification propre): polluant  
Ne pas laisser pénétrer dans la nappe phréatique, les eaux ou les canalisations.  
Danger pour l'eau potable dès fuite d'une petite quantité dans le sous-sol.  
Dans les eaux, également toxique pour les poissons et le plancton.  
Toxique pour les organismes aquatiques.  
Nocif pour les organismes aquatiques.

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- **12.5 Résultats des évaluations PBT et VPVB**
- **PBT:** Non applicable.
- **vPvB:** Non applicable.
- **12.6 Autres effets néfastes** Pas d'autres informations importantes disponibles.

### RUBRIQUE 13: Considérations relatives à l'élimination

- **13.1 Méthodes de traitement des déchets**
- **Recommandation:** Ne doit pas être évacué avec les ordures ménagères. Ne pas laisser pénétrer dans les égouts.
- **Emballages non nettoyés:**
- **Recommandation:** Evacuation conformément aux prescriptions légales.

### RUBRIQUE 14: Informations relatives au transport

- |  |                 |
|--|-----------------|
| · <b>14.1 Numéro ONU</b>   |                 |
| · <b>ADR, ADN, IMDG, IATA</b>  | néant           |
| · <b>14.2 Désignation officielle de transport de l'ONU</b>   |                 |
| · <b>ADR, ADN, IMDG, IATA</b>  | néant           |
| · <b>14.3 Classe(s) de danger pour le transport</b>  |                 |
| · <b>ADR, ADN, IMDG, IATA</b>  |                 |
| · <b>Classe</b>  | néant           |
| · <b>14.4 Groupe d'emballage</b>   |                 |
| · <b>ADR, IMDG, IATA</b>   | néant           |
| · <b>14.5 Dangers pour l'environnement:</b>  | Non applicable. |
| · <b>14.6 Précautions particulières à prendre par l'utilisateur</b>                                  | Non applicable. |
| · <b>14.7 Transport en vrac conformément à l'annexe II de la convention Marpol et au recueil IBC</b> | Non applicable. |
| · <b>"Règlement type" de l'ONU:</b>  | néant           |

### RUBRIQUE 15: Informations relatives à la réglementation

- **15.1 Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement**
- **Directive 2012/18/UE**
- **Substances dangereuses désignées - ANNEXE I** Aucun des composants n'est compris.
- **RÈGLEMENT (CE) N° 1907/2006 ANNEXE XVII** Conditions de limitation: 3
- **15.2 Évaluation de la sécurité chimique:** Une évaluation de la sécurité chimique n'a pas été réalisée.

### RUBRIQUE 16: Autres informations

Ces indications sont fondées sur l'état actuel de nos connaissances, mais ne constituent pas une garantie quant aux propriétés du produit et ne donnent pas lieu à un rapport juridique contractuel.

- **Phrases importantes**
- H301 Toxique en cas d'ingestion.

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*H314 Provoque des brûlures de la peau et des lésions oculaires graves.**H317 Peut provoquer une allergie cutanée.**H330 Mortel par inhalation.**H334 Peut provoquer des symptômes allergiques ou d'asthme ou des difficultés respiratoires par inhalation.**H335 Peut irriter les voies respiratoires.**H400 Très toxique pour les organismes aquatiques.**H411 Toxique pour les organismes aquatiques, entraîne des effets néfastes à long terme.***· Acronymes et abréviations:***ADR: Accord européen sur le transport des marchandises dangereuses par Route**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)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Acute Tox. 3: Toxicité aiguë – Catégorie 3**Acute Tox. 2: Toxicité aiguë – Catégorie 2**Acute Tox. 4: Toxicité aiguë – Catégorie 4**Skin Corr. 1B: Corrosion cutanée/irritation cutanée – Catégorie 1B**Skin Irrit. 2: Corrosion cutanée/irritation cutanée – Catégorie 2**Eye Dam. 1: Lésions oculaires graves/irritation oculaire – Catégorie 1**Resp. Sens. 1: Sensibilisation respiratoire – Catégorie 1**Skin Sens. 1: Sensibilisation cutanée – Catégorie 1**Skin Sens. 1A: Sensibilisation cutanée – Catégorie 1A**STOT SE 3: Toxicité spécifique pour certains organes cibles (exposition unique) – Catégorie 3**Aquatic Acute 1: Dangers pour le milieu aquatique- toxicité aiguë pour le milieu aquatique – Catégorie 1**Aquatic Chronic 2: Dangers pour le milieu aquatique- toxicité à long terme pour le milieu aquatique – Catégorie 2**Aquatic Chronic 3: Dangers pour le milieu aquatique- toxicité à long terme pour le milieu aquatique – Catégorie 3*

# Sicherheitsdatenblatt

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### ABSCHNITT 1: Bezeichnung des Stoffs beziehungsweise des Gemischs und des Unternehmens

- **1.1 Produktidentifikator**
- **Handelsname:** GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4
- **Artikelnummer:** 16538-05, 16538-10, 16538-05-SP
- **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**  
Keine weiteren relevanten Informationen verfügbar.
- **Verwendung des Stoffes / des Gemisches** Laborchemikalien
- **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**
- **Hersteller/Lieferant:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com  
  
Science Services GmbH  
Unterhachinger Str. 75  
81737 München Germany  
  
Tel: +49(0)89 18 93 668-0  
safety@scienceservices.de  
  
Deutschland: +49 (0)89 19240, 24h Giftnotruf Munchen, www.toxinfo.org  
Osterreich: +43 1406 43 43, Gesundheit Osterreich GmbH, 24 h
- **Auskunftgebender Bereich:** Product safety department
- **1.4 Notrufnummer:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### ABSCHNITT 2: Mögliche Gefahren

- **2.1 Einstufung des Stoffs oder Gemischs**
- **Einstufung gemäß Verordnung (EG) Nr. 1272/2008**



GHS08 Gesundheitsgefahr

Resp. Sens. 1      H334 Kann bei Einatmen Allergie, asthmaartige Symptome oder Atembeschwerden verursachen.



GHS05 Ätzwirkung

Eye Dam. 1      H318 Verursacht schwere Augenschäden.



GHS07

Acute Tox. 4      H332 Gesundheitsschädlich bei Einatmen.

Skin Irrit. 2      H315 Verursacht Hautreizungen.

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*Skin Sens. 1*      *H317 Kann allergische Hautreaktionen verursachen.*

*STOT SE 3*      *H335 Kann die Atemwege reizen.*

*Aquatic Chronic 3* *H412 Schädlich für Wasserorganismen, mit langfristiger Wirkung.*

### · 2.2 Kennzeichnungselemente

#### · Kennzeichnung gemäß Verordnung (EG) Nr. 1272/2008

Das Produkt ist gemäß CLP-Verordnung eingestuft und gekennzeichnet.

#### · Gefahrenpiktogramme



GHS05    GHS07    GHS08

#### · Signalwort Gefahr

#### · Gefahrbestimmende Komponenten zur Etikettierung:

Glutaral

#### · Gefahrenhinweise

*H332* Gesundheitsschädlich bei Einatmen.

*H315* Verursacht Hautreizungen.

*H318* Verursacht schwere Augenschäden.

*H334* Kann bei Einatmen Allergie, asthmaartige Symptome oder Atembeschwerden verursachen.

*H317* Kann allergische Hautreaktionen verursachen.

*H335* Kann die Atemwege reizen.

*H412* Schädlich für Wasserorganismen, mit langfristiger Wirkung.

#### · Sicherheitshinweise

*P305+P351+P338* BEI KONTAKT MIT DEN AUGEN: Einige Minuten lang behutsam mit Wasser spülen. Eventuell vorhandene Kontaktlinsen nach Möglichkeit entfernen. Weiter spülen.

*P310* Sofort GIFTINFORMATIONSZENTRUM/Arzt anrufen.

*P321* Besondere Behandlung (siehe auf diesem Kennzeichnungsetikett).

*P362+P364* Kontaminierte Kleidung ausziehen und vor erneutem Tragen waschen.

*P405* Unter Verschluss aufbewahren.

*P501* Entsorgung des Inhalts / des Behälters gemäß den örtlichen / regionalen / nationalen / internationalen Vorschriften.

#### · 2.3 Sonstige Gefahren

#### · Ergebnisse der PBT- und vPvB-Beurteilung

· **PBT:** Nicht anwendbar.

· **vPvB:** Nicht anwendbar.

## ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

### · 3.2 Chemische Charakterisierung: Gemische

· **Beschreibung:** Gemisch aus nachfolgend angeführten Stoffen mit ungefährlichen Beimengungen.

#### · Gefährliche Inhaltsstoffe:

|                   |  |           |
|-------------------|--|-----------|
| CAS: 111-30-8     | Glutaral   | >2,5-≤10% |
| EINECS: 203-856-5 | Acute Tox. 3, H301; Acute Tox. 2, H330;  Resp. Sens. 1, H334;  Skin Corr. 1B, H314;  Aquatic Acute 1, H400; Aquatic Chronic 2, H411;  Skin Sens. 1A, H317; STOT SE 3, H335 |           |

· **Zusätzliche Hinweise:** Der Wortlaut der angeführten Gefahrenhinweise ist dem Abschnitt 16 zu entnehmen.

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### ABSCHNITT 4: Erste-Hilfe-Maßnahmen

#### · 4.1 Beschreibung der Erste-Hilfe-Maßnahmen

##### · **Allgemeine Hinweise:**

Vergiftungssymptome können erst nach vielen Stunden auftreten, deshalb ärztliche Überwachung mindestens 48 Stunden nach einem Unfall.

##### · **Nach Einatmen:**

Reichlich Frischluftzufuhr und sicherheitshalber Arzt aufsuchen.

Bei Bewußtlosigkeit Lagerung und Transport in stabiler Seitenlage.

##### · **Nach Hautkontakt:** Sofort mit Wasser und Seife abwaschen und gut nachspülen.

##### · **Nach Augenkontakt:**

Augen bei geöffnetem Lidspalt mehrere Minuten unter fließendem Wasser abspülen und Arzt konsultieren.

##### · **Nach Verschlucken:** Sofort Arzt aufsuchen.

#### · 4.2 Wichtigste akute und verzögert auftretende Symptome und Wirkungen

Keine weiteren relevanten Informationen verfügbar.

#### · 4.3 Hinweise auf ärztliche Soforthilfe oder Spezialbehandlung

Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

#### · 5.1 Löschmittel

· **Geeignete Löschmittel:** Feuerlöschmaßnahmen auf die Umgebung abstimmen.

#### · 5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren

Keine weiteren relevanten Informationen verfügbar.

#### · 5.3 Hinweise für die Brandbekämpfung

· **Besondere Schutzausrüstung:** Atemschutzgerät anlegen.

### ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

· **6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren**  
Nicht erforderlich.

#### · 6.2 Umweltschutzmaßnahmen:

Bei Eindringen in Gewässer oder Kanalisation zuständige Behörden benachrichtigen.

Nicht in die Kanalisation/Oberflächenwasser/Grundwasser gelangen lassen.

#### · 6.3 Methoden und Material für Rückhaltung und Reinigung:

Mit flüssigkeitsbindendem Material (Sand, Kieselgur, Säurebinder, Universalbinder, Sägemehl) aufnehmen.

Kontaminiertes Material als Abfall nach Abschnitt 13 entsorgen.

Für ausreichende Lüftung sorgen.

#### · 6.4 Verweis auf andere Abschnitte

Informationen zur sicheren Handhabung siehe Abschnitt 7.

Informationen zur persönlichen Schutzausrüstung siehe Abschnitt 8.

Informationen zur Entsorgung siehe Abschnitt 13.

### ABSCHNITT 7: Handhabung und Lagerung

#### · 7.1 Schutzmaßnahmen zur sicheren Handhabung

Für gute Belüftung/Absaugung am Arbeitsplatz sorgen.

Aerosolbildung vermeiden.

· **Hinweise zum Brand- und Explosionsschutz:** Keine besonderen Maßnahmen erforderlich.

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- **7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten**
- **Lagerung:**
- **Anforderung an Lagerräume und Behälter:** Keine besonderen Anforderungen.
- **Zusammenlagerungshinweise:** Nicht erforderlich.
- **Weitere Angaben zu den Lagerbedingungen:** Behälter dicht geschlossen halten.
- **Lagerklasse:**
- **Klassifizierung nach Betriebssicherheitsverordnung (BetrSichV):** -
- **7.3 Spezifische Endanwendungen** Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 8: Begrenzung und Überwachung der Exposition/Persönliche Schutzausrüstungen

- **Zusätzliche Hinweise zur Gestaltung technischer Anlagen:** Keine weiteren Angaben, siehe Abschnitt 7.

#### · 8.1 Zu überwachende Parameter

- **Bestandteile mit arbeitsplatzbezogenen, zu überwachenden Grenzwerten:**

##### 111-30-8 Glutaral

|     |  |
|-----|--|
| AGW | Langzeitwert: 0,2 mg/m <sup>3</sup> , 0,05 ml/m <sup>3</sup><br>2(I);AGS, Sah, Y |
|-----|--|

- **Zusätzliche Hinweise:** Als Grundlage dienen die bei der Erstellung gültigen Listen.

#### · 8.2 Begrenzung und Überwachung der Exposition

##### · **Persönliche Schutzausrüstung:**

##### · **Allgemeine Schutz- und Hygienemaßnahmen:**

- Von Nahrungsmitteln, Getränken und Futtermitteln fernhalten.
- Beschmutzte, getränkte Kleidung sofort ausziehen.
- Vor den Pausen und bei Arbeitsende Hände waschen.
- Berührung mit der Haut vermeiden.
- Berührung mit den Augen und der Haut vermeiden.

##### · **Atemschutz:**

- Bei kurzzeitiger oder geringer Belastung Atemfiltergerät; bei intensiver bzw. längerer Exposition unluftunabhängiges Atemschutzgerät verwenden.

##### · **Handschutz:**



Schutzhandschuhe

Das Handschuhmaterial muss undurchlässig und beständig gegen das Produkt / den Stoff / die Zubereitung sein. Aufgrund fehlender Tests kann keine Empfehlung zum Handschuhmaterial für das Produkt / die Zubereitung / das Chemikaliengemisch abgegeben werden. Auswahl des Handschuhmaterials unter Beachtung der Durchbruchzeiten, Permeationsraten und der Degradation.

##### · **Handschuhmaterial**

Die Auswahl eines geeigneten Handschuhs ist nicht nur vom Material, sondern auch von weiteren Qualitätsmerkmalen abhängig und von Hersteller zu Hersteller unterschiedlich. Da das Produkt eine Zubereitung aus mehreren Stoffen darstellt, ist die Beständigkeit von Handschuhmaterialien nicht vorausberechenbar und muß deshalb vor dem Einsatz überprüft werden.

##### · **Durchdringungszeit des Handschuhmaterials**

Die genaue Durchbruchzeit ist beim Schutzhandschuhhersteller zu erfahren und einzuhalten.

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**· Augenschutz:**


Dichtschließende Schutzbrille

### ABSCHNITT 9: Physikalische und chemische Eigenschaften

**· 9.1 Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften**
**· Allgemeine Angaben**
**· Aussehen:**

**Form:** Flüssig  
**Farbe:** Gemäß Produktbezeichnung

**· Geruch:** Charakteristisch

**· Geruchsschwelle:** Nicht bestimmt.

**· pH-Wert bei 20 °C:** 7,4

**· Zustandsänderung**

**Schmelzpunkt/Gefrierpunkt:** Nicht bestimmt.

**Siedebeginn und Siedebereich:** 100 °C

**· Flammpunkt:** Nicht anwendbar.

**· Entzündbarkeit (fest, gasförmig):** Nicht anwendbar.

**· Zersetzungstemperatur:** Nicht bestimmt.

**· Selbstentzündungstemperatur:** Das Produkt ist nicht selbstentzündlich.

**· Explosive Eigenschaften:** Das Produkt ist nicht explosionsgefährlich.

**· Explosionsgrenzen:**

**Untere:** Nicht bestimmt.

**Obere:** Nicht bestimmt.

**· Dampfdruck bei 20 °C:** 23 hPa

**· Dichte:** Nicht bestimmt.

**· Relative Dichte:** Nicht bestimmt.

**· Dampfdichte:** Nicht bestimmt.

**· Verdampfungsgeschwindigkeit:** Nicht bestimmt.

**· Löslichkeit in / Mischbarkeit mit**

**Wasser:** Nicht bzw. wenig mischbar.

**· Verteilungskoeffizient: n-Octanol/Wasser:** Nicht bestimmt.

**· Viskosität:**

**Dynamisch:** Nicht bestimmt.

**Kinematisch:** Nicht bestimmt.

**· Lösemittelgehalt:**

**Wasser:** 96,9 %

**VOC (EU)** 0,00 %

**Festkörpergehalt:** 0,0 %

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**· 9.2 Sonstige Angaben**

Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 10: Stabilität und Reaktivität

- **10.1 Reaktivität** Keine weiteren relevanten Informationen verfügbar.
- **10.2 Chemische Stabilität**
- **Thermische Zersetzung / zu vermeidende Bedingungen:**  
Keine Zersetzung bei bestimmungsgemäßer Verwendung.
- **10.3 Möglichkeit gefährlicher Reaktionen** Keine gefährlichen Reaktionen bekannt.
- **10.4 Zu vermeidende Bedingungen** Keine weiteren relevanten Informationen verfügbar.
- **10.5 Unverträgliche Materialien:** Keine weiteren relevanten Informationen verfügbar.
- **10.6 Gefährliche Zersetzungsprodukte:** Keine gefährlichen Zersetzungsprodukte bekannt.

### ABSCHNITT 11: Toxikologische Angaben

- **11.1 Angaben zu toxikologischen Wirkungen**
- **Akute Toxizität**  
Gesundheitsschädlich bei Einatmen.

**· Einstufungsrelevante LD/LC50-Werte:**

**111-30-8 Glutaral**

|        |      |                      |
|--------|------|----------------------|
| Oral   | LD50 | 134 mg/kg (rat)      |
| Dermal | LD50 | 2.560 mg/kg (rabbit) |

- **Primäre Reizwirkung:**
- **Ätz-/Reizwirkung auf die Haut**  
Verursacht Hautreizungen.
- **Schwere Augenschädigung/-reizung**  
Verursacht schwere Augenschäden.
- **Sensibilisierung der Atemwege/Haut**  
Kann bei Einatmen Allergie, asthmaartige Symptome oder Atembeschwerden verursachen.  
Kann allergische Hautreaktionen verursachen.
- **CMR-Wirkungen (krebserzeugende, erbgutverändernde und fortpflanzungsgefährdende Wirkung)**
- **Keimzell-Mutagenität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Karzinogenität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Reproduktionstoxizität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Spezifische Zielorgan-Toxizität bei einmaliger Exposition**  
Kann die Atemwege reizen.
- **Spezifische Zielorgan-Toxizität bei wiederholter Exposition**  
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Aspirationsgefahr** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

### ABSCHNITT 12: Umweltbezogene Angaben

- **12.1 Toxizität**
- **Aquatische Toxizität:** Keine weiteren relevanten Informationen verfügbar.
- **12.2 Persistenz und Abbaubarkeit** Keine weiteren relevanten Informationen verfügbar.
- **12.3 Bioakkumulationspotenzial** Keine weiteren relevanten Informationen verfügbar.
- **12.4 Mobilität im Boden** Keine weiteren relevanten Informationen verfügbar.

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- **Ökotoxische Wirkungen:**
- **Bemerkung:**  
*Giftig für Fische.  
 Schädlich für Fische.*
- **Weitere ökologische Hinweise:**
- **Allgemeine Hinweise:**  
*Wassergefährdungsklasse 2 (Selbsteinstufung): deutlich wassergefährdend  
 Nicht in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen.  
 Trinkwassergefährdung bereits beim Auslaufen geringer Mengen in den Untergrund.  
 In Gewässern auch giftig für Fische und Plankton.  
 giftig für Wasserorganismen  
 schädlich für Wasserorganismen*
- **12.5 Ergebnisse der PBT- und vPvB-Beurteilung**
- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.
- **12.6 Andere schädliche Wirkungen** Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 13: Hinweise zur Entsorgung

- **13.1 Verfahren der Abfallbehandlung**
- **Empfehlung:** *Darf nicht zusammen mit Hausmüll entsorgt werden. Nicht in die Kanalisation gelangen lassen.*
- **Ungereinigte Verpackungen:**
- **Empfehlung:** *Entsorgung gemäß den behördlichen Vorschriften.*

### ABSCHNITT 14: Angaben zum Transport

- |   |                  |
|---|------------------|
| · <b>14.1 UN-Nummer</b>   |                  |
| · <b>ADR, ADN, IMDG, IATA</b>   | entfällt         |
| · <b>14.2 Ordnungsgemäße UN-Versandbezeichnung</b>  |                  |
| · <b>ADR, ADN, IMDG, IATA</b>   | entfällt         |
| · <b>14.3 Transportgefahrenklassen</b>  |                  |
| · <b>ADR, ADN, IMDG, IATA</b>   |                  |
| · <b>Klasse</b>   | entfällt         |
| · <b>14.4 Verpackungsgruppe</b>   |                  |
| · <b>ADR, IMDG, IATA</b>  | entfällt         |
| · <b>14.5 Umweltgefahren:</b>   | Nicht anwendbar. |
| · <b>14.6 Besondere Vorsichtsmaßnahmen für den Verwender</b>                                    | Nicht anwendbar. |
| · <b>14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens und gemäß IBC-Code</b> | Nicht anwendbar. |
| · <b>UN "Model Regulation":</b>   | entfällt         |

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### ABSCHNITT 15: Rechtsvorschriften

- **15.1 Vorschriften zu Sicherheit, Gesundheits- und Umweltschutz/spezifische Rechtsvorschriften für den Stoff oder das Gemisch**
- **Richtlinie 2012/18/EU**
- **Namentlich aufgeführte gefährliche Stoffe - ANHANG I** Keiner der Inhaltsstoffe ist enthalten.
- **VERORDNUNG (EG) Nr. 1907/2006 ANHANG XVII** Beschränkungsbedingungen: 3

- **Nationale Vorschriften:**

- **Technische Anleitung Luft:**

| Klasse | Anteil in % |
|--------|-------------|
| Wasser | 96,9        |
| I      | 3,0         |

- **Wassergefährdungsklasse: WGK 2 (Selbsteinstufung):** deutlich wassergefährdend.
- **15.2 Stoffsicherheitsbeurteilung:** Eine Stoffsicherheitsbeurteilung wurde nicht durchgeführt.

### ABSCHNITT 16: Sonstige Angaben

Die Angaben stützen sich auf den heutigen Stand unserer Kenntnisse, sie stellen jedoch keine Zusicherung von Produkteigenschaften dar und begründen kein vertragliches Rechtsverhältnis.

- **Relevante Sätze**

H301 Giftig bei Verschlucken.

H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.

H317 Kann allergische Hautreaktionen verursachen.

H330 Lebensgefahr bei Einatmen.

H334 Kann bei Einatmen Allergie, asthmaartige Symptome oder Atembeschwerden verursachen.

H335 Kann die Atemwege reizen.

H400 Sehr giftig für Wasserorganismen.

H411 Giftig für Wasserorganismen, mit langfristiger Wirkung.

- **Abkürzungen und Akronyme:**

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

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)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 3: Akute Toxizität – Kategorie 3

Acute Tox. 2: Akute Toxizität – Kategorie 2

Acute Tox. 4: Akute Toxizität – Kategorie 4

Skin Corr. 1B: Hautreizende/-ätzende Wirkung – Kategorie 1B

Skin Irrit. 2: Hautreizende/-ätzende Wirkung – Kategorie 2

Eye Dam. 1: Schwere Augenschädigung/Augenreizung – Kategorie 1

Resp. Sens. 1: Sensibilisierung der Atemwege – Kategorie 1

Skin Sens. 1: Sensibilisierung der Haut – Kategorie 1

Skin Sens. 1A: Sensibilisierung der Haut – Kategorie 1A

STOT SE 3: Spezifische Zielorgan-Toxizität (einmalige Exposition) – Kategorie 3

Aquatic Acute 1: Gewässergefährdend - akut gewässergefährdend – Kategorie 1

Aquatic Chronic 2: Gewässergefährdend - langfristig gewässergefährdend – Kategorie 2

Aquatic Chronic 3: Gewässergefährdend - langfristig gewässergefährdend – Kategorie 3

**Scheda di dati di sicurezza**  
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### SEZIONE 1: Identificazione della sostanza o della miscela e della società/impresa

· **1.1 Identificatore del prodotto**

· **Denominazione commerciale:** GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4

· **Articolo numero:** 16538-05, 16538-10, 16538-05-SP

· **1.2 Usi identificati pertinenti della sostanza o della miscela e usi sconsigliati**

Non sono disponibili altre informazioni.

· **Utilizzazione della Sostanza / del Preparato** Prodotti chimici per laboratorio

· **1.3 Informazioni sul fornitore della scheda di dati di sicurezza**

· **Produttore/fornitore:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

Tel: 215-412-8400 Fax: 215-412-8450

email: [info@emsdiasum.com](mailto:info@emsdiasum.com)

[www.emsdiasum.com](http://www.emsdiasum.com)

Societa Italiana Chimici

Via Rio Nell Ellba 140

00138 Rome, Italy

Tel: 39 06 8800211

Fax: 39 30 06 8815313

Web: [www.sichim.com](http://www.sichim.com)

· **Informazioni fornite da:** Product safety department

· **1.4 Numero telefonico di emergenza:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

### SEZIONE 2: Identificazione dei pericoli

· **2.1 Classificazione della sostanza o della miscela**

· **Classificazione secondo il regolamento (CE) n. 1272/2008**



GHS08 pericolo per la salute

Resp. Sens. 1      H334 Può provocare sintomi allergici o asmatici o difficoltà respiratorie se inalato.



GHS05 corrosione

Eye Dam. 1      H318 Provoca gravi lesioni oculari.



GHS07

Acute Tox. 4      H332 Nocivo se inalato.

Skin Irrit. 2      H315 Provoca irritazione cutanea.

Skin Sens. 1      H317 Può provocare una reazione allergica cutanea.

STOT SE 3      H335 Può irritare le vie respiratorie.

Aquatic Chronic 3 H412 Nocivo per gli organismi acquatici con effetti di lunga durata.

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· **2.2 Elementi dell'etichetta**

· **Etichettatura secondo il regolamento (CE) n. 1272/2008**

Il prodotto è classificato ed etichettato conformemente al regolamento CLP.

· **Pittogrammi di pericolo**



GHS05    GHS07    GHS08

· **Avvertenza Pericolo**

· **Componenti pericolosi che ne determinano l'etichettatura:**

glutarale

· **Indicazioni di pericolo**

H332 Nocivo se inalato.

H315 Provoca irritazione cutanea.

H318 Provoca gravi lesioni oculari.

H334 Può provocare sintomi allergici o asmatici o difficoltà respiratorie se inalato.

H317 Può provocare una reazione allergica cutanea.

H335 Può irritare le vie respiratorie.

H412 Nocivo per gli organismi acquatici con effetti di lunga durata.

· **Consigli di prudenza**

P305+P351+P338 **IN CASO DI CONTATTO CON GLI OCCHI:** sciacquare accuratamente per parecchi minuti.

Togliere le eventuali lenti a contatto se è agevole farlo. Continuare a sciacquare.

P310

Contattare immediatamente un CENTRO ANTIVELENI/un medico.

P321

Trattamento specifico (vedere su questa etichetta).

P362+P364

Togliere tutti gli indumenti contaminati e lavarli prima di indossarli nuovamente.

P405

Conservare sotto chiave.

P501

Smaltire il prodotto/recipiente in conformità con le disposizioni locali / regionali / nazionali / internazionali.

· **2.3 Altri pericoli**

· **Risultati della valutazione PBT e vPvB**

· **PBT:** Non applicabile.

· **vPvB:** Non applicabile.

**SEZIONE 3: Composizione/informazioni sugli ingredienti**

· **3.2 Caratteristiche chimiche: Miscela**

· **Descrizione:** Miscela delle seguenti sostanze con additivi non pericolosi.

· **Sostanze pericolose:**

|                   |  |           |
|-------------------|--|-----------|
| CAS: 111-30-8     | glutarale  | >2,5-≤10% |
| EINECS: 203-856-5 | Acute Tox. 3, H301; Acute Tox. 2, H330;  Resp. Sens. 1, H334;  Skin Corr. 1B, H314;  Aquatic Acute 1, H400; Aquatic Chronic 2, H411;  Skin Sens. 1A, H317; STOT SE 3, H335 |           |

· **Ulteriori indicazioni:** Il testo dell'avvertenza dei pericoli citati può essere appreso dal capitolo 16

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#### **SEZIONE 4: Misure di primo soccorso**

· **4.1 Descrizione delle misure di primo soccorso**

· **Indicazioni generali:**

*I sintomi di avvelenamento possono comparire dopo molte ore, per tale motivo è necessaria la sorveglianza di un medico nelle 48 ore successive all'incidente.*

· **Inalazione:**

*Portare il soggetto in zona molto ben areata e per sicurezza consultare un medico.*

*Se il soggetto è svenuto provvedere a tenerlo durante il trasporto in posizione stabile su un fianco.*

· **Contatto con la pelle:** *Lavare immediatamente con acqua e sapone sciacquando accuratamente.*

· **Contatto con gli occhi:**

*Lavare con acqua corrente per diversi minuti tenendo le palpebre ben aperte e consultare il medico.*

· **Ingestione:** *Chiamare subito il medico.*

· **4.2 Principali sintomi ed effetti, sia acuti che ritardati** *Non sono disponibili altre informazioni.*

· **4.3 Indicazione dell'eventuale necessità di consultare immediatamente un medico e di trattamenti speciali**

*Non sono disponibili altre informazioni.*

#### **SEZIONE 5: Misure antincendio**

· **5.1 Mezzi di estinzione**

· **Mezzi di estinzione idonei:** *Adottare provvedimenti antiincendio nei dintorni della zona colpita.*

· **5.2 Pericoli speciali derivanti dalla sostanza o dalla miscela** *Non sono disponibili altre informazioni.*

· **5.3 Raccomandazioni per gli addetti all'estinzione degli incendi**

· **Mezzi protettivi specifici:** *Indossare il respiratore.*

#### **SEZIONE 6: Misure in caso di rilascio accidentale**

· **6.1 Precauzioni personali, dispositivi di protezione e procedure in caso di emergenza** *Non necessario.*

· **6.2 Precauzioni ambientali:**

*In caso di infiltrazione nei corpi d'acqua o nelle fognature avvertire le autorità competenti.*

*Impedire infiltrazioni nella fognatura/nelle acque superficiali/nelle acque freatiche.*

· **6.3 Metodi e materiali per il contenimento e per la bonifica:**

*Raccogliere il liquido con materiale assorbente (sabbia, tripoli, legante di acidi, legante universale, segatura).*

*Smaltimento del materiale contaminato conformemente al punto 13.*

*Provvedere ad una sufficiente areazione.*

· **6.4 Riferimento ad altre sezioni**

*Per informazioni relative ad un manipolazione sicura, vedere capitolo 7.*

*Per informazioni relative all'equipaggiamento protettivo ad uso personale vedere Capitolo 8.*

*Per informazioni relative allo smaltimento vedere Capitolo 13.*

#### **SEZIONE 7: Manipolazione e immagazzinamento**

· **7.1 Precauzioni per la manipolazione sicura**

*Accurata ventilazione/aspirazione nei luoghi di lavoro.*

*Evitare la formazione di aerosol.*

· **Indicazioni in caso di incendio ed esplosione:** *Non sono richiesti provvedimenti particolari.*

· **7.2 Condizioni per lo stoccaggio sicuro, comprese eventuali incompatibilità**

· **Stoccaggio:**

· **Requisiti dei magazzini e dei recipienti:** *Non sono richiesti requisiti particolari.*

· **Indicazioni sullo stoccaggio misto:** *Non necessario.*

· **Ulteriori indicazioni relative alle condizioni di immagazzinamento:** *Mantenere i recipienti ermeticamente chiusi.*

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· **7.3 Usi finali particolari** Non sono disponibili altre informazioni.

### SEZIONE 8: Controllo dell'esposizione/protezione individuale

· **Ulteriori indicazioni sulla struttura di impianti tecnici:** Nessun dato ulteriore, vedere punto 7.

#### · 8.1 Parametri di controllo

· **Componenti i cui valori limite devono essere tenuti sotto controllo negli ambienti di lavoro:**

##### 111-30-8 glutarale

|     |   |
|-----|---|
| TWA | Limite Ceiling: 0,2 mg/m <sup>3</sup> , 0,05 ppm<br>sen, A4 |
|-----|---|

· **Ulteriori indicazioni:** Le liste valide alla data di compilazione sono state usate come base.

#### · 8.2 Controlli dell'esposizione

##### · Mezzi protettivi individuali:

##### · Norme generali protettive e di igiene del lavoro:

Tenere lontano da cibo, bevande e foraggi.

Togliere immediatamente gli abiti contaminati.

Lavarsi le mani prima dell'intervallo o a lavoro terminato.

Evitare il contatto con la pelle.

Evitare il contatto con gli occhi e la pelle.

##### · Maschera protettiva:

Nelle esposizioni brevi e minime utilizzare la maschera; nelle esposizioni più intense e durature indossare l'autorespiratore.

##### · Guanti protettivi:



Guanti protettivi

Il materiale dei guanti deve essere impermeabile e stabile contro il prodotto/ la sostanza/ la formulazione.

A causa della mancanza di tests non può essere consigliato alcun tipo di materiale per i guanti con cui manipolare il prodotto / la formulazione / la miscela di sostanze chimiche.

Scelta del materiale dei guanti in considerazione dei tempi di passaggio, dei tassi di permeazione e della degradazione.

##### · Materiale dei guanti

La scelta dei guanti adatti non dipende soltanto dal materiale bensì anche da altre caratteristiche di qualità variabili da un produttore a un altro. Poiché il prodotto rappresenta una formulazione di più sostanze, la stabilità dei materiali dei guanti non è calcolabile in anticipo e deve essere testata prima dell'impiego

##### · Tempo di permeazione del materiale dei guanti

Richiedere dal fornitore dei guanti il tempo di passaggio preciso il quale deve essere rispettato.

##### · Occhiali protettivi:



Occhiali protettivi a tenuta

IT

(continua a pagina 5)

**Scheda di dati di sicurezza**  
ai sensi del regolamento 1907/2006/CE, Articolo 31

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**Denominazione commerciale: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

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### SEZIONE 9: Proprietà fisiche e chimiche

· **9.1 Informazioni sulle proprietà fisiche e chimiche fondamentali**

· **Indicazioni generali**

· **Aspetto:**

· **Forma:**

Liquido

· **Colore:**

In conformità con la denominazione del prodotto

· **Odore:**

Caratteristico

· **Soglia olfattiva:**

Non definito.

· **valori di pH a 20 °C:**

7,4

· **Cambiamento di stato**

· **Punto di fusione/punto di congelamento:**

Non definito.

· **Punto di ebollizione iniziale e intervallo di ebollizione:**

100 °C

· **Punto di infiammabilità:**

Non applicabile.

· **Infiammabilità (solidi, gas):**

Non applicabile.

· **Temperatura di decomposizione:**

Non definito.

· **Temperatura di autoaccensione:**

Prodotto non autoinfiammabile.

· **Proprietà esplosive:**

Prodotto non esplosivo.

· **Limiti di infiammabilità:**

· **Inferiore:**

Non definito.

· **Superiore:**

Non definito.

· **Tensione di vapore a 20 °C:**

23 hPa

· **Densità:**

Non definito.

· **Densità relativa**

Non definito.

· **Densità di vapore:**

Non definito.

· **Velocità di evaporazione**

Non definito.

· **Solubilità in/Miscibilità con acqua:**

Poco e/o non miscibile.

· **Coefficiente di ripartizione: n-ottanolo/acqua:** Non definito.

· **Viscosità:**

· **Dinamica:**

Non definito.

· **Cinematica:**

Non definito.

· **Tenore del solvente:**

· **Acqua:**

96,9 %

· **VOC (CE)**

0,00 %

· **Contenuto solido:**

0,0 %

· **9.2 Altre informazioni**

Non sono disponibili altre informazioni.

### SEZIONE 10: Stabilità e reattività

· **10.1 Reattività** Non sono disponibili altre informazioni.

· **10.2 Stabilità chimica**

· **Decomposizione termica/ condizioni da evitare:** Il prodotto non si decompone se utilizzato secondo le norme.

· **10.3 Possibilità di reazioni pericolose** Non sono note reazioni pericolose.

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**Scheda di dati di sicurezza**  
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- **10.4 Condizioni da evitare** Non sono disponibili altre informazioni.
- **10.5 Materiali incompatibili:** Non sono disponibili altre informazioni.
- **10.6 Prodotti di decomposizione pericolosi:** Non sono noti prodotti di decomposizione pericolosi.

### SEZIONE 11: Informazioni tossicologiche

- **11.1 Informazioni sugli effetti tossicologici**

- **Tossicità acuta**  
Nocivo se inalato.

- **Valori LD/LC50 rilevanti per la classificazione:**

#### 111-30-8 glutarale

|         |      |                      |
|---------|------|----------------------|
| Orale   | LD50 | 134 mg/kg (rat)      |
| Cutaneo | LD50 | 2.560 mg/kg (rabbit) |

- **Irritabilità primaria:**
- **Corrosione/irritazione cutanea**  
Provoca irritazione cutanea.
- **Lesioni oculari gravi/irritazioni oculari gravi**  
Provoca gravi lesioni oculari.
- **Sensibilizzazione respiratoria o cutanea**  
Può provocare sintomi allergici o asmatici o difficoltà respiratorie se inalato.  
Può provocare una reazione allergica cutanea.
- **Effetti CMR (cancerogenicità, mutagenicità e tossicità per la riproduzione)**
- **Mutagenicità delle cellule germinali**  
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Cancerogenicità** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Tossicità per la riproduzione** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione singola**  
Può irritare le vie respiratorie.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione ripetuta**  
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Pericolo in caso di aspirazione** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

### SEZIONE 12: Informazioni ecologiche

- **12.1 Tossicità**
- **Tossicità acquatica:** Non sono disponibili altre informazioni.
- **12.2 Persistenza e degradabilità** Non sono disponibili altre informazioni.
- **12.3 Potenziale di bioaccumulo** Non sono disponibili altre informazioni.
- **12.4 Mobilità nel suolo** Non sono disponibili altre informazioni.
- **Effetti tossici per l'ambiente:**
- **Osservazioni:**  
Tossico per i pesci.  
Nocivo per i pesci.
- **Ulteriori indicazioni in materia ambientale:**
- **Ulteriori indicazioni:**  
Pericolosità per le acque classe 2 (D) (Autoclassificazione): pericoloso  
Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature.  
Pericolo per le acque potabili anche in caso di perdite nel sottosuolo di piccole quantità di prodotto.  
Tossico per pesci e plancton.  
tossico per gli organismi acquatici  
nocivo per gli organismi acquatici

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**Scheda di dati di sicurezza**  
ai sensi del regolamento 1907/2006/CE, Articolo 31

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- **12.5 Risultati della valutazione PBT e vPvB**
- **PBT:** Non applicabile.
- **vPvB:** Non applicabile.
- **12.6 Altri effetti avversi** Non sono disponibili altre informazioni.

### **SEZIONE 13: Considerazioni sullo smaltimento**

- **13.1 Metodi di trattamento dei rifiuti**
- **Consigli:** Non smaltire il prodotto insieme ai rifiuti domestici Non immettere nelle fognature.
- **Imballaggi non puliti:**
- **Consigli:** Smaltimento in conformità con le disposizioni amministrative.

### **SEZIONE 14: Informazioni sul trasporto**

- |   |                  |
|---|------------------|
| · <b>14.1 Numero ONU</b>  |                  |
| · <b>ADR, ADN, IMDG, IATA</b>   | non applicabile  |
| · <b>14.2 Nome di spedizione dell'ONU</b>   |                  |
| · <b>ADR, ADN, IMDG, IATA</b>   | non applicabile  |
| · <b>14.3 Classi di pericolo connesso al trasporto</b>                              |                  |
| · <b>ADR, ADN, IMDG, IATA</b>   |                  |
| · <b>Classe</b>   | non applicabile  |
| · <b>14.4 Gruppo di imballaggio</b>   |                  |
| · <b>ADR, IMDG, IATA</b>  | non applicabile  |
| · <b>14.5 Pericoli per l'ambiente:</b>  | Non applicabile. |
| · <b>14.6 Precauzioni speciali per gli utilizzatori</b>                             | Non applicabile. |
| · <b>14.7 Trasporto di rinfuse secondo l'allegato II di MARPOL ed il codice IBC</b> | Non applicabile. |
| · <b>UN "Model Regulation":</b>   | non applicabile  |

### **SEZIONE 15: Informazioni sulla regolamentazione**

- **15.1 Disposizioni legislative e regolamentari su salute, sicurezza e ambiente specifiche per la sostanza o la miscela**
- **Direttiva 2012/18/UE**
- **Sostanze pericolose specificate - ALLEGATO I** Nessuno dei componenti è contenuto.
- **REGOLAMENTO (CE) n. 1907/2006 ALLEGATO XVII** Restrizioni: 3
- **15.2 Valutazione della sicurezza chimica:** Una valutazione della sicurezza chimica non è stata effettuata.

### **SEZIONE 16: Altre informazioni**

I dati sono riportati sulla base delle nostre conoscenze attuali, non rappresentano tuttavia alcuna garanzia delle caratteristiche del prodotto e non motivano alcun rapporto giuridico contrattuale.

- **Fraasi rilevanti**
- H301 Tossico se ingerito.
- H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.

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**Scheda di dati di sicurezza**  
**ai sensi del regolamento 1907/2006/CE, Articolo 31**

Stampato il: 10.09.2018

Revisione: 10.09.2018

**Denominazione commerciale: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

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*H317 Può provocare una reazione allergica cutanea.**H330 Letale se inalato.**H334 Può provocare sintomi allergici o asmatici o difficoltà respiratorie se inalato.**H335 Può irritare le vie respiratorie.**H400 Molto tossico per gli organismi acquatici.**H411 Tossico per gli organismi acquatici con effetti di lunga durata.***· Abbreviazioni e acronimi:***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**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)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Acute Tox. 3: Tossicità acuta – Categoria 3**Acute Tox. 2: Tossicità acuta – Categoria 2**Acute Tox. 4: Tossicità acuta – Categoria 4**Skin Corr. 1B: Corrosione/irritazione della pelle – Categoria 1B**Skin Irrit. 2: Corrosione/irritazione della pelle – Categoria 2**Eye Dam. 1: Gravi lesioni oculari/irritazione oculare – Categoria 1**Resp. Sens. 1: Sensibilizzazione delle vie respiratorie – Categoria 1**Skin Sens. 1: Sensibilizzazione della pelle – Categoria 1**Skin Sens. 1A: Sensibilizzazione della pelle – Categoria 1A**STOT SE 3: Tossicità specifica per organi bersaglio (esposizione singola) – Categoria 3**Aquatic Acute 1: Pericoloso per l'ambiente acquatico - pericolo acuto per l'ambiente acquatico – Categoria 1**Aquatic Chronic 2: Pericoloso per l'ambiente acquatico - pericolo a lungo termine per l'ambiente acquatico – Categoria 2**Aquatic Chronic 3: Pericoloso per l'ambiente acquatico - pericolo a lungo termine per l'ambiente acquatico – Categoria 3*

기압점: 2018.09.10

개정: 2018.09.10

## 1 화학제품과 회사에 관한 정보

제품제품제별자

· **제품명:** GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4

· **상품번호:** 16538-05, 16538-10, 16538-05-SP

해당 해당 물질이나 혼합물(와) 관련 위험도 및 사용 금지용도 추가적인 정보가 존재하지 않습니다.

· **제품의 권고 용도와 사용 생애의 제한:** 실험실 화학품

· **안전데이터표(Safety Data Sheet)내 공급 업체 관련 상세 정보**

· **제조사/수입자/유통 업체 정보**

Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com

Samchang Commercial Co., Ltd.  
Yeo Eui Do  
PO Box 1110  
Seoul, Korea  
Tel: 82 2 703 3040  
Fax: 82 2 717 3298

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Daedok Science, Co. Ltd.  
34141 E10 Korea Advanced Institute of Science  
Guseong-Dong, Yuseong-gu, Daejeon,  
Korea  
Phone: 82 42 710 2091  
Fax: 82 42 367 0005  
Website: www.labsmro.com

· **추가적인 정보:** 안전보건보건가능 department safety department

· **비상연락 전화번호:**

ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 유해성·위험성

· **순물질 또는 혼합물(와) 분류분류**



건강에 위험

호흡기 과민성 - 구분 1

H334 흡입시 알레르기성 반응, 천식 또는 호흡 곤란을 일으킬 수 있음



부식

심한 눈 손상성/눈 자극성 - 구분 1

H318 눈에 심한 손상을 일으킴



급성 독성 - 흡입 - 구분 4

H332 흡입하면 유해함

(2 쪽에 계속)

# 물질안전보건자료

## GHS에 따라라따

기압점: 2018.09.10

개정: 2018.09.10

**제품명: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(1 쪽부터계속)

- 피부 부식성/피부 자극성 - 구분 2 H315 피부에 자극을 일으킴
- 피부 과민성 - 구분 1 H317 알레르기성 피부 반응을 일으킬 수 있음
- 특정표적장기 독성 - 1회 노출 - 구분 3 H335 호흡기계 자극을 일으킬 수 있음
- 수생환경 유해성 - 만성3 H412 장기적인 영향에 의해 수생생물에게 유해함

**라벨표가 요소요소**

**라벨라벨과발 요소**

본 제품은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.

**그림문자**



GHS05 GHS07 GHS08

**신호어 위험**

**상표상에명확히위험성이표시된성분:**

글루타르알데히드

유해 **위험** 문구

- 흡입하면 유해함
- 피부에 자극을 일으킴
- 눈에 심한 손상을 일으킴
- 흡입시 알레르기성 반응, 천식 또는 호흡 곤란을 일으킬 수 있음
- 알레르기성 피부 반응을 일으킬 수 있음
- 호흡기계 자극을 일으킬 수 있음
- 장기적인 영향에 의해 수생생물에게 유해함

**예방조치 문구문구**

- 눈에 물으면 몇 분간 물로 조심해서 씻으시오. 가능하면콘택트렌즈를 제거하시오. 계속 씻으시오.
- 즉시 독성물질센터/병원 연락 필요.
- (라벨 참조) 처치를 하시오.
- 오염된 의복은 벗고 다시 사용 전 세척하시오.
- 잠금장치가 있는 저장장소에 저장하시오.
- 현지/지역/국가/국제 규정에 따라서 내용물/용기 노출

기타기타 **위험성**

- PBT(잔류성, 생물농축성, 물질독성) 및 vPvB(고 잔류성, 고 생물농축성, 물질독성) 평가 결과
- PBT(잔류성, 생물농축성, 물질독성) 물질 해당사항 없음.
- vPvB(고 잔류성, 고 생물농축성, 물질독성) 물질 해당사항 없음.

### 3 구성성분의 명칭 및 함유량

**· 화학적 특성: 혼합물**

설명설명 설명한 첨가물이 함유된 아래에 열거된 물질로 만들어진 혼합물.

**· 위험 요소요소**

|          |  |           |
|----------|--|-----------|
| 111-30-8 | 글루타르알데히드<br>급성 독성 - 경구 - 구분 3, H301; 급성 독성 - 흡입 - 구분 2, H330;  호흡기 과민성 - 구분 1, H334;  피부 부식성/피부 자극성 - 구분 1, H314;  수생환경 유해성 - 급성 1, H400; 수생환경 유해성 - 만성2, H411;  피부 과민성 - 구분 1, H317; 특정표적장기 독성 - 1회 노출 - 구분 3, H335 | >2.5-≤10% |
|----------|--|-----------|

KR

(3 쪽에계속)

# 물질안전보건자료 GHS에 따라라따

기압점: 2018.09.10

개정: 2018.09.10

**제품명: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(2 쪽부터 계속)

## 4 응급조치 요령

- **응급조치요령 내용내용**
- **일반적 정보정보**  
중독 증상은 몇 시간 이 지난 뒤에 발생할 수 있다. 따라서 사고가 발생한 후에 적어도 48 시간 동안은 의료진의 관찰을 받아야 한다.
- **흡입했을 때:**  
신선한 공기를 쐬고 나서 반드시 의료진의 도움을 구한다.  
환자가 의식을 잃었을 경우에는 안전한 자세에서 환자를 운반한다.
- **피부에 접촉했을 때:** 즉시 물과 비누로 씻고 잘 행군다.
- **눈에 눈에 들어갔을 때:** 흐르는 물에 눈을 몇 분 동안 씻어내고 나서, 의사와 상담한다
- **먹었을 때:** 즉시 의사의 도움을 구한다.
- **기타 기타 화학의 주의사항:**  
가장 가장 중요한 급성 중독 증상은 영향 영향적인 정보가 존재하지 않습니다.  
· **즉각적인 의료 처치 및 특별 치료가 필요함을 시사하는 징후 증상**적인 정보가 존재하지 않습니다.

## 5 폭발·화재시 대처방법

- **소화제**
- **적절한 소화제:** 주변 환경에 맞는 화재 진화 방법을 사용한다.
- **본 화학 물질이나 혼합물에서 발생 특별 특별 위험성** 추가적인 정보가 존재하지 않습니다.
- **소방관**에 대한 **대응 사항**
- **화재 화재 예방** 관련 **안전** 보호구 및 **예방 조치:** 호흡 보호 장비 설치.

## 6 누출 사고 시 대처방법

- **개인적 예방 조치, 보호 장비 및 응급 처치 절차** 없음.
- **환경 환경 관련 예방 조치:**  
하천이나 하수도로 유입되었을 경우 해당 관청에 보고한다.  
하수도 망/해수면 위 의 물/지하 수로도 달하지 않게 한다.
- **밀폐 밀폐 용기 용기 용기 소재 소재**  
액체가 혼합된 물질 (모래, 규조 토, 산성 결합 물, 일반 결합 물, 톱밥)에 흡입되도록 한다.  
항목 13에 따라 오염된 물질을 쓰레기로 처분한다.  
충분한 환기가 되도록 한다.
- **식별 식별 정보 정보 참조**  
안전 관리에 대한 정보는 제 7 장 을 참고하시오.  
개인 보호 장비에 대한 정보는 제 8 장 을 참고하시오.  
쓰레기 처리에 대한 정보는 제 13 장 을 참고하시오.

## 7 취급 및 저장방법

- **취급 취급 취급**
- **안전 안전 예방**을 위한 **예방 조치**  
작업장에서는 통풍이 잘 되고/습기 제거가 잘 되게 주의한다.  
연무질이 형성되는 것을 피한다.
- **화재 화재 예방** 관련 **안전** 정보 정보 별 한 조 치 가 필 요 없 음.
- **혼합 위험성** 관련 **안전** 정보 정보 별 한 조 치 가 필 요 없 음.
- **보관 보관 보관**
- **안전 안전 예방** 관련 **안전** 정보 정보 별 한 조 치 가 필 요 없 음.
- **하수도 공중 공중 보**에 대한 **안전** 정보 정보 별 한 조 치 가 필 요 없 음

(4 쪽에 계속)

# 물질안전보건자료 GHS에 따라라따

기압점: 2018.09.10

개정: 2018.09.10

**제품명: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(3 쪽부터 계속)

- 보관 조건에 관한 추가적인 정보를 새지않게 밀폐한 채 보관한다.
- 구체적 최종 사용자 추가적인 정보가 존재하지 않습니다.

## 8 노출방지 및 개인보호구

- 첨단시설 디자입에 대한 추가정보: 더 이상 의 자료는 없음. 항 목 7 을 참고하시 오.

통제 통제 통제 변수

|                            |   |
|----------------------------|---|
| · 화학물질의 노출기준, 생물학적 노출기준 등: |   |
| 111-30-8 글루타르알데히드          |   |
| TLV (KR)                   | 최고노출기준: 0.05 ppm  |
| REL (US)                   | 최고노출기준: 0.8 mg/m <sup>3</sup> , 0.2 ppm<br>See Pocket Guide App. C              |
| TLV (US)                   | 최고노출기준: 0.2 mg/m <sup>3</sup> , 0.05 ppm<br>DSEN;RSEN ;activated or inactivated |

- 추가정보정보조 할 당시에 유효한 목록을 기초로 사용했다.

노출 통제 통제 통제  
개인 개인 개인 구

### · 일반적보호조치및위생조치:

- 식료품, 음료수와 사료로부터 멀리 떨어져 두는 다.
- 더러워지거나 음료수가 묻은 옷은 즉시 탈의한다.
- 휴식 전 이나 작업이 끝날때마다 손을 씻는다.
- 피부와의 접촉을 피한다.
- 눈과 피부와의 접촉은 피한다.

### · 호흡기 보호보호

- 단 시간 또는 경미한 오염의 경우에는 호흡 여과기를 사용한다. 심각한 또는 장기간 노출시에는 호흡보호장비를 사용한다.

### · 눈 보호보호



보호용 장갑

장갑재질은제품 / 원료 / 조제를투과시키지않아야하고, 내구성이있어야한다.  
테스트를 하지 않았기 때문에 제품 / 조제 / 화학 혼합 물에 적합한 장갑재질에 대한 추천이 없다.  
투과 시간, 침투율 과 저하를 고려해서 장갑 재료를 선택한다.

### · 장갑 의재료

적합한장갑의선택은재질차이뿐아니라품질기준의차이도고려하여이루어져야하고제조업종에따라서도다르게선택되어야한다. 제품은다양한재료로부터의조제로이루어지는것이기때문에, 장갑재질의안정성은사전에예측되어질수있는것이아니고, 반드시사용전에 (그안전성이) 체크되어야한다.

- 장갑 재료 의 투과 시간 정확한관통시간은보호장갑제조자에의하여인지되고, 준수되어야한다.

### · 눈 보호보호



확조이는보안경

KR

(5 쪽에 계속)

# 물질안전보건자료

## GHS에 따라라따

기압점: 2018.09.10

개정: 2018.09.10

**제품명: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(4 쪽부터계속)

### 9 물리화학적 특성

기본 물리화학적 특성에 대한 정보

|                    |                     |
|--------------------|---------------------|
| <b>· 일반정보</b>      |                     |
| 외형외형의형             | 액체의                 |
| · 물리적 상태           | 제품 표시에 따름           |
| · 색:               | 특색있는                |
| 냄새냄새냄새             | 알맞지않다.              |
| · 후각역치             |                     |
| · pH 의경우 20 °C:    | 7.4                 |
| · 상태변화             |                     |
| · 녹는점/어는점:         | 맞지않는                |
| 초기초기 녹는 점과 끓는점범위범위 | 100 °C              |
| · 인화점:             | 해당사항 없음.            |
| · 인화성 고체/기체/기체     | 해당사항 없음.            |
| 분해분해온도             | 알맞지않다.              |
| · 자기점화:            | 이제품은자연발화성이없다.       |
| · 폭발위험:            | 이제품은폭발위험성이없다        |
| 인화 안전성/폭발 위험성 상한하한 |                     |
| · 아래로:             | 알맞지않다.              |
| 위로위로               | 알맞지않다.              |
| · 증기압 의경우 20 °C:   | 23 hPa              |
| 밀도밀도밀도             | 맞지않는다.              |
| 비중비중비중             | 알맞지않다.              |
| · 증기밀도:            | 알맞지않다.              |
| 증발 증발 증발 속도        | 알맞지않다.              |
| · 용해도:             |                     |
| · 물:               | 각각의경우에따라서는거의혼합할수없는  |
| · n 옥탄올/물 분배계수:    | 알맞지않다.              |
| 점도점도점도             |                     |
| · 역학성:             | 알맞지않다.              |
| · 동점성:             | 알맞지않다.              |
| · 용매 내용물           |                     |
| · 물:               | 96.9 %              |
| · VOC (EU)         | 0.00 %              |
| · 고체 양 함량 함량       | 0.0 %               |
| 기타 정보 정보           | 추가적인 정보가 존재하지 않습니다. |

### 10 안정성 및 반응성

- 반응성 추가적인 정보가 존재하지 않습니다.
- 화학적 안정성
- 화학적 안정성/유해 반응의 가능성 / 피해 예방 조건 조건에 따라 사용할 경우 해체는 없다
- 유해 반응 가능성 위험한 반응으로 알려지지 않았다.
- 피해 예방 조건 조건에 대한 정보가 존재하지 않습니다.

(6 쪽에계속)



# 물질안전보건자료 GHS에 따라 라다

기압점: 2018.09.10

개정: 2018.09.10

**제품명: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

(5 쪽부터 계속)

혼합 혼합물의 경우, 물질 추가적인 정보가 존재하지 않습니다.  
· 유해분해물질: 위험성있는 분해물질은 알려지지 않았다.

## 11 독성에 관한 정보

· 독성학적 영향에 대한 기본적인 정보  
급성 독성 독성 독성

· LD/LC50-수 체에 따른 분류

|                          |      |                      |
|--------------------------|------|----------------------|
| <b>111-30-8 글루타르알데히드</b> |      |                      |
| 구강의                      | LD50 | 134 mg/kg (rat)      |
| 피부의                      | LD50 | 2,560 mg/kg (rabbit) |

· **일차적 자극 효과**  
피부 피부 부식성 또는 자극성: 피부와 점막을 자극한다.  
심한 심한 자극성 또는 자극성: 심각한 안구상처의 위험이 있는 강한 자극

· **감각화:**  
호흡을 통한 감각화 가능성이 있다.  
피부 접촉을 통하여 감각화 가능성이 있다.

· **추가적인 독성에 관한 정보**  
이제 제품은 유럽 공동체의 공동 분류 원칙의 합법적인 절차에 근거하여 최근에 발효된 원고에서 아래 위험들의 사전 준비에 대하여 제시하고 있다.  
건강에 해로운  
자극적인

## 12 환경에 미치는 영향

독성독성독성

- 수생독성: 추가적인 정보가 존재하지 않습니다.
- 지속성 및 분해성: 추가적인 정보가 존재하지 않습니다.
- 환경 시스템에서의 행동:
- 생물농축 잠재성: 추가적인 정보가 존재하지 않습니다.
- 토양 내 이동성: 추가적인 정보가 존재하지 않습니다.
- 생태독성:

의견의견의견

- 어류에 독이 됨
- 어류에 해로움
- 추가적인 생태학 정보 정보

일반 일반 일반 특징

수질 오염 등급 2 (자체 등급 분류): 수질 오염이 된 지하수나, 하천으로 또는 하수도망에도 닿지 않게 한다.  
지하수로 경미한 양이 유입되었을 경우 엔이미식수 오염 상태이다.  
하천에서는 역시 물고기나 플랑크톤에게는 독성이 있다.  
물속의 유기체에 독이 되는 것  
물속의 유기체에 해가 되는 것

- PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 물질에 대한 평가 결과
- PBT(잔류성, 생물농축성, 독성 물질) 물질에 해당 사항 없음.
- vPvB(고 잔류성, 고 생물농축성 물질) 물질에 해당 사항 없음.

기타 기타 **부작용** 추가적인 정보가 존재하지 않습니다.

KR

(7 쪽에 계속)

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(6 쪽부터계속)

### 13 폐기시 주의사항

- 폐기물 처리 방법  
권고 권고 생활 쓰레기와 함께 처리되어서는 안된다. 하수도망으로 유입되어서는 안된다.
- 비위생적 포장 포장  
권고 권고 국외의 지침에 입각한 쓰레기 처리.

### 14 운송에 필요한 정보

|  |          |
|--|----------|
| 유엔 유엔 번호<br>· ADR, ADN, IMDG, IATA   | 누락되다     |
| · 적정적정<br>· ADR, ADN, IMDG, IATA   | 누락되다     |
| 교통 교통<br>· ADR, ADN, IMDG, IATA  | 누락되다     |
| · 용기등급<br>· ADR, IMDG, IATA  | 누락되다     |
| · 환경적 유해물질:  | 해당사항 없음. |
| · 이동지 특별 조치  | 해당사항 없음. |
| · MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른<br>· 벌크 벌크 운송 운송 | 해당사항 없음. |
| · 위험도 위험도  | 누락되다     |

### 15 법적 규제현황

- 산업안전보건법에 의해 규제

|              |                      |  |
|--------------|----------------------|--|
| 제조제조 금지 물질:  | 어떠한 내용물도 목록화 되어있지 않다 |  |
| · 허가대상 물질:   | 어떠한 내용물도 목록화 되어있지 않다 |  |
| · 관리대상 유해물질: | 111-30-8   글루타르알데히드  |  |

해당 해당 물질 또는 혼합물에 대한 국내 안전 규정 환경 규정 법률

|   |  |          |
|---|--|----------|
| · Korean Existing Chemical Inventory              |  |          |
| 111-30-8   글루타르알데히드                               |  | KE-27969 |
| 7558-79-4   disodium hydrogenorthophosphate       |  | KE-12344 |
| 7732-18-5   Deionized Water, Reagent Grade A.C.S. |  | KE-35400 |

- 화학물질관리법
- 사고대비물질

|                      |
|----------------------|
| 어떠한 내용물도 목록화 되어있지 않다 |
|----------------------|

(8 쪽에 계속)

# 물질안전보건자료

## GHS에 따라라따

기압점: 2018.09.10

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(7 쪽부터계속)

|                  |          |
|------------------|----------|
| <b>· 금지물질</b>    |          |
| 어떠한내용물도목록화되어있지않다 |          |
| <b>· 제한물질</b>    |          |
| 어떠한내용물도목록화되어있지않다 |          |
| <b>· 유독물질</b>    |          |
| 111-30-8         | 글루타르알데히드 |
| <b>· 허가물질</b>    |          |
| 111-30-8         | 글루타르알데히드 |

**· 라벨 라벨 요소**  
본 제품은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.

**· 그림문자**



GHS05    GHS07    GHS08

**· 신호어 위험**

**· 상표상에명확히위험성이표시된성분:**

**글루타르알데히드**  
 유해 **유해유해유해유해** 문구  
 흡입하면 유해함  
 피부에 자극을 일으킴  
 눈에 심한 손상을 일으킴  
 흡입시 알레르기성 반응, 천식 또는 호흡 곤란을 일으킬 수 있음  
 알레르기성 피부 반응을 일으킬 수 있음  
 호흡기계 자극을 일으킬 수 있음  
 장기적인 영향에 의해 수생생물에게 유해함

**· 예방 조차 문구**

눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면콘택트렌즈를 제거하십시오. 계속 씻으시오.  
 즉시 독성물질센터/병원 연락 필요.  
 (라벨 참조) 처치를 하시오.  
 오염된 의복은 벗고 다시 사용 전 세척하십시오.  
 잠금장치가 있는 저장장소에 저장하십시오.  
 현지/지역/국가/국제 규정에 따라서 내용물/용기 노출  
**· 화학물질 안전성 평가** 화학물질 안전성 평가가 수행되지 않음

### 16 그 밖의 참고사항

이보고는우리지식에대한오늘날의상태에대하여평가하고있다, 하지만이보고서는생산특성에관한보증은 기술하지않았으며계약적인법률관계에기반을두고있지도않다

최초 **최초 작성 일자:** 2018.09.10  
개정 **개정 일자:** 1 / 2018.09.10

**· 약어와 두문자어:**

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  
 IATA: International Air Transport Association  
 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)  
 VOC: Volatile Organic Compounds (USA, EU)

(9 쪽에계속)

# 물질안전보건자료

GHS에 따라라따

기압점: 2018.09.10

개정: 2018.09.10

**제품명: GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4**

LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative

(8 쪽부터계속)

KR

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 10.09.2018

Revisión: 10.09.2018

### SECCIÓN 1: Identificación de la sustancia o la mezcla y de la sociedad o la empresa

#### · 1.1 Identificador del producto

· **Nombre comercial:** GLUTARALDEHYDE 3% IN PHOSPHATE BUFFER, PH 7.4

· **Número del artículo:** 16538-05, 16538-10, 16538-05-SP

· **1.2 Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados**  
No existen más datos relevantes disponibles.

· **Utilización del producto / de la elaboración** Sustancias químicas de laboratorio

#### · 1.3 Datos del proveedor de la ficha de datos de seguridad

##### · **Fabricante/distribuidor:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

Tel: 215-412-8400 Fax: 215-412-8450

email: [info@emsdiasum.com](mailto:info@emsdiasum.com)

[www.emsdiasum.com](http://www.emsdiasum.com)

Aname

C/ Perez Galdos no. 2

28693 Quijorna

Madrid, Spain

Tel: +34.91.816.89.50

Fax: +34.91.816.85.94

email: [ventas@aname.es](mailto:ventas@aname.es)

· **Área de información:** Product safety department

#### · 1.4 Teléfono de emergencia:

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

### SECCIÓN 2: Identificación de los peligros

#### · 2.1 Clasificación de la sustancia o de la mezcla

· **Clasificación con arreglo al Reglamento (CE) n° 1272/2008**



GHS08 peligro para la salud

Resp. Sens. 1      H334 Puede provocar síntomas de alergia o asma o dificultades respiratorias en caso de inhalación.



GHS05 corrosión

Eye Dam. 1      H318 Provoca lesiones oculares graves.



GHS07

Acute Tox. 4      H332 Nocivo en caso de inhalación.

Skin Irrit. 2      H315 Provoca irritación cutánea.

Skin Sens. 1      H317 Puede provocar una reacción alérgica en la piel.

STOT SE 3      H335 Puede irritar las vías respiratorias.

Aquatic Chronic 3 H412 Nocivo para los organismos acuáticos, con efectos nocivos duraderos.

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- **2.2 Elementos de la etiqueta**
- **Etiquetado con arreglo al Reglamento (CE) n° 1272/2008**  
El producto se ha clasificado y etiquetado de conformidad con el reglamento CLP.
- **Pictogramas de peligro**



GHS05 GHS07 GHS08

- **Palabra de advertencia Peligro**
- **Componentes peligrosos a indicar en el etiquetaje:**  
glutaral
- **Indicaciones de peligro**  
H332 Nocivo en caso de inhalación.  
H315 Provoca irritación cutánea.  
H318 Provoca lesiones oculares graves.  
H334 Puede provocar síntomas de alergia o asma o dificultades respiratorias en caso de inhalación.  
H317 Puede provocar una reacción alérgica en la piel.  
H335 Puede irritar las vías respiratorias.  
H412 Nocivo para los organismos acuáticos, con efectos nocivos duraderos.
- **Consejos de prudencia**  
P305+P351+P338 **EN CASO DE CONTACTO CON LOS OJOS:** Aclarar cuidadosamente con agua durante varios minutos. Quitar las lentes de contacto, si lleva y resulta fácil. Seguir aclarando.  
P310 Llamar inmediatamente a un CENTRO DE TOXICOLOGÍA/médico.  
P321 Se necesita un tratamiento específico (ver en esta etiqueta).  
P362+P364 Quitar las prendas contaminadas y lavarlas antes de volver a usarlas.  
P405 Guardar bajo llave.  
P501 Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional.
- **2.3 Otros peligros**
- **Resultados de la valoración PBT y mPmB**
- **PBT:** No aplicable.
- **mPmB:** No aplicable.

**SECCIÓN 3: Composición/información sobre los componentes**

- **3.2 Caracterización química: Mezclas**
- **Descripción:** Mezcla formada por las sustancias especificadas a continuación con adiciones no peligrosas.

· **Componentes peligrosos:**

|                   |  |           |
|-------------------|--|-----------|
| CAS: 111-30-8     | glutaral   | >2,5-≤10% |
| EINECS: 203-856-5 | Acute Tox. 3, H301; Acute Tox. 2, H330;  Resp. Sens. 1, H334;  Skin Corr. 1B, H314;  Aquatic Acute 1, H400; Aquatic Chronic 2, H411;  Skin Sens. 1A, H317; STOT SE 3, H335 |           |

- **Indicaciones adicionales:** El texto de los posibles riesgos aquí indicados se puede consultar en el capítulo 16.

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### SECCIÓN 4: Primeros auxilios

- **4.1 Descripción de los primeros auxilios**
- **Instrucciones generales:**  
Los síntomas de intoxicación pueden presentarse después de muchas horas, por lo que se requiere una supervisión médica durante un mínimo de 48 horas después del accidente.
- **En caso de inhalación del producto:**  
Suministrar suficiente aire fresco y, para mayor seguridad, consultar el médico.  
Las personas desmayadas deben tenderse y transportarse de lado con la suficiente estabilidad.
- **En caso de contacto con la piel:** Lavar inmediatamente con agua y jabón y enjuagar bien.
- **En caso de con los ojos:**  
Limpiar los ojos abiertos durante varios minutos con agua corriente y consultar un médico.
- **En caso de ingestión:** Consultar inmediatamente un médico.
- **4.2 Principales síntomas y efectos, agudos y retardados** No existen más datos relevantes disponibles.
- **4.3 Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente**  
No existen más datos relevantes disponibles.

### SECCIÓN 5: Medidas de lucha contra incendios

- **5.1 Medios de extinción**
- **Sustancias extintoras apropiadas:** Combatir los incendios con medidas adaptados al ambiente circundante.
- **5.2 Peligros específicos derivados de la sustancia o la mezcla** No existen más datos relevantes disponibles.
- **5.3 Recomendaciones para el personal de lucha contra incendios**
- **Equipo especial de protección:** Colocarse la protección respiratoria.

### SECCIÓN 6: Medidas en caso de vertido accidental

- **6.1 Precauciones personales, equipo de protección y procedimientos de emergencia** No es necesario.
- **6.2 Precauciones relativas al medio ambiente:**  
Al penetrar en las aguas o en el alcantarillado, avisar a las autoridades pertinentes.  
Evitar que penetre en la canalización /aguas de superficie /agua subterráneas.
- **6.3 Métodos y material de contención y de limpieza:**  
Quitar con material absorbente (arena, kieselgur, aglutinante de ácidos, aglutinante universal, aserrín).  
Desechar el material contaminado como vertido según ítem 13.  
Asegurar suficiente ventilación.
- **6.4 Referencia a otras secciones**  
Ver capítulo 7 para mayor información sobre una manipulación segura.  
Ver capítulo 8 para mayor información sobre el equipo personal de protección.  
Para mayor información sobre cómo desechar el producto, ver capítulo 13.

### SECCIÓN 7: Manipulación y almacenamiento

- **7.1 Precauciones para una manipulación segura**  
Asegurar suficiente ventilación /aspiración en el puesto de trabajo.  
Evitar la formación de aerosoles.
- **Prevención de incendios y explosiones:** No se requieren medidas especiales.
- **7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**
- **Almacenamiento:**
- **Exigencias con respecto al almacén y los recipientes:** No se requieren medidas especiales.
- **Normas en caso de un almacenamiento conjunto:** No es necesario.

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- **Indicaciones adicionales sobre las condiciones de almacenamiento:**  
Mantener el recipiente cerrado herméticamente.
- **7.3 Usos específicos finales** No existen más datos relevantes disponibles.

### SECCIÓN 8: Controles de exposición/protección individual

- **Instrucciones adicionales para el acondicionamiento de instalaciones técnicas:**  
Sin datos adicionales, ver punto 7.

#### · 8.1 Parámetros de control

- **Componentes con valores límite admisibles que deben controlarse en el puesto de trabajo:**

#### 111-30-8 glutaral

|     |   |
|-----|---|
| LEP | Valor de corta duración: 0,2 mg/m <sup>3</sup> , 0,05 ppm |
|     | Sen   |

- **Indicaciones adicionales:** Como base se han utilizado las listas vigentes en el momento de la elaboración.

#### · 8.2 Controles de la exposición

##### · Equipo de protección individual:

##### · Medidas generales de protección e higiene:

- Mantener alejado de alimentos, bebidas y alimentos para animales.
- Quitarse de inmediato la ropa ensuciada o impregnada.
- Lavarse las manos antes de las pausas y al final del trabajo.
- Evitar el contacto con la piel.
- Evitar el contacto con los ojos y la piel.

##### · Protección respiratoria:

Si la exposición va a ser breve o de poca intensidad, colocarse una máscara respiratoria. Para una exposición más intensa o de mayor duración, usar un aparato de respiración autónomo.

##### · Protección de manos:



Guantes de protección

El material del guante deberá ser impermeable y resistente al producto / sustancia / preparado.

Ante la ausencia de tests específicos, no se puede recomendar ningún material específico para guantes de protección contra el producto / preparado / mezcla de sustancias químicas.

Selección del material de los guantes en función de los tiempos de rotura, grado de permeabilidad y degradación.

##### · Material de los guantes

La elección del guante adecuado no depende únicamente del material, sino también de otras características de calidad, que pueden variar de un fabricante a otro. Teniendo en cuenta que el producto está fabricado a partir de diferentes materiales, su calidad no puede ser evaluada de antemano, de modo que los guantes deberán ser controlados antes de su utilización.

##### · Tiempo de penetración del material de los guantes

El tiempo de resistencia a la penetración exacto deberá ser pedido al fabricante de los guantes. Este tiempo debe ser respetado.

##### · Protección de ojos:



Gafas de protección herméticas

ES

( se continua en página 5 )



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### SECCIÓN 9: Propiedades físicas y químicas

#### · 9.1 Información sobre propiedades físicas y químicas básicas

##### · Datos generales

##### · Aspecto:

Forma:

Líquido

Color:

Según denominación del producto

##### · Olor:

Característico

##### · Umbral olfativo:

No determinado.

##### · valor pH a 20 °C:

7,4

##### · Cambio de estado

Punto de fusión/punto de congelación:

Indeterminado.

Punto inicial de ebullición e intervalo de ebullición: 100 °C

##### · Punto de inflamación:

No aplicable.

##### · Inflamabilidad (sólido, gas):

No aplicable.

##### · Temperatura de descomposición:

No determinado.

##### · Temperatura de auto-inflamación:

El producto no es autoinflamable.

##### · Propiedades explosivas:

El producto no es explosivo.

##### · Límites de explosión:

Inferior:

No determinado.

Superior:

No determinado.

##### · Presión de vapor a 20 °C:

23 hPa

##### · Densidad:

Indeterminado.

##### · Densidad relativa

No determinado.

##### · Densidad de vapor

No determinado.

##### · Tasa de evaporación:

No determinado.

##### · Solubilidad en / miscibilidad con agua:

Poco o no mezclable.

##### · Coeficiente de reparto: n-octanol/agua:

No determinado.

##### · Viscosidad:

Dinámica:

No determinado.

Cinemática:

No determinado.

##### · Concentración del disolvente:

Agua:

96,9 %

VOC (CE)

0,00 %

Contenido de cuerpos sólidos:

0,0 %

##### · 9.2 Otros datos

No existen más datos relevantes disponibles.

### SECCIÓN 10: Estabilidad y reactividad

· 10.1 Reactividad No existen más datos relevantes disponibles.

· 10.2 Estabilidad química

· Descomposición térmica / condiciones que deben evitarse: No se descompone al emplearse adecuadamente.

· 10.3 Posibilidad de reacciones peligrosas No se conocen reacciones peligrosas.

· 10.4 Condiciones que deben evitarse No existen más datos relevantes disponibles.

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- **10.5 Materiales incompatibles:** No existen más datos relevantes disponibles.
- **10.6 Productos de descomposición peligrosos:** No se conocen productos de descomposición peligrosos.

### SECCIÓN 11: Información toxicológica

- **11.1 Información sobre los efectos toxicológicos**
- **Toxicidad aguda**  
Nocivo en caso de inhalación.

- **Valores LD/LC50 (dosis letal /dosis letal = 50%) relevantes para la clasificación:**

#### 111-30-8 glutaral

|        |      |                      |
|--------|------|----------------------|
| Oral   | LD50 | 134 mg/kg (rat)      |
| Dermal | LD50 | 2.560 mg/kg (rabbit) |

- **Efecto estimulante primario:**
- **Corrosión o irritación cutáneas**  
Provoca irritación cutánea.
- **Lesiones o irritación ocular graves**  
Provoca lesiones oculares graves.
- **Sensibilización respiratoria o cutánea**  
Puede provocar síntomas de alergia o asma o dificultades respiratorias en caso de inhalación.  
Puede provocar una reacción alérgica en la piel.
- **Efectos CMR (carcinogenicidad, mutagenicidad y toxicidad para la reproducción)**
- **Mutagenicidad en células germinales**  
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Carcinogenicidad** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad para la reproducción** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad específica en determinados órganos (STOT) – exposición única**  
Puede irritar las vías respiratorias.
- **Toxicidad específica en determinados órganos (STOT) – exposición repetida**  
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Peligro de aspiración** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

### SECCIÓN 12: Información ecológica

- **12.1 Toxicidad**
- **Toxicidad acuática:** No existen más datos relevantes disponibles.
- **12.2 Persistencia y degradabilidad** No existen más datos relevantes disponibles.
- **12.3 Potencial de bioacumulación** No existen más datos relevantes disponibles.
- **12.4 Movilidad en el suelo** No existen más datos relevantes disponibles.
- **Efectos ecotóxicos:**
- **Observación:**  
Tóxico para peces.  
Nocivo para los peces.
- **Indicaciones medioambientales adicionales:**
- **Indicaciones generales:**  
Nivel de riesgo para el agua 2 (autoclasificación): peligroso para el agua  
No dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados.  
Una cantidad mínima vertida en el subsuelo ya representa un peligro para el agua potable.  
Vertido en aguas superficiales, también es tóxico para los peces y el plancton.  
tóxico para organismos acuáticos  
nocivo para organismos acuáticos

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- **12.5 Resultados de la valoración PBT y mPmB**
- **PBT:** No aplicable.
- **mPmB:** No aplicable.
- **12.6 Otros efectos adversos** No existen más datos relevantes disponibles.

### SECCIÓN 13: Consideraciones relativas a la eliminación

- **13.1 Métodos para el tratamiento de residuos**
- **Recomendación:** No debe desecharse con la basura doméstica. No debe llegar al alcantarillado.
- **Embalajes sin limpiar:**
- **Recomendación:** Eliminar conforme a las disposiciones oficiales.

### SECCIÓN 14: Información relativa al transporte

- |   |               |
|---|---------------|
| · <b>14.1 Número ONU</b>  |               |
| · <b>ADR, ADN, IMDG, IATA</b>   | suprimido     |
| · <b>14.2 Designación oficial de transporte de las Naciones Unidas</b>                        |               |
| · <b>ADR, ADN, IMDG, IATA</b>   | suprimido     |
| · <b>14.3 Clase(s) de peligro para el transporte</b>  |               |
| · <b>ADR, ADN, IMDG, IATA</b>   |               |
| · <b>Clase</b>  | suprimido     |
| · <b>14.4 Grupo de embalaje</b>   |               |
| · <b>ADR, IMDG, IATA</b>  | suprimido     |
| · <b>14.5 Peligros para el medio ambiente:</b>  | No aplicable. |
| · <b>14.6 Precauciones particulares para los usuarios</b>                                     | No aplicable. |
| · <b>14.7 Transporte a granel con arreglo al anexo II del Convenio MARPOL y el Código IBC</b> | No aplicable. |
| · <b>"Reglamentación Modelo" de la UNECE:</b>   | suprimido     |

### SECCIÓN 15: Información reglamentaria

- **15.1 Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla**
- **Directiva 2012/18/UE**
- **Sustancias peligrosas nominadas - ANEXO I** ninguno de los componentes está incluido en una lista
- **REGLAMENTO (CE) n° 1907/2006 ANEXO XVII Restricciones:** 3
- **15.2 Evaluación de la seguridad química:** Una evaluación de la seguridad química no se ha llevado a cabo.

### SECCIÓN 16: Otra información

Los datos se fundan en el estado actual de nuestros conocimientos, pero no constituyen garantía alguna de cualidades del producto y no generan ninguna relación jurídica contractual.

- **Frases relevantes**
- H301 Tóxico en caso de ingestión.
- H314 Provoca quemaduras graves en la piel y lesiones oculares graves.

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*H317 Puede provocar una reacción alérgica en la piel.**H330 Mortal en caso de inhalación.**H334 Puede provocar síntomas de alergia o asma o dificultades respiratorias en caso de inhalación.**H335 Puede irritar las vías respiratorias.**H400 Muy tóxico para los organismos acuáticos.**H411 Tóxico para los organismos acuáticos, con efectos nocivos duraderos.***· Abreviaturas y acrónimos:***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**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)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Acute Tox. 3: Toxicidad aguda – Categoría 3**Acute Tox. 2: Toxicidad aguda – Categoría 2**Acute Tox. 4: Toxicidad aguda – Categoría 4**Skin Corr. 1B: Corrosión o irritación cutáneas – Categoría 1B**Skin Irrit. 2: Corrosión o irritación cutáneas – Categoría 2**Eye Dam. 1: Lesiones oculares graves o irritación ocular – Categoría 1**Resp. Sens. 1: Sensibilización respiratoria – Categoría 1**Skin Sens. 1: Sensibilización cutánea – Categoría 1**Skin Sens. 1A: Sensibilización cutánea – Categoría 1A**STOT SE 3: Toxicidad específica en determinados órganos ( exposición única) – Categoría 3**Aquatic Acute 1: Peligroso para el medio ambiente acuático - peligro acuático agudo – Categoría 1**Aquatic Chronic 2: Peligroso para el medio ambiente acuático - peligro acuático a largo plazo – Categoría 2**Aquatic Chronic 3: Peligroso para el medio ambiente acuático - peligro acuático a largo plazo – Categoría 3*