

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2015

Reviewed on 07/18/2015

1 Identification

- **Product identifier**
- **Trade name:** Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4
- **Article number:** 16536-06, 16536-07, 16536-08
- **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
- **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

Skin Irrit. 2 H315 Causes skin irritation.

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

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



GHS05



GHS08

- **Signal word** Danger

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Safety Data Sheet

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Trade name: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

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

formaldehyde
Glutaraldehyde

· **Hazard statements**

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.

· **Precautionary statements**

Wear respiratory protection.
Avoid breathing dust/fume/gas/mist/vapors/spray
Wear protective gloves.
Wear eye protection / face protection.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.
Specific treatment (see on this label).
If experiencing respiratory symptoms: Call a poison center/doctor.
Wash contaminated clothing before reuse.
If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
IF exposed or concerned: Get medical advice/attention.
If skin irritation or rash occurs: Get medical advice/attention.
If on skin: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



· **Other hazards**

· **Results of PBT and vPvB assessment**

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

US

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Trade name: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate 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:**

111-30-8	Glutaraldehyde	≤ 2.5%
50-00-0	formaldehyde	≤ 2.5%

4 First-aid measures

- **Description of first aid measures**
- **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:** If symptoms persist consult 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:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.

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Trade name: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

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- 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:** None.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

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

111-30-8 Glutaraldehyde

REL	Ceiling limit value: 0.8 mg/m ³ , 0.2 ppm See Pocket Guide App. C
TLV	Ceiling limit value: 0.2 mg/m ³ , 0.05 ppm (SEN) NIC-DSEN; RSEN ;activated or inactivated

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	Ceiling limit value: 0.37 mg/m ³ , 0.3 ppm (SEN) NIC-DSEN; RSEN

- **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.

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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:	Clear
Odor:	Fruit-like
Odour threshold:	Not determined.

· **pH-value at 20 °C (68 °F):** 7.4

· **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C (212 °F)

· **Flash point:** Not applicable.

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

· **Ignition temperature:**

Decomposition temperature: Not determined.

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

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

· **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

· **Vapor pressure at 20 °C (68 °F):** 23 hPa (17 mm Hg)

· **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.
- **Viscosity:**
 - Dynamic:** Not determined.
 - Kinematic:** Not determined.
- **Solvent content:**
 - Organic solvents:** 2.0 %
 - Water:** 96.0 %
 - VOC content:** 2.0 %
- **Other information** 499.0 g/l / 4.16 lb/gl
No further relevant information available.

10 Stability and reactivity

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

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

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

111-30-8 Glutaraldehyde

Oral	LD50	134 mg/kg (rat)
Dermal	LD50	2560 mg/kg (rabbit)

50-00-0 formaldehyde

Oral	LD50	>200 mg/kg (rat)
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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

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

50-00-0 formaldehyde

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
 Water hazard class 2 (Self-assessment): hazardous for water
 Do not allow product to reach ground water, water course or sewage system.
 Danger to drinking water if even small quantities leak into the ground.
- **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, ADR, IMDG, IATA** UN1760
- **UN proper shipping name**
- **DOT** Corrosive liquids, n.o.s. (Glutaraldehyde)
- **ADR** 1760 Corrosive liquids, n.o.s. (Glutaraldehyde)
- **IMDG, IATA** CORROSIVE LIQUID, N.O.S. (Glutaraldehyde)

· **Transport hazard class(es)**

· **DOT**



- **Class** 8 Corrosive substances

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Trade name: **Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4**

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· Label	8
· ADR, IMDG, IATA	
	
· Class	8 Corrosive substances
· Label	8
· Packing group	
· DOT, ADR, IMDG, IATA	III
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Corrosive substances
· Danger code (Kemler):	80
· EMS Number:	F-A,S-B
· Segregation groups	Acids
· 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: 5 L On cargo aircraft only: 60 L
· ADR	
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN1760, Corrosive liquids, n.o.s. (Glutaraldehyde), 8, III

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

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

50-00-0 formaldehyde

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

All ingredients are listed.

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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.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

50-00-0	formaldehyde	
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B1

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

111-30-8	Glutaraldehyde	
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A4

50-00-0	formaldehyde	
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A2

· **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 GHS08

· **Signal word** *Danger*

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

formaldehyde

Glutaraldehyde

· **Hazard statements**

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.

· **Precautionary statements**

Wear respiratory protection.

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

Wear protective gloves.

Wear eye protection / face protection.

Wash thoroughly after handling.

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

Obtain special instructions before use.

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

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Immediately call a poison center/doctor.

Specific treatment (see on this label).

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Trade name: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

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

Wash contaminated clothing before reuse.

If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

IF exposed or concerned: Get medical advice/attention.

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

If on skin: Wash with plenty of water.

Take off contaminated clothing and wash it before reuse.

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 preparation / last revision** 07/18/2015 / -

· **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

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

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

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

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

Muta. 2: Germ cell mutagenicity, Hazard Category 2

Carc. 1B: Carcinogenicity, Hazard Category 1B

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

Printing date 18.07.2015

Revision: 18.07.2015

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

· **Product identifier**

· **Trade name:** Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

· **Article number:** 16536-06, 16536-07, 16536-08

· **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)

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 Hazards 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

Skin Irrit. 2 H315 Causes skin irritation.

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according to 1907/2006/EC, Article 31

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Trade name: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

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

· **Label elements**

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

· **Hazard pictograms**



GHS05 GHS08

· **Signal word** *Danger*

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

formaldehyde

Glutaraldehyde

· **Hazard statements**

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.

· **Precautionary statements**

[In case of inadequate ventilation] wear respiratory protection.

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

Wear protective gloves.

Wear eye protection / face protection.

Wash thoroughly after handling.

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

Obtain special instructions before use.

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

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

Continue rinsing.

Immediately call a POISON CENTER/doctor.

Specific treatment (see on this label).

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

Wash contaminated clothing before reuse.

IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF exposed or concerned: Get medical advice/attention.

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

IF ON SKIN: Wash with plenty of water.

Take off contaminated clothing and wash it before reuse.

Store locked up.

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

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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Trade name: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

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3 Composition/information on ingredients

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

- **Dangerous components:**

111-30-8	Glutaraldehyde	≤ 2.5%
50-00-0	formaldehyde	≤ 2.5%

- **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

- **Description of first aid measures**
- **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:** If symptoms persist consult 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 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** 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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Trade name: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

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7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
 Ensure good ventilation/exhaustion at the workplace.
 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:** None.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

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

111-30-8 Glutaraldehyde

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

50-00-0 formaldehyde

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

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

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 Keep away from foodstuffs, beverages and feed.
 Immediately remove all soiled and contaminated clothing
 Wash hands before breaks and at the end of work.
 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

(Contd. on page 5)

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· **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:	Clear
· Odour:	Fruit-like
· Odour 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 applicable.

· **Ignition temperature:**

· **Decomposition temperature:** Not determined.

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** 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.

· **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.

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Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 18.07.2015

Revision: 18.07.2015

Trade name: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

(Contd. of page 5)

Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	2.0 %
Water:	96.0 %
VOC (EC)	2.00 %
· Other information	No further relevant information available.

10 Stability and reactivity

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

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**

· LD/LC50 values relevant for classification:		
111-30-8 Glutaraldehyde		
Oral	LD50	134 mg/kg (rat)
Dermal	LD50	2560 mg/kg (rabbit)
50-00-0 formaldehyde		
Oral	LD50	>200 mg/kg (rat)

- **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.
- **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.

(Contd. on page 7)

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

Printing date 18.07.2015

Revision: 18.07.2015

Trade name: **Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4**


(Contd. of page 6)

- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **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)
· IMDG, IATA	CORROSIVE LIQUID, N.O.S. (Glutaraldehyde)
· Transport hazard class(es)	
· ADG, IMDG, IATA	
	
· Class	8 Corrosive substances.
· Label	8
· Packing group	
· ADG, IMDG, IATA	III
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Corrosive substances.
· Danger code (Kemler):	80
· EMS Number:	F-A,S-B
· Segregation groups	Acids
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

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

Printing date 18.07.2015

Revision: 18.07.2015

Trade name: **Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4**

(Contd. of page 7)

· **Transport/Additional information:**· **ADG**· **Limited quantities (LQ)**

5L

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· **Transport category**

3

· **Tunnel restriction code**

E

· **IMDG**· **Limited quantities (LQ)**

5L

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· **UN "Model Regulation":**

UN1760, CORROSIVE LIQUID, N.O.S. (Glutaraldehyde), 8, III

15 Regulatory information· **Safety, health and environmental regulations/legislation specific for the substance or mixture**· **Australian Inventory of Chemical Substances**

All ingredients are listed.

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

111-30-8	Glutaraldehyde	S2, S5, S6
50-00-0	formaldehyde	S2, S6, S10

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

GHS05 GHS08

· **Signal word** *Danger*· **Hazard-determining components of labelling:***formaldehyde**Glutaraldehyde*· **Hazard statements***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.*· **Precautionary statements***[In case of inadequate ventilation] wear respiratory protection.**Avoid breathing dust/fume/gas/mist/vapours/spray.**Wear protective gloves.**Wear eye protection / face protection.**Wash thoroughly after handling.*

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

Printing date 18.07.2015

Revision: 18.07.2015

Trade name: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

(Contd. of page 8)

- Contaminated work clothing should not be allowed out of the workplace.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
Specific treatment (see on this label).
If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
Wash contaminated clothing before reuse.
IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF exposed or concerned: Get medical advice/attention.
If skin irritation or rash occurs: Get medical advice/attention.
IF ON SKIN: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
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.
 - **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.

- **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
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
Muta. 2: Germ cell mutagenicity, Hazard Category 2
Carc. 1B: Carcinogenicity, Hazard Category 1B

AU

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2015

Reviewed on 07/18/2015

1 Identification

- **Product identifier**
- **Trade name:** Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4
- **Article number:** 16536-06, 16536-07, 16536-08
- **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
- **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

Skin Irrit. 2 H315 Causes skin irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
Not applicable.



Toxic

May cause cancer.



Harmful

Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.



Irritant

Irritating to skin. Risk of serious damage to eyes. May cause sensitisation by inhalation and skin contact.

(Contd. on page 2)

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Trade name: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

(Contd. of page 1)

· **Information concerning particular hazards for human and environment:**

The product has to be labeled due to the calculation procedure of international guidelines.

· **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

· **Label elements**

· **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with directives on hazardous materials.

· **Code letter and hazard designation of product:**



Toxic

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

*Glutaraldehyde
formaldehyde*

· **Risk phrases:**

May cause cancer.

Irritating to skin.

Risk of serious damage to eyes.

May cause sensitisation by inhalation and skin contact.

Also harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.

· **Safety phrases:**

Avoid exposure - obtain special instructions before use.

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

Avoid contact with skin.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable gloves and eye/face protection.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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

· **Hazard description:**

· **WHMIS-symbols:**

D2A - Very toxic material causing other toxic effects

E - Corrosive material



· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *2

Fire = 0

Reactivity = 0

(Contd. on page 3)

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Trade name: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

(Contd. of page 2)

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

3 Composition/information on ingredients

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

· **Dangerous components:**

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

4 First-aid measures

- **Description of first aid measures**
- **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:** If symptoms persist consult 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:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

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

(Contd. on page 4)

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Trade name: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

(Contd. of page 3)

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 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:** None.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

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

111-30-8 Glutaraldehyde

EL	Ceiling limit value: 0.05 ppm S
EV	Ceiling limit value: 0.05 ppm activated and inactivated

50-00-0 formaldehyde

EL	Long-term value: 0.3 ppm Ceiling limit value: 1 ppm ACGIH A2; IARC 1; S
EV	Short-term value: 1.0 ppm
Ceiling limit value	1.5 ppm

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 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.

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CA

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Trade name: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate 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
Color:	Clear
Odor:	Fruit-like
Odour 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.

· **Ignition temperature:**

Decomposition temperature: Not determined.

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

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

· **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

· **Vapor pressure at 20 °C:** 23 hPa

· **Density:** Not determined.

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/18/2015

Reviewed on 07/18/2015

Trade name: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

(Contd. of page 5)

· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	2.0 %
Water:	96.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

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

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

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

111-30-8 Glutaraldehyde

Oral	LD50	134 mg/kg (rat)
Dermal	LD50	2560 mg/kg (rabbit)

50-00-0 formaldehyde

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

- **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.

(Contd. on page 7)

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Safety Data Sheet

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Trade name: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

(Contd. of page 6)

· **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	
----------------------	--

12 Ecological information

· **Toxicity**

- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability:** No further relevant information available.

· **Behavior in environmental systems:**

- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.

· **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, IMDG, IATA** UN1760

· **UN proper shipping name**

· **DOT** Corrosive liquids, n.o.s. (Glutaraldehyde)
 · **TDG** 1760 Corrosive liquids, n.o.s. (Glutaraldehyde)
 · **IMDG, IATA** CORROSIVE LIQUID, N.O.S. (Glutaraldehyde)

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Trade name: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

(Contd. of page 7)

· **Transport hazard class(es)**

· **DOT**



· **Class** 8 Corrosive substances
 · **Label** 8
 · **TDG, IMDG, IATA**



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

· **Packing group**

· **DOT, TDG, IMDG, IATA** III

· **Environmental hazards:**

· **Marine pollutant:** No

· **Special precautions for user**

Warning: Corrosive substances

· **Danger code (Kemler):**

80

· **EMS Number:**

F-A,S-B

· **Segregation groups**

Acids

· **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: 5 L

On cargo aircraft only: 60 L

· **TDG**

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· **IMDG**

· **Limited quantities (LQ)**

5L

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· **UN "Model Regulation":**

UN1760, Corrosive liquids, n.o.s. (Glutaraldehyde), 8, III

CA

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Safety Data Sheet

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Reviewed on 07/18/2015

Trade name: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

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15 Regulatory information

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

· **Sara**

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

50-00-0	formaldehyde
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· **Section 313 (Specific toxic chemical listings):**

50-00-0	formaldehyde
---------	--------------

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

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

50-00-0	formaldehyde
---------	--------------

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

50-00-0	formaldehyde	
---------	--------------	--

B1

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

111-30-8	Glutaraldehyde	
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A4

50-00-0	formaldehyde	
---------	--------------	--

A2

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

50-00-0	formaldehyde
---------	--------------

· **Canadian substance listings:**

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

All ingredients are listed.

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

50-00-0	formaldehyde
---------	--------------

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

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

· **Product related hazard informations:**

The product has been classified and marked in accordance with directives on hazardous materials.

· **Hazard symbols:**



Toxic

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

Glutaraldehyde

(Contd. on page 10)

Safety Data Sheet

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Printing date 07/18/2015

Reviewed on 07/18/2015

Trade name: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

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formaldehyde

· **Risk phrases:**

May cause cancer.

Irritating to skin.

Risk of serious damage to eyes.

May cause sensitisation by inhalation and skin contact.

Also harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.

· **Safety phrases:**

Avoid exposure - obtain special instructions before use.

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

Avoid contact with skin.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable gloves and eye/face protection.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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

· **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** 07/18/2015 / -

· **Abbreviations and acronyms:**

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)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

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

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

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

Muta. 2: Germ cell mutagenicity, Hazard Category 2

Carc. 1B: Carcinogenicity, Hazard Category 1B

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

Printing date 18.07.2015

Revision: 18.07.2015

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

- **1.1 Product identifier**
- **Trade name:** Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4
- **Article number:** 16536-06, 16536-07, 16536-08
- **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

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.

- **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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Trade name: **Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4**

(Contd. of page 1)

· **Hazard pictograms**

GHS05 GHS07 GHS08

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

formaldehyde
Glutaraldehyde

· **Hazard statements**

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.

· **Precautionary statements**

P284 [In case of inadequate ventilation] wear respiratory protection.
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).
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **2.3 Other hazards**· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

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

CAS: 111-30-8 EINECS: 203-856-5	Glutaraldehyde ⚠ Resp. Sens. 1, H334; ⚠ Skin Corr. 1B, H314; ⚠ Aquatic Acute 1, H400; ⚠ Acute Tox. 4, H332; Skin Sens. 1, H317	≤ 2.5%
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%

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

SECTION 4: First aid measures

· **4.1 Description of first aid measures**· **After inhalation:**

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

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- 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:** If symptoms persist consult doctor.
- **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:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Not required.
- **6.2 Environmental precautions:** 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.
- **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:** None.
- **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.

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· **8.1 Control parameters**

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

111-30-8 Glutaraldehyde

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

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

· **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.

· **Eye protection:**



Tightly sealed goggles

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Trade name: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

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SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Liquid
Colour:	Clear
Odour:	Fruit-like
Odour 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 applicable.

· Ignition temperature:

Decomposition temperature: Not determined.

· Self-igniting: Product is not selfigniting.

· Danger of explosion: 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.

· 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:	2.0 %
Water:	96.0 %
VOC (EC)	2.00 %

· 9.2 Other information: No further relevant information available.

SECTION 10: Stability and reactivity

· 10.1 Reactivity

· 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.

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Safety data sheet
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Trade name: **Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4**

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- **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**

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

111-30-8 Glutaraldehyde

Oral	LD50	134 mg/kg (rat)
Dermal	LD50	2560 mg/kg (rabbit)

50-00-0 formaldehyde

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

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

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.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

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Trade name: **Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4**

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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 | UN1760 |
| · ADR, IMDG, IATA | |
| · 14.2 UN proper shipping name | 1760 CORROSIVE LIQUID, N.O.S. (Glutaraldehyde) |
| · ADR | CORROSIVE LIQUID, N.O.S. (Glutaraldehyde) |
| · IMDG, IATA | |
| · 14.3 Transport hazard class(es) | |
| · ADR, IMDG, IATA | |
| |  |
| · Class | 8 Corrosive substances. |
| · Label | 8 |
| · 14.4 Packing group | III |
| · ADR, IMDG, IATA | |
| · 14.5 Environmental hazards: | |
| · Marine pollutant: | No |
| · 14.6 Special precautions for user | Warning: Corrosive substances. |
| · Danger code (Kemler): | 80 |
| · EMS Number: | F-A,S-B |
| · Segregation groups | Acids |
| · 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · ADR | |
| · Limited quantities (LQ) | 5L |
| · Excepted quantities (EQ) | Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml |
| · Transport category | 3 |
| · Tunnel restriction code | E |
| · IMDG | |
| · Limited quantities (LQ) | 5L |

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· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN1760, CORROSIVE LIQUID, N.O.S. (Glutaraldehyde), 8, III

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.
- **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.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H400 Very toxic to aquatic life.
- **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
Acute Tox. 3: Acute toxicity, Hazard Category 3
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
Muta. 2: Germ cell mutagenicity, Hazard Category 2
Carc. 1B: Carcinogenicity, Hazard Category 1B
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1

化学品安全技术说明书

根据 GB/T 16483-2008, GB/T 17519-2013

打印日期 2015.07.18

在 2015.07.18 审核

1 化学品及企业标识

- 产品识别者
- 化学品中文(英文)名称, 化学品俗名或商品名: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4
- 商品编号: 16536-06, 16536-07, 16536-08
- 相应纯物质或者混合物的相关下位用途及禁止用途 无相关详细资料。
- 原材料的应用/准备工作进行 实验室化学物
- 安全技术说明书内供应商详细信息
- 企业名称:
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
- 可获取更多资料的部门: Product safety department
- 紧急联系电话号码:
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 危险性概述

· 紧急情况概述:

纯净的, 液体, 吸入可能有害。引起皮肤刺激。引起严重的眼睛损伤。吸入可能引起过敏或哮喘症状或呼吸困难。可能引起皮肤过敏反应。怀疑可致遗传性缺陷。可致癌。

· GHS危险性类别



健康危险

敏化(呼吸) 第1类	H334 吸入可能引起过敏或哮喘症状或呼吸困难
生殖细胞致突变性 第2类	H341 怀疑可致遗传性缺陷
致癌性 第1B类	H350 可致癌



腐蚀

严重眼睛损伤/眼睛刺激性 第1类 H318 引起严重的眼睛损伤



皮肤腐蚀/刺激 第2类	H315 引起皮肤刺激
敏化(皮肤) 第1类	H317 可能引起皮肤过敏反应
急性毒性(吸入) 第5类	H333 吸入可能有害

· 标签因素

- GHS卷标元素 本产品根据化学物质分类及标记全球协调制度(GHS)进行了分类及标记。

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化学品安全技术说明书

根据 GB/T 16483-2008, GB/T 17519-2013

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在 2015.07.18 审核

化学品中文(英文)名称, 化学品俗名或商品名 : Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

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· 图示



GHS05 GHS08

· 名称 危险

· 标签上辨别危险的成份:

甲醛

戊二醛

· 危险字句

吸入可能有害

引起皮肤刺激

引起严重的眼睛损伤

吸入可能引起过敏或哮喘症状或呼吸困难

可能引起皮肤过敏反应

怀疑可致遗传性缺陷

可致癌

· 警戒字句

· 预防措施

[在通风不足的情况下]戴呼吸防护装置

· 事故响应

如进入眼睛: 用水小心冲洗几分钟。如戴隐型眼镜并可方便地取出, 取出隐型眼镜。继续冲洗。

立即呼叫解毒中心/医生

具体治疗(见本标签上的)

· 安全贮存

存放处须加锁。

· 废弃处置

按照本地 / 地区 / 国家 / 国际规例处理内含物 / 容器。

· 其他有害性

· PBT(残留性、生物浓缩性、毒性物质) 及 vPvB(高残留性、高生物浓缩性物质)评价结果

· PBT(残留性、生物浓缩性、毒性物质) 不适用的

· vPvB(高残留性、高生物浓缩性物质): 不适用的

3 成分/组成信息

· 混合物

· 描述: 由以下含有无害添加剂的成分组成的混合物

· 危险的成分:

111-30-8	戊二醛 敏化(呼吸) 第1类, H334; 皮肤腐蚀/刺激 第1B类, H314; 对水环境的危害(急性) 第1类, H400; 急性毒性(吸入) 第4类, H332; 敏化(皮肤) 第1类, H317; 易燃液体 第4类, H227	≤ 2.5%
50-00-0	甲醛 急性毒性(经口) 第3类, H301; 急性毒性(经皮肤) 第3类, H311; 急性毒性(吸入) 第3类, H331; 生殖细胞致突变性 第2类, H341; 致癌性 第1B类, H350; 皮肤腐蚀/刺激 第1B类, H314; 敏化(皮肤) 第1类, H317	≤ 2.5%

CN

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化学品安全技术说明书

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4 急救措施

- **应急措施要领**
- **吸入:**
 - 供给新鲜空气并且确保会叫医生.
 - 万一病人不清醒时, 请让病人侧躺以便移动.
- **皮肤接触:** 马上用水和肥皂进行彻底的冲洗.
- **眼睛接触:** 张开眼睛在流水下冲洗数分钟. 然后咨询医生.
- **食入:** 如果症状仍然持续, 请咨询医生.
- **给医生的资料:**
 - **最重要的急慢性症状及其影响** 无相关详细资料.
 - **需要及时的医疗处理及特别处理的症状** 无相关详细资料.

5 消防措施

- **灭火方法**
- **灭火的方法和灭火剂:** 二氧化碳 (CO₂)、灭火粉末或洒水. 使用洒水或抗酒精泡沫灭火剂扑灭较大的火种.
- **特别危险性** 无相关详细资料.
- **特殊灭火方法**
- **消防人员特殊的防护装备:** 没有要求特别的措施.

6 泄漏应急处理

- **保护措施** 没有要求.
- **环境保护措施:** 切勿让其进入下水道/水面或地下水.
- **密封及净化方法和材料:**
 - 吸收液体粘合原料 (沙粒、硅藻土、酸性粘合剂、通用粘合剂、锯屑).
 - 根据第 13 条条款弃置受污染物.
 - 确保有足够的通风装置.
- **参照其他部分**
 - 有关安全处理的资料请参阅第 7 节.
 - 有关个人防护装备的资料请参阅第 8 节.
 - 有关弃置的资料请参阅第 13 节.

7 操作处置与储存

- **操作处置**
- **储存**
 - 确保工作间有良好的通风/排气装置.
 - 小心打开及处理贮藏器.
 - 防止气溶胶的形成.
- **有关火灾及防止爆炸的资料:** 提供呼吸保护装置.
- **混合危险性等安全储存条件**
- **储存:**
 - **储存库和容器须要达到的要求:** 没有特别的要求.
 - **有关使用一个普通的储存设施来储存的资料:** 不需要.
 - **有关储存条件的更多资料:** 没有.

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· 具体的最终用户 无相关详细资料。

8 接触控制和个体防护

- 工程控制方法: 没有进一步数据;见第 7 项.
- 控制变数

在工作场需要监控的限值成分	
111-30-8 戊二醛	
PEL (TW)	PC-TWA: 0.82 mg/m ³ , 0.2 ppm
50-00-0 甲醛	
OEL (RC)	最高容许浓度: 0.5 mg/m ³
PEL (TW)	PC-TWA: 1.2 mg/m ³ , 1 ppm

- 额外的资料: 制作期间有效的清单将作为基础来使用.

· 泄漏控制

· 个人防护设备:

· 一般保护和卫生措施:

- 远离食品、饮料和饲料.
- 立即除去所有的不洁的和被污染的衣服.
- 在休息之前和工作完毕后请清洗双手.
- 分开储存保护性衣服.
- 避免和皮肤接触.
- 避免和眼睛及皮肤接触.

· 呼吸系统防护:

如果曾短暂接触或在低污染的情况下,请使用呼吸过滤装置. 如果曾深入或较长时间接触,请使用独立的呼吸保护装置.

· 手防护:



保护手套

手套的物料必须是不渗透性的,且能抵抗该产品/物质/添加剂.
基于缺乏测试,对于产品/制剂/化学混合物,并不会提供手套材料的建议
选择手套材料时,请注意材料的渗透时间,渗透率和降解参数

· 手套材料

选择合适的手套不单取决于材料,亦取决于质量特征,以及来自哪一间生产厂家,因为该产品是由很多材料配制而成,手套材料的抵抗力并不可预计,所以,必须在使用之前进行检查

- 渗入手套材料的时间 请向劳保手套生产厂家获取准确的破裂时间并观察实际的破裂时间

· 眼睛防护:



密封的护目镜

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9 理化特性

· 有关基本物理及化学特性的信息

· 一般说明

· 外观:

· 形状: 液体
· 颜色: 纯净的
· 气味: 类似水果
· 嗅觉阈限: 未决定.

· pH值 在 20 °C: 7.4

· 条件的更改

· 熔点: 未确定的
· 沸点/初沸点和沸程: 100 °C

· 闪点: 不适用的

· 可燃性 (固体、气体): 不适用的

· 点火温度:

· 分解温度: 未决定.

· 自燃温度: 该产品是不自燃的

· 爆炸的危险性: 该产品并没有爆炸的危险

· 爆炸极限:

· 较低: 未决定.
· 较高: 未决定.

· 蒸气压 在 20 °C: 23 hPa

· 密度: 未决定的

· 相对密度: 未决定.

· 蒸气密度: 未决定.

· 蒸发速率: 未决定.

· 溶解性

· 水: 不能拌和的或难以拌和

· n-辛醇/水分配系数: 未决定.

· 黏性:

· 动态: 未决定.

· 运动学的: 未决定.

· 溶剂成份:

· 有机溶剂: 2.0 %

· 水: 96.0 %

· 其他信息: 无相关详细资料。

10 稳定性和反应性

· 反应性

· 稳定性

· 热分解/要避免的情况: 如果遵照规格使用则不会分解.

· 有害反应可能性: 未有已知的危险反应.

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- **应避免的条件** 无相关详细资料。
- **不相容的物质**: 无相关详细资料。
- **危险的分解产物**: 未知有危险的分解产品。

11 毒理学信息

- **对毒性学影响的信息**
- **急性毒性**:

- **与分类相关的 LD/LC50 值:**

111-30-8 戊二醛

口腔	LD50	134 mg/kg (rat)
皮肤	LD50	2560 mg/kg (rabbit)

50-00-0 甲醛

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

- **主要的刺激性影响**:
- **皮肤**: 刺激皮肤和粘膜。
- **在眼睛上面**: 强烈的刺激性和造成严重伤害眼睛的危险。
- **致敏作用**:
通过吸入可能造成敏化作用。
通过皮肤接触可能造成敏化作用。
- **更多毒物的资料**:
根据有关配制的一般欧盟分类指南的计算方法(刊印在最新版本),该产品显示以下的危险:
有害的
刺激性的
致癌的。
- **对以下组别可能产生影响的数据**:
- **CMR作用(致癌、导致基因突变、对生殖系统有害)**
生殖细胞致突变性 第2类, 致癌性 第1B类

12 生态学信息

- **生态毒性**
- **水生毒性**: 无相关详细资料。
- **持久性和降解性** 无相关详细资料。
- **环境系统习性**:
- **潜在的生物累积性** 无相关详细资料。
- **土壤内移动性** 无相关详细资料。
- **额外的生态学资料**:
- **总括注解**:
水危害级别 2 (德国规例) (通过名单进行自我评估): 对水是危险的
不要让该产品接触地下水、水道或污水系统。
即使是小量的产品渗入地下也会对饮用水造成危险。
- **PBT(残留性、生物浓缩性、毒性物质) 及 vPvB(高残留性、高生物浓缩性物质)评价结果**
- **PBT(残留性、生物浓缩性、毒性物质)** 不适用的
- **vPvB(高残留性、高生物浓缩性物质)**: 不适用的
- **其他副作用** 无相关详细资料。

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13 废弃处置

- **废弃处置方法**
- **建议:** 不能将该产品和家居垃圾一起丢弃. 不要让该产品接触污水系统.
- **受污染的容器和包装:**
- **建议:** 必须根据官方的规章来丢弃.

14 运输信息

· 联合国危险货物编号(UN号)	
· ADR, IMDG, IATA	UN1760
· UN适当装船名	
· ADR	1760 CORROSIVE LIQUID, N.O.S. (戊二醛)
· IMDG, IATA	CORROSIVE LIQUID, N.O.S. (Glutaraldehyde)
· 运输危险等级	
· ADR, IMDG, IATA	
	
· 级别	8 腐蚀性物质
· 标签	8
· 包装组别	
· ADR, IMDG, IATA	III
· 危害环境:	
· 海运污染物质:	不是
· 用户特别预防措施	警告: 腐蚀性物质
· 危险编码:	80
· EMS 号码:	F-A,S-B
· Segregation groups	Acids
· MARPOL73/78(针对船舶引起的海洋污染预防协议)附件书2及根据IBC Code(国际装船货物编码)的大量运送	不适用的
· 运输/额外的资料:	
· ADR	
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml

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· UN "标准规定": UN1760, CORROSIVE LIQUID, N.O.S. (戊二醛), 8, III

15 法规信息

- 对相应纯物质或者混合物的安全、保健及环境法规/法律
- 新化学物质环境管理办法

- 中国现有化学物质名录

列出所有成分

- GHS卷标元素 本产品根据化学物质分类及标记全球协调制度(GHS)进行了分类及标记。

- 危险象形图表



GHS05 GHS08

- 名称 危险

- 标签上辨别危险的成份:

甲醛

戊二醛

- 危险字句

吸入可能有害

引起皮肤刺激

引起严重的眼睛损伤

吸入可能引起过敏或哮喘症状或呼吸困难

可能引起皮肤过敏反应

怀疑可致遗传性缺陷

可致癌

- 警戒字句

- 预防措施

[在通风不足的情况下]戴呼吸防护装置

- 事故响应

如进入眼睛：用水小心冲洗几分钟。如戴隐型眼镜并可方便地取出，取出隐型眼镜。继续冲洗。

立即呼叫解毒中心/医生

具体治疗(见本标签上的)

- 安全贮存

存放处须加锁。

- 废弃处置

按照本地 / 地区 / 国家 / 国际规例处理内含物 / 容器。

- 国家的规章:

- 有关使用限制的资料: 禁止员工接触在配制中含有致癌的物料. 在某些情况中由当局作出例外的决定.

- 化学物质安全性评价: 尚未进行化学物质安全性评价

16 其他信息

该资料是基于我们目前的知识. 然而, 这并不构成对任何特定产品特性的担保并且不建立一个法律上有效的合同关系.

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缩写:

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

易燃液体 第4类: Flammable liquids, Hazard Category 4

急性毒性(经口) 第3类: Acute toxicity, Hazard Category 3

急性毒性(吸入) 第4类: Acute toxicity, Hazard Category 4

急性毒性(吸入) 第5类: Acute toxicity, Hazard Category 5

皮肤腐蚀/刺激 第1B类: Skin corrosion/irritation, Hazard Category 1B

皮肤腐蚀/刺激 第2类: Skin corrosion/irritation, Hazard Category 2

严重眼睛损伤/眼睛刺激性 第1类: Serious eye damage/eye irritation, Hazard Category 1

敏化(呼吸) 第1类: Sensitisation - Respirat., Hazard Category 1

敏化(皮肤) 第1类: Sensitisation - Skin, Hazard Category 1

生殖细胞致突变性 第2类: Germ cell mutagenicity, Hazard Category 2

致癌性 第1B类: Carcinogenicity, Hazard Category 1B

对水环境的危害(急性) 第1类: Hazardous to the aquatic environment - AcuteHazard, Category 1

CN

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 18.07.2015

Herziening van: 18.07.2015

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

· 1.1 Productidentificatie

· **Handelsnaam:** Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

· **Artikelnummer:** 16536-06, 16536-07, 16536-08

· 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

Skin Irrit. 2 H315 Veroorzaakt huidirritatie.

Skin Sens. 1 H317 Kan een allergische huidreactie veroorzaken.

STOT SE 3 H335 Kan irritatie van de luchtwegen veroorzaken.

(Vervolg op blz. 2)

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Handelsnaam: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

(Vervolg van blz. 1)

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



GHS05 GHS07 GHS08

- **Signaalwoord** Gevaar
- **Gevaaraanduidende componenten voor de etikettering:**
formaldehyde
Glutaaraldehyd
- **Gevenaanduidingen**
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.
- **Veiligheidsaanbevelingen**
P284 [Bij ontoreikende ventilatie] adembescherming dragen.
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).
P405 Achter slot bewaren.
P501 De inhoud en de verpakking verwerken volgens de plaatselijke/regionale/nationale/internationale voorschriften.
- **2.3 Andere gevaren**
- **Resultaten van PBT- en zPzB-beoordeling**
- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.

RUBRIEK 3: Samenstelling en informatie over de bestanddelen

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

- **Gevaarlijke inhoudstoffen:**

CAS: 111-30-8 EINECS: 203-856-5	Glutaaraldehyd ⚠ Resp. Sens. 1, H334; ⚠ Skin Corr. 1B, H314; ⚠ Aquatic Acute 1, H400; ⚠ Acute Tox. 4, H332; Skin Sens. 1, H317	≤ 2,5%
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%

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

(Vervolg op blz. 3)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

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Handelsnaam: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

(Vervolg van blz. 2)

RUBRIEK 4: Eerstehulpmaatregelen

- **4.1 Beschrijving van de eerstehulpmaatregelen**
- **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:** Als de klachten niet minderen, een 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:**
CO₂, bluspoeder of waterstraal. Grotere brand met waterstraal bestrijden of met schuim, dat tegen alcohol bestand is.
- **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:** Geen bijzondere maatregelen nodig.

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

- **6.1 Persoonlijke voorzorgsmaatregelen, beschermde uitrusting en noodprocedures** Niet nodig.
- **6.2 Milieuvorzorgsmaatregelen:** 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.
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:** Geen.

(Vervolg op blz. 4)

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

RUBRIEK 8: Maatregelen ter beheersing van blootstelling/persoonlijke bescherming

· **Aanvullende gegevens m.b.t. de inrichting van technische installaties:** Geen aanvullende gegevens. Zie 7.

· 8.1 Controleparameters

· **Bestanddelen met grenswaarden die m.b.t. de werkruimte in acht genomen moeten worden:**

50-00-0 formaldehyde

WGW	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 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

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(Vervolg op blz. 5)

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RUBRIEK 9: Fysische en chemische eigenschappen

· 9.1 Informatie over fysische en chemische basiseigenschappen

· Algemene gegevens

· Voorkomen:

Vorm:	Vloeistof
Kleur:	Helder
· Reuk:	Vruchtachtig
· Geurdrempelwaarde:	Niet bepaald.

· pH-waarde bij 20 °C: 7,4

· Toestandsverandering

Smeltpunt/smeltbereik:	Niet bepaald.
Kookpunt/kookpuntbereik:	100 °C

· Vlampunt: Niet bruikbaar.

· Ontvlambaarheid (vast, gasvormig): Niet bruikbaar.

· Ontstekingstemperatuur:

Ontbindingstemperatuur: Niet bepaald.

· Zelfontsteking: Het produkt ontbrandt niet uit zichzelf.

· Ontploffingsgevaar: 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:	2,0 %
Water:	96,0 %
VOC (EG)	2,00 %

· 9.2 Overige informatie: Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 10: Stabiliteit en reactiviteit

· 10.1 Reactiviteit

· 10.2 Chemische stabiliteit

· Thermische afbraak / te vermijden omstandigheden: Geen afbraak bij gebruik volgens voorschrift.

· 10.3 Mogelijke gevaarlijke reacties: Geen gevaarlijke reacties bekend.

(Vervolg op blz. 6)

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- **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**

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

111-30-8 Glutaaraldehyd

Oraal	LD50	134 mg/kg (rat)
Dermaal	LD50	2560 mg/kg (rabbit)

50-00-0 formaldehyde

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

- **Primaire aandoening:**
- **Huidcorrosie/-irritatie** Prikkelend effect op de huid en de slijmvliezen.
- **Ernstig oogletsel/oogirritatie** Sterk prikkelend effect met gevaar voor ernstige oogbeschadiging.
- **Sensibilisatie van de luchtwegen/de huid**
Kan overgevoeligheid veroorzaken bij inademing.
Kan overgevoeligheid veroorzaken bij contact met de huid.
- **Aanvullende toxicologische informatie:**
Het produkt vertoont op grond van het berekeningsprocédé van de algemene classificatie-richtlijnen van de EG voor toebereidingen in de laatste geldige redactie de volgende gevaren:
Schadelijk
Irriterend
Kanker verwekkend.
- **CMR-effecten (kankerverwekkendheid, mutageniteit en giftigheid voor de voortplanting)**
Muta. 2, Carc. 1B

RUBRIEK 12: Ecologische informatie

- **12.1 Toxiciteit**
- **Aquatische toxiciteit:** Geen verdere relevante informatie verkrijgbaar.
- **12.2 Persistentie en afbreekbaarheid** Geen verdere relevante informatie verkrijgbaar.
- **12.3 Bioaccumulatie** Geen verdere relevante informatie verkrijgbaar.
- **12.4 Mobiliteit in de bodem** Geen verdere relevante informatie verkrijgbaar.
- **Verdere ecologische informatie:**
- **Algemene informatie:**
Waterbezwaarlijkheid (NL) 3: Kan kanker veroorzaken.
Gevaar voor water klasse 2 (D) (Zelfclassificatie): gevaar voor water
Niet lozen in grondwater, in oppervlaktewater of in riolering.
Gevaar voor drinkwater zelfs bij uitlopen van geringe hoeveelheden in de ondergrond.
- **12.5 Resultaten van PBT- en zPzB-beoordeling**
- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.
- **12.6 Andere schadelijke effecten** Geen verdere relevante informatie verkrijgbaar.

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RUBRIEK 13: Instructies voor verwijdering

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

RUBRIEK 14: Informatie met betrekking tot het vervoer

· 14.1 VN-nummer · ADR, IMDG, IATA	UN1760
· 14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN · ADR · IMDG, IATA	1760 BIJTENDE VLOEISTOF, N.E.G. (Glutaaraldehyd) CORROSIVE LIQUID, N.O.S. (Glutaraldehyde)
· 14.3 Transportgevarenklasse(n) · ADR, IMDG, IATA	
	
· klasse · Etiket	8 Bijtende stoffen 8
· 14.4 Verpakkingsgroep: · ADR, IMDG, IATA	III
· 14.5 Milieugevaren: · Marine pollutant:	Neen
· 14.6 Bijzondere voorzorgen voor de gebruiker · Kemler-getal: · EMS-nummer: · Segregation groups	Waarschuwing: Bijtende stoffen 80 F-A,S-B Acids
· 14.7 Vervoer in bulk overeenkomstig bijlage II bij MARPOL 73/78 en de IBC-code	Niet bruikbaar.
· Transport/verdere gegevens:	
· ADR · Beperkte hoeveelheden (LQ) · Uitzonderde hoeveelheden (EQ)	5L Code: E1 Grootste netto hoeveelheid per binnenverpakking: 30 ml Grootste netto hoeveelheid per buitenverpakking: 1000 ml
· Vervoerscategorie · Tunnelbeperkingscode	3 E
· IMDG · Limited quantities (LQ)	5L

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· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· VN "Model Regulation":	UN1760, BIJTENDE VLOEISTOF, N.E.G. (Glutaaraldehyd), 8, III

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.

· **Richtlijn 2012/18/EU**

· **Gevaarlijke stoffen die met naam genoemd worden - BIJLAGE I** 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) 3: Saneringsinspanning A

· **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.

H331 Giftig bij inademing.

H332 Schadelijk bij inademing.

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

H341 Verdacht van het veroorzaken van genetische schade.

H350 Kan kanker veroorzaken.

H400 Zeer giftig voor in het water levende organismen.

· **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

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*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**Acute Tox. 3: Acute toxicity, Hazard Category 3**Acute Tox. 4: Acute toxicity, Hazard Category 4**Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B**Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2**Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1**Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1**Skin Sens. 1: Sensitisation - Skin, Hazard Category 1**Muta. 2: Germ cell mutagenicity, Hazard Category 2**Carc. 1B: Carcinogenicity, Hazard Category 1B**STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3**Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1*

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

- **1.1 Identificateur de produit**
- **Nom du produit:** Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4
- **Code du produit:** 16536-06, 16536-07, 16536-08
- **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

SECTION 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 des lésions oculaires graves.



GHS07

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.

- **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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Pictogrammes de danger


GHS05 GHS07 GHS08

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

 Formaldéhyde
 glutaral

Mentions de danger

H315 Provoque une irritation cutanée.

H318 Provoque des lésions oculaires graves.

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

H317 Peut provoquer une allergie cutanée.

H341 Susceptible d'induire des anomalies génétiques.

H350 Peut provoquer le cancer.

H335 Peut irriter les voies respiratoires.

Conseils de prudence

P284 [Lorsque la ventilation du local est insuffisante] porter un équipement de protection respiratoire.

 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).

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.

SECTION 3: Composition/informations sur les composants

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

Composants dangereux:

CAS: 111-30-8 EINECS: 203-856-5	glutaral Resp. Sens. 1, H334; Skin Corr. 1B, H314; Aquatic Acute 1, H400; Acute Tox. 4, H332; Skin Sens. 1, H317	≤ 2,5%
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%

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

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SECTION 4: Premiers secours

· 4.1 Description des premiers secours

· **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:** Si les troubles persistent, consulter 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.

SECTION 5: Mesures de lutte contre l'incendie

· 5.1 Moyens d'extinction

· **Moyens d'extinction:**

CO₂, poudre d'extinction ou eau pulvérisée. Combattre les foyers importants avec de l'eau pulvérisée ou de la mousse résistant à l'alcool.

· 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:** Aucune mesure particulière n'est requise.

SECTION 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:

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).

Évacuer les matériaux contaminés en tant que déchets conformément au point 13.

Assurer une aération suffisante.

· 6.4 Référence à d'autres sections

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.

SECTION 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.

Éviter la formation d'aérosols.

· **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.

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- **Indications concernant le stockage commun:** Pas nécessaire.
- **Autres indications sur les conditions de stockage:** Néant.
- **7.3 Utilisation(s) finale(s) particulière(s)** Pas d'autres informations importantes disponibles.

SECTION 8: Contrôles de l'exposition/protection individuelle

- **Indications complémentaires pour l'agencement des installations techniques:**
Sans autre indication, voir point 7.

· 8.1 Paramètres de contrôle

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

111-30-8 glutaral

VME	Valeur momentanée: 0,8 mg/m ³ , 0,2 ppm
	Valeur à long terme: 0,4 mg/m ³ , 0,1 ppm

50-00-0 Formaldéhyde

VME	Valeur momentanée: 1 ppm
	Valeur à long terme: 0,5 ppm
	C2

- **Remarques supplémentaires:**

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

· 8.2 Contrôles de l'exposition

- **Équipement 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.

Éviter tout contact avec la peau.

Éviter tout contact avec les yeux et avec la peau.

- **Protection respiratoire:**

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

- **Protection des mains:**



Gants de protection

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

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

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

- **Matériau des gants**

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

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

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

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· **Protection des yeux:**



Lunettes de protection hermétiques

SECTION 9: Propriétés physiques et chimiques

· **9.1 Informations sur les propriétés physiques et chimiques essentielles**

· **Indications générales**

· **Aspect:**

Forme:	Liquide
Couleur:	Transparent
Odeur:	Fruitée
Seuil olfactif:	Non déterminé.

· **valeur du pH à 20 °C:** 7,4

· **Changement d'état**

Point de fusion:	Non déterminé.
Point d'ébullition:	100 °C

· **Point d'éclair** Non applicable.

· **Inflammabilité (solide, gazeux):** Non applicable.

· **Température d'inflammation:**

Température de décomposition: Non déterminé.

· **Auto-inflammation:** Le produit ne s'enflamme pas spontanément.

· **Danger d'explosion:** 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.

· **Vitesse 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:	2,0 %
Eau:	96,0 %
VOC (CE)	2,00 %

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· **9.2 Autres informations** Pas d'autres informations importantes disponibles.

SECTION 10: Stabilité et réactivité

- **10.1 Réactivité**
- **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

SECTION 11: Informations toxicologiques

- **11.1 Informations sur les effets toxicologiques**
- **Toxicité aiguë**

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

111-30-8 glutaral

Oral	LD50	134 mg/kg (rat)
Dermique	LD50	2560 mg/kg (lapin)

50-00-0 Formaldéhyde

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

- **Effet primaire d'irritation:**
- **Corrosion cutanée/irritation cutanée** Irrite la peau et les muqueuses.
- **Lésions oculaires graves/irritation oculaire** Effet fortement irritant avec risque d'une affection grave des yeux.
- **Sensibilisation respiratoire ou cutanée**
Sensibilisation possible par inhalation.
Sensibilisation possible par contact avec la peau.
- **Indications toxicologiques complémentaires:**
Selon le procédé de calcul de la dernière version en vigueur de la directive générale CEE sur la classification des préparations, le produit présente les dangers suivants:
Nocif
Irritant
Cancérogène.
- **Effets CMR (cancérogène, mutagène et toxique pour la reproduction)**
Muta. 2, Carc. 1B

SECTION 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.
- **Autres indications écologiques:**
- **Indications générales:**
Catégorie de pollution des eaux 2 (D) (Classification propre): polluant
Ne pas laisser pénétrer dans la nappe phréatique, les eaux ou les canalisations.
Danger pour l'eau potable dès fuite d'une petite quantité dans le sous-sol.

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

SECTION 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.

SECTION 14: Informations relatives au transport

<ul style="list-style-type: none"> · 14.1 No ONU · ADR, IMDG, IATA 	<p style="text-align: center;">UN1760</p>
<ul style="list-style-type: none"> · 14.2 Nom d'expédition des Nations unies · ADR · IMDG, IATA 	<p style="text-align: center;">1760 LIQUIDE CORROSIF, N.S.A. (glutaral) CORROSIVE LIQUID, N.O.S. (Glutaraldehyde)</p>
<ul style="list-style-type: none"> · 14.3 Classe(s) de danger pour le transport · ADR, IMDG, IATA 	<div style="text-align: center;"> <p>8</p> </div>
<ul style="list-style-type: none"> · Classe · Étiquette 	<p style="text-align: center;">8 Matières corrosives. 8</p>
<ul style="list-style-type: none"> · 14.4 Groupe d'emballage · ADR, IMDG, IATA 	<p style="text-align: center;">III</p>
<ul style="list-style-type: none"> · 14.5 Dangers pour l'environnement: · Marine Pollutant: 	<p style="text-align: center;">Non</p>
<ul style="list-style-type: none"> · 14.6 Précautions particulières à prendre par l'utilisateur · Indice Kemler: · No EMS: · Segregation groups 	<p style="text-align: center;">Attention: Matières corrosives. 80 F-A,S-B Acids</p>
<ul style="list-style-type: none"> · 14.7 Transport en vrac conformément à l'annexe II de la convention Marpol 73/78 et au recueil IBC 	<p style="text-align: center;">Non applicable.</p>
<ul style="list-style-type: none"> · Indications complémentaires de transport: 	
<ul style="list-style-type: none"> · ADR · Quantités limitées (LQ) · Quantités exceptées (EQ) 	<p style="text-align: center;">5L Code: E1 Quantité maximale nette par emballage intérieur: 30 ml Quantité maximale nette par emballage extérieur: 1000 ml</p>
<ul style="list-style-type: none"> · Catégorie de transport 	<p style="text-align: center;">3</p>

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· Code de restriction en tunnels	E
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· "Règlement type" de l'ONU:	UN1760, LIQUIDE CORROSIF, N.S.A. (glutaral), 8, III

SECTION 15: Informations réglementaires

- **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.
- **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.
- **15.2 Évaluation de la sécurité chimique:** Une évaluation de la sécurité chimique n'a pas été réalisée.

SECTION 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 des lésions oculaires graves.
H317 Peut provoquer une allergie cutanée.
H331 Toxique par inhalation.
H332 Nocif par inhalation.
H334 Peut provoquer des symptômes allergiques ou d'asthme ou des difficultés respiratoires par inhalation.
H341 Susceptible d'induire des anomalies génétiques.
H350 Peut provoquer le cancer.
H400 Très toxique pour les organismes aquatiques.
- **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
Acute Tox. 3: Acute toxicity, Hazard Category 3
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1

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

Muta. 2: Germ cell mutagenicity, Hazard Category 2

Carc. 1B: Carcinogenicity, Hazard Category 1B

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1

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ABSCHNITT 1: Bezeichnung des Stoffs bzw. des Gemischs und des Unternehmens

- **1.1 Produktidentifikator**
- **Handelsname:** Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4
- **Artikelnummer:** 16536-06, 16536-07, 16536-08
- **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

24h Giftnotruf Munchen: +49 (0)89 19240
Toxikologische Abteilung der II. Medizinischen Klinik
rechts der Isar, Munchen. - www.toxinfo.org
- **Auskunftgebender Bereich:** Product safety department
- **1.4 Notrufnummer:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

ABSCHNITT 2: Mögliche Gefahren

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



GHS08 Gesundheitsgefahr

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

Muta. 2 H341 Kann vermutlich genetische Defekte verursachen.

Carc. 1B H350 Kann Krebs erzeugen.



GHS05 Ätzwirkung

Eye Dam. 1 H318 Verursacht schwere Augenschäden.



GHS07

Skin Irrit. 2 H315 Verursacht Hautreizungen.

Skin Sens. 1 H317 Kann allergische Hautreaktionen verursachen.

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STOT SE 3 H335 Kann die Atemwege reizen.

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:

Formaldehyd

Glutaral

Gefahrenhinweise

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.

Sicherheitshinweise

P284 [Bei unzureichender Belüftung] Atemschutz tragen.

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).

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.

ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

3.2 Chemische Charakterisierung: Gemische

Beschreibung: Gemisch aus nachfolgend angeführten Stoffen mit ungefährlichen Beimengungen.

Gefährliche Inhaltsstoffe:

CAS: 111-30-8 EINECS: 203-856-5	Glutaral ⚠ Resp. Sens. 1, H334; ⚠ Skin Corr. 1B, H314; ⚠ Aquatic Acute 1, H400; ⚠ Acute Tox. 4, H332; Skin Sens. 1, H317	≤ 2,5%
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%

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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**
- **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:** Bei anhaltenden Beschwerden Arzt konsultieren.
- **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:**
CO₂, Löschpulver oder Wassersprühstrahl. Größeren Brand mit Wassersprühstrahl oder alkoholbeständigem Schaum bekämpfen.
- **5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren**
Keine weiteren relevanten Informationen verfügbar.
- **5.3 Hinweise für die Brandbekämpfung**
- **Besondere Schutzausrüstung:** Keine besonderen Maßnahmen erforderlich.

ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

- **6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren**
Nicht erforderlich.
- **6.2 Umweltschutzmaßnahmen:** Nicht in die Kanalisation/Oberflächenwasser/Grundwasser gelangen lassen.
- **6.3 Methoden und Material für Rückhaltung und Reinigung:**
Mit flüssigkeitsbindendem Material (Sand, Kieselgur, Säurebinder, Universalbinder, Sägemehl) aufnehmen.
Kontaminiertes Material als Abfall nach Abschnitt 13 entsorgen.
Für ausreichende Lüftung sorgen.
- **6.4 Verweis auf andere Abschnitte**
Informationen zur sicheren Handhabung siehe Abschnitt 7.
Informationen zur persönlichen Schutzausrüstung siehe Abschnitt 8.
Informationen zur Entsorgung siehe Abschnitt 13.

ABSCHNITT 7: Handhabung und Lagerung

- **7.1 Schutzmaßnahmen zur sicheren Handhabung**
Für gute Belüftung/Absaugung am Arbeitsplatz sorgen.
Behälter mit Vorsicht öffnen und handhaben.
Aerosolbildung vermeiden.
- **Hinweise zum Brand- und Explosionsschutz:** Atemschutzgeräte bereithalten.

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

ABSCHNITT 8: Begrenzung und Überwachung der Exposition/Persönliche Schutzausrüstungen

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

· 8.1 Zu überwachende Parameter

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

111-30-8 Glutaral

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

50-00-0 Formaldehyd

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

- **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.

· **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.

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- **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: Klar

· **Geruch:** Fruchtartig

· **Geruchsschwelle:** Nicht bestimmt.

· **pH-Wert bei 20 °C:** 7,4

· Zustandsänderung

Schmelzpunkt/Schmelzbereich: Nicht bestimmt.

Siedepunkt/Siedebereich: 100 °C

· **Flammpunkt:** Nicht anwendbar.

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

· Zündtemperatur:

Zersetzungstemperatur: Nicht bestimmt.

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

· **Explosionsgefahr:** Das Produkt ist nicht explosionsgefährlich.

· Explosionsgrenzen:

Untere: Nicht bestimmt.

Obere: Nicht bestimmt.

· **Dampfdruck bei 20 °C:** 23 hPa

· **Dichte:** Nicht bestimmt.

· **Relative Dichte:** Nicht bestimmt.

· **Dampfdichte:** Nicht bestimmt.

· **Verdampfungsgeschwindigkeit:** Nicht bestimmt.

· Löslichkeit in / Mischbarkeit mit

Wasser: Nicht bzw. wenig mischbar.

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

· Viskosität:

Dynamisch: Nicht bestimmt.

Kinematisch: Nicht bestimmt.

· Lösemittelgehalt:

Organische Lösemittel: 2,0 %

Wasser: 96,0 %

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VOC (EU)	2,00 %
9.2 Sonstige Angaben	Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 10: Stabilität und Reaktivität

- **10.1 Reaktivität**
- **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**

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

111-30-8 Glutaral

Oral	LD50	134 mg/kg (rat)
Dermal	LD50	2560 mg/kg (rabbit)

50-00-0 Formaldehyd

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

- **Primäre Reizwirkung:**
- **Ätz-/Reizwirkung auf die Haut** Reizt die Haut und die Schleimhäute.
- **Schwere Augenschädigung/-reizung** Starke Reizwirkung mit Gefahr ernster Augenschäden.
- **Sensibilisierung der Atemwege/Haut**
Durch Einatmen Sensibilisierung möglich.
Durch Hautkontakt Sensibilisierung möglich.
- **Zusätzliche toxikologische Hinweise:**
Das Produkt weist aufgrund des Berechnungsverfahrens der Allgemeinen Einstufungsrichtlinie der EG für Zubereitungen in der letztgültigen Fassung folgende Gefahren auf:
Gesundheitsschädlich
Reizend
Krebserzeugend.
- **CMR-Wirkungen (krebserzeugende, erbgutverändernde und fortpflanzungsgefährdende Wirkung)**
Muta. 2, Carc. 1B

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.
- **Weitere ökologische Hinweise:**
- **Allgemeine Hinweise:**
Wassergefährdungsklasse 2 (Selbsteinstufung): wassergefährdend

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- Nicht in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen.
Trinkwassergefährdung bereits beim Auslaufen geringer Mengen in den Untergrund.
- **12.5 Ergebnisse der PBT- und vPvB-Beurteilung**
 - **PBT:** Nicht anwendbar.
 - **vPvB:** Nicht anwendbar.
 - **12.6 Andere schädliche Wirkungen** Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 13: Hinweise zur Entsorgung

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

ABSCHNITT 14: Angaben zum Transport

- | | |
|---|--|
| · 14.1 UN-Nummer | |
| · ADR, IMDG, IATA | UNI760 |
| · 14.2 Ordnungsgemäße UN-Versandbezeichnung | |
| · ADR | 1760 ÄTZENDER FLÜSSIGER STOFF, N.A.G. (Glutaral) |
| · IMDG, IATA | CORROSIVE LIQUID, N.O.S. (Glutaraldehyde) |
| · 14.3 Transportgefahrenklassen | |
| · ADR, IMDG, IATA | |
|  | |
| · Klasse | 8 Ätzende Stoffe |
| · Gefahrzettel | 8 |
| · 14.4 Verpackungsgruppe | |
| · ADR, IMDG, IATA | III |
| · 14.5 Umweltgefahren: | |
| · Marine pollutant: | Nein |
| · 14.6 Besondere Vorsichtsmaßnahmen für den Verwender | Achtung: Ätzende Stoffe |
| · Kemler-Zahl: | 80 |
| · EMS-Nummer: | F-A,S-B |
| · Segregation groups | Acids |
| · 14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens 73/78 und gemäß IBC-Code | Nicht anwendbar. |
| · Transport/weitere Angaben: | |
| · ADR | |
| · Begrenzte Menge (LQ) | 5L |

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· Freigestellte Mengen (EQ)	Code: E1 Höchste Nettomenge je Innenverpackung: 30 ml Höchste Nettomenge je Außenverpackung: 1000 ml
· Beförderungskategorie	3
· Tunnelbeschränkungscode	E
<hr style="border-top: 1px dashed #000;"/>	
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN1760, ÄTZENDER FLÜSSIGER STOFF, N.A.G. (Glutaral), 8, III

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.
- **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	96,0
I	4,0
- **Wassergefährdungsklasse:** WGK 2 (Selbsteinstufung): wassergefährdend.
- **15.2 Stoffsicherheitsbeurteilung:** Eine Stoffsicherheitsbeurteilung wurde nicht durchgeführt.

ABSCHNITT 16: Sonstige Angaben

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

- **Relevante Sätze**
 - H301 Giftig bei Verschlucken.
 - H311 Giftig bei Hautkontakt.
 - H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.
 - H317 Kann allergische Hautreaktionen verursachen.
 - H331 Giftig bei Einatmen.
 - H332 Gesundheitsschädlich bei Einatmen.
 - H334 Kann bei Einatmen Allergie, asthmaartige Symptome oder Atembeschwerden verursachen.
 - H341 Kann vermutlich genetische Defekte verursachen.
 - H350 Kann Krebs erzeugen.
 - H400 Sehr giftig für Wasserorganismen.
- **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)

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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
Acute Tox. 3: Acute toxicity, Hazard Category 3
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
Muta. 2: Germ cell mutagenicity, Hazard Category 2
Carc. 1B: Carcinogenicity, Hazard Category 1B
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1

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

- **1.1 Identificatore del prodotto**
- **Denominazione commerciale:** Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4
- **Articolo numero:** 16536-06, 16536-07, 16536-08
- **1.2 Usi pertinenti identificati della sostanza o 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
- **Società 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

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.

- **2.2 Elementi dell'etichetta**
- **Etichettatura secondo il regolamento (CE) n. 1272/2008**
Il prodotto è classificato ed etichettato conformemente al regolamento CLP.

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· **Pittogrammi di pericolo**

GHS05 GHS07 GHS08

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

formaldeide
glutarale

· **Indicazioni di pericolo**

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.

· **Consigli di prudenza**

P284 [Quando la ventilazione del locale è insufficiente] indossare un apparecchio di protezione respiratoria.

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).

P405 Conservare sotto chiave.

P501 Smaltire il prodotto/recipiente in conformità con le disposizioni locali / regionali / nazionali / internazionali.

· **2.3 Altri pericoli**· **Risultati della valutazione PBT e vPvB**· **PBT:** Non applicabile.· **vPvB:** Non applicabile.

SEZIONE 3: Composizione/informazioni sugli ingredienti

· **3.2 Caratteristiche chimiche: Miscela**· **Descrizione:** Miscela delle seguenti sostanze con additivi non pericolosi.· **Sostanze pericolose:**

CAS: 111-30-8 EINECS: 203-856-5	glutarale ⚠ Resp. Sens. 1, H334; ⚠ Skin Corr. 1B, H314; ⚠ Aquatic Acute 1, H400; ⚠ Acute Tox. 4, H332; Skin Sens. 1, H317	≤ 2,5%
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%

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

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SEZIONE 4: Misure di primo soccorso

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

· **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:** Se il dolore persiste consultare il medico.

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

· **4.3 Indicazione della 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:**

CO₂, polvere o acqua nebulizzata. Estinguere gli incendi di grosse dimensioni con acqua nebulizzata o con schiuma resistente all'alcool.

· **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:** Non sono richiesti provvedimenti particolari.

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:** 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.

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

· **7.2 Condizioni per l'immagazzinamento 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:** Nessuno.

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

SEZIONE 8: Controllo dell'esposizione/protezione individuale

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

· 8.1 Parametri di controllo

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

111-30-8 glutarale

TWA	Limite Ceiling: 0,2 mg/m ³ , 0,05 ppm sen, A4
-----	---

50-00-0 formaldeide

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

· **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: Chiaro

· **Odore:** Simile a frutto

· **Soglia olfattiva:** Non definito.

· **valori di pH a 20 °C:** 7,4

· **Cambiamento di stato**

Temperatura di fusione/ambito di fusione: Non definito.

Temperatura di ebollizione/ambito di ebollizione: 100 °C

· **Punto di infiammabilità:** Non applicabile.

· **Infiammabilità (solido, gassoso):** Non applicabile.

· **Temperatura di accensione:**

Temperatura di decomposizione: Non definito.

· **Autoaccensione:** Prodotto non autoinfiammabile.

· **Pericolo di esplosione:** 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 del vapore** Non definito.

· **Velocità di evaporazione** Non definito.

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

Poco e/o non miscibile.

· **Coefficiente di distribuzione (n-Octanol/acqua):** Non definito.

· **Viscosità:**

Dinamica: Non definito.

Cinematica: Non definito.

· **Tenore del solvente:**

Solventi organici: 2,0 %

Acqua: 96,0 %

VOC (CE) 2,00 %

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· 9.2 Altre informazioni

Non sono disponibili altre informazioni.

SEZIONE 10: Stabilità e reattività

- 10.1 Reattività
- 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

· Valori LD/LC50 rilevanti per la classificazione:

111-30-8 glutarale

Orale	LD50	134 mg/kg (rat)
Cutaneo	LD50	2560 mg/kg (rabbit)

50-00-0 formaldeide

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

- **Irritabilità primaria:**
- **Corrosione/irritazione cutanea** Irrita la pelle e le mucose.
- **Lesioni oculari gravi/irritazioni oculari gravi** Forte irritazione con rischio di gravi lesioni oculari.
- **Sensibilizzazione respiratoria o cutanea**
Può provocare sensibilizzazione se inalato.
Può provocare sensibilizzazione a contatto con la pelle.
- **Ulteriori dati tossicologici:**
Il prodotto, in base al metodo di calcolo della direttiva generale della Comunità sulla classificazione dei preparati nella sua ultima versione valida, presenta i seguenti rischi:
Nocivo
Irritante
Cancerogeno.
- **Effetti CMR (cancerogenicità, mutagenicità e tossicità per la riproduzione)**
Muta. 2, Carc. 1B

SEZIONE 12: Informazioni ecologiche

- 12.1 Tossicità
- **Tossicità acuta:** Non sono disponibili altre informazioni.
- 12.2 **Persistenza e degradabilità** Non sono disponibili altre informazioni.
- 12.3 **Potenziale di bioaccumulo** Non sono disponibili altre informazioni.
- 12.4 **Mobilità nel suolo** Non sono disponibili altre informazioni.
- **Ulteriori indicazioni in materia ambientale:**
- **Ulteriori indicazioni:**
Pericolosità per le acque classe 2 (D) (Autoclassificazione): pericoloso
Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature.
Pericolo per le acque potabili anche in caso di perdite nel sottosuolo di piccole quantità di prodotto.

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

SEZIONE 13: Considerazioni sullo smaltimento

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

SEZIONE 14: Informazioni sul trasporto

- **14.1 Numero ONU**
- **ADR, IMDG, IATA** UN1760
- **14.2 Nome di spedizione dell'ONU**
- **ADR** 1760 LIQUIDO CORROSIVO, N.A.S. (glutarale)
- **IMDG, IATA** CORROSIVE LIQUID, N.O.S. (Glutaraldehyde)

- **14.3 Classi di pericolo connesso al trasporto**

- **ADR, IMDG, IATA**



- **Classe** 8 Materie corrosive
- **Etichetta** 8

- **14.4 Gruppo di imballaggio**

- **ADR, IMDG, IATA** III

- **14.5 Pericoli per l'ambiente:**

- **Marine pollutant:** No

- **14.6 Precauzioni speciali per gli utilizzatori** Attenzione: Materie corrosive

- **Numero Kemler:** 80
- **Numero EMS:** F-A,S-B
- **Segregation groups** Acids

- **14.7 Trasporto di rinfuse secondo l'allegato II di**

MARPOL 73/78 ed il codice IBC Non applicabile.

- **Trasporto/ulteriori indicazioni:**

- **ADR**
- **Quantità limitate (LQ)** 5L
- **Quantità esenti (EQ)** Codice: E1
Quantità massima netta per imballaggio interno: 30 ml
Quantità massima netta per imballaggio esterno: 1000 ml
- **Categoria di trasporto** 3
- **Codice di restrizione in galleria** E

(continua a pagina 8)

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

Stampato il: 18.07.2015

Revisione: 18.07.2015

Denominazione commerciale: Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

(Segue da pagina 7)

- | | |
|-----------------------------------|---|
| · IMDG | |
| · Limited quantities (LQ) | 5L |
| · Excepted quantities (EQ) | Code: E1 |
| | Maximum net quantity per inner packaging: 30 ml |
| | Maximum net quantity per outer packaging: 1000 ml |
| · UN "Model Regulation": | UN1760, LIQUIDO CORROSIVO, N.A.S. (glutarale), 8, III |

SEZIONE 15: Informazioni sulla regolamentazione

- **15.1 Norme e legislazione 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.
 - **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 | 2,0 |
- **15.2 Valutazione della sicurezza chimica:** Una valutazione della sicurezza chimica non è stata effettuata.

SEZIONE 16: Altre informazioni

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

- **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.
H331 Tossico se inalato.
H332 Nocivo se inalato.
H334 Può provocare sintomi allergici o asmatici o difficoltà respiratorie se inalato.
H341 Sospettato di provocare alterazioni genetiche.
H350 Può provocare il cancro.
H400 Molto tossico per gli organismi acquatici.
- **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
Acute Tox. 3: Acute toxicity, Hazard Category 3
Acute Tox. 4: Acute toxicity, Hazard Category 4

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Scheda di dati di sicurezza
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Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
Muta. 2: Germ cell mutagenicity, Hazard Category 2
Carc. 1B: Carcinogenicity, Hazard Category 1B
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1

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안전지침서

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기압점: 2015.07.18

개정: 2015.07.18

1 화학제품과 회사에 관한 정보

- **제품 식별자**
- **제품명:** Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4
- **상품번호:** 16536-06, 16536-07, 16536-08
- **해당 순물질이나 혼합물의 관련 하위용도 및 사용금지용도** 추가적인 정보가 존재하지 않습니다.
- **제품의 권고 용도와 사용상의 제한:** 실험실 화학품
- **안전데이터표(Safety Data Sheet)내 공급업체 관련 상세 정보**
- **제조사/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
- **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

- | | | |
|---------------|------|-------------------------------------|
| 호흡기과민성 구분1 | H334 | 흡입시 알레르기성 반응, 천식 또는 호흡 곤란을 일으킬 수 있음 |
| 생식세포 변이원성 구분2 | H341 | 유전적인 결함을 일으킬 것으로 의심됨 |
| 발암성 구분1B | H350 | 암을 일으킬 수 있음 |



부식

- | | | |
|-----------------|------|---------------|
| 심한 눈 손상/자극성 구분1 | H318 | 눈에 심한 손상을 일으킴 |
|-----------------|------|---------------|



- | | | |
|----------------|------|-----------------------|
| 피부 부식성/자극성 구분2 | H315 | 피부에 자극을 일으킴 |
| 피부과민성 구분1 | H317 | 알레르기성 피부 반응을 일으킬 수 있음 |

· **라벨표기 요소**

· **GHS 라벨 요소**

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

(2 쪽에 계속)

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· **그림문자**



GHS05 GHS08

· **신호어 위험**

· **상표상에명확히위험성이표시된성분:**

formaldehyde
Glutaraldehyde

· **유해.위험 문구**

피부에 자극을 일으킴
눈에 심한 손상을 일으킴
흡입시 알레르기성 반응, 천식 또는 호흡 곤란을 일으킬 수 있음
알레르기성 피부 반응을 일으킬 수 있음
유전적인 결함을 일으킬 것으로 의심됨
암을 일으킬 수 있음

· **예방조치 문구**

[환기가 잘 되지 않는 곳에서는] 호흡기 보호구를 착용하십시오.
눈에 묻으면 몇 분간 물로 조심해서 씻으십시오. 가능하면콘택트렌즈를 제거하십시오. 계속 씻으십시오.
즉시 독성물질센터/병원 연락 필요.
(라벨 참조) 처치를 하십시오.
잠금장치가 있는 저장장소에 저장하십시오.
현지/지역/국가/국제 규정에 따라서 내용물/용기 노출

· **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.

· **위험 요소:**

111-30-8	Glutaraldehyde ⚠️ 호흡기과민성 구분1, H334; ⚠️ 피부 부식성/자극성 구분1, H314; ⚠️ 수생환경유해성-급성 구분1, H400; ⚠️ 급성 독성(흡입) 구분4, H332; 피부과민성 구분1, H317	≤ 2.5%
50-00-0	formaldehyde ⚠️ 급성 독성(경구) 구분3, H301; 급성 독성(경피) 구분3, H311; 급성 독성(흡입) 구분3, H331; ⚠️ 생식세포 변이원성 구분2, H341; 발암성 구분1B, H350; ⚠️ 피부 부식성/자극성 구분1, H314; ⚠️ 피부과민성 구분1, H317	≤ 2.5%

4 응급조치 요령

· **응급조치요령 내용**

· **흡입했을 때:**

신선한 공기를 쐬고 나서 반드시 의료진의 도움을 구한다.
환자가 의식을 잃었을 경우에는 안전한 자세에서 환자를 운반한다.

· **피부에 접촉했을 때:** 즉시물과비누로씻고잘행군다.

· **눈에 들어갔을 때:** 흐르는 물에 눈을 몇분동안 씻어내고나서, 의사와 상담한 다

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- **먹었을 때:** 증상이 지속될 경우에는 의사와 상담 한다.
- **기타 의사의 주의사항:**
- **가장 중요한 급·만성 증상 및 영향** 추가적인 정보가 존재하지 않습니다.
- **즉각적인 의료처치 및 특별치료가 필요함을 시사하는 징후** 추가적인 정보가 존재하지 않습니다.

5 폭발·화재시 대처방법

- **소화제**
- **적절한 소화제:**
이산화탄소, 진화용 석회 가루 또는 물 방사를 사용하고, 더 큰 화재는 물을 분사 하거나 알코올 이 함유된 거품으로 끈다.
- **본 화학물질이나 혼합물에서 발생하는 특별 유해성** 추가적인 정보가 존재하지 않습니다.
- **소방관에 대한 권고사항**
- **화재 진압 시 착용할 보호구 및 예방조치:** 특별한 조치가 필요없음.

6 누출 사고 시 대처방법

- **개인적 예방조치, 보호장비 및 응급처치 절차** 필요없음.
- **환경 관련 예방조치:** 하수도망/해수면위의물/지하수로도달하지않게한다.
- **밀폐 및 정화 방법과 소재:**
액체가 혼합된 물질(모래, 규조토, 산성결합물, 일반결합물, 톱밥)에 흡입되도록 한다.
항목 13에 따라 오염된 물질을 쓰레기로 처분한다.
충분한 환기가 되도록 한다.
- **타 섹션 참조**
안전 관리에 대한 정보는 제7 장 을 참고하시오.
개인 보호 장비에 대한 정보는 제8 장 을 참고하시오.
쓰레기 처리에 대한 정보는 제13 장 을 참고하시오.

7 취급 및 저장방법

- **취급:**
- **안전 취급을 위한 예방조치**
작업장에서는통풍이잘 되고/습기제거가잘 되게주의한다.
조심스럽게용기를 개봉하거나취급한다.
연무질이형성되는것을피한다.
- **화재 및 폭발 사고 예방대책에 관한 정보:** 호흡보호장비를항상비치한다.
- **혼합위험성 등 안전 저장 조건**
- **보관:**
- **안전한 저장 방법:** 특별한 요구사항이 없음.
- **하나의 공동 보관 시설에 대한 보관 관련 정보:** 필요없음
- **보관 조건에 관한 추가적인 정보:** 없음
- **구체적 최종 사용자** 추가적인 정보가 존재하지 않습니다.

8 노출방지 및 개인보호구

- **첨단시설 디자인에 대한 추가정보:** 더 이상 의 자료는 없음. 항 목 7 을 참고하시오.

(4 쪽에계속)

안전지침서

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통제 변수

· 화학물질의 노출기준, 생물학적 노출기준 등:

111-30-8 Glutaraldehyde	
TLV (ROK)	최고노출기준: 0.2 mg/m ³ , 0.05 ppm
REL (USA)	최고노출기준: 0.8 mg/m ³ , 0.2 ppm See Pocket Guide App. C
TLV (USA)	최고노출기준: 0.2 mg/m ³ , 0.05 ppm (SEN) NIC-DSEN;RSEN ;activated or inactivated
50-00-0 formaldehyde	
TLV (ROK)	단기간의값: 1.5 mg/m ³ , 1 ppm 장기간의값: 0.75 mg/m ³ , 0.5 ppm
PEL (USA)	단기간의값: 2 ppm 장기간의값: 0.75 ppm see 29 CFR 1910.1048(c)
REL (USA)	장기간의값: 0.016 ppm 최고노출기준: 0.1* ppm *15-min; See Pocket Guide App. A
TLV (USA)	최고노출기준: 0.37 mg/m ³ , 0.3 ppm (SEN) NIC-DSEN; RSEN

· 추가 정보: 제 조 할 당 시 에 유 효 한 목 록 을 기 초 로 사 용 했 다.

· 노출 통제

· 개인 보호구

· 일반적보호조치및위생조치:

- 식료품, 음료수와 사료로부터 멀리 떨어져 두어 놓는다.
- 더러워지거나 음료수가 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

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

· 장갑의재료

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

· 장갑재료의투과시간 정확한관통시간은보호장갑제조자에의하여인지되고, 준수되어야한다.

(5 쪽에계속)

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· 눈 보호:

(4 쪽부터계속)



· 팍조이는보안경

9 물리화학적 특성

· 기본 물리 및 화학적 특성에 대한 정보	
· 일반정보	
· 외형	
· 물리적 상태:	액체
· 색:	밝은
· 냄새:	과일종류의
· 후각역치	알맞지않다.
· pH 의경우 20 °C:	7.4
· 상태변화	
· 녹는점/어는점:	맞지않는
· 초기 끓는점과 끓는점 범위:	100 °C
· 인화점:	해당사항 없음.
· 인화성(고체, 기체):	해당사항 없음.
· 점화온도:	
· 분해 온도:	알맞지않다.
· 자기점화:	이제품은자연발화성이없다.
· 폭발위험:	이제품은폭발위험성이없다
· 인화 또는 폭발 범위의 상한/하한	
· 아래로:	알맞지않다.
· 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:	2.0 %
· 물:	96.0 %
· VOC (EU)	2.00 %

(6 쪽에계속)

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- 지하수나, 하천으로또는 하수도망에도달 하지않게한다.
- 지하수로경미한양이유입되었을경우엔이미식수오염상태이다
- 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: 생활쓰레기와함께처리되어서는 안된다. 하수도망으로유입되어서는 안된다.
- 비위생적 포장:
- 권고: 당국의지침에입각한쓰레기처리.

14 운송에 필요한 정보

· 유엔 번호 · ADR, IMDG, IATA	UN1760
· UN 적정 선적명 · ADR · IMDG, IATA	1760 CORROSIVE LIQUID, N.O.S. (Glutaraldehyde) CORROSIVE LIQUID, N.O.S. (Glutaraldehyde)
· 교통 위험 클래스 · ADR, IMDG, IATA	
	
· 등급 · 위험물 라벨	8 부식작용하는물질 8
· 용기등급 · ADR, IMDG, IATA	III
· 환경적 유해물질: · 해양오염물질:	아니오
· 이용자 특별 예방조치 · 위험 코드: · EMS-번호: · Segregation groups	경고: 부식작용하는물질 80 F-A,S-B Acids
· MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(bulk) 운송	해당사항 없음.
· 운 송/추가 정보:	
· ADR · 한정 수량 (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml

(8 쪽에계속)

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<ul style="list-style-type: none"> · 운송 구분 · 터널 제한 코드 	<p>3 E</p>
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	<p>5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml</p>
<ul style="list-style-type: none"> · UN "모범 규제": 	<p>UN1760, CORROSIVE LIQUID, N.O.S. (Glutaraldehyde), 8, III</p>

15 법적 규제현황

· 해당 순물질 또는 혼합물에 대한 안전, 보건 및 환경 규제/법률

· Korean Existing Chemical Inventory		
111-30-8	Glutaraldehyde	KE-27969
50-00-0	formaldehyde	KE-17074
7778-77-0	potassium dihydrogenorthophosphate	KE-28622
7558-79-4	disodium hydrogenorthophosphate	KE-12344
7732-18-5	water, distilled, conductivity or of similar purity	KE-35400

· GHS 라벨 요소

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

· 위험 도표



GHS05 GHS08

· 표지어 위험

· 상표상에명확히위험성이표시된성분:

formaldehyde
Glutaraldehyde

· 위험 문구

피부에 자극을 일으킴
눈에 심한 손상을 일으킴
흡입시 알레르기성 반응, 천식 또는 호흡 곤란을 일으킬 수 있음
알레르기성 피부 반응을 일으킬 수 있음
유전적인 결함을 일으킬 것으로 의심됨
압을 일으킬 수 있음

· 주의 문구

[환기가 잘 되지 않는 곳에서는] 호흡기 보호구를 착용하십시오.
눈에 묻으면 몇 분간 물로 조심해서 씻으십시오. 가능하면콘택트렌즈를 제거하십시오. 계속 씻으십시오.
즉시 독성물질센터/병원 연락 필요.
(라벨 참조) 처치를 하십시오.
잠금장치가 있는 저장장소에 저장하십시오.
현지/지역/국가/국제 규정에 따라서 내용물/용기 노출

(9 쪽에계속)

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· **국내규정:**

· **사용제한에 대한 정보:**

노동자들은이러한예방준비하에암을유발시키는성분을함유한위험물을버리지말아야한다. 개별적인경우에관청은예외를허가할수있다.

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

16 그 밖의 참고사항

이보고는우리지식에대한오늘날의상태에대하여평가하고있다, 하지만이보고서는생산특성에관한보증은기술하지않았으며계약적인법률관계에기반을두고있지도않다

· **최초 작성일자:** 2015.07.18

· **개정 횟수 및 최종 개정일자:** 1 / 2015.07.18

· **약어와 두문자어:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

급성 독성(경구) 구분3: Acute toxicity, Hazard Category 3

급성 독성(흡입) 구분4: Acute toxicity, Hazard Category 4

피부 부식성/자극성 구분1: Skin corrosion/irritation, Hazard Category 1

피부 부식성/자극성 구분2: Skin corrosion/irritation, Hazard Category 2

심한 눈 손상/자극성 구분1: Serious eye damage/eye irritation, Hazard Category 1

호흡기과민성 구분1: Sensitisation - Respirat., Hazard Category 1

피부과민성 구분1: Sensitisation - Skin, Hazard Category 1

생식세포 변이원성 구분2: Germ cell mutagenicity, Hazard Category 2

발암성 구분1B: Carcinogenicity, Hazard Category 1B

수생환경유해성-급성 구분1: Hazardous to the aquatic environment - AcuteHazard, Category 1

Ficha de datos de seguridad

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Revisión: 18.07.2015

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

· 1.1 Identificador del producto

· **Nombre comercial:** Glutaraldehyde 2% Paraformaldehyde 2% in Phosphate Buffer, pH 7.4

· **Número del artículo:** 16536-06, 16536-07, 16536-08

· 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

Skin Irrit. 2 H315 Provoca irritación cutánea.

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

STOT SE 3 H335 Puede irritar las vías respiratorias.

(se continua en página 2)

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· **2.2 Elementos de la etiqueta**

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

El producto se ha clasificado y etiquetado de conformidad con el reglamento CLP.

· **Pictogramas de peligro**



GHS05 GHS07 GHS08

· **Palabra de advertencia Peligro**

· **Componentes peligrosos a indicar en el etiquetaje:**

formaldehído

glutaral

· **Indicaciones de peligro**

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.

· **Consejos de prudencia**

P284 [En caso de ventilación insuficiente,] llevar equipo de protección respiratoria.

P305+P351+P338 EN CASO DE CONTACTO CON LOS OJOS: Aclarar cuidadosamente con agua durante varios minutos. Quitar las lentes de contacto, si lleva y resulta fácil. Seguir aclarando.

P310 Llamar inmediatamente a un CENTRO DE TOXICOLOGÍA/médico.

P321 Se necesita un tratamiento específico (ver en esta etiqueta).

P405 Guardar bajo llave.

P501 Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional.

· **2.3 Otros peligros**

· **Resultados de la valoración PBT y mPmB**

· **PBT:** No aplicable.

· **mPmB:** No aplicable.

SECCIÓN 3: Composición/información sobre los componentes

· **3.2 Caracterización química: Mezclas**

· **Descripción:** Mezcla formada por las sustancias especificadas a continuación con adiciones no peligrosas.

· **Componentes peligrosos:**

CAS: 111-30-8 EINECS: 203-856-5	glutaral ⚠ Resp. Sens. 1, H334; ⚠ Skin Corr. 1B, H314; ⚠ Aquatic Acute 1, H400; ⚠ Acute Tox. 4, H332; Skin Sens. 1, H317	≤ 2,5%
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%

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

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SECCIÓN 4: Primeros auxilios

- **4.1 Descripción de los primeros auxilios**
- **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 un médico si los trastornos persisten.
- **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:**
CO₂, polvo extintor o chorro de agua rociada. Combatir incendios mayores con chorro de agua rociada o espuma resistente al alcohol.
- **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:** No se requieren medidas especiales.

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:**
Evitar que penetre en la canalización /aguas de superficie /agua subterráneas.
- **6.3 Métodos y material de contención y de limpieza:**
Quitar con material absorbente (arena, kieselgur, aglutinante de ácidos, aglutinante universal, aserrín).
Desechar el material contaminado como vertido según ítem 13.
Asegurar suficiente ventilación.
- **6.4 Referencia a otras secciones**
Ver capítulo 7 para mayor información sobre una manipulación segura.
Ver capítulo 8 para mayor información sobre el equipo personal de protección.
Para mayor información sobre cómo desechar el producto, ver capítulo 13.

SECCIÓN 7: Manipulación y almacenamiento

- **7.1 Precauciones para una manipulación segura**
Asegurar suficiente ventilación /aspiración en el puesto de trabajo.
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:** Ningunos, -as.

(se continua en página 4)

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· **7.3 Usos específicos finales** No existen más datos relevantes disponibles.

SECCIÓN 8: Controles de exposición/protección individual

· **Instrucciones adicionales para el acondicionamiento de instalaciones técnicas:**

Sin datos adicionales, ver punto 7.

· **8.1 Parámetros de control**

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

111-30-8 glutaral

LEP	Valor de corta duración: 0,2 mg/m ³ , 0,05 ppm
	Sen

50-00-0 formaldehído

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

· **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

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.

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· **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:	Claro
Olor:	Similar al de las frutas
Umbral olfativo:	No determinado.

· **valor pH a 20 °C:** 7,4

· **Cambio de estado**

Punto de fusión /campo de fusión:	Indeterminado.
Punto de ebullición /campo de ebullición:	100 °C

· **Punto de inflamación:** No aplicable.

· **Inflamabilidad (sólido, gaseiforme):** No aplicable.

· **Temperatura de ignición:**

Temperatura de descomposición: No determinado.

· **Autoinflamabilidad:** El producto no es autoinflamable.

· **Peligro de explosión:** 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.
Velocidad de evaporación	No determinado.

· **Solubilidad en / miscibilidad con agua:** Poco o no mezclable.

· **Coefficiente de reparto (n-octanol/agua):** No determinado.

· **Viscosidad:**

Dinámica:	No determinado.
Cinemática:	No determinado.

· **Concentración del disolvente:**

Disolventes orgánicos:	2,0 %
Agua:	96,0 %
VOC (CE)	2,00 %

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· 9.2 Información adicional

No existen más datos relevantes disponibles.

SECCIÓN 10: Estabilidad y reactividad

- **10.1 Reactividad**
- **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**

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

111-30-8 glutaral

Oral	LD50	134 mg/kg (rat)
Dermal	LD50	2560 mg/kg (rabbit)

50-00-0 formaldehído

Oral	LD50	>200 mg/kg (rat)
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- **Efecto estimulante primario:**
- **Corrosión o irritación cutáneas** Irrita la piel y las mucosas.
- **Lesiones o irritación ocular graves** Produce irritaciones fuertes con el riesgo de perjudicar seriamente los ojos.
- **Sensibilización respiratoria o cutánea**
Posible sensibilización al aspirarse.
Posible sensibilización al entrar en contacto con la piel.
- **Indicaciones toxicológicas adicionales:**
En conformidad con el procedimiento de cálculo contenido en la última versión de la Normativa General de Clasificación de la CE para Preparados, el producto tiene los siguientes riesgos:
Nocivo
Irritante
Cancerígeno.
- **Efectos CMR (carcinogenicidad, mutagenicidad y toxicidad para la reproducción)**
Muta. 2, Carc. 1B

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.
- **Indicaciones medioambientales adicionales:**
- **Indicaciones generales:**
Nivel de riesgo para el agua 2 (autoclasificación): peligroso para el agua
No dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados.
Una cantidad mínima vertida en el subsuelo ya representa un peligro para el agua potable.

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

SECCIÓN 13: Consideraciones relativas a la eliminación

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

SECCIÓN 14: Información relativa al transporte

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

- **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** III

- **14.5 Peligros para el medio ambiente:**
- **Contaminante marino:** No

- **14.6 Precauciones particulares para los usuarios** Atención: Materias corrosivas
- **Número Kemler:** 80
- **Número EMS:** F-A,S-B
- **Segregation groups** Acids

- **14.7 Transporte a granel con arreglo al anexo II del Convenio Marpol 73/78 y del Código IBC** No aplicable.

· **Transporte/datos adicionales:**

- **ADR**
- **Cantidades limitadas (LQ)** 5L
- **Cantidades exceptuadas (EQ)** Código: E1
Cantidad neta máxima por envase interior: 30 ml
Cantidad neta máxima por embalaje exterior: 1000 ml
- **Categoría de transporte** 3
- **Código de restricción del túnel** E

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· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
· "Reglamentación Modelo" de la UNECE:	UN1760, LÍQUIDO CORROSIVO, N.E.P. (glutaral), 8, III

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
- **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.
- **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.
H331 Tóxico en caso de inhalación.
H332 Nocivo en caso de inhalación.
H334 Puede provocar síntomas de alergia o asma o dificultades respiratorias en caso de inhalación.
H341 Se sospecha que provoca defectos genéticos.
H350 Puede provocar cáncer.
H400 Muy tóxico para los organismos acuáticos.
- **Abreviaturas y acrónimos:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Acute Tox. 3: Acute toxicity, Hazard Category 3
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1

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

Muta. 2: Germ cell mutagenicity, Hazard Category 2

Carc. 1B: Carcinogenicity, Hazard Category 1B

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1

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