

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/27/2021

Reviewed on 08/27/2021

1 Identification

- **Product identifier**
- **Trade name:** Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4
- **Article number:** 15950, 16538-SPP
- **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: sgkcck@aol.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.

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 1B H350 May cause cancer.



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*

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Trade name: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Contd. of page 1)

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

Glutaraldehyde

formaldehyde

· **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.

Suspected of causing genetic defects.

May cause cancer.

May cause respiratory irritation.

· **Precautionary statements**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

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/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.

IF exposed or concerned: Get medical advice/attention.

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)**



Health = 3

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *3

Fire = 0

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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Trade name: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

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3 Composition/information on ingredients

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

- **Dangerous components:**

50-00-0	formaldehyde	>2.5-≤10%
111-30-8	Glutaraldehyde	>2.5-≤10%
124-65-2	sodium dimethylarsinate	≤2.5%

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.

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· Protective Action Criteria for Chemicals

· PAC-1:		
50-00-0	formaldehyde	0.90 ppm
111-30-8	Glutaraldehyde	0.2 ppm
124-65-2	sodium dimethylarsinate	3.2 mg/m ³
· PAC-2:		
50-00-0	formaldehyde	14 ppm
111-30-8	Glutaraldehyde	1 ppm
124-65-2	sodium dimethylarsinate	86 mg/m ³
· PAC-3:		
50-00-0	formaldehyde	56 ppm
111-30-8	Glutaraldehyde	5 ppm
124-65-2	sodium dimethylarsinate	510 mg/m ³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
 Ensure good ventilation/exhaustion at the workplace.
 Open and handle receptacle with care.
 Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **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:**
 The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
 At this time, the remaining constituent has no known exposure limits.

50-00-0 formaldehyde

PEL	Short-term value: 2 ppm Long-term value: 0.75 ppm see 29 CFR 1910.1048(c)
REL	Long-term value: 0.016 ppm Ceiling limit value: 0.1* ppm *15-min; See Pocket Guide App. A
TLV	Short-term value: 0.37 mg/m ³ , 0.3 ppm Long-term value: 0.12 mg/m ³ , 0.1 ppm DSEN; RSEN

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Trade name: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

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111-30-8 Glutaraldehyde

REL Ceiling limit value: 0.8 mg/m³, 0.2 ppm
See Pocket Guide App. C

TLV Ceiling limit value: 0.2 mg/m³, 0.05 ppm
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.

Store protective clothing separately.

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

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

· **Form:** Liquid

· **Color:** Transparent

· **Odor:** Specific type

· **Odor threshold:** Not determined.

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· 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:	
· Organic solvents:	3.0 %
· Water:	93.9 %
· VOC content:	3.00 % 491.8 g/l / 4.10 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.

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11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

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

50-00-0 formaldehyde

Oral	LD50	>200 mg/kg (rat)
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111-30-8 Glutaraldehyde

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

- **Carcinogenic categories**

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

50-00-0	formaldehyde	I
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- **NTP (National Toxicology Program)**

50-00-0	formaldehyde	K
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- **OSHA-Ca (Occupational Safety Health Administration)**

50-00-0	formaldehyde	
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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.

- **Ecotoxic effects:**

- **Remark:**

- Toxic for fish

- Harmful to fish

- **Additional ecological information:**

- **General notes:**

- Water hazard class 3 (Self-assessment): extremely hazardous for water

- Do not allow product to reach ground water, water course or sewage system, even in small quantities.

- Danger to drinking water if even extremely small quantities leak into the ground.

- Also poisonous for fish and plankton in water bodies.

- Toxic for aquatic organisms

- Harmful to aquatic organisms

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

13 Disposal considerations

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

<ul style="list-style-type: none"> · UN-Number · DOT, ADR, IMDG, IATA 	<p style="text-align: right;">UNI760</p>
<ul style="list-style-type: none"> · UN proper shipping name · DOT · ADR · IMDG, IATA 	<p style="text-align: right;">Corrosive liquids, n.o.s. (Glutaraldehyde, Formaldehyde solutions)</p> <p style="text-align: right;">1760 CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)</p> <p style="text-align: right;">CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)</p>
<ul style="list-style-type: none"> · Transport hazard class(es) · DOT 	<div style="text-align: center;">  </div> <p style="text-align: right;">8 Corrosive substances</p>
<ul style="list-style-type: none"> · Class · Label 	<p style="text-align: right;">8</p>
<ul style="list-style-type: none"> · ADR, IMDG, IATA 	<div style="text-align: center;">  </div> <p style="text-align: right;">8 Corrosive substances</p>
<ul style="list-style-type: none"> · Class · Label 	<p style="text-align: right;">8</p>
<ul style="list-style-type: none"> · Packing group · DOT, ADR, IMDG, IATA 	<p style="text-align: right;">II</p>
<ul style="list-style-type: none"> · Environmental hazards: 	<p style="text-align: right;">Not applicable.</p>
<ul style="list-style-type: none"> · Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Segregation groups 	<p style="text-align: right;">Warning: Corrosive substances</p> <p style="text-align: right;">80</p> <p style="text-align: right;">F-A,S-B</p> <p style="text-align: right;">Acids</p>

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· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 1 L On cargo aircraft only: 30 L
· ADR	
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1760 CORROSIVE LIQUID, N.O.S. (GLUTARALDEHYDE, FORMALDEHYDE SOLUTION), 8, II

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

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

50-00-0	formaldehyde
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124-65-2	sodium dimethylarsinate
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· **Section 313 (Specific toxic chemical listings):**

50-00-0	formaldehyde
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· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

50-00-0	formaldehyde
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· **Proposition 65**

· **Chemicals known to cause cancer:**

50-00-0	formaldehyde
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· **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.

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Trade name: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

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· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

50-00-0 formaldehyde	B1
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· **TLV (Threshold Limit Value established by ACGIH)**

50-00-0 formaldehyde	A2
111-30-8 Glutaraldehyde	A4

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

50-00-0 formaldehyde	
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· **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
formaldehyde

· **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.
Suspected of causing genetic defects.
May cause cancer.
May cause respiratory irritation.

· **Precautionary statements**

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
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/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.
IF exposed or concerned: Get medical advice/attention.
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.

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

· **National regulations:**

· **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

· **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** 08/27/2021 / -

· **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

Muta. 2: Germ cell mutagenicity – Category 2

Carc. 1B: Carcinogenicity – Category 1B

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

Safety Data Sheet

according to WHS Regulations

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Revision: 27.08.2021

1 Identification

- **Product identifier**
- **Trade name:** Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4
- **Article number:** 15950, 16538-SPP
- **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: sgkcck@aol.com
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
- 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
- **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.

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 1B H350 May cause cancer.



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

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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 labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms**



GHS05

GHS07

GHS08

· **Signal word** *Danger*

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

Glutaraldehyde

formaldehyde

· **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.

Suspected of causing genetic defects.

May cause cancer.

May cause respiratory irritation.

· **Precautionary statements**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

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.

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.

IF exposed or concerned: Get medical advice/attention.

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.

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(Contd. of page 2)

· **vPvB:** Not applicable.

3 Composition and Information on Ingredients

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

· **Dangerous components:**

50-00-0	formaldehyde	>2.5-≤10%
111-30-8	Glutaraldehyde	>2.5-≤10%
124-65-2	sodium dimethylarsinate	≤2.5%

· **SVHC**

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

· **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.

(Contd. on page 4)

Safety Data Sheet

according to WHS Regulations

Printing date 27.08.2021

Revision: 27.08.2021

Trade name: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Contd. of page 3)

- **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.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **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:**

50-00-0 formaldehyde

WES	Short-term value: 2.5 mg/m ³ , 2 ppm
	Long-term value: 1.2 mg/m ³ , 1 ppm
	Sen

111-30-8 Glutaraldehyde

WES	Peak limitation: 0.41 mg/m ³ , 0.1 ppm
	Sen

124-65-2 sodium dimethylarsinate

WES	Long-term value: 0.05 mg/m ³
	Note (g); as As

- **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.
Store protective clothing separately.
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.

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Safety Data Sheet

according to WHS Regulations

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Trade name: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Contd. of page 4)

· **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

9 Physical and Chemical Properties

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

· **General Information**

· **Appearance:**

- **Form:** Liquid
- **Colour:** Transparent
- **Odour:** Specific type
- **Odour threshold:** Not determined.

· **pH-value at 20 °C:** 7.4

· **Change in condition**

- **Melting point/freezing point:** Undetermined.
- **Initial boiling point and boiling range:** 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:**

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

· **Vapour pressure at 20 °C:** 23 hPa

- **Density:** Not determined.
- **Relative density** Not determined.

(Contd. on page 6)

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according to WHS Regulations

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Trade name: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Contd. of page 5)

· 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:	
· Dynamic:	Not determined.
· Kinematic:	Not determined.
· Solvent content:	
· Organic solvents:	3.0 %
· Water:	93.9 %
· VOC (EC)	3.00 %
· 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 relevant for classification:**

50-00-0 formaldehyde

Oral	LD50	>200 mg/kg (rat)
------	------	------------------

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
Carcinogenic.

(Contd. on page 7)

Safety Data Sheet according to WHS Regulations

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Trade name: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Contd. of page 6)

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Muta. 2, Carc. 1B

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 3 (German Regulation) (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
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, IMDG, IATA | UN1760 |
| · UN proper shipping name | |
| · ADG | 1760 CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION) |
| · IMDG, IATA | CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION) |

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AU

Safety Data Sheet

according to WHS Regulations

Printing date 27.08.2021

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Trade name: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Contd. of page 7)

· Transport hazard class(es)

· ADG, IMDG, IATA



· Class

8 Corrosive substances.

· Label

8

· Packing group

· ADG, IMDG, IATA

II

· Environmental hazards:

Not applicable.

· Special precautions for user

Warning: Corrosive substances.

· Hazard identification number (Kemler code):

80

· EMS Number:

F-A,S-B

· Segregation groups

Acids

· Stowage Category

B

· Stowage Code

SW2 Clear of living quarters.

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

Not applicable.

· Transport/Additional information:

· ADG

· Limited quantities (LQ)

1L

· Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· Transport category

2

· Tunnel restriction code

E

· IMDG

· Limited quantities (LQ)

1L

· Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· UN "Model Regulation":

UN 1760 CORROSIVE LIQUID, N.O.S.
(GLUTARALDEHYDE, FORMALDEHYDE SOLUTION), 8,
II

15 Regulatory information

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

· Australian Inventory of Industrial Chemicals

7732-18-5 Deionized Water, Reagent Grade A.C.S.

50-00-0 formaldehyde

111-30-8 Glutaraldehyde

· Standard for the Uniform Scheduling of Medicines and Poisons

50-00-0 formaldehyde

S2, S6, S10

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Safety Data Sheet according to WHS Regulations

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Trade name: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Contd. of page 8)

111-30-8	Glutaraldehyde	S2, S5, S6
· Australia: Priority Existing Chemicals		
50-00-0	formaldehyde	
111-30-8	Glutaraldehyde	

- **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

formaldehyde

- **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.

Suspected of causing genetic defects.

May cause cancer.

May cause respiratory irritation.

- **Precautionary statements**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

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.

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**.

IF exposed or concerned: Get medical advice/attention.

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.

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Safety Data Sheet

according to WHS Regulations

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Trade name: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Contd. of page 9)

· **National regulations:**

· **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

· **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**

111-30-8	Glutaraldehyde
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· **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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity - inhalation – 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

Muta. 2: Germ cell mutagenicity – Category 2

Carc. 1B: Carcinogenicity – Category 1B

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

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/27/2021

Reviewed on 08/27/2021

1 Identification

- **Product identifier**
- **Trade name:** Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4
- **Article number:** 15950, 16538-SPP
- **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: sgkcck@aol.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 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.

Germ Cell Mutagenicity - Category 2

H341 Suspected of causing genetic defects.

Carcinogenicity - Category 1B

H350 May cause cancer.



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

(Contd. on page 2)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/27/2021

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Trade name: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Contd. of page 1)

· **Signal word** *Danger*

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

Glutaraldehyde

formaldehyde

· **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.

Suspected of causing genetic defects.

May cause cancer.

May cause respiratory irritation.

· **Precautionary statements**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

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.

IF exposed or concerned: Get medical advice/attention.

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.

(Contd. on page 3)

Safety Data Sheet

according to HPR, Schedule 1

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Reviewed on 08/27/2021

Trade name: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Contd. of page 2)

· Dangerous components:

50-00-0	formaldehyde	1-5% w/w *
111-30-8	Glutaraldehyde	1-5% w/w *

* Actual concentration ranges are withheld as a trade secret.

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.

CA

(Contd. on page 4)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/27/2021

Reviewed on 08/27/2021

Trade name: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Contd. of page 3)

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
 Ensure good ventilation/exhaustion at the workplace.
 Open and handle receptacle with care.
 Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **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:**

50-00-0 formaldehyde

EL	STEL: 0.3 ppm TWA: 0.1 ppm ACGIH A1; IARC 1; S(D), S(R)
EV	STEL: 1.0 ppm
Ceiling	1.5 ppm

111-30-8 Glutaraldehyde

EL	Ceiling: 0.05 ppm S(D), S(R)
EV	Ceiling: 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.
 Store protective clothing separately.
 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

(Contd. on page 5)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/27/2021

Reviewed on 08/27/2021

Trade name: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Contd. of page 4)

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

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

· Form:	Liquid
· Color:	Transparent
· Odor:	Specific type
· Odor threshold:	Not determined.

· pH-value at 20 °C:	7.4
-----------------------------	-----

· **Change in condition**

· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	100 °C

· 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:	23 hPa
-----------------------------------	--------

· 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.
-----------------	-----------------------------------

(Contd. on page 6)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/27/2021

Reviewed on 08/27/2021

Trade name: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Contd. of page 5)

- | | |
|---|-----------------|
| · Partition coefficient (n-octanol/water): Not determined. | |
| · Viscosity: | |
| · Dynamic: | Not determined. |
| · Kinematic: | Not determined. |
| · Solvent content: | |
| · Organic solvents: | 3.0 % |
| · Water: | 93.9 % |
| · 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:**

50-00-0 formaldehyde

Oral	LD50	>200 mg/kg (rat)
------	------	------------------

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.

- **Carcinogenic categories**

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

50-00-0	formaldehyde	I
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(Contd. on page 7)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/27/2021

Reviewed on 08/27/2021

Trade name: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

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· **NTP (National Toxicology Program)**

50-00-0 formaldehyde

K

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.
- **Ecotoxic effects:**
- **Remark:**
Toxic for fish
Harmful to fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
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

- | | |
|-----------------------------------|---|
| · UN-Number | |
| · DOT/TDG, ADR, IMDG, IATA | UN1760 |
| · UN proper shipping name | |
| · DOT/TDG | Corrosive liquids, n.o.s. (Glutaraldehyde, Formaldehyde solutions) |
| · ADR | 1760 CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION) |
| · IMDG, IATA | CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION) |

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according to HPR, Schedule 1

Printing date 08/27/2021

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Trade name: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Contd. of page 7)

· **Transport hazard class(es)**

· **DOT/TDG (Transport dangerous goods):**



· **Class** 8 Corrosive substances
 · **Label** 8

· **ADR, IMDG, IATA**



· **Class** 8 Corrosive substances
 · **Label** 8

· **Packing group**
 · **DOT/TDG, ADR, IMDG, IATA** II

· **Environmental hazards:** Not applicable.

· **Special precautions for user** Warning: Corrosive substances
 · **Hazard identification number (Kemler code):** 80
 · **EMS Number:** F-A,S-B
 · **Segregation groups** Acids
 · **Stowage Category** B
 · **Stowage Code** SW2 Clear of living quarters.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **DOT/TDG**
 · **Quantity limitations** On passenger aircraft/rail: 1 L
 On cargo aircraft only: 30 L

· **ADR**
 · **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· **IMDG**
 · **Limited quantities (LQ)** 1L
 · **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":** UN 1760 CORROSIVE LIQUID, N.O.S. (GLUTARALDEHYDE, FORMALDEHYDE SOLUTION), 8, II

CA

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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):**

50-00-0	formaldehyde
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124-65-2	sodium dimethylarsinate
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· **Section 313 (Specific toxic chemical listings):**

50-00-0	formaldehyde
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· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Canadian substance listings:**

· **Canadian Domestic Substances List (DSL)**

All ingredients are listed.

· **Canadian Ingredient Disclosure list (limit 0.1%)**

50-00-0	formaldehyde
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· **Canadian Ingredient Disclosure list (limit 1%)**

111-30-8	Glutaraldehyde
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· **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

formaldehyde

· **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.

Suspected of causing genetic defects.

May cause cancer.

May cause respiratory irritation.

· **Precautionary statements**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

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.

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according to HPR, Schedule 1

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Trade name: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

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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.

IF exposed or concerned: Get medical advice/attention.

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.

· **National regulations:**

· **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

· **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** 08/27/2021 / -

· **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)

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

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

Printing date 27.08.2021

Revision: 27.08.2021

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

· **1.1 Product identifier**

· **Trade name:** Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

· **Article number:** 15950, 16538-SPP

· **UFI:** Q391-J03F-200P-RFRH

· **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: sgkcck@aol.com

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.

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 1B H350 May cause cancer.



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.

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(Contd. of page 1)

· Hazard pictograms



GHS05 GHS07 GHS08

· Signal word *Danger*

· Hazard-determining components of labelling:

Glutaraldehyde
formaldehyde

· 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.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
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: 50-00-0 EINECS: 200-001-8	formaldehyde ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ⚠ Muta. 2, H341; Carc. 1B, H350; ⚠ Skin Corr. 1B, H314; ⚠ Skin Sens. 1, H317	>2.5-≤10%
CAS: 111-30-8 EINECS: 203-856-5	Glutaraldehyde ⚠ 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	>2.5-≤10%

· SVHC

111-30-8	Glutaraldehyde
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· **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.

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.

Open and handle receptacle with care.

Prevent formation of aerosols.

· **Information about fire - and explosion protection:** Keep respiratory protective device available.

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(Contd. of page 3)

- **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.

· 8.1 Control parameters

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

50-00-0 formaldehyde

WEL	Short-term value: 2.5 mg/m ³ , 2 ppm
	Long-term value: 2.5 mg/m ³ , 2 ppm
	Carc

111-30-8 Glutaraldehyde

WEL	Short-term value: 0.2 mg/m ³ , 0.05 ppm
	Long-term value: 0.2 mg/m ³ , 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.
 Store protective clothing separately.
 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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(Contd. of page 4)

· Eye protection:



Tightly sealed goggles

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

· Form:	Liquid
· Colour:	Transparent
· Odour:	Specific type
· Odour threshold:	Not determined.

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

· Melting point/freezing point:	Undetermined.
· Initial boiling point and boiling range:	100 °C

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

· Lower:	Not determined.
· Upper:	Not determined.

· Vapour pressure at 20 °C:	23 hPa
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· 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.
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· Partition coefficient: n-octanol/water:	Not determined.
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· Viscosity:

· Dynamic:	Not determined.
· Kinematic:	Not determined.

· Solvent content:

· Organic solvents:	3.0 %
· Water:	93.9 %
· VOC (EC)	3.00 %

· Solids content:	0.0 %
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(Contd. of page 5)

· **9.2 Other information** 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.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Harmful if inhaled.

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

50-00-0 formaldehyde

Oral	LD50	>200 mg/kg (rat)
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111-30-8 Glutaraldehyde

Oral	LD50	134 mg/kg (rat)
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Dermal	LD50	2,560 mg/kg (rabbit)
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- **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**
Suspected of causing genetic defects.
- **Carcinogenicity**
May cause cancer.
- **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.

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- **Ecotoxicological effects:**

- **Remark:**

Toxic for fish

Harmful to fish

- **Additional ecological information:**

- **General notes:**

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

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.

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

- **14.1 UN-Number**

- **ADR, IMDG, IATA**

UN1760

- **14.2 UN proper shipping name**

- **ADR**

1760 CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)

- **IMDG, IATA**

CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)

- **14.3 Transport hazard class(es)**

- **ADR, IMDG, IATA**



- **Class**

8 Corrosive substances.

- **Label**

8

- **14.4 Packing group**

- **ADR, IMDG, IATA**

II

- **14.5 Environmental hazards:**

Not applicable.

- **14.6 Special precautions for user**

Warning: Corrosive substances.

- **Hazard identification number (Kemler code):**

80

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(Contd. of page 7)

· EMS Number:	F-A,S-B
· Segregation groups	Acids
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1760 CORROSIVE LIQUID, N.O.S. (GLUTARALDEHYDE, FORMALDEHYDE SOLUTION), 8, II

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, 28, 72

· **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

None of the ingredients is listed.

· **National regulations:**

· **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.
Exceptions can be made by the authorities in certain cases.

· **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**

111-30-8 | Glutaraldehyde

· **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.

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· **Relevant phrases**

- H301 Toxic if swallowed.
- H311 Toxic in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H330 Fatal if inhaled.
- H331 Toxic if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.
- H341 Suspected of causing genetic defects.
- H350 May cause cancer.
- H400 Very toxic to aquatic life.
- 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
- SVHC: Substances of Very High Concern
- vPvB: very Persistent and very Bioaccumulative
- Acute Tox. 3: Acute toxicity - oral – Category 3
- Acute Tox. 2: Acute toxicity - inhalation – Category 2
- Acute Tox. 4: Acute toxicity - inhalation – 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
- Muta. 2: Germ cell mutagenicity – Category 2
- Carc. 1B: Carcinogenicity – Category 1B
- 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

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Herziening van: 27.08.2021

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

- **1.1 Productidentificatie**
- **Handelsnaam:** Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4
- **Artikelnummer:** 15950, 16538-SPP
- **UFI:** Q391-J03F-200P-RFRH
- **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: sgkcck@aol.com
www.emsdiasum.com
- Aurion
Binnenhaven 5
6709 PD Wageningen
The Netherlands
Tel: 31 317 415094
Fax: 31 317 415955
email: 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. |
| Muta. 2 | H341 Verdacht van het veroorzaken van genetische schade. |
| Carc. 1B | H350 Kan kanker 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. |

(Vervolg op blz. 2)

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(Vervolg van blz. 1)

STOT SE 3 H335 Kan irritatie van de luchtwegen veroorzaken.

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

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

formaldehyde

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.

H341 Verdacht van het veroorzaken van genetische schade.

H350 Kan kanker 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.

(Vervolg op blz. 3)

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(Vervolg van blz. 2)

· Gevaarlijke inhoudstoffen:		
CAS: 50-00-0 EINECS: 200-001-8	formaldehyde Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Muta. 2, H341; Carc. 1B, H350; Skin Corr. 1B, H314; Skin Sens. 1, H317	>2,5-≤10%
CAS: 111-30-8 EINECS: 203-856-5	Glutaaraldehyd 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	>2,5-≤10%
· SVHC		
111-30-8	Glutaaraldehyd	

· Aanvullende gegevens:

De woordelijke inhoud van de opgegeven aanwijzingen inzake de mogelijke gevaren is te vinden in hoofdstuk 16.

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, beschermingsmiddelen 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 Insluitings- 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.

(Vervolg op blz. 4)

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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.
 Tanks voorzichtig openen en behandelen.
 Aërosolvorming vermijden.
- **Informatie m.b.t. brand- en ontploffingsgevaar:** Ademhalingstoestellen gereedhouden.
- **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.
- **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:**

50-00-0 formaldehyde

WG	Korte termijn waarde: 0,5 mg/m ³ , 0,4 ppm
	Lange termijn waarde: 0,15 mg/m ³ , 0,1 ppm

- **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.
 Beschermende kleding afzonderlijk bewaren.
 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 ademhalingstoestel 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

(Vervolg op blz. 5)

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(Vervolg van blz. 4)

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:** Vloeistof
- **Kleur:** Doorschijnend
- **Geur:** Typisch voor de soort
- **Geurdrempelwaarde:** Niet bepaald.

· **pH-waarde bij 20 °C:** 7,4

· **Toestandsverandering**

- **Smelt-/vriespunt:** Niet bepaald.
- **Beginkookpunt en kooktraject:** 100 °C

· **Vlampunt:** Niet bruikbaar.

· **Ontvlambaarheid (vast, gas):** Niet bruikbaar.

· **Ontledingstemperatuur:** Niet bepaald.

· **Zelfontbrandingstemperatuur:** Het produkt ontbrandt niet uit zichzelf.

· **Ontploffingseigenschappen:** Het produkt is niet ontploffingsgevaarlijk.

· **Ontploffingsgrenzen:**

- **Onderste:** Niet bepaald.
- **Bovenste:** Niet bepaald.

· **Dampspanning bij 20 °C:** 23 hPa

· **Dichtheid:** Niet bepaald.

· **Relatieve dichtheid** Niet bepaald.

· **Dampdichtheid** Niet bepaald.

· **Verdampingssnelheid** Niet bepaald.

· **Oplosbaarheid in/mengbaarheid met**

· **Water:** Niet resp. gering mengbaar.

· **Verdelingscoëfficiënt: n-octanol/water:** Niet bepaald.

· **Viscositeit**

· **Dynamisch:** Niet bepaald.

· **Kinematisch:** Niet bepaald.

· **Oplosmiddelgehalte:**

· **Organisch oplosmiddel:** 3,0 %

· **Water:** 93,9 %

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· VOC (EG)	3,00 %
· Gehalte aan vaste bestanddelen:	0,0 %
· 9.2 Overige informatie	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.

RUBRIEK 11: Toxicologische informatie

· 11.1 Informatie over toxicologische effecten

· **Acute toxiciteit**

Schadelijk bij inademing.

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

50-00-0 formaldehyde

Oraal	LD50	>200 mg/kg (rat)
-------	------	------------------

111-30-8 Glutaaraldehyd

Oraal	LD50	134 mg/kg (rat)
-------	------	-----------------

Dermaal	LD50	2.560 mg/kg (rabbiet)
---------	------	-----------------------

· **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**

Verdacht van het veroorzaken van genetische schade.

· **Kankerverwekkendheid**

Kan kanker veroorzaken.

· **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

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

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- **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:**
Giffig voor vissen.
Schadelijk voor vissen.
- **Verdere ecologische informatie:**
- **Algemene informatie:**
Waterbezwaarlijkheid (NL): Z(1) niet afbreekbare stoffen met gevaarlijke eigenschappen voor mens en milieu (carcinogeniteit/mutageniteit/ reprotoxiciteit/bioaccumulerend vermogen/ toxiciteit of persistentie)
Gevaar voor water klasse 3 (D) (Zelfclassificatie): gevaar voor water groot
Niet lozen in grondwater, oppervlaktewater of riolering, ook niet in kleine hoeveelheden.
Gevaar voor drinkwater zelfs bij het uitlopen van zeer geringe hoeveelheden in de ondergrond.
In oppervlaktewater ook giffig voor vissen en plankton.
giffig 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.
- **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 terecht komen.
- **Niet gereinigde verpakkingen:**
- **Aanbeveling:** Afvalverwijdering volgens overheidsbepalingen.

RUBRIEK 14: Informatie met betrekking tot het vervoer

- | | |
|--|---|
| · 14.1 VN-nummer | |
| · ADR, IMDG, IATA | UNI760 |
| · 14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN | |
| · ADR | 1760 BIJTENDE VLOEISTOF, N.E.G. (Glutaaraldehyd, FORMALDEHYDE, OPLOSSING) |
| · IMDG, IATA | CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION) |
| · 14.3 Transportgevarenklasse(n) | |
| · ADR, IMDG, IATA | |
| |  |
| · klasse | 8 Bijtende stoffen |
| · Etiket | 8 |
| · 14.4 Verpakkingsgroep: | |
| · ADR, IMDG, IATA | II |

(Vervolg op blz. 8)

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· 14.5 Milieugevaren:	Niet bruikbaar.
· 14.6 Bijzondere voorzorgen voor de gebruiker	Waarschuwing: Bijtende stoffen
· Gevaarsidentificatienummer (Kemler-getal):	80
· EMS-nummer:	F-A,S-B
· Segregation groups	Acids
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· 14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code	Niet bruikbaar.
· Transport/verdere gegevens:	

· ADR	
· Beperkte hoeveelheden (LQ)	1L
· Uitgezonderde hoeveelheden (EQ)	Code: E2 Grootste netto hoeveelheid per binnenverpakking: 30 ml Grootste netto hoeveelheid per buitenverpakking: 500 ml
· Vervoerscategorie	2
· Tunnelbeperkingscode	E

· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· VN "Model Regulation":	UN 1760 BIJTENDE VLOEISTOF, N.E.G. (GLUTAARALDEHYD, FORMALDEHYDE, OPLOSSING), 8, II

RUBRIEK 15: Regelgeving

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

· SZW-lijst van kankerverwekkende stoffen	
50-00-0	formaldehyde
· 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.	
· Lijst Zeer Zorgwekkende Stoffen (ZZS)	
50-00-0	formaldehyde
· Lijst van Potentieel Zeer Zorgwekkende Stoffen	
111-30-8	Glutaaraldehyd

· **Richtlijn 2012/18/EU**

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

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(Vervolg van blz. 8)

· **Verordening (EG) nr. 1907/2006 BIJLAGE XVII** Beperkingsvoorwaarden: 3, 28, 72

· **Richtlijn 2011/65/EU betreffende beperking van het gebruik van bepaalde gevaarlijke stoffen in elektrische en elektronische apparatuur - Bijlage II**

geen der bestanddelen staat op de lijst.

· **Nationale voorschriften:**

· **Aanwijzingen m.b.t. tewerkstellingsbeperking:**

Werknemers mogen aan de kankerverwekkende gevaarlijke stoffen van deze toebereiding niet blootgesteld worden. In uitzonderingsgevallen kan de overheid speciale vergunningen afgeven.

· **Gevaarklasse v. water:**

Waterbezwaarlijkheid (NL): Z(1) niet afbreekbare stoffen met gevaarlijke eigenschappen voor mens en milieu (carcinogeniteit/mutageniteit/ reprotoxiciteit/bioaccumulerend vermogen/ toxiciteit of persistentie)

· **Aanvullende voorschriften, beperkingen en verbodsverordeningen**

· **Zeer zorgwekkende stoffen (SVHC) volgens REACH, artikel 57**

111-30-8 | Glutaaraldehyd

· **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.

H311 Giftig bij contact met de huid.

H314 Veroorzaakt ernstige brandwonden en oogletsel.

H317 Kan een allergische huidreactie veroorzaken.

H330 Dodelijk bij inademing.

H331 Giftig bij inademing.

H334 Kan bij inademing allergie- of astmasymptomen of ademhalingsmoeilijkheden veroorzaken.

H335 Kan irritatie van de luchtwegen veroorzaken.

H341 Verdacht van het veroorzaken van genetische schade.

H350 Kan kanker 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

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 3: Acute toxiciteit - oraal – Categorie 3

Acute Tox. 2: Acute toxiciteit - inademing – Categorie 2

Acute Tox. 4: Acute toxiciteit - inademing – Categorie 4

Skin Corr. 1B: Huidcorrosie/-irritatie – Categorie 1B

Skin Irrit. 2: Huidcorrosie/-irritatie – Categorie 2

Eye Dam. 1: Ernstig oogletsel/oogirritatie – Categorie 1

(Vervolg op blz. 10)

**Veiligheidsinformatieblad
volgens 1907/2006/EG, Artikel 31**

datum van de druk: 27.08.2021

Herziening van: 27.08.2021

Handelsnaam: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Vervolg van blz. 9)

*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**Muta. 2: Mutageniteit in geslachtscellen – Categorie 2**Carc. 1B: Kankerverwekkendheid – Categorie 1B**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*

-NL-

Fiche de données de sécurité

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

- **1.1 Identificateur de produit**
- **Nom du produit:** Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4
- **Code du produit:** 15950, 16538-SPP
- **UFI:** Q391-J03F-200P-RFRH
- **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: sgkcck@aol.com
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. |
| Muta. 2 | H341 | Susceptible d'induire des anomalies génétiques. |
| Carc. 1B | H350 | Peut provoquer le cancer. |



GHS05 corrosion

- | | | |
|------------|------|--------------------------------------|
| Eye Dam. 1 | H318 | Provoque de graves lésions des yeux. |
|------------|------|--------------------------------------|



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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(suite de la page 1)

· Pictogrammes de danger



GHS05 GHS07 GHS08

· Mention d'avertissement Danger

· Composants dangereux déterminants pour l'étiquetage:

glutaral
Formaldéhyde

· Mentions de danger

H332 Nocif par inhalation.
H315 Provoque une irritation cutanée.
H318 Provoque de graves lésions des yeux.
H334 Peut provoquer des symptômes allergiques ou d'asthme ou des difficultés respiratoires par inhalation.
H317 Peut provoquer une allergie cutanée.
H341 Susceptible d'induire des anomalies génétiques.
H350 Peut provoquer le cancer.
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/récipient 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: 50-00-0 EINECS: 200-001-8	Formaldéhyde ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ⚠ Muta. 2, H341; Carc. 1B, H350; ⚠ Skin Corr. 1B, H314; ⚠ Skin Sens. 1, H317	>2,5-≤10%
CAS: 111-30-8 EINECS: 203-856-5	glutaral ⚠ 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	>2,5-≤10%

· SVHC

111-30-8	glutaral
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(suite de la page 2)

· **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.

· **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, avertir 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.

Ouvrir et manipuler les récipients avec précaution.

Eviter la formation d'aérosols.

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(suite de la page 3)

- **Préventions des incendies et des explosions:** Tenir des appareils de protection respiratoire prêts.
- **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.

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:**

50-00-0 Formaldéhyde

VLEP	Valeur momentanée: 1 ppm Valeur à long terme: 0,5 ppm C1B, M2, (7)
------	--

111-30-8 glutaral

VLEP	Valeur momentanée: 0,8 mg/m ³ , 0,2 ppm Valeur à long terme: 0,4 mg/m ³ , 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.

Conserver à part les vêtements de protection.

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.

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- **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

RUBRIQUE 9: Propriétés physiques et chimiques

· 9.1 Informations sur les propriétés physiques et chimiques essentielles

· Indications générales

· Aspect:

· Forme:

Liquide

· Couleur:

Translucide

· Odeur:

Typique

· Seuil olfactif:

Non déterminé.

· valeur du pH à 20 °C:

7,4

· Changement d'état

· Point de fusion/point de congélation:

Non déterminé.

· Point initial d'ébullition et intervalle d'ébullition:

100 °C

· Point d'éclair

Non applicable.

· Inflammabilité (solide, gaz):

Non applicable.

· Température de décomposition:

Non déterminé.

· Température d'auto-inflammabilité:

Le produit ne s'enflamme pas spontanément.

· Propriétés explosives:

Le produit n'est pas explosif.

· Limites d'explosion:

· Inférieure:

Non déterminé.

· Supérieure:

Non déterminé.

· Pression de vapeur à 20 °C:

23 hPa

· Densité:

Non déterminée.

· Densité relative

Non déterminé.

· Densité de vapeur:

Non déterminé.

· Taux d'évaporation:

Non déterminé.

· Solubilité dans/miscibilité avec

· l'eau:

Pas ou peu miscible

· Coefficient de partage: n-octanol/eau:

Non déterminé.

· Viscosité:

· Dynamique:

Non déterminé.

· Cinématique:

Non déterminé.

· Teneur en solvants:

· Solvants organiques:

3,0 %

· Eau:

93,9 %

· VOC (CE)

3,00 %

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(suite de la page 5)

- **Teneur en substances solides:** 0,0 %
- **9.2 Autres informations** 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.
- **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:**

50-00-0 Formaldéhyde

Oral	LD50	>200 mg/kg (rat)
------	------	------------------

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 de graves lésions des yeux.
- **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**
Susceptible d'induire des anomalies génétiques.
- **Cancérogénicité**
Peut provoquer le cancer.
- **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.

FR

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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 3 (D) (Classification propre): très polluant
Ne pas laisser pénétrer dans la nappe phréatique, les eaux ou les canalisations, même pas en petite quantité.
Danger pour l'eau potable dès fuite d'une quantité minime 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.
- **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

- | | |
|---|---|
| <ul style="list-style-type: none"> · 14.1 Numéro ONU · ADR, IMDG, IATA | <p style="text-align: center;">UN1760</p> |
| <ul style="list-style-type: none"> · 14.2 Désignation officielle de transport de l'ONU · ADR · IMDG, IATA | <p>1760 LIQUIDE CORROSIF, N.S.A. (glutaral, FORMALDÉHYDE EN SOLUTION)</p> <p>CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)</p> |
| <ul style="list-style-type: none"> · 14.3 Classe(s) de danger pour le transport · ADR, IMDG, IATA | <p>8 Matières corrosives.</p> <p>8</p> |
- 
 - **Classe**
 - **Étiquette**

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· 14.4 Groupe d'emballage · ADR, IMDG, IATA	II
· 14.5 Dangers pour l'environnement:	<i>Non applicable.</i>
· 14.6 Précautions particulières à prendre par l'utilisateur · Numéro d'identification du danger (Indice Kemler): · No EMS: · Segregation groups · Stowage Category · Stowage Code	<i>Attention: Matières corrosives.</i> 80 F-A,S-B Acids B SW2 Clear of living quarters.
· 14.7 Transport en vrac conformément à l'annexe II de la convention Marpol et au recueil IBC	<i>Non applicable.</i>
· Indications complémentaires de transport:	
· ADR · Quantités limitées (LQ) · Quantités exceptées (EQ)	1L Code: E2 <i>Quantité maximale nette par emballage intérieur: 30 ml</i> <i>Quantité maximale nette par emballage extérieur: 500 ml</i>
· Catégorie de transport · Code de restriction en tunnels	2 E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	1L Code: E2 <i>Maximum net quantity per inner packaging: 30 ml</i> <i>Maximum net quantity per outer packaging: 500 ml</i>
· "Règlement type" de l'ONU:	UN 1760 LIQUIDE CORROSIF, N.S.A. (GLUTARAL, FORMALDÉHYDE EN SOLUTION), 8, II

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, 28, 72

· **Directive 2011/65/UE relative à la limitation de l'utilisation de certaines substances dangereuses dans les équipements électriques et électroniques – Annexe II**

Aucun des composants n'est compris.

· **Prescriptions nationales:**

· **Indications sur les restrictions de travail:**

Le personnel ne doit pas être exposé aux substances dangereuses cancérigènes contenues dans cette préparation. Les autorités peuvent autoriser des exceptions dans des cas particuliers.

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· **Autres prescriptions, restrictions et règlements d'interdiction**

· **Substances extrêmement préoccupantes (SVHC) selon REACH, article 57**

111-30-8	glutaral
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· **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.

H311 Toxique par contact cutané.

H314 Provoque des brûlures de la peau et de graves lésions des yeux.

H317 Peut provoquer une allergie cutanée.

H330 Mortel par inhalation.

H331 Toxique par inhalation.

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

H335 Peut irriter les voies respiratoires.

H341 Susceptible d'induire des anomalies génétiques.

H350 Peut provoquer le cancer.

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

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 3: Toxicité aiguë - voie orale – Catégorie 3

Acute Tox. 2: Toxicité aiguë - inhalation – Catégorie 2

Acute Tox. 4: Toxicité aiguë - inhalation – 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

Muta. 2: Mutagénicité sur les cellules germinales – Catégorie 2

Carc. 1B: Cancérogénicité – Catégorie 1B

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

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

- **1.1 Produktidentifikator**
- **Handelsname:** Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4
- **Artikelnummer:** 15950, 16538-SPP
- **UFI:** Q391-J03F-200P-RFRH
- **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: sgkcck@aol.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
- **Auskunfteibereich:** 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. |
| Muta. 2 | H341 Kann vermutlich genetische Defekte verursachen. |
| Carc. 1B | H350 Kann Krebs erzeugen. |



GHS05 Ätzwirkung

- | | |
|------------|---------------------------------------|
| Eye Dam. 1 | H318 Verursacht schwere Augenschäden. |
|------------|---------------------------------------|

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GHS07

Acute Tox. 4 H332 *Gesundheitsschädlich bei Einatmen.*
 Skin Irrit. 2 H315 *Verursacht Hautreizungen.*
 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
 Formaldehyd

· 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.*
 H341 *Kann vermutlich genetische Defekte verursachen.*
 H350 *Kann Krebs erzeugen.*
 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.*

· Zusätzliche Angaben:

Nur für gewerbliche Anwender.

· 2.3 Sonstige Gefahren

· Ergebnisse der PBT- und vPvB-Beurteilung

- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.

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ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

- **3.2 Chemische Charakterisierung: Gemische**
- **Beschreibung:** Gemisch aus nachfolgend angeführten Stoffen mit ungefährlichen Beimengungen.

- **Gefährliche Inhaltsstoffe:**

CAS: 50-00-0 EINECS: 200-001-8	Formaldehyd ☠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ☠ Muta. 2, H341; Carc. 1B, H350; ☠ Skin Corr. 1B, H314; ⚠ Skin Sens. 1, H317	>2,5-≤10%
CAS: 111-30-8 EINECS: 203-856-5	Glutaral ☠ 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	>2,5-≤10%

- **SVHC**

111-30-8	Glutaral
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- **Zusätzliche Hinweise:** Der Wortlaut der angeführten Gefahrenhinweise ist dem Abschnitt 16 zu entnehmen.

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.

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- **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.
Behälter mit Vorsicht öffnen und handhaben.
Aerosolbildung vermeiden.
- **Hinweise zum Brand- und Explosionsschutz:** Atemschutzgeräte bereithalten.
- **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 Betriebsicherheitsverordnung (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:**

50-00-0 Formaldehyd

AGW	Langzeitwert: 0,37 mg/m ³ , 0,3 ml/m ³ 2(I);AGS, Sh, Y, X
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111-30-8 Glutaral

AGW	Langzeitwert: 0,2 mg/m ³ , 0,05 ml/m ³ 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.
Getrennte Aufbewahrung der Schutzkleidung.
Berührung mit der Haut vermeiden.
Berührung mit den Augen und der Haut vermeiden.

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· **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.

· **Augenschutz:**



Dichtschließende Schutzbrille

ABSCHNITT 9: Physikalische und chemische Eigenschaften

· **9.1 Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften**

· **Allgemeine Angaben**

· **Aussehen:**

· Form:	Flüssigkeit
· Farbe:	Durchscheinend
· Geruch:	Arttypisch
· 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.

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(Fortsetzung von Seite 5)

· 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:	
· Organische Lösemittel:	3,0 %
· Wasser:	93,9 %
· VOC (EU)	3,00 %
· Festkörpergehalt:	0,0 %
· 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:		
50-00-0 Formaldehyd		
Oral	LD50	>200 mg/kg (rat)
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.

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- **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**
Kann vermutlich genetische Defekte verursachen.
- **Karzinogenität**
Kann Krebs erzeugen.
- **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.
- **Ökotoxische Wirkungen:**
- **Bemerkung:**
Giftig für Fische.
Schädlich für Fische.
- **Weitere ökologische Hinweise:**
- **Allgemeine Hinweise:**
Wassergefährdungsklasse 3 (Selbsteinstufung): stark wassergefährdend
Nicht in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen, auch nicht in kleinen Mengen.
Trinkwassergefährdung bereits beim Auslaufen geringster 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.

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ABSCHNITT 14: Angaben zum Transport

<ul style="list-style-type: none"> · 14.1 UN-Nummer · ADR, IMDG, IATA 	<p style="text-align: right;">UN1760</p>
<ul style="list-style-type: none"> · 14.2 Ordnungsgemäße UN-Versandbezeichnung · ADR · IMDG, IATA 	<p style="text-align: right;">1760 ÄTZENDER FLÜSSIGER STOFF, N.A.G. (Glutaral, FORMALDEHYDLÖSUNG) CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)</p>
<ul style="list-style-type: none"> · 14.3 Transportgefahrenklassen · ADR, IMDG, IATA 	<div style="text-align: center;">  </div> <p style="text-align: right;">8 Ätzende Stoffe 8</p>
<ul style="list-style-type: none"> · 14.4 Verpackungsgruppe · ADR, IMDG, IATA 	<p style="text-align: right;">II</p>
<ul style="list-style-type: none"> · 14.5 Umweltgefahren: 	<p style="text-align: right;">Nicht anwendbar.</p>
<ul style="list-style-type: none"> · 14.6 Besondere Vorsichtsmaßnahmen für den Verwender · Nummer zur Kennzeichnung der Gefahr (Kemler-Zahl): · EMS-Nummer: · Segregation groups · Stowage Category · Stowage Code 	<p style="text-align: right;">Achtung: Ätzende Stoffe 80 F-A,S-B Acids B SW2 Clear of living quarters.</p>
<ul style="list-style-type: none"> · 14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens und gemäß IBC-Code 	<p style="text-align: right;">Nicht anwendbar.</p>
<ul style="list-style-type: none"> · Transport/weitere Angaben: 	<p style="text-align: right;">Nicht anwendbar.</p>
<ul style="list-style-type: none"> · ADR · Begrenzte Menge (LQ) · Freigestellte Mengen (EQ) · Beförderungskategorie · Tunnelbeschränkungscode 	<p style="text-align: right;">1L Code: E2 Höchste Nettomenge je Innenverpackung: 30 ml Höchste Nettomenge je Außenverpackung: 500 ml 2 E</p>
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	<p style="text-align: right;">1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml</p>
<ul style="list-style-type: none"> · UN "Model Regulation": 	<p style="text-align: right;">UN 1760 ÄTZENDER FLÜSSIGER STOFF, N.A.G. (GLUTARAL, FORMALDEHYDLÖSUNG), 8, II</p>

DE

(Fortsetzung auf Seite 9)

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 27.08.2021

überarbeitet am: 27.08.2021

Handelsname: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Fortsetzung von Seite 8)

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, 28, 72

- **Richtlinie 2011/65/EU zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten – Anhang II**

Keiner der Inhaltsstoffe ist enthalten.

- **Nationale Vorschriften:**
- **Hinweise zur Beschäftigungsbeschränkung:**
Arbeitnehmer dürfen den in dieser Zubereitung enthaltenen krebserzeugenden Gefahrstoffen nicht ausgesetzt sein. Im Einzelfall kann die Behörde Ausnahmen zulassen.

- **Technische Anleitung Luft:**

Klasse	Anteil in %
Wasser	93,9
I	6,0

- **Wassergefährdungsklasse: WGK 3 (Selbsteinstufung):** stark wassergefährdend.
- **Sonstige Vorschriften, Beschränkungen und Verbotsverordnungen**
Das Produkt unterliegt der Anlage 2 der Chemikalienverbotsverordnung (ChemVerbotsV) - Anforderungen in Bezug auf die Abgabe

- **Besonders besorgniserregende Stoffe (SVHC) gemäß REACH, Artikel 57**

111-30-8 | Glutaral

- **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.

H311 Giftig bei Hautkontakt.

H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.

H317 Kann allergische Hautreaktionen verursachen.

H330 Lebensgefahr bei Einatmen.

H331 Giftig bei Einatmen.

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

H335 Kann die Atemwege reizen.

H341 Kann vermutlich genetische Defekte verursachen.

H350 Kann Krebs erzeugen.

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

(Fortsetzung auf Seite 10)

Sicherheitsdatenblatt
gemäß 1907/2006/EG, Artikel 31

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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
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 3: Akute Toxizität - oral – Kategorie 3
Acute Tox. 2: Akute Toxizität - inhalativ – Kategorie 2
Acute Tox. 4: Akute Toxizität - inhalativ – 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
Muta. 2: Keimzellmutagenität – Kategorie 2
Carc. 1B: Karzinogenität – Kategorie 1B
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

DE

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

Stampato il: 27.08.2021

Revisione: 27.08.2021

SEZIONE 1: Identificazione della sostanza o della miscela e della società/impresa

· **1.1 Identificatore del prodotto**

· **Denominazione commerciale:** Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

· **Articolo numero:** 15950, 16538-SPP

· **UFI:** Q391-J03F-200P-RFRH

· **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: sgkcck@aol.com

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

· **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.

Muta. 2 H341 Sospettato di provocare alterazioni genetiche.

Carc. 1B H350 Può provocare il cancro.



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.

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

- **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
formaldeide
- **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.
H341 Sospettato di provocare alterazioni genetiche.
H350 Può provocare il cancro.
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: 50-00-0 EINECS: 200-001-8	formaldeide Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Muta. 2, H341; Carc. 1B, H350; Skin Corr. 1B, H314; Skin Sens. 1, H317	>2,5-≤10%
CAS: 111-30-8 EINECS: 203-856-5	glutarale 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	>2,5-≤10%

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(Segue da pagina 2)

· SVHC

111-30-8 | glutarale

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

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.

Aprire e manipolare i recipienti con cautela.

Evitare la formazione di aerosol.

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- **Indicazioni in caso di incendio ed esplosione:** Tener pronto il respiratore.
- **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.
- **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:**

50-00-0 formaldeide

TWA Limite Ceiling: 0,37 mg/m³, 0,3 ppm
sen, A2

111-30-8 glutarale

TWA Limite Ceiling: 0,2 mg/m³, 0,05 ppm
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.
- Custodire separatamente l'equipaggiamento protettivo.
- 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.

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· **Occhiali protettivi:**

Occhiali protettivi a tenuta

SEZIONE 9: Proprietà fisiche e chimiche

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

· **Indicazioni generali**

· **Aspetto:**· **Forma:**

Liquido

· **Colore:**

Traslucido

· **Odore:**

Tipico

· **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:**· **Solventi organici:**

3,0 %

· **Acqua:**

93,9 %

· **VOC (CE)**

3,00 %

· **Contenuto solido:**

0,0 %

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· 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.
- 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:

50-00-0 formaldeide

Orale	LD50	>200 mg/kg (rat)
-------	------	------------------

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**
Sospettato di provocare alterazioni genetiche.
- **Cancerogenicità**
Può provocare il cancro.
- **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.

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- **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 3 (D) (Autoclassificazione): molto pericoloso
Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature, anche in piccole dosi.
Pericolo per le acque potabili anche in caso di perdite nel sottosuolo di quantità minime di prodotto.
Tossico per pesci e plancton.
tossico per gli organismi acquatici
nocivo per gli organismi acquatici
- **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

- | | |
|--|--|
| <ul style="list-style-type: none"> · 14.1 Numero ONU · ADR, IMDG, IATA | UN1760 |
| <ul style="list-style-type: none"> · 14.2 Nome di spedizione dell'ONU · ADR · IMDG, IATA | 1760 LIQUIDO CORROSIVO, N.A.S. (glutarale, FORMALDEIDE IN SOLUZIONE)
CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION) |
| <ul style="list-style-type: none"> · 14.3 Classi di pericolo connesso al trasporto · ADR, IMDG, IATA | <div style="text-align: center;">  </div> <ul style="list-style-type: none"> · Classe · Etichetta |
| <ul style="list-style-type: none"> · 14.4 Gruppo di imballaggio · ADR, IMDG, IATA | 8 Materie corrosive
8
II |
| <ul style="list-style-type: none"> · 14.5 Pericoli per l'ambiente: | Non applicabile. |
| <ul style="list-style-type: none"> · 14.6 Precauzioni speciali per gli utilizzatori · N° identificazione pericolo (Numero Kemler): | Attenzione: Materie corrosive
80 |

(continua a pagina 8)

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

Stampato il: 27.08.2021

Revisione: 27.08.2021

Denominazione commerciale: Formaldehide/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Segue da pagina 7)

· Numero EMS:	F-A,S-B
· Segregation groups	Acids
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· 14.7 Trasporto di rinfuse secondo l'allegato II di MARPOL ed il codice IBC	Non applicabile.
· Trasporto/ulteriori indicazioni:	
· ADR	
· Quantità limitate (LQ)	1L
· Quantità esenti (EQ)	Codice: E2 Quantità massima netta per imballaggio interno: 30 ml Quantità massima netta per imballaggio esterno: 500 ml
· Categoria di trasporto	2
· Codice di restrizione in galleria	E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1760 LIQUIDO CORROSIVO, N.A.S. (GLUTARALE, FORMALDEIDE IN SOLUZIONE), 8, II

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, 28, 72

· **Direttiva 2011/65/UE sulla restrizione dell'uso di determinate sostanze pericolose nelle apparecchiature elettriche ed elettroniche - Allegato II**

Nessuno dei componenti è contenuto.

· **Disposizioni nazionali:**

· **Indicazioni relative alla limitazione delle attività lavorative:**

Il personale non deve essere esposto alle sostanze cancerogene contenute in questo preparato L'autorità può ammettere nei singoli casi delle eccezioni.

· **Istruzione tecnica aria:**

Classe	quota in %
NC	3,0

· **Ulteriori disposizioni, limitazioni e decreti proibitivi**

· **Sostanze estremamente preoccupanti (SVHC) ai sensi della regolamento REACH, articolo 57**

111-30-8 | glutarale

· **15.2 Valutazione della sicurezza chimica:** Una valutazione della sicurezza chimica non è stata effettuata.

IT

(continua a pagina 9)

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(Segue da pagina 8)

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.

· **Frasi rilevanti**

H301 Tossico se ingerito.

H311 Tossico per contatto con la pelle.

H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.

H317 Può provocare una reazione allergica cutanea.

H330 Letale se inalato.

H331 Tossico se inalato.

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

H335 Può irritare le vie respiratorie.

H341 Sospettato di provocare alterazioni genetiche.

H350 Può provocare il cancro.

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

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 3: Tossicità acuta per via orale – Categoria 3

Acute Tox. 2: Tossicità acuta per inalazione – Categoria 2

Acute Tox. 4: Tossicità acuta per inalazione – 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

Muta. 2: Mutagenicità sulle cellule germinali – Categoria 2

Carc. 1B: Cancerogenicità – Categoria 1B

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

물질안전보건자료

GHS에 따라

인쇄일자: 2021.08.27

개정: 2021.08.27

1 화학제품과 회사에 관한 정보

- 제품 식별자
- 제품명: **Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4**
- 상품번호: 15950, 16538-SPP
- 해당 순물질이나 혼합물의 관련 하위용도 및 사용금지용도 추가적인 정보가 존재하지 않습니다.
- 제품의 권고 용도와 사용상의 제한: 실험실화학품
- 안전데이터표(Safety Data Sheet)내 공급업체 관련 상세 정보
- 제조자/수입자/유통업자 정보:

Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.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

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 획득 가능: Product safety department
- 비상연락 전화번호:

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

2 유해성·위험성

- 순물질 또는 혼합물의 분류



건강에 위험

호흡기 과민성 - 구분 1

H334 흡입 시 알레르기성 반응, 천식 또는 호흡 곤란 등을 일으킬 수 있음

생식세포 변이원성 - 구분 2

H341 유전적인 결함을 일으킬 것으로 의심됨

발암성 - 구분 1B

H350 암을 일으킬 수 있음



부식

심한 눈 손상성/눈 자극성 - 구분 1

H318 눈에 심한 손상을 일으킴

(2 쪽에 계속)

KR

물질안전보건자료

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(1 쪽부터계속)



급성 독성 - 흡입 - 구분 4	H332 흡입하면 유해함
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 호흡 자극성을 일으킬 수 있음
수생환경 유해성 - 만성3	H412 장기적 영향에 의해 수생생물에 유해함

· **라벨표기 요소**

· **GHS 라벨 요소**

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

· **그림문자**



GHS05 GHS07 GHS08

· **신호어 위험**

· **상표상에명확히위험성이표시된성분:**

글루타르알데히드
포르말린
sodium dimethylarsinate

· **유해.위험 문구**

흡입하면 유해함
피부에 자극을 일으킴
눈에 심한 손상을 일으킴
흡입 시 알레르기성 반응, 천식 또는 호흡 곤란 등을 일으킬 수 있음
알레르기성 피부 반응을 일으킬 수 있음
유전적인 결함을 일으킬 것으로 의심됨
암을 일으킬 수 있음
호흡 자극성을 일으킬 수 있음
장기적 영향에 의해 수생생물에 유해함

· **예방조치 문구**

눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면 콘택트렌즈를 제거하시오. 계속 씻으시오.
즉시 독성물질센터/병원 연락 필요.
(라벨 참조) 처치를 하시오.
오염된 의복은 벗고 다시 사용 전 세척하시오.
밀봉하여 저장하시오.
(지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기하시오.

· **기타 유해성**

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

3 구성성분의 명칭 및 함유량

- **화학적 특성:** 혼합물
- **설명:** 무해한 첨가물이 함유된 아래에 열거된 물질로 만들어진 혼합물.

(3 쪽에계속)

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(2 쪽부터 계속)

· 위험 요소:		
50-00-0	포르말린 ⚠ 급성 독성 - 경구 - 구분 3, H301; ⚠ 급성 독성 - 경피 - 구분 3, H311; ⚠ 급성 독성 - 흡입 - 구분 3, H331; ⚠ 생식세포 변이원성 - 구분 2, H341; ⚠ 발암성 - 구분 1B, H350; ⚠ 피부 부식성/피부 자극성 - 구분 1, H314; ⚠ 피부 과민성 - 구분 1, H317	>2.5-≤10%
111-30-8	글루타르알데히드 ⚠ 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 - 만성 2, H411; ⚠ 피부 과민성 - 구분 1, H317; ⚠ 특정표적장기 독성 - 1회 노출 - 구분 3, H335	>2.5-≤10%
124-65-2	sodium dimethylarsinate ⚠ 급성 독성 - 경구 - 구분 3, H301	≤2.5%

4 응급조치 요령

- 응급조치요령 내용
- 일반적 정보:
중독 증상은 몇 시간이 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 들어갔을 때: 흐르는 물에 눈을 몇 분 동안 씻어내고 나서, 의사와 상담한다
- 먹었을 때: 즉시 의사의 도움을 구한다.
- 기타 의사의 주의사항:
가장 중요한 급·만성 증상 및 영향 추가적인 정보가 존재하지 않습니다.
즉각적인 의료 처치 및 특별 치료가 필요함을 시사하는 징후 추가적인 정보가 존재하지 않습니다.

5 폭발·화재시 대처방법

- 소화제
- 적절한 소화제: 주변 환경에 맞는 화재 진화 방법을 사용한다.
- 본 화학물질이나 혼합물에서 발생하는 특별 유해성 추가적인 정보가 존재하지 않습니다.
- 소방관에 대한 권고사항
- 화재 진압 시 착용할 보호구 및 예방조치: 호흡보호장비 설치.

6 누출 사고 시 대처방법

- 개인적 예방조치, 보호장비 및 응급처치 절차 필요없음.
- 환경 관련 예방조치:
하천이나 하수로 유입되었을 경우 해당 관청에 보고한다.
하수도망/해수면 위의 물/지하수로도 달하지 않게 한다.
- 밀폐 및 정화 방법과 소재:
액체가 혼합된 물질 (모래, 규조토, 산성 결합물, 일반 결합물, 톱밥)에 흡입되도록 한다.
항목 13에 따라 오염된 물질을 쓰레기로 처분한다.
충분한 환기가 되도록 한다.
- 타 섹션 참조
안전 관리에 대한 정보는 제 7 장을 참고하시오.
개인 보호 장비에 대한 정보는 제 8 장을 참고하시오.

(4 쪽에 계속)

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(3 쪽부터계속)

쓰레기 처리에 대한 정보는 제13 장을 참고하십시오.

7 취급 및 저장방법

- 취급:
 - 안전 취급을 위한 예방조치
작업장에서는통풍이잘되고/습기제거가잘 되게주의한다.
조심스럽게용기를 개봉하거나취급한다.
연무질이형성되는것을피한다.
 - 화재 및 폭발 사고 예방대책에 관한 정보: 호흡보호장비를항상비치한다.
- 혼합위험성 등 안전 저장 조건
- 보관:
 - 안전한 저장 방법: 특 별 한 요구사항이 없음.
 - 하나의 공동 보관 시설에 대한 보관 관련 정보: 필 요없음
 - 보관 조건에 관한 추가적인 정보: 용기를새지않게밀폐한채보관한다.
 - 구체적인 최종 사용자 추가적인 정보가 존재하지 않습니다.

8 노출방지 및 개인보호구

- 첨단시설 디자인에 대한 추가정보: 더 이상 의 자료는 없음. 항 목 7 을 참고하십시오.
- 통제 변수

· 화학물질의 노출기준, 생물학적 노출기준 등:

50-00-0 포르말린

TLV (KR)	장기간의값: 0.3 ppm 발암성1A, 생식세포 변이원성2
BOELV (EU)	단기간의값: 0.74 mg/m ³ , 0.6 ppm 장기간의값: 0.37 (0.62)* mg/m ³ , 0.3 (0.5)* ppm Skin sens;*health/funeral/embalming till 11/7/24
PEL (US)	단기간의값: 2 ppm 장기간의값: 0.75 ppm see 29 CFR 1910.1048(c)
REL (US)	장기간의값: 0.016 ppm 최고노출기준: 0.1* ppm *15-min; See Pocket Guide App. A
TLV (US)	단기간의값: 0.37 mg/m ³ , 0.3 ppm 장기간의값: 0.12 mg/m ³ , 0.1 ppm DSEN; RSEN

111-30-8 글루타르알데히드

TLV (KR)	최고노출기준: 0.05 ppm
REL (US)	최고노출기준: 0.8 mg/m ³ , 0.2 ppm See Pocket Guide App. C
TLV (US)	최고노출기준: 0.2 mg/m ³ , 0.05 ppm DSEN;RSEN ;activated or inactivated

· 추가 정보: 제 조 할 당시에 유 효 한 목 록을 기초로 사용했다.

- 노출 통제
- 개인 보호구
- 일반적보호조치및위생조치:
 - 식료품, 음료수와 사료로부터멀리떨어뜨려놓는다.

(5 쪽에계속)

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(4 쪽부터계속)

더러워지거나 음료가 묻은 옷은 즉시 탈의한다.
 휴식 전이나 작업이 끝날때마다 손을 씻는다.
 방호복은 따로 보관한다.
 피부와의 접촉을 피한다.
 눈과 피부와의 접촉을 피한다.

- **호흡기 보호:**
단 시간 또는 경미한 오염의 경우에는 호흡여과기를 사용한다. 심각한 또는 장기간 노출시에는 호흡보호장비를 사용한다.

· **손 보호:**



보호용 장갑

장갑재질은 제품 / 원료 / 조제를 통과시키지 않아야 하고, 내구성이 있어야 한다.
 테스트를 하지 않았기 때문에 제품 / 조제 / 화학 혼합물에 적합한 장갑재질에 대한 추천이 없다.
 투과 시간, 침투율과 저하를 고려해서 장갑 재료를 선택한다.

· **장갑의 재료**

적합한 장갑의 선정은 재질 차이뿐만 아니라 품질 기준의 차이도 고려하여 이루어져야 하고 제조업종에 따라서도 다르게 선정되어야 한다. 제품은 다양한 재료로부터의 조제가 이루어지는 것이기 때문에, 장갑재질의 안정성은 사전에 예측되어질 수 있는 것이 아니고, 반드시 사용 전에 (그 안전성이) 체크되어야 한다.

- **장갑 재료의 투과 시간** 정확한 관통 시간은 보호장갑 제조자에 의하여 인지되고, 준수되어야 한다.

· **눈 보호:**



확조이는 보안경

9 물리화학적 특성

· **기본 물리 및 화학적 특성에 대한 정보**

· **일반정보**

· **외형**

- 물리적 상태: 액체
- 색: 투명한
- 냄새: 대표적인 종류
- 후각역치: 알맞지 않다.

· pH 의 경우 20 °C: 7.4

· **상태변화**

- 녹는점/어는점: 맞지 않는다
- 초기 끓는점과 끓는점 범위: 100 °C

· **인화점:** 해당사항 없음.

· **인화성(고체, 기체):** 해당사항 없음.

· **분해 온도:** 알맞지 않다.

· **자기점화:** 이 제품은 자연발화성이 없다.

· **폭발위험:** 이 제품은 폭발위험성이 없다

· **인화 또는 폭발 범위의 상한/하한**

· **아래로:** 알맞지 않다.

(6 쪽에계속)

물질안전보건자료

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(5 쪽부터계속)

· 위로:	알맞지않다.
· 증기압 의경우 20 °C:	23 hPa
· 밀도:	맞지않는다.
· 비중:	알맞지않다.
· 증기밀도:	알맞지않다.
· 증발 속도:	알맞지않다.
· 용해도:	
· 물:	각각의경우에따라서는거의혼합할수없는
· n 옥탄올/물 분배계수:	알맞지않다.
· 점도:	
· 역학성:	알맞지않다.
· 동점성:	알맞지않다.
· 용매내용물	
· 유기용매:	3.0 %
· 물:	93.9 %
· VOC (EU)	3.00 %
· 고체의 함량:	0.0 %
· 기타 정보	추가적인 정보가 존재하지 않습니다.

10 안정성 및 반응성

- 반응성 추가적인 정보가 존재하지 않습니다.
- 화학적 안정성
- 화학적 안정성 및 유해 반응의 가능성 / 피해야 할 조건: 규정에따라사용할경우해체는없다
- 유해반응 가능성 위험한반응으로는알려지지않았다.
- 피해야 할 조건 추가적인 정보가 존재하지 않습니다.
- 혼합 금지 물질: 추가적인 정보가 존재하지 않습니다.
- 유해분해물질: 위험성있는분해물들은알려지지않았다.

11 독성에 관한 정보

- 독성학적 영향에 대한 정보
- 급성 독성:

· LD/LC50-수치에 따른 분류:		
50-00-0 포르말린		
구강의	LD50	>200 mg/kg (rat)
111-30-8 글루타르알데히드		
구강의	LD50	134 mg/kg (rat)
피부의	LD50	2,560 mg/kg (rabbit)

- 일차적 자극 효과:
- 피부 부식성 또는 자극성: 피부와점막을자극한다.
- 심한 눈 손상 또는 자극성: 심각한안구상처의위험이있는강한자극
- 감각화:
- 호흡을통한감각화가가능성이있다.
- 피부접촉을통하여감각화가가능성이있다.

(7 쪽에계속)

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(6 쪽부터계속)

· 추가적인 독성에 관한 정보:

이제 품은 유럽공동체의공통분류원칙의합법적인절차에근거하여최근에발효된원고에서아래위험들의사전 준비에대하여제시하고있다.

건강에해로운

자극적인

암을유발하는

· 다음 종류의 잠재적인 효과에 대한 정보

· **CMR-효과 (암 유발, 돌연변이성 그리고 생식 독성)**

생식세포 변이원성 - 구분 2, 발암성 - 구분 1B

12 환경에 미치는 영향

· 독성

· **수생독성:** 추가적인 정보가 존재하지 않습니다.

· **지속성 및 분해성** 추가적인 정보가 존재하지 않습니다.

· 환경 시스템에서의 행동:

· **생물농축 잠재성** 추가적인 정보가 존재하지 않습니다.

· **토양내 이동성** 추가적인 정보가 존재하지 않습니다.

· 생태독성:

· 의견:

어류에독이됨

어류에해로움

· 추가적인 생태학 정보:

· 일반 특징:

수질오염등급 3 (자체등급분류): 심하게수질오염이된

지하수나, 하천으로또는 하수도망에도달하지않게한다. 역시극소수의양이라도안된다.

지하수로아주미세한양이유입되었을경우엔이미식수오염상태이다

하천에서는역시물고기나플랑크톤게는독성이있다.

물속의유기체에독이되는것

물속의유기체에해가되는것

· **PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과**

· **PBT(잔류성, 생물농축성, 독성 물질):** 해당사항 없음.

· **vPvB(고 잔류성, 고 생물농축성 물질):** 해당사항 없음.

· **기타 부작용** 추가적인 정보가 존재하지 않습니다.

13 폐기시 주의사항

· 폐기물 처리 방법

· **권고:** 생활쓰레기와함께처리되어서는안된다. 하수도망으로유입되어서는안된다.

· 비위생적 포장:

· **권고:** 당국의지침에입각한쓰레기처리.

14 운송에 필요한 정보

· 유엔 번호

· **ADR, IMDG, IATA**

UN1760

(8 쪽에계속)

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(7 쪽부터계속)

<ul style="list-style-type: none"> · UN 적정 선적명 · ADR · IMDG, IATA 	<p>1760 CORROSIVE LIQUID, N.O.S. (글루타르알데히드, FORMALDEHYDE SOLUTION)</p> <p>CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)</p>
<ul style="list-style-type: none"> · 교통 위험 클래스 · ADR, IMDG, IATA 	<p>8 부식작용하는물질</p> <p>8</p>
<ul style="list-style-type: none"> · 등급 · 위험물 라벨 	<p>8 부식작용하는물질</p> <p>8</p>
<ul style="list-style-type: none"> · 용기등급 · ADR, IMDG, IATA 	<p>II</p>
<ul style="list-style-type: none"> · 환경적 유해물질: 	<p>해당사항 없음.</p>
<ul style="list-style-type: none"> · 이용자 특별 예방조치 · 위험 코드: · EMS-번호: · Segregation groups · Stowage Category · Stowage Code 	<p>경고: 부식작용하는물질</p> <p>80</p> <p>F-A,S-B</p> <p>Acids</p> <p>B</p> <p>SW2 Clear of living quarters.</p>
<ul style="list-style-type: none"> · MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(bulk) 운송 	<p>해당사항 없음.</p>
<ul style="list-style-type: none"> · 운 송/추가 정보: 	
<ul style="list-style-type: none"> · ADR · 한정 수량 (LQ) · Excepted quantities (EQ) 	<p>1L</p> <p>Code: E2</p> <p>Maximum net quantity per inner packaging: 30 ml</p> <p>Maximum net quantity per outer packaging: 500 ml</p>
<ul style="list-style-type: none"> · 운송 구분 · 터널 제한 코드 	<p>2</p> <p>E</p>
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	<p>1L</p> <p>Code: E2</p> <p>Maximum net quantity per inner packaging: 30 ml</p> <p>Maximum net quantity per outer packaging: 500 ml</p>
<ul style="list-style-type: none"> · UN "모범 규제": 	<p>UN 1760 CORROSIVE LIQUID, N.O.S. (글루타르알데히드, FORMALDEHYDE SOLUTION), 8, II</p>

KR

(9 쪽에계속)

물질안전보건자료

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(8 쪽부터계속)

15 법적 규제현황

· 산업안전보건법에 의한 규제:

· 제조 등 금지물질:

어떠한내용물도목록화되어있지않다

· 허가대상물질:

어떠한내용물도목록화되어있지않다

· 관리대상유해물질:

50-00-0 포르말린

111-30-8 글루타르알데히드

· 관리대상 유해물질의 종류 유기화합물: 118

· 작업환경측정 대상 유해인자

50-00-0 포르말린

1A105

111-30-8 글루타르알데히드

1A1

· 특수건강진단 대상 유해인자

50-00-0 포르말린

1A98

111-30-8 글루타르알데히드

1A2

· 해당 순물질 또는 혼합물에 대한 안전, 보건 및 환경 규제/법률

· Korean Existing Chemical Inventory

7732-18-5 물

KE-35400

50-00-0 포르말린

KE-17074

111-30-8 글루타르알데히드

KE-27969

124-65-2 sodium dimethylarsinate

KE-11204

· 화학물질관리법

· 사고대비물질

50-00-0 포르말린

· 금지물질

어떠한내용물도목록화되어있지않다

· 제한물질

50-00-0 포르말린

· 유독물질

50-00-0 포르말린

111-30-8 글루타르알데히드

124-65-2 sodium dimethylarsinate

· 허가물질

50-00-0 포르말린

111-30-8 글루타르알데히드

· 위험물안전관리법 (위험물 및 지정수량) 제 4: 4,000 리터

· 등록 또는 신고 면제대상 화학물질

7732-18-5 물

· ‘21년까지 등록하여야 할 압, 들연번이, 생식능력 이상을 일으키거나 일으킬 우려가 있는 기존화학물질

어떠한내용물도목록화되어있지않다

(10 쪽에계속)

물질안전보건자료

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(9 쪽부터계속)

· **중점관리물질의 지정**

· **표1 중점관리물질(제2조 관련)**

50-00-0 포르말린

· **표2 중점관리물질(제2조 관련)**

어떠한내용물도목록화되어있지않다

· **GHS 라벨 요소**

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

· **그림문자**



GHS05 GHS07 GHS08

· **신호어 위험**

· **상표상에명확히위험성이표시된성분:**

글루타르알데히드
포르말린

sodium dimethylarsinate

· **유해.위험 문구**

흡입하면 유해함
피부에 자극을 일으킴
눈에 심한 손상을 일으킴
흡입 시 알레르기성 반응, 천식 또는 호흡 곤란 등을 일으킬 수 있음
알레르기성 피부 반응을 일으킬 수 있음
유전적인 결함을 일으킬 것으로 의심됨
암을 일으킬 수 있음
호흡 자극성을 일으킬 수 있음
장기적 영향에 의해 수생생물에 유해함

· **예방조치 문구**

눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면 콘택트렌즈를 제거하십시오. 계속 씻으시오.
즉시 독성물질센터/병원 연락 필요.
(라벨 참조) 처치를 하시오.
오염된 의복은 벗고 다시 사용 전 세척하십시오.
밀봉하여 저장하십시오.
(지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기하십시오.

· **국내규정:**

· **사용제한에 대한 정보:**

노동자들은 이러한 예방준비하에 암을 유발시키는 성분을 함유한 위험물을 버리지 말아야 한다. 개별적인 경우
에 관청은 예외를 허가할 수 있다.

· **화학물질 안전성 평가:** 화학물질 안전성 평가가 수행되지 않음

16 그 밖의 참고사항

이 보고서는 우리 지식에 대한 오늘날의 상태에 대하여 평가하고 있다, 하지만 이 보고서는 생산특성에 관한 보증은
기술하지 않았으며 계약적인 법률관계에 기반을 두고 있지 않다

· **최초 작성일자:** 2021.08.27

· **개정 횟수 및 최종 개정일자:** 1 / 2021.08.27

· **약어와 두문자어:**

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

(11 쪽에계속)

물질안전보건자료

GHS에 따라

인쇄일자: 2021.08.27

개정: 2021.08.27

제품명: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(10 쪽부터계속)

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

KR

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 27.08.2021

Revisión: 27.08.2021

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

· 1.1 Identificador del producto

· **Nombre comercial:** Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

· **Número del artículo:** 15950, 16538-SPP

· **UFI:** Q391-J03F-200P-RFRH

· 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: sgkcck@aol.com

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

· **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.

Muta. 2

H341 Se sospecha que provoca defectos genéticos.

Carc. 1B

H350 Puede provocar cáncer.



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.

(se continua en página 2)

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Nombre comercial: Formaldehído/Glutaraldehído, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(se continua en página 1)

STOT SE 3 H335 Puede irritar las vías respiratorias.

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

· 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
formaldehído

· 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.

H341 Se sospecha que provoca defectos genéticos.

H350 Puede provocar cáncer.

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: Enjuagar con agua cuidadosamente durante varios minutos. Quitar las lentes de contacto cuando estén presentes y pueda hacerse con facilidad. Proseguir con el lavado.

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.

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(se continua en página 2)

· Componentes peligrosos:		
CAS: 50-00-0 EINECS: 200-001-8	formaldehído Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Muta. 2, H341; Carc. 1B, H350; Skin Corr. 1B, H314; Skin Sens. 1, H317	>2,5-≤10%
CAS: 111-30-8 EINECS: 203-856-5	glutaral 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	>2,5-≤10%
· SVHC		
111-30-8	glutaral	

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

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.

(se continua en página 4)

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(se continua en página 3)

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.
 - Abrir y manejar el recipiente con cuidado.
 - Evitar la formación de aerosoles.
- **Prevención de incendios y explosiones:** Tener preparados los aparatos respiratorios.
- **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.
- **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:**

50-00-0 formaldehído

LEP	Valor de corta duración: 0,74 mg/m ³ , 0,6 ppm
	Valor de larga duración: 0,37 mg/m ³ , 0,3 ppm
	CIB, Sen, s

111-30-8 glutaral

LEP	Valor de corta duración: 0,2 mg/m ³ , 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.

Guardar la ropa protectora por separado.

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

(se continua en página 5)

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(se continua en página 4)

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

SECCIÓN 9: Propiedades físicas y químicas

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

· **Datos generales**

· **Aspecto:**

· **Forma:**

Líquido

· **Color:**

Transparente

· **Olor:**

Específico

· **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.

(se continua en página 6)

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(se continua en página 5)

· Coefficiente de reparto: n-octanol/agua:	No determinado.
· Viscosidad:	
· Dinámica:	No determinado.
· Cinemática:	No determinado.
· Concentración del disolvente:	
· Disolventes orgánicos:	3,0 %
· Agua:	93,9 %
· VOC (CE)	3,00 %
· 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.
- **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:**

50-00-0 formaldehído

Oral	LD50	>200 mg/kg (rat)
------	------	------------------

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**
Se sospecha que provoca defectos genéticos.
- **Carcinogenicidad**
Puede provocar cáncer.
- **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.

(se continua en página 7)

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(se continua en página 6)

- **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 3 (autoclasiación): muy peligroso para el agua
No dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados, ni siquiera en pequeñas cantidades.
Una cantidad ínfima 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
- **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

- **14.1 Número ONU**
- **ADR, IMDG, IATA** UN1760
- **14.2 Designación oficial de transporte de las Naciones Unidas**
- **ADR** 1760 LÍQUIDO CORROSIVO, N.E.P. (glutaral, FORMALDEHÍDO EN SOLUCIÓN)
- **IMDG, IATA** CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)

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(se continua en página 7)

· **14.3 Clase(s) de peligro para el transporte**

· **ADR, IMDG, IATA**



· **Clase** 8 Materias corrosivas
 · **Etiqueta** 8

· **14.4 Grupo de embalaje**

· **ADR, IMDG, IATA** II

· **14.5 Peligros para el medio ambiente:** No aplicable.

· **14.6 Precauciones particulares para los usuarios** Atención: Materias corrosivas

· **Número de identificación de peligro (Número Kemler):** 80
 · **Número EMS:** F-A,S-B
 · **Segregation groups** Acids
 · **Stowage Category** B
 · **Stowage Code** SW2 Clear of living quarters.

· **14.7 Transporte a granel con arreglo al anexo II del Convenio MARPOL y el Código IBC** No aplicable.

· **Transporte/datos adicionales:**

· **ADR**
 · **Cantidades limitadas (LQ)** 1L
 · **Cantidades exceptuadas (EQ)** Código: E2
 Cantidad neta máxima por envase interior: 30 ml
 Cantidad neta máxima por embalaje exterior: 500 ml
 · **Categoría de transporte** 2
 · **Código de restricción del túnel** E

· **IMDG**
 · **Limited quantities (LQ)** 1L
 · **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· **"Reglamentación Modelo" de la UNECE:** UN 1760 LÍQUIDO CORROSIVO, N.E.P. (GLUTARAL, FORMALDEHÍDO EN SOLUCIÓN), 8, II

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, 28, 72

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· **Directiva 2011/65/UE sobre restricciones a la utilización de determinadas sustancias peligrosas en aparatos eléctricos y electrónicos - Anexo II**

ninguno de los componentes está incluido en una lista

· **Disposiciones nacionales:**

· **Indicaciones sobre las limitaciones de trabajo:**

Los empleados no deben exponerse a las sustancias cancerígenas contenidas en el producto. En casos aislados las autoridades pueden hacer excepciones.

· **Demás disposiciones, limitaciones y decretos prohibitivos**

· **Sustancias altamente preocupantes (SVHC) según REACH, artículo 57**

111-30-8 | glutaral

· **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.

H311 Tóxico en contacto con la piel.

H314 Provoca quemaduras graves en la piel y lesiones oculares graves.

H317 Puede provocar una reacción alérgica en la piel.

H330 Mortal en caso de inhalación.

H331 Tóxico 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.

H341 Se sospecha que provoca defectos genéticos.

H350 Puede provocar cáncer.

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

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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

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 3: Toxicidad aguda - oral - Categoría 3

Acute Tox. 2: Toxicidad aguda - por inhalación - Categoría 2

Acute Tox. 4: Toxicidad aguda - por inhalación - 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

Muta. 2: Mutagenicidad en células germinales - Categoría 2

Carc. 1B: Carcinogenicidad - Categoría 1B

(se continua en página 10)

Ficha de datos de seguridad
según 1907/2006/CE, Artículo 31

fecha de impresión 27.08.2021

Revisión: 27.08.2021

Nombre comercial: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

STOT SE 3: Toxicidad específica en determinados órganos (exposición única) – Categoría 3

(se continua en página 9)

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

ES

Säkerhetsdatablad
enligt förordning (EG) nr. 1907/2006, Artikel 31

Datum för utskrift: 27.08.2021

Omarbetad: 27.08.2021

AVSNITT 1: Namnet på ämnet/blandningen och bolaget/företaget

- **1.1 Produktbeteckning**
- **Handelsnamn:** Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4
- **Artikelnummer:** 15950, 16538-SPP
- **UFI:** Q391-J03F-200P-RFRH
- **1.2 Relevanta identifierade användningar av ämnet eller blandningen och användningar som det avråds från**
Ingen ytterligare relevant information finns till förfogande.
- **Ämnets användning / tillredningen** Laboratoriekemikalier
- **1.3 Närmare upplysningar om den som tillhandahåller säkerhetsdatablad**
- **Tillverkare/leverantör:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkceck@aol.com
www.emsdiasum.com
- **Område där upplysningar kan inhämtas:** Product safety department
- **1.4 Telefonnummer för nödsituationer:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

AVSNITT 2: Farliga egenskaper

- **2.1 Klassificering av ämnet eller blandningen**
- **Klassificering enligt förordning (EG) nr 1272/2008**



GHS08 hälsofara

Resp. Sens. 1 H334 Kan orsaka allergi- eller astmasymtom eller andningssvårigheter vid inandning.
Muta. 2 H341 Misstänks kunna orsaka genetiska defekter.
Carc. 1B H350 Kan orsaka cancer.



GHS05 frätande

Eye Dam. 1 H318 Orsakar allvarliga ögonskador.



GHS07

Acute Tox. 4 H332 Skadligt vid inandning.
Skin Irrit. 2 H315 Irriterar huden.
Skin Sens. 1 H317 Kan orsaka allergisk hudreaktion.
STOT SE 3 H335 Kan orsaka irritation i luftvägarna.
Aquatic Chronic 3 H412 Skadliga långtidseffekter för vattenlevande organismer.

- **2.2 Märkningsuppgifter**
- **Märkning enligt förordning (EG) nr 1272/2008** Produkten är klassificerad och märkt enligt CLP-förordningen.

(Fortsättning på sida 2)

Säkerhetsdatablad
enligt förordning (EG) nr. 1907/2006, Artikel 31

Datum för utskrift: 27.08.2021

Omarbetad: 27.08.2021

Handelsnamn: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Fortsättning från sida 1)

· **Faropiktogram**

GHS05 GHS07 GHS08

· **Signalord Fara**· **Riskbestämmande komponenter för etikettering:**

Glutaraldehyd
formaldehyd

· **Faroangivelser**

H332 Skadligt vid inandning.

H315 Irriterar huden.

H318 Orsakar allvarliga ögonskador.

H334 Kan orsaka allergi- eller astmasymtom eller andningssvårigheter vid inandning.

H317 Kan orsaka allergisk hudreaktion.

H341 Misstänks kunna orsaka genetiska defekter.

H350 Kan orsaka cancer.

H335 Kan orsaka irritation i luftvägarna.

H412 Skadliga långtidseffekter för vattenlevande organismer.

· **Skyddsangivelser**

P305+P351+P338 **VID KONTAKT MED ÖGONEN:** Skölj försiktigt med vatten i flera minuter. Ta ur eventuella kontaktlinser om det går lätt. Fortsätt att skölja.

P310 Kontakta genast GIFTINFORMATIONSCENTRALEN/läkare.

P321 Särskild behandling (se på etiketten).

P362+P364 Ta av nedstänkta kläder och tvätta dem innan de används igen.

P405 Förvaras inlåst.

P501 Innehållet / behållaren avfallshanteras enligt lokala / regionala / nationella / internationella föreskrifter.

· **2.3 Andra faror**· **Resultat av PBT- och vPvB-bedömningen**· **PBT:** Ej användbar.· **vPvB:** Ej användbar.

AVSNITT 3: Sammansättning/information om beståndsdelar

· **3.2 Kemisk karakterisering: Blandningar**· **Beskrivning:** Blandning bestående av nedan upplistade ämnen med ofarliga tillsatser.· **Farliga ingredienser:**

CAS: 50-00-0 EINECS: 200-001-8	formaldehyd ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ⚠ Muta. 2, H341; Carc. 1B, H350; ⚠ Skin Corr. 1B, H314; ⚠ Skin Sens. 1, H317	>2,5-≤10%
CAS: 111-30-8 EINECS: 203-856-5	Glutaraldehyd ⚠ 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	>2,5-≤10%

· **SVHC**

111-30-8	Glutaraldehyd
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(Fortsättning på sida 3)

Säkerhetsdatablad

enligt förordning (EG) nr. 1907/2006, Artikel 31

Datum för utskrift: 27.08.2021

Omarbetad: 27.08.2021

Handelsnamn: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Fortsättning från sida 2)

· **Ytterligare hänvisningar:** De angivna farohänvisningarnas ordalydelse framgår av kapitel 16.

AVSNITT 4: Åtgärder vid första hjälpen

· **4.1 Beskrivning av åtgärder vid första hjälpen**

· **Allmänna hänvisningar:**

Förgiftningssymptom kan uppträda först efter många timmar. Av denna anledning krävs läkarövervakning i minst 48 timmar efter ett olycksfall.

· **Vid inandning:**

Riklig tillförsel av friskluft, kontakta läkare för säkerhets skull.

Vid medvetslöshet lägg och transportera patient stabilt i framstupa sidoläge.

· **Vid kontakt med huden:** Tvätta omedelbart med vatten och tvål och spola därefter noggrant.

· **Vid kontakt med ögonen:** Spola ögonen öppna i flera minuter under rinnande vatten och kontakta läkare.

· **Vid förtäring:** Kontakta läkare omedelbart.

· **4.2 De viktigaste symptomen och effekterna, både akuta och fördröjda**

Ingen ytterligare relevant information finns till förfogande.

· **4.3 Angivande av omedelbar medicinsk behandling och särskild behandling som eventuellt krävs**

Ingen ytterligare relevant information finns till förfogande.

AVSNITT 5: Brandbekämpningsåtgärder

· **5.1 Släckmedel**

· **Lämpliga släckningsmedel:** Anpassa brandbekämpningsåtgärderna till omgivningen.

· **5.2 Särskilda faror som ämnet eller blandningen kan medföra**

Ingen ytterligare relevant information finns till förfogande.

· **5.3 Råd till brandbekämpningspersonal**

· **Speciell skyddsutrustning:** Använd andningsskyddsutrustning.

AVSNITT 6: Åtgärder vid oavsiktliga utsläpp

· **6.1 Personliga skyddsåtgärder, skyddsutrustning och åtgärder vid nödsituationer** Erfordras ej.

· **6.2 Miljöskyddsåtgärder:**

När produkten kommit in i vattendrag eller avloppsnät, skall vederbörande myndigheter underrättas.

Förhindra produkten att tränga ner i avloppsnät/ytvatten/grundvatten.

· **6.3 Metoder och material för inneslutning och sanering:**

Sug upp med vätskebindande material (sand, kiselgur, syrabindemedel, universalbindemedel, sågspån).

Omhänderta förorenat material som avfall enligt punkt 13.

Se till att ventilationen är tillräcklig.

· **6.4 Hänvisning till andra avsnitt**

Information beträffande säker hantering se kapitel 7.

Information beträffande personlig skyddsutrustning se kapitel 8.

Information beträffande avfallshantering se kapitel 13.

AVSNITT 7: Hantering och lagring

· **7.1 Försiktighetsmått för säker hantering**

Sörj för god ventilation/utsug på arbetsplatsen.

Öppna behållaren försiktigt och hantera den varsamt.

Undvik bildning av aerosol.

· **Hänvisningar beträffande brand- och explosionsskydd:** Håll andningsskyddsutrustning i beredskap.

(Fortsättning på sida 4)

Säkerhetsdatablad
enligt förordning (EG) nr. 1907/2006, Artikel 31

Datum för utskrift: 27.08.2021

Omarbetad: 27.08.2021

Handelsnamn: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Fortsättning från sida 3)

- **7.2 Förhållanden för säker lagring, inklusive eventuell oförenlighet**
- **Lagring:**
- **Krav på lagerutrymmen och behållare:** Inga speciella krav.
- **Hänvisningar beträffande sammanlagring:** Erfordras ej.
- **Ytterligare uppgifter till lagringsvillkoren:** Förvara behållaren tätt tillsluten.
- **7.3 Specifik slutanvändning** Ingen ytterligare relevant information finns till förfogande.

AVSNITT 8: Begränsning av exponeringen/personligt skydd

- **Ytterligare hänvisningar beträffande utformning av tekniska anläggningar:** Inga övriga uppgifter, se punkt 7.

· 8.1 Kontrollparametrar

- **Ämnen med yrkeshygieniska gränsvärden som bör övervakas:**

50-00-0 formaldehyd

OEL	Korttidsvärde: 0,74 mg/m ³ , 0,6 ppm
	Nivågränsvärde: 0,37 mg/m ³ , 0,3 ppm
	C, H, S

111-30-8 Glutaraldehyd

OEL	Korttidsvärde: 0,4 mg/m ³ , 0,1 ppm
	S

- **Ytterligare hänvisningar:** De vid framställningen gällande listorna har använts som utgångspunkt.

· 8.2 Begränsning av exponeringen

· Personlig skyddsutrustning:

· Allmänna skydds- och hygienåtgärder:

- Undvik kontakt med livsmedel, drycker och fodermedel.
- Nedsmutsade, indränkta klädesplagg skall omedelbart tas av.
- Tvätta händerna före raster och efter arbetet.
- Skyddsdräkter förvaras separat.
- Undvik kontakt med huden.
- Undvik kontakt med ögonen och huden.

· Andningsskydd:

- Vid kortvarig eller ringa belastning - använd andningsfilterutrustning; vid intensiv resp. längre exponering - använd andningsskyddsutrustning som är oberoende av omgivningsluften.

· Handskydd:



Skyddshandskar

Handskmaterialet måste vara tätt och beständigt mot produkt/ämne/tillredning.

Handskmaterialrekommendationer kan inte ges för produkt/tillredning/kemikalielösning, då inga tester genomförts.

Val av handskmaterial beaktande penetrationstider, permeationskvoter och degradation.

· Handskmaterial

Val av lämplig handske är inte enbart beroende av material utan även av andra kvalitetskriterier och varierar från en tillverkare till nästa. Då produkten bereds av flera material, kan handskmaterialets beständighet inte förutses och måste därför kontrolleras före användningen.

· Handskmaterialets penetreringstid

Exakt penetrationstid fastställs av skyddshandskarnas tillverkare och skall beaktas.

(Fortsättning på sida 5)

Säkerhetsdatablad

enligt förordning (EG) nr. 1907/2006, Artikel 31

Datum för utskrift: 27.08.2021

Omarbetad: 27.08.2021

Handelsnamn: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4
Ögonskydd:

(Fortsättning från sida 4)



Tättslutande skyddsglasögon

AVSNITT 9: Fysikaliska och kemiska egenskaper

9.1 Information om grundläggande fysikaliska och kemiska egenskaper
Allmänna uppgifter
Utseende:
Form:

Vätska

Färg:

Genomskinlig

Lukt:

Artypisk

Luktröskel:

Ej bestämd.

pH-värde vid 20 °C:

7,4

Tillståndsändring
Smältpunkt/frys punkt:

Ej bestämd.

Initial kokpunkt och kokpunktsintervall:

100 °C

Flampunkt:

Ej användbar.

Brandfarlighet (fast form, gas):

Ej användbar.

Sönderfallstemperatur:

Ej bestämd.

Självantändningstemperatur:

Produkten är ej självantändande.

Explosiva egenskaper:

Produkten är ej explosiv.

Explosionsgränser:
Nedre:

Ej bestämd.

Övre:

Ej bestämd.

Ångtryck vid 20 °C:

23 hPa

Densitet:

Ej bestämd.

Relativ densitet

Ej bestämd.

Ångdensitet

Ej bestämd.

Avdunstningshastighet:

Ej bestämd.

Löslighet i / blandbarhet med
Vatten:

Ej resp. föga blandbar.

Fördelningskoefficient: n-oktanol/vatten: Ej bestämd.
Viskositet:
Dynamisk:

Ej bestämd.

Kinematisk:

Ej bestämd.

Lösningsmedelhalt:
Organiska lösningsmedel:

3,0 %

Vatten:

93,9 %

VOC (EG)

3,00 %

Andel av fasta partiklar:

0,0 %

(Fortsättning på sida 6)

Säkerhetsdatablad

enligt förordning (EG) nr. 1907/2006, Artikel 31

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Omarbetad: 27.08.2021

Handelsnamn: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Fortsättning från sida 5)

· 9.2 Annan information

Ingen ytterligare relevant information finns till förfogande.

AVSNITT 10: Stabilitet och reaktivitet

- **10.1 Reaktivitet** Ingen ytterligare relevant information finns till förfogande.
- **10.2 Kemisk stabilitet**
- **Termisk sönderdelning / förhållanden som bör undvikas:** Inget sönderfall vid ändamålsenlig användning.
- **10.3 Risken för farliga reaktioner** Inga farliga reaktioner kända.
- **10.4 Förhållanden som ska undvikas** Ingen ytterligare relevant information finns till förfogande.
- **10.5 Oförenliga material:** Ingen ytterligare relevant information finns till förfogande.
- **10.6 Farliga sönderdelningsprodukter:** Inga farliga sönderfallsprodukter kända.

AVSNITT 11: Toxikologisk information

- **11.1 Information om de toxikologiska effekterna**
- **Akut toxicitet**
Skadligt vid inandning.

- **Klassificeringsrelevanta LD/LC50-värden:**

50-00-0 formaldehyd

Oral	LD50	>200 mg/kg (rat)
------	------	------------------

111-30-8 Glutaraldehyd

Oral	LD50	134 mg/kg (rat)
Dermal	LD50	2.560 mg/kg (rabbitt)

- **Primär retningseffekt:**
- **Frätande/irriterande på huden**
Irriterar huden.
- **Allvarlig ögonskada/ögonirritation**
Orsakar allvarliga ögonskador.
- **Luftvägs-/hudsensibilisering**
Kan orsaka allergi- eller astmasymtom eller andningssvårigheter vid inandning.
Kan orsaka allergisk hudreaktion.
- **CMR-effekter (cancerframkallande, mutagena och reproduktionstoxiska egenskaper)**
- **Mutagenitet i könsceller**
Misstänks kunna orsaka genetiska defekter.
- **Cancerogenitet**
Kan orsaka cancer.
- **Reproduktionstoxicitet**
Kriterierna för klassificering kan på grundval av tillgängliga data inte anses vara uppfyllda.
- **Specifik organtoxicitet – enstaka exponering**
Kan orsaka irritation i luftvägarna.
- **Specifik organtoxicitet – upprepad exponering**
Kriterierna för klassificering kan på grundval av tillgängliga data inte anses vara uppfyllda.
- **Fara vid aspiration** Kriterierna för klassificering kan på grundval av tillgängliga data inte anses vara uppfyllda.

AVSNITT 12: Ekologisk information

- **12.1 Toxicitet**
- **Akvatisk toxicitet:** Ingen ytterligare relevant information finns till förfogande.
- **12.2 Persistens och nedbrytbarhet** Ingen ytterligare relevant information finns till förfogande.

(Fortsättning på sida 7)

Säkerhetsdatablad
enligt förordning (EG) nr. 1907/2006, Artikel 31

Datum för utskrift: 27.08.2021

Omarbetad: 27.08.2021

Handelsnamn: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Fortsättning från sida 6)

- **12.3 Bioackumuleringsförmåga** Ingen ytterligare relevant information finns till förfogande.
- **12.4 Rörlighet i jord** Ingen ytterligare relevant information finns till förfogande.
- **Ekotoxiska effekter:**
- **Kommentar:**
Giftig för fisk.
Skadlig för fisk.
- **Ytterligare ekologiska hänvisningar:**
- **Allmänna hänvisningar:**
Vattenföroreningsklass 3 (Självtvärdering): stor risk för vattenförorening.
Låt ej tränga ner i grundvatten, vattendrag eller avloppsnätet, inte ens i små mängder.
Risk för förorening av dricksvattnet redan när mycket små mängder tränger ner i marken.
I vattendrag även giftig för fisk och plankton.
Giftig för vattenorganismer
Skadlig för vattenorganismer
- **12.5 Resultat av PBT- och vPvB-bedömningen**
- **PBT:** Ej användbar.
- **vPvB:** Ej användbar.
- **12.6 Andra skadliga effekter** Ingen ytterligare relevant information finns till förfogande.

AVSNITT 13: Avfallshantering

- **13.1 Avfallsbehandlingsmetoder**
- **Rekommendation:** Får inte deponeras ihop med hushållsavfall. Får inte tömmas i avloppsnätet.
- **Ej rengjorda förpackningar:**
- **Rekommendation:** Avfallshanteras enligt myndigheters föreskrifter.

AVSNITT 14: Transportinformation

- | | |
|---|---|
| <ul style="list-style-type: none"> · 14.1 UN-nummer · ADR, IMDG, IATA | UN1760 |
| <ul style="list-style-type: none"> · 14.2 Officiell transportbenämning · ADR · IMDG, IATA | 1760 FRÄTANDE VÄTSKA , N.O.S. (Glutaraldehyd, FORMALDEHYD, LÖSNING)
CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION) |
| <ul style="list-style-type: none"> · 14.3 Faroklass för transport · ADR, IMDG, IATA | 8 Frätande ämnen |
| <ul style="list-style-type: none"> · Klass · Etikett | 8 |
| <ul style="list-style-type: none"> · 14.4 Förpackningsgrupp · ADR, IMDG, IATA | II |
| <ul style="list-style-type: none"> · 14.5 Miljöfaror: | Ej användbar. |
| <ul style="list-style-type: none"> · 14.6 Särskilda skyddsåtgärder | Varning: Frätande ämnen |

(Fortsättning på sida 8)

Säkerhetsdatablad
enligt förordning (EG) nr. 1907/2006, Artikel 31

Datum för utskrift: 27.08.2021

Omarbetad: 27.08.2021

Handelsnamn: Formaldehyde/Glutaraldehyde, 3% in 0.1M Sod. Cac. Buffer, pH 7.4

(Fortsättning från sida 7)

· Farlighetsnummer (Kemler-tal):	80
· EMS-nummer:	F-A,S-B
· Segregation groups	Acids
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· 14.7 Bulktransport enligt bilaga II till Marpol 73/78 och IBC-koden	Ej användbar.
· Transport / ytterligare uppgifter:	
· ADR	
· Begränsade mängder (LQ)	1L
· Reducerade mängder (EQ)	Kod: E2 Högsta nettomängd per innerförpackning: 30 ml Högsta nettomängd per ytterförpackning: 500 ml
· Transportkategori	2
· Tunnelrestriktionskod	E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1760 FRÄTANDE VÄTSKA , N.O.S. (GLUTARALDEHYD, FORMALDEHYD, LÖSNING), 8, II

AVSNITT 15: Gällande föreskrifter

· **15.1 Föreskrifter/lagstiftning om ämnet eller blandningen när det gäller säkerhet, hälsa och miljö**

· **Direktiv 2012/18/EU**

· **Namngivna farliga ämnen - BILAGA I** Inga beståndsdelar är listade.

· **Förordning (EG) nr 1907/2006 BILAGA XVII Villkor:** 3, 28, 72

· **Direktiv 2011/65/EU om begränsning av användning av vissa farliga ämnen i elektrisk och elektronisk utrustning - Bilaga II**

Inga beståndsdelar är listade.

· **Nationella föreskrifter:**

· **Hänvisningar beträffande inskränkning av sysselsättning:**

Arbetstagare får inte utsättas för det cancerframkallande farliga ämnet som denna tillredning innehåller. I enstaka fall kan myndigheten medge undantag.

· **Övriga föreskrifter, begränsningar och förbudsbestämmelser**

· **Ämnen som inger mycket stora betänkligheter (SVHC) enligt REACH, artikel 57**

111-30-8 | Glutaraldehyd

· **15.2 Kemikaliesäkerhetsbedömning:** En kemikaliesäkerhetsbedömning har ej gjorts.

AVSNITT 16: Annan information

Uppgifterna är baserade på våra aktuella kunskaper. De representerar emellertid ingen som helst garanti beträffande produkttegenskaper och utgör ingen grund för ett avtalat rättsförhållande.

(Fortsättning på sida 9)

Säkerhetsdatablad
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(Fortsättning från sida 8)

· **Relevanta fraser**

- H301 Giftigt vid förtäring.
- H311 Giftigt vid hudkontakt.
- H314 Orsakar allvarliga frätskador på hud och ögon.
- H317 Kan orsaka allergisk hudreaktion.
- H330 Dödligt vid inandning.
- H331 Giftigt vid inandning.
- H334 Kan orsaka allergi- eller astmasymtom eller andningssvårigheter vid inandning.
- H335 Kan orsaka irritation i luftvägarna.
- H341 Misstänks kunna orsaka genetiska defekter.
- H350 Kan orsaka cancer.
- H400 Mycket giftigt för vattenlevande organismer.
- H411 Giftigt för vattenlevande organismer med långtidseffekter.

· **Förkortningar och akronymer:**

- 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
- SVHC: Substances of Very High Concern
- vPvB: very Persistent and very Bioaccumulative
- Acute Tox. 3: Akut toxicitet - oral – Kategori 3
- Acute Tox. 2: Akut toxicitet - inhalation – Kategori 2
- Acute Tox. 4: Akut toxicitet - inhalation – Kategori 4
- Skin Corr. 1B: Frätande eller irriterande på huden – Kategori 1B
- Skin Irrit. 2: Frätande eller irriterande på huden – Kategori 2
- Eye Dam. 1: Allvarlig ögonskada eller ögonirritation – Kategori 1
- Resp. Sens. 1: Luftvägssensibilisering – Kategori 1
- Skin Sens. 1: Hudsensibilisering – Kategori 1
- Skin Sens. 1A: Hudsensibilisering – Kategori 1A
- Muta. 2: Mutagenitet i könsceller – Kategori 2
- Carc. 1B: Cancerogenitet – Kategori 1B
- STOT SE 3: Specifik organtoxicitet (enstaka exponering) – Kategori 3
- Aquatic Acute 1: Farligt för vattenmiljön - akut fara – Kategori 1
- Aquatic Chronic 2: Farligt för vattenmiljön - fara för skadliga långtidseffekter – Kategori 2
- Aquatic Chronic 3: Farligt för vattenmiljön - fara för skadliga långtidseffekter – Kategori 3