

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/03/2021

Reviewed on 08/03/2021

1 Identification

- **Product identifier**
- **Trade name:** 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4
- **Article number:** 15960-01, 2%PARA2.5%GLUT, 15960-01-1L
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

- Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Muta. 2 H341 Suspected of causing genetic defects.
Carc. 1B H350 May cause cancer.



GHS07

- Acute Tox. 4 H332 Harmful if inhaled.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

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



GHS07 GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**
Glutaraldehyde
formaldehyde

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- **Hazard statements**

Harmful if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
May cause cancer.
May cause respiratory irritation.

- **Precautionary statements**

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

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



- **Other hazards**

- **Results of PBT and vPvB assessment**

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

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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%
124-65-2	sodium dimethylarsinate	≤2.5%

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
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.

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See Section 13 for disposal information.

· Protective Action Criteria for Chemicals

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

7 Handling and storage

· Handling:

· Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

· Information about protection against explosions and fires: Keep respiratory protective device available.

· Conditions for safe storage, including any incompatibilities

· Storage:

· Requirements to be met by storerooms and receptacles: No special requirements.

· Information about storage in one common storage facility: Not required.

· Further information about storage conditions: Keep receptacle tightly sealed.

· Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

· Additional information about design of technical systems: No further data; see item 7.

· Control parameters

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

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the remaining constituent has no known exposure limits.

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 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)

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REL	Long-term value: 0.016 ppm Ceiling limit value: 0.1* ppm *15-min; See Pocket Guide App. A
TLV	Short-term value: 0.37 mg/m ³ , 0.3 ppm Long-term value: 0.12 mg/m ³ , 0.1 ppm DSEN; RSEN

· **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 eyes and skin.

· **Breathing equipment:**

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

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

· **Form:** Liquid

· **Color:** Clear

· **Odor:** Characteristic

· **Odor threshold:** Not determined.

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· pH-value at 20 °C (68 °F):	7.2
· Change in condition	
· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	Undetermined.
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not flammable.
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
· Lower:	Not determined.
· Upper:	Not determined.
· Vapor pressure:	Not determined.
· Density:	Not determined.
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
· Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
· Dynamic:	Not determined.
· Kinematic:	Not determined.
· Solvent content:	
· Organic solvents:	2.0 %
· VOC content:	2.00 % 20.0 g/l / 0.17 lb/gal
· Solids content:	0.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

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

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11 Toxicological information

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

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

111-30-8 Glutaraldehyde

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

- **Sensitization:**

- Sensitization possible through inhalation.

- Sensitization possible through skin contact.

- **Additional toxicological information:**

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

- Harmful

- Irritant

- Carcinogenic.

- **Carcinogenic categories**

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

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

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

50-00-0	formaldehyde	
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12 Ecological information

- **Toxicity**

- Aquatic toxicity:** No further relevant information available.

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

- **Behavior in environmental systems:**

- Bioaccumulative potential:** No further relevant information available.

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

- **Ecotoxicological effects:**

- **Remark:**

- Toxic for fish

- Harmful to fish

- **Additional ecological information:**

- **General notes:**

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

- Do not allow product to reach ground water, water course or sewage system.

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

- Also poisonous for fish and plankton in water bodies.

- Toxic for aquatic organisms

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

13 Disposal considerations

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

14 Transport information

- | | |
|---|---|
| · UN-Number | UNI760 |
| · DOT, ADR, IMDG, IATA | |
| · UN proper shipping name | Corrosive liquids, n.o.s. (Glutaraldehyde, Formaldehyde solutions) |
| · DOT | 1760 CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION) |
| · ADR | CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION) |
| · IMDG, IATA | |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 8 Corrosive substances |
| · Label | 8 |
| | |
| · ADR, IMDG, IATA | |
|  | |
| · Class | 8 Corrosive substances |
| · Label | 8 |
| · Packing group | II |
| · DOT, ADR, IMDG, IATA | |
| · Environmental hazards: | Not applicable. |
| · Special precautions for user | Warning: Corrosive substances |

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· Hazard identification number (Kemler code):	80
· EMS Number:	F-A,S-B
· Segregation groups	Acids
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 1 L On cargo aircraft only: 30 L
· ADR	
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1760 CORROSIVE LIQUID, N.O.S. (GLUTARALDEHYDE, FORMALDEHYDE SOLUTION), 8, II

15 Regulatory information

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

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

50-00-0 formaldehyde

124-65-2 sodium dimethylarsinate

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

50-00-0 formaldehyde

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

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

50-00-0 formaldehyde

· **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.

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

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

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

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



GHS07 GHS08

· **Signal word** *Danger*

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

Glutaraldehyde

formaldehyde

· **Hazard statements**

Harmful if inhaled.

Causes skin irritation.

Causes serious eye irritation.

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

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause cancer.

May cause respiratory irritation.

· **Precautionary statements**

Obtain special instructions before use.

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

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

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

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

[In case of inadequate ventilation] wear respiratory protection.

If on skin: Wash with plenty of water.

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

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

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Call a poison center/doctor if you feel unwell.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

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

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If eye irritation persists: Get medical advice/attention.

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

Wash contaminated clothing before reuse.

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

Store locked up.

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

· **National regulations:**

· **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.

Exceptions can be made by the authorities in certain cases.

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

16 Other information

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

· **Date of preparation / last revision** 08/03/2021 / -

· **Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

*OSHA: Occupational Safety **Health***

*TLV: **Threshold Limit Value***

*PEL: **Permissible Exposure Limit***

*REL: **Recommended Exposure Limit***

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

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

*Eye Irrit. 2A: **Serious eye damage/eye irritation – Category 2A***

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

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

*Muta. 2: **Germ cell mutagenicity – Category 2***

*Carc. 1B: **Carcinogenicity – Category 1B***

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

Safety Data Sheet

according to WHS Regulations

Printing date 03.08.2021

Revision: 03.08.2021

1 Identification

· **Product identifier**

· **Trade name:** 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4

· **Article number:** 15960-01, 2%PARA2.5%GLUT, 15960-01-1L

· **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.

· **Application of the substance / the mixture** Laboratory chemicals

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

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

email: info@emsdiasum.com

www.emsdiasum.com

ProSciTech Pty Ltd

11 Carlton Street, Kirwan QLD 4817 Australia

Telephone Number: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)

Emergency Contact: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)

Website: ems.proscitech.com

Emgrid Australia Pty. Ltd.

P.O. Box 118

The Patch VIC 3792

Australia

Tel: 03 9752 1785

Fax: 03 9752 1784

Website: www.emgrid.com.au

· **Further information obtainable from:** Product safety department

· **Emergency telephone number:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

2 Hazard(s) Identification

· **Classification of the substance or mixture**



GHS08 health hazard

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

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 1B H350 May cause cancer.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

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

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Safety Data Sheet according to WHS Regulations

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Revision: 03.08.2021

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STOT SE 3 H335 *May cause respiratory irritation.*

· **Label elements**

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

· **Hazard pictograms**



GHS07 GHS08

· **Signal word** *Danger*

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

Glutaraldehyde

formaldehyde

· **Hazard statements**

Harmful if inhaled.

Causes skin irritation.

Causes serious eye irritation.

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

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause cancer.

May cause respiratory irritation.

· **Precautionary statements**

Obtain special instructions before use.

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

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

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

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

Wear respiratory protection.

IF ON SKIN: Wash with plenty of water.

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

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

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Call a POISON CENTER/doctor if you feel unwell.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

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

If eye irritation persists: Get medical advice/attention.

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

Wash contaminated clothing before reuse.

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

Store locked up.

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

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** *Not applicable.*

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Safety Data Sheet

according to WHS Regulations

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· **vPvB:** Not applicable.

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3 Composition and Information on Ingredients

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

· Dangerous components:		
111-30-8	Glutaraldehyde	≤2.5%
50-00-0	formaldehyde	≤2.5%
124-65-2	sodium dimethylarsinate	≤2.5%

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

4 First Aid Measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Call for a doctor immediately.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.

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Safety Data Sheet

according to WHS Regulations

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Trade name: 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4

(Contd. of page 3)

- 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.
- Open and handle receptacle with care.
- Prevent formation of aerosols.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls and personal protection

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

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

111-30-8 Glutaraldehyde

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

50-00-0 formaldehyde

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

124-65-2 sodium dimethylarsinate

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

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

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.

- **Respiratory protection:**

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

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**Trade name: 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE
BUFFER, pH 7.4**

(Contd. of page 4)

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

9 Physical and Chemical Properties

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

· **General Information**

· **Appearance:**

· Form:	Liquid
· Colour:	Clear
· Odour:	Characteristic
· Odour threshold:	Not determined.

· pH-value at 20 °C:	7.2
-----------------------------	-----

· **Change in condition**

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

· Flash point:	Not applicable.
-----------------------	-----------------

· Flammability (solid, gas):	Not applicable.
-------------------------------------	-----------------

· Decomposition temperature:	Not determined.
-------------------------------------	-----------------

· Auto-ignition temperature:	Product is not selfigniting.
-------------------------------------	------------------------------

· Explosive properties:	Product does not present an explosion hazard.
--------------------------------	---

· **Explosion limits:**

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

· Vapour pressure:	Not determined.
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· Density:	Not determined.
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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:	Fully miscible.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
· Dynamic:	Not determined.
· Kinematic:	Not determined.
· Solvent content:	
· Organic solvents:	2.0 %
· VOC (EC)	2.00 %
· Solids content:	0.0 %
· Other information	No further relevant information available.

10 Stability and Reactivity

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

11 Toxicological Information

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

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

111-30-8 Glutaraldehyde

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

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BUFFER, pH 7.4**

(Contd. of page 6)

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

12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxic effects:**
- **Remark:**
Toxic for fish
Harmful to fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
Harmful to aquatic organisms
- **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.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

- | | |
|----------------------------------|---|
| · UN-Number | |
| · ADG, IMDG, IATA | UN1760 |
| · UN proper shipping name | |
| · ADG | 1760 CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION) |
| · IMDG, IATA | CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION) |

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**Trade name: 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE
BUFFER, pH 7.4**

(Contd. of page 7)

· **Transport hazard class(es)**

· **ADG, IMDG, IATA**



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

· **Packing group**

· **ADG, IMDG, IATA** II

· **Environmental hazards:** Not applicable.

· **Special precautions for user** Warning: Corrosive substances.

· **Hazard identification number (Kemler code):** 80

· **EMS Number:** F-A,S-B

· **Segregation groups** Acids

· **Stowage Category** B

· **Stowage Code** SW2 Clear of living quarters.

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

· **Transport/Additional information:**

· **ADG**

· **Limited quantities (LQ)** 1L

· **Excepted quantities (EQ)** Code: E2

Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· **Transport category** 2

· **Tunnel restriction code** E

· **IMDG**

· **Limited quantities (LQ)** 1L

· **Excepted quantities (EQ)** Code: E2

Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

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

15 Regulatory information

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

· **Australian Inventory of Industrial Chemicals**

111-30-8 Glutaraldehyde

50-00-0 formaldehyde

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

111-30-8 Glutaraldehyde

S2, S5, S6

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50-00-0	formaldehyde	S2, S6, S10
· Australia: Priority Existing Chemicals		
111-30-8	Glutaraldehyde	
50-00-0	formaldehyde	

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

· **Hazard pictograms**



GHS07 GHS08

· **Signal word** *Danger*

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

Glutaraldehyde

formaldehyde

· **Hazard statements**

Harmful if inhaled.

Causes skin irritation.

Causes serious eye irritation.

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

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause cancer.

May cause respiratory irritation.

· **Precautionary statements**

Obtain special instructions before use.

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

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

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

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

Wear respiratory protection.

IF ON SKIN: Wash with plenty of water.

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

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

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Call a POISON CENTER/doctor if you feel unwell.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

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

If eye irritation persists: Get medical advice/attention.

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

Wash contaminated clothing before reuse.

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

Store locked up.

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

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- **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
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 Acute Tox. 4: Acute toxicity - inhalation – Category 4
 Skin Irrit. 2: Skin corrosion/irritation – Category 2
 Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
 Resp. Sens. 1: Respiratory sensitisation – Category 1
 Skin Sens. 1: Skin sensitisation – Category 1
 Muta. 2: Germ cell mutagenicity – Category 2
 Carc. 1B: Carcinogenicity – Category 1B
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

-AU-

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/03/2021

Reviewed on 08/03/2021

1 Identification

· **Product identifier**

· **Trade name:** 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4

· **Article number:** 15960-01, 2%PARA2.5%GLUT, 15960-01-1L

· **Application of the substance / the mixture** Laboratory chemicals

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

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

email: info@emsdiasum.com

www.emsdiasum.com

· **Information department:** Product safety department

· **Emergency telephone number:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

2 Hazard identification

· **Classification of the substance or mixture**



GHS08 Health hazard

Respiratory Sensitizer - Category 1

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

Germ Cell Mutagenicity - Category 2

H341 Suspected of causing genetic defects.

Carcinogenicity - Category 1B

H350 May cause cancer.



GHS07

Acute Toxicity (Inhalation) - Category 4

H332 Harmful if inhaled.

Skin Irritation - Category 2

H315 Causes skin irritation.

Eye Irritation - Category 2A

H319 Causes serious eye irritation.

Skin Sensitizer - Category 1

H317 May cause an allergic skin reaction.

Specific Target Organ Toxicity - Single Exposure - Category 3

H335 May cause respiratory irritation.

· **Label elements**

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

· **Hazard pictograms**



GHS07



GHS08

· **Signal word** Danger

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CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/03/2021

Reviewed on 08/03/2021

Trade name: 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4

(Contd. of page 1)

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

Glutaraldehyde

formaldehyde

· **Hazard statements**

Harmful if inhaled.

Causes skin irritation.

Causes serious eye irritation.

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

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause cancer.

May cause respiratory irritation.

· **Precautionary statements**

Obtain special instructions before use.

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

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

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

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

[In case of inadequate ventilation] wear respiratory protection.

If on skin: Wash with plenty of water.

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

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

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Call a poison center/doctor if you feel unwell.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

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

If eye irritation persists: Get medical advice/attention.

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

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

Store locked up.

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

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *2

Fire = 0

Reactivity = 0

CA

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Trade name: 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4

(Contd. of page 2)

3 Composition/Information on ingredients

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

- **Dangerous components:**

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

* Actual concentration ranges are withheld as a trade secret.

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
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.

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See Section 13 for disposal information.

(Contd. of page 3)

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
 Ensure good ventilation/exhaustion at the workplace.
 Open and handle receptacle with care.
 Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/ Personal protection

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

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

111-30-8 Glutaraldehyde

EL	Ceiling: 0.05 ppm S(D), S(R)
EV	Ceiling: 0.05 ppm activated and inactivated

50-00-0 formaldehyde

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

- **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 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

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/03/2021

Reviewed on 08/03/2021

**Trade name: 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE
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:	Characteristic
· Odor threshold:	Not determined.

· pH-value at 20 °C:	7.2
-----------------------------	-----

· **Change in condition**

· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	Undetermined.

· Flash point:	Not applicable.
-----------------------	-----------------

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

· Decomposition temperature:	Not determined.
-------------------------------------	-----------------

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

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

· **Explosion limits:**

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

· Vapor pressure:	Not determined.
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· Density:	Not determined.
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CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/03/2021

Reviewed on 08/03/2021

Trade name: 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4

(Contd. of page 5)

· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
· Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
· Dynamic:	Not determined.
· Kinematic:	Not determined.
· Solvent content:	
· Organic solvents:	2.0 %
· Solids content:	0.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

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

11 Toxicological information

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

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

111-30-8 Glutaraldehyde

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

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:** Irritating effect.
- **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)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/03/2021

Reviewed on 08/03/2021

**Trade name: 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE
BUFFER, pH 7.4**

(Contd. of page 6)

· **Carcinogenic categories**

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

50-00-0 formaldehyde

I

· **NTP (National Toxicology Program)**

50-00-0 formaldehyde

K

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Ecotoxicological effects:**

· **Remark:**

Toxic for fish

Harmful to fish

· **Additional ecological information:**

· **General notes:**

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

Do not allow product to reach ground water, water course or sewage system.

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

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

Harmful to aquatic organisms

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**

· **DOT/TDG, ADR, IMDG, IATA**

UN1760

(Contd. on page 8)

CA

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according to HPR, Schedule 1

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Reviewed on 08/03/2021

**Trade name: 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE
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<ul style="list-style-type: none"> · UN proper shipping name · DOT/TDG · ADR · IMDG, IATA 	<p>Corrosive liquids, n.o.s. (Glutaraldehyde, Formaldehyde solutions)</p> <p>1760 CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)</p> <p>CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)</p>
---	--

- **Transport hazard class(es)**
- **DOT/TDG (Transport dangerous goods):**



- **Class** 8 Corrosive substances
- **Label** 8

- **ADR, IMDG, IATA**



- **Class** 8 Corrosive substances
- **Label** 8

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

- **Environmental hazards:** Not applicable.

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

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

- **Transport/Additional information:**

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

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

- **IMDG**
- **Limited quantities (LQ)** 1L

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CA

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Trade name: 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4

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· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":**

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

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**· **Sara**· **Section 355 (extremely hazardous substances):**

50-00-0 formaldehyde

124-65-2 sodium dimethylarsinate

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

50-00-0 formaldehyde

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

All components have the value ACTIVE.

· **Canadian substance listings:**· **Canadian Domestic Substances List (DSL)**

All ingredients are listed.

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

50-00-0 formaldehyde

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

111-30-8 Glutaraldehyde

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

GHS07 GHS08

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

Glutaraldehyde

formaldehyde

· **Hazard statements**

Harmful if inhaled.

Causes skin irritation.

Causes serious eye irritation.

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

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause cancer.

May cause respiratory irritation.

· **Precautionary statements**

Obtain special instructions before use.

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Safety Data Sheet according to HPR, Schedule 1

Printing date 08/03/2021

Reviewed on 08/03/2021

Trade name: 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4

(Contd. of page 9)

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

· **National regulations:**

· **Information about limitation of use:**

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

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

16 Other information

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

· **Date of the latest revision of the safety data sheet** 08/03/2021 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative

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

Printing date 03.08.2021

Revision: 03.08.2021

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

- **Product identifier**
- **Trade name:** 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4
- **Article number:** 15960-01, 2%PARA2.5%GLUT, 15960-01-1L
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com
- **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**



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.



Acute Tox. 4 H332 Harmful if inhaled.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

Acute Tox. 5 H303 May be harmful if swallowed.
Aquatic Acute 2 H401 Toxic to aquatic life.
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- **Label elements**

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

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(Contd. of page 1)

· **Hazard pictograms**



GHS07 GHS08

· **Signal word** *Danger*

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

Glutaraldehyde
formaldehyde
sodium dimethylarsinate

· **Hazard statements**

May be harmful if swallowed.
Harmful if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
May cause cancer.
May cause respiratory irritation.
Toxic to aquatic life.
Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapours/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
[In case of inadequate ventilation] wear respiratory protection.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**

· **Results of PBT and vPvB assessment**

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

3 Composition/information on ingredients

· **Chemical characterisation: Mixtures**

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

· **Dangerous components:**

111-30-8	Glutaraldehyde ⚠ Acute Tox. 3, H301; Acute Tox. 2, H330; ⚠ Resp. Sens. 1, H334; ⚠ Skin Corr. 1B, H314; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 2, H411; ⚠ Skin Sens. 1A, H317; STOT SE 3, H335; Flam. Liq. 4, H227; Acute Tox. 5, H313	≤2.5%
50-00-0	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; Flam. Liq. 4, H227	≤2.5%
124-65-2	sodium dimethylarsinate ⚠ Acute Tox. 3, H301	≤2.5%

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(Contd. of page 2)

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

4 First aid measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Call for a doctor immediately.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
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.
Open and handle receptacle with care.

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BUFFER, pH 7.4**

(Contd. of page 3)

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

8 Exposure controls/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	
TLV	Ceiling limit: 0.05 ppm
50-00-0 formaldehyde	
TLV	Long-term value: 0.2 ppm Ceiling limit: 0.3 ppm

- **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 eyes and skin.
- **Respiratory protection:**
 - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
 - The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
 - The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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BUFFER, pH 7.4**

(Contd. of page 4)

· **Eye protection:**

Tightly sealed goggles

9 Physical and chemical properties

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

· Form:	Liquid
· Colour:	Clear
· Odour:	Characteristic
· Odour threshold:	Not determined.

· **pH-value at 20 °C:** 7.2· **Change in condition**

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

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

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

· **Vapour pressure:** Not determined.

· Density:	Not determined.
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· **Solubility in / Miscibility with**· **water:** Fully miscible.· **Partition coefficient: n-octanol/water:** Not determined.· **Viscosity:**

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

· **Solvent content:**

· Organic solvents:	2.0 %
· VOC (EC)	2.00 %

· **Solids content:** 0.0 %

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BUFFER, pH 7.4**

(Contd. of page 5)

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

10 Stability and reactivity

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

11 Toxicological information

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

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

111-30-8 Glutaraldehyde

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

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** Irritating effect.
- **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.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:**
Toxic for fish

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(Contd. of page 6)

- Harmful to fish*
- **Additional ecological information:**
 - **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
Harmful to aquatic organisms
 - **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.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

· UN-Number · ADR, IMDG, IATA	UNI760
· UN proper shipping name · ADR · IMDG, IATA	1760 CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION) CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)
· Transport hazard class(es) · ADR, IMDG, IATA	
	
· Class · Label	8 Corrosive substances. 8
· Packing group · ADR, IMDG, IATA	II
· Environmental hazards:	Not applicable.
· Special precautions for user · Hazard identification number (Kemler code): · EMS Number:	Warning: Corrosive substances. 80 F-A,S-B

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BUFFER, pH 7.4**

(Contd. of page 7)

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

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).
- **Hazard pictograms**



GHS07 GHS08

- **Signal word** *Danger*
- **Hazard-determining components of labelling:**
Glutaraldehyde
formaldehyde
sodium dimethylarsinate
- **Hazard statements**
May be harmful if swallowed.
Harmful if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
May cause cancer.
May cause respiratory irritation.

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IL

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Trade name: 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4

(Contd. of page 8)

Toxic to aquatic life.

Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

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

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

[In case of inadequate ventilation] wear respiratory protection.

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

Continue rinsing.

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.

· **Relevant phrases**

H227 Combustible liquid.

H301 Toxic if swallowed.

H311 Toxic in contact with skin.

H313 May be harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H330 Fatal if inhaled.

H331 Toxic if inhaled.

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

H335 May cause respiratory irritation.

H341 Suspected of causing genetic defects.

H350 May cause cancer.

H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

· **Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 4: Flammable liquids – Category 4

Acute Tox. 3: Acute toxicity - oral – Category 3

Acute Tox. 5: Acute toxicity - dermal – Category 5

Acute Tox. 2: Acute toxicity - inhalation – Category 2

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Acute Tox. 4: Acute toxicity - inhalation – Category 4
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Resp. Sens. 1: Respiratory sensitisation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
Skin Sens. 1A: Skin sensitisation – Category 1A
Muta. 2: Germ cell mutagenicity – Category 2
Carc. 1B: Carcinogenicity – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Acute 2: Hazardous to the aquatic environment - acute aquatic hazard – Category 2
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

IL

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

Printing date 03.08.2021

Revision: 03.08.2021

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

· **1.1 Product identifier**

· **Trade name:** 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4

· **Article number:** 15960-01, 2%PARA2.5%GLUT, 15960-01-1L

· **UFI:** SX82-70VY-100C-70XP

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

· **Application of the substance / the mixture** Laboratory chemicals

· **1.3 Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

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

email: info@emsdiasum.com

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.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

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

STOT SE 3 H335 May cause respiratory irritation.

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

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

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BUFFER, pH 7.4**

(Contd. of page 1)

· **Hazard pictograms**



GHS07 GHS08

· **Signal word** *Danger*

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

Glutaraldehyde
formaldehyde

· **Hazard statements**

H332 Harmful if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
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.
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 ----- ⚠ Acute Tox. 3, H301; Acute Tox. 2, H330; ⚠ Resp. Sens. 1, H334; ⚠ Skin Corr. 1B, H314; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 2, H411; ⚠ Skin Sens. 1A, H317; STOT SE 3, H335	≤2.5%
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 hazard phrases refer to section 16.

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BUFFER, pH 7.4**

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SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Call for a doctor immediately.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

SECTION 6: Accidental release measures

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

SECTION 7: Handling and storage

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

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

SECTION 8: Exposure controls/personal protection

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

8.1 Control parameters

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

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
	Carc

- **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 eyes and skin.

- **Respiratory protection:**

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

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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BUFFER, pH 7.4**

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· **Eye protection:**

Tightly sealed goggles

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

· Form:	Liquid
· Colour:	Clear
· Odour:	Characteristic
· Odour threshold:	Not determined.

· **pH-value at 20 °C:** 7.2

· Change in condition

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

· **Flash point:** Not applicable.

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

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** Product does not present an explosion hazard.

· Explosion limits:

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

· **Vapour pressure:** Not determined.

· Density:	Not determined.
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· Solubility in / Miscibility with

· **water:** Fully miscible.

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

· Viscosity:

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

· Solvent content:

· Organic solvents:	2.0 %
· VOC (EC)	2.00 %

· **Solids content:** 0.0 %

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· **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

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

SECTION 11: Toxicological information

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

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

111-30-8 Glutaraldehyde

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

50-00-0 formaldehyde

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

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation**
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity**
Suspected of causing genetic defects.
- **Carcinogenicity**
May cause cancer.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**
May cause respiratory irritation.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.

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BUFFER, pH 7.4**


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- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:**
Toxic for fish
Harmful to fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
Harmful to aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

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.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- | | |
|---|---|
| · 14.1 UN-Number
· ADR, IMDG, IATA | UN1760 |
| · 14.2 UN proper shipping name
· ADR
· IMDG, IATA | 1760 CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)
CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION) |
| · 14.3 Transport hazard class(es)
· ADR, IMDG, IATA | |
|  | |
| · Class
· Label | 8 Corrosive substances.
8 |
| · 14.4 Packing group
· ADR, IMDG, IATA | II |

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BUFFER, pH 7.4**

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· 14.5 Environmental hazards:	Not applicable.
· 14.6 Special precautions for user	Warning: Corrosive substances.
· Hazard identification number (Kemler code):	80
· EMS Number:	F-A,S-B
· Segregation groups	Acids
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1760 CORROSIVE LIQUID, N.O.S. (GLUTARALDEHYDE, FORMALDEHYDE SOLUTION), 8, II

SECTION 15: Regulatory information

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

· **Directive 2012/18/EU**

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

· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 28, 72

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

None of the ingredients is listed.

· **National regulations:**

· **Information about limitation of use:**

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

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

SECTION 16: Other information

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

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**Trade name: 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE
BUFFER, pH 7.4**

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· **Relevant phrases**

- H301 Toxic if swallowed.
- H311 Toxic in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H330 Fatal if inhaled.
- H331 Toxic if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.
- H341 Suspected of causing genetic defects.
- H350 May cause cancer.
- H400 Very toxic to aquatic life.
- H411 Toxic to aquatic life with long lasting effects.

· **Abbreviations and acronyms:**

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Acute Tox. 3: Acute toxicity - oral – Category 3
- Acute Tox. 2: Acute toxicity - inhalation – Category 2
- Acute Tox. 4: Acute toxicity - inhalation – Category 4
- Skin Corr. 1B: Skin corrosion/irritation – Category 1B
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- Resp. Sens. 1: Respiratory sensitisation – Category 1
- Skin Sens. 1: Skin sensitisation – Category 1
- Skin Sens. 1A: Skin sensitisation – Category 1A
- Muta. 2: Germ cell mutagenicity – Category 2
- Carc. 1B: Carcinogenicity – Category 1B
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
- Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
- Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

GB

Sikkerhedsdatablad

ifølge 1907/2006/EF, Artikel 31

Trykdato: 03.08.2021

Revision: 03.08.2021

PUNKT 1: Identifikation af stoffet/blandingen og af selskabet/virksomheden

- **1.1 Produktidentifikator**
- **Handelsnavn: 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4**
- **Artikelnummer: 15960-01, 2%PARA2.5%GLUT, 15960-01-1L**
- **UFI: SX82-70VY-100C-70XP**
- **1.2 Relevante identificerede anvendelser for stoffet eller blandingen samt anvendelser, der frarådes**
Der står ingen yderligere, relevante informationer til rådighed.
- **Stoffets/præparatets anvendelse** Laboratoriekemikalier
- **1.3 Nærmere oplysninger om leverandøren af sikkerhedsdatabladet**
- **Producent/leverandør**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com
- **For yderligere information: Product safety department**
- **1.4 Nødtelefon:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

PUNKT 2: Fareidentifikation

- **2.1 Klassificering af stoffet eller blandingen**
- **Klassificering i henhold til forordning (EF) nr. 1272/2008**



GHS08 sundhedsfarer

Resp. Sens. 1 H334 Kan forårsage allergi- eller astmasymptomer eller åndedrætsbesvær ved indånding.
Muta. 2 H341 Mistænkt for at forårsage genetiske defekter.
Carc. 1B H350 Kan fremkalde kræft.



GHS07

Acute Tox. 4 H332 Farlig ved indånding.
Skin Irrit. 2 H315 Forårsager hudirritation.
Eye Irrit. 2 H319 Forårsager alvorlig øjenirritation.
Skin Sens. 1 H317 Kan forårsage allergisk hudreaktion.
STOT SE 3 H335 Kan forårsage irritation af luftvejene.

Aquatic Chronic 3 H412 Skadelig for vandlevende organismer, med langvarige virkninger.

- **2.2 Mærkningselementer**
- **Mærkning i henhold til forordning (EF) nr. 1272/2008**
Dette produkt er klassificeret og mærket iht. CLP-forordningen.

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Sikkerhedsdatablad

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(Fortsat fra side 1)

· Farepiktogrammer



GHS07 GHS08

· Signalord Fare

· Farebestemmende komponent(er) til etikettering:

glutaral
formaldehyd

· Faresætninger

H332 Farlig ved indånding.
H315 Forårsager hudirritation.
H319 Forårsager alvorlig øjenirritation.
H334 Kan forårsage allergi- eller astmasymptomer eller åndedrætsbesvær ved indånding.
H317 Kan forårsage allergisk hudreaktion.
H341 Mistænkt for at forårsage genetiske defekter.
H350 Kan fremkalde kræft.
H335 Kan forårsage irritation af luftvejene.
H412 Skadelig for vandlevende organismer, med langvarige virkninger.

· Sikkerhedssætninger

P261 Undgå indånding af pulver/røg/gas/tåge/damp/spray.
P280 Bær beskyttelseshandsker/beskyttelsestøj/øjebeskyttelse/ansigtsbeskyttelse.
P284 [I tilfælde af utilstrækkelig ventilation], anvend åndedrætsværn.
P305+P351+P338 VED KONTAKT MED ØJNENE: Skyl forsigtigt med vand i flere minutter. Fjern eventuelle kontaktlinser, hvis dette kan gøres let. Fortsæt skylning.
P405 Opbevares under lås.
P501 Bortskaffelse af indholdet/beholderen i henhold til de lokale/regionale/nationale/internationale forskrifter.

· 2.3 Andre farer

· Resultater af PBT- og vPvB-vurdering

- **PBT:** Ikke relevant.
- **vPvB:** Ikke relevant.

PUNKT 3: Sammensætning af/oplysning om indholdsstoffer

· 3.2 Kemisk betegnelse: Blandinger

· **Beskrivelse:** Blanding med nedenstående stoffer med ufarlige tilsætningsstoffer.

· Farlige indholdsstoffer:

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

· **Yderligere anvisninger:** Teksten til de anførte farehenvisninger fremgår af kapitel 16.

DK

(Fortsættes på side 3)

Sikkerhedsdatablad

ifølge 1907/2006/EF, Artikel 31

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Handelsnavn: 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4

(Fortsat fra side 2)

PUNKT 4: Førstehjælpsforanstaltninger

- **4.1 Beskrivelse af førstehjælpsforanstaltninger**
- **Generelle anvisninger:**
Forgiftningssymptomer kan optræde med mange timers forsinkelse, derfor skal lægeovervågningen vare mindst 48 timer efter et uheld.
- **Efter indånding:**
*Rigelig tilførsel af frisk luft. Søg for en sikkerheds skyld læge.
 I tilfælde af bevidstløshed skal den tilskadede lægges ned og transporteres i stabilt sideleje.*
- **Efter hudkontakt:** *Skal omgående vaskes af med vand og sæbe, skyl godt efter.*
- **Efter øjenkontakt:**
Skyl øjnene med åbent øjenlåg i flere minutter under rindende vand. Søg læge, hvis problemerne er vedvarende.
- **Efter indtagelse:** *Søg læge.*
- **4.2 Vigtigste symptomer og virkninger, både akutte og forsinkede**
Der står ingen yderligere, relevante informationer til rådighed.
- **4.3 Angivelse af om øjeblikkelig lægehjælp og særlig behandling er nødvendig**
Der står ingen yderligere, relevante informationer til rådighed.

PUNKT 5: Brandbekæmpelse

- **5.1 Slukningsmidler**
- **Egnede slukningsmidler:** *Tilpas foranstaltningerne til brandbekæmpelse efter omgivelserne.*
- **5.2 Særlige farer i forbindelse med stoffet eller blandingen**
Der står ingen yderligere, relevante informationer til rådighed.
- **5.3 Anvisninger for brandmandskab**
- **Særlige værnemidler:** *Bær åndedrætsværn.*

PUNKT 6: Forholdsregler over for udslip ved uheld

- **6.1 Personlige sikkerhedsforanstaltninger, personlige værnemidler og nødprocedurer** *Ikke påkrævet.*
- **6.2 Miljøbeskyttelsesforanstaltninger:**
*I tilfælde af indtrængen i vandløb eller kloaksystem skal de pågældende myndigheder underrettes.
 Fortynd med rigeligt vand.
 Må ikke udledes i kloaksystemet/overfladevand/grundvand.*
- **6.3 Metoder og udstyr til inddæmning og oprensning:**
*Opsamles med væskebindende materiale (sand, kiselgur, syrebindemiddel, universalbindemiddel, savsmuld).
 Kontamineret materiale skal bortskaffes som affald ifølge punkt 13.
 Sørg for tilstrækkelig udluftning.*
- **6.4 Henvisning til andre punkter**
*Information om sikker håndtering se kapitel 7.
 Informationer vedrørende personlige værnemidler se kapitel 8.
 Informationer om bortskaffelse se kapitel 13.*

PUNKT 7: Håndtering og opbevaring

- **7.1 Forholdsregler for sikker håndtering**
*Sørg for god udluftning/udsugning på arbejdspladsen.
 Beholdere skal åbnes og håndteres med forsigtighed.
 Undgå aerosoldannelse.*
- **Anvisninger vedrørende brand- og eksplosionsbeskyttelse:** *Hold åndedrætsværn i beredskab.*

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- **7.2 Betingelser for sikker opbevaring, herunder eventuel uforenelighed**
- **Opbevaring:**
- **Krav til opbevaringsrum og beholdere:** Ingen særlige krav.
- **Henvisninger vedrørende opbevaring med andre stoffer:** Ikke påkrævet.
- **Yderligere oplysninger vedrørende opbevaringsbetingelserne:** Hold beholderen tætsluttende lukket.
- **7.3 Særlige anvendelser** Der står ingen yderligere, relevante informationer til rådighed.

PUNKT 8: Eksponeringskontrol/personlige værnemidler

- **Yderligere anvisninger vedrørende udformning af tekniske anlæg:** Ingen yderligere oplysninger, se punkt 7.

8.1 Kontrolparametre

- **Indholdsstoffer med arbejdspladsrelaterede grænseværdier, der skal overvåges:**

111-30-8 glutaral

GV Loftværdi: 0,8 mg/m³, 0,2 ppm
L

50-00-0 formaldehyd

GV Loftværdi: 0,4 mg/m³, 0,3 ppm
LK

- **Yderligere anvisninger:** Baseret på de lister, der var gældende på tidspunktet for udarbejdelsen.

8.2 Eksponeringskontrol

Personlige værnemidler:

- **Generelle forholdsregler vedrørende beskyttelse og hygiejne:**

Skal holdes borte fra føde- og drikkevarer og foderstoffer.
Forurenet, gennemvædet tøj skal det tages af med det samme.
Vask hænder inden der holdes pause og ved arbejdsophør.
Adskilt opbevaring af beskyttelsesklædning.
Undgå kontakt med øjne og hud.

Åndedrætsværn:

Ved kortvarig eller ringe belastning skal der benyttes åndedrætsværn med filter, ved intensiv eller længere eksponering skal der benyttes luftforsynet åndedrætsværn.

Håndbeskyttelse:



Beskyttelseshandsker

Handskematerialet skal være uigennemtrængeligt og kunne tåle produktet/stoffet/præparatet.

På grund af manglende tests kan der ikke anbefales noget handskemateriale til produktet/præparatet/kemikalieblandingen.

Ved valg af handskematerialet skal der tages højde for gennemtrængningstider, permeabilitetstal og nedbrydning.

Handskemateriale:

Valg af en egnet handske afhænger ikke blot af materialet, men også af yderligere kvalitetskriterier og er forskelligt fra den ene fabrikant til den anden. Da produktet er et præparat af flere forskellige stoffer, kan handskematerialernes bestandighed ikke beregnes på forhånd og skal derfor efterprøves inden brugen.

Handskematerialets gennemtrængningstid

Hos handskefabrikanten skal man forespørge om den nøjagtige gennemtrængningstid og overholde denne.

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· Øjenbeskyttelse:



Tætsluttende beskyttelsesbriller

PUNKT 9: Fysiske og kemiske egenskaber

· 9.1 Oplysninger om grundlæggende fysiske og kemiske egenskaber

· Generelle oplysninger

· Udseende:

· Form:	Væske
· Farve:	Klar
· Lugt:	Karakteristisk
· Lugttærskel:	Ikke bestemt.

· pH-værdi ved 20 °C: 7,2

· Tilstandsændring

· Smeltepunkt/frysepunkt: Ikke bestemt.

· Begyndelseskogepunkt og kogepunktsinterval: Ikke bestemt.

· Flammepunkt: Ikke relevant.

· Antændelighed (fast stof, luftart): Ikke relevant.

· Dekomponeringstemperatur: Ikke bestemt.

· Selvantændelsestemperatur: Produktet er ikke selvantændeligt.

· Eksplosive egenskaber: Produktet er ikke eksplosivt.

· Eksplosionsgrænser:

· Nedre: Ikke bestemt.

· Øvre: Ikke bestemt.

· Damptryk: Ikke bestemt.

· Densitet: Ikke bestemt.

· Relativ massefylde: Ikke bestemt.

· Dampmassefylde: Ikke bestemt.

· Fordampningshastighed: Ikke bestemt.

· Opløselighed i/blandbarhed med

· vand: Fuldt blandbar.

· Fordelingskoefficient: n-oktanol/vand: Ikke bestemt.

· Viskositet:

· dynamisk: Ikke bestemt.

· kinematisk: Ikke bestemt.

· Opløsningsmiddelindhold:

· Organiske opløsningsmidler: 2,0 %

· VOC (EU) 2,00 %

· Tørstofindhold: 0,0 %

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· 9.2 Andre oplysninger

Der står ingen yderligere, relevante informationer til rådighed.

PUNKT 10: Stabilitet og reaktivitet

- **10.1 Reaktivitet** Der står ingen yderligere, relevante informationer til rådighed.
- **10.2 Kemisk stabilitet**
- **Termisk nedbrydning/forhold, der bør undgås** Ingen nedbrydning ved formålsbestemt brug.
- **10.3 Risiko for farlige reaktioner** Der er ikke kendskab til nogen farlige reaktioner.
- **10.4 Forhold, der skal undgås** Der står ingen yderligere, relevante informationer til rådighed.
- **10.5 Materialer, der skal undgås:** Der står ingen yderligere, relevante informationer til rådighed.
- **10.6 Farlige nedbrydningsprodukter:** Der er ikke kendskab til nogen farlige nedbrydningsprodukter.

PUNKT 11: Toksikologiske oplysninger

- **11.1 Oplysninger om toksikologiske virkninger**
- **Akut toksicitet**
Farlig ved indånding.

- **Klassificeringsrelevante LD/LC50-værdier:**

111-30-8 glutaral

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

50-00-0 formaldehyd

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

- **Primær irritationsvirkning:**
- **Hudætsning/-irritation**
Forårsager hudirritation.
- **Alvorlig øjenskade/øjenirritation**
Forårsager alvorlig øjenirritation.
- **Respiratorisk sensibilisering eller hudsensibilisering**
Kan forårsage allergi- eller astmasymptomer eller åndedrætsbesvær ved indånding.
Kan forårsage allergisk hudreaktion.
- **CMR-virkninger (kræftfremkaldende egenskaber, mutagenicitet og reproduktionstoksicitet)**
- **Kimcellemutagenicitet**
Mistænkt for at forårsage genetiske defekter.
- **Kræftfremkaldende egenskaber**
Kan fremkalde kræft.
- **Reproduktionstoksicitet**
Kriterierne for klassificering kan på grundlag af de foreliggende data ikke anses for at være opfyldt.
- **Enkel STOT-eksponering**
Kan forårsage irritation af luftvejene.
- **Gentagne STOT-eksponeringer**
Kriterierne for klassificering kan på grundlag af de foreliggende data ikke anses for at være opfyldt.
- **Aspirationsfare**
Kriterierne for klassificering kan på grundlag af de foreliggende data ikke anses for at være opfyldt.

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PUNKT 12: Miljøoplysninger

- **12.1 Toksicitet**
- **Toksicitet i vand:** Der står ingen yderligere, relevante informationer til rådighed.
- **12.2 Persistens og nedbrydelighed** Der står ingen yderligere, relevante informationer til rådighed.
- **12.3 Bioakkumuleringspotentiale** Der står ingen yderligere, relevante informationer til rådighed.
- **12.4 Mobilitet i jord** Der står ingen yderligere, relevante informationer til rådighed.
- **Økotoksicitet**
- **Bemærkning:**
Giftig for fisk.
Skadelig for fisk.
- **Yderligere økologiske oplysninger:**
- **Generelle anvisninger:**
Fareklasse for vand 2 (Selvklassificering): vandforurenende
Må ikke udledes i grundvandet, vandløb eller kloaksystemet.
Risiko for forurening af drikkevandet allerede ved udslip af små mængder i undergrunden.
I vandløb også giftig for fisk og plankton.
giftig for vandorganismer
skadelig for vandorganismer
- **12.5 Resultater af PBT- og vPvB-vurdering**
- **PBT:** Ikke relevant.
- **vPvB:** Ikke relevant.
- **12.6 Andre negative virkninger** Der står ingen yderligere, relevante informationer til rådighed.

PUNKT 13: Bortskaffelse

- **13.1 Metoder til affaldsbehandling**
- **Anbefaling:** Må ikke bortskaffes sammen med husholdningsaffald. Må ikke udledes i kloaksystemet.
- **Urensede emballager:**
- **Anbefaling:** Bortskaffes i overensstemmelse med myndighedernes forskrifter.
- **Anbefalet rengøringsmiddel:** Vand, eventuelt tilsat rengøringsmidler.

PUNKT 14: Transportoplysninger

- | | |
|---|--|
| · 14.1 UN-nummer | |
| · ADR, IMDG, IATA | UN1760 |
| · 14.2 UN-forsendelsesbetegnelse (UN proper shipping name) | |
| · ADR | 1760 ÆTSENDE VÆSKE, N.O.S. (glutaral, FORMALDEHYDOPLØSNING) |
| · IMDG, IATA | CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION) |

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· 14.3 Transportfareklasse(r)

· ADR, IMDG, IATA



· klasse

8 Ætsende stoffer

· Faremærkat

8

· 14.4 Emballagegruppe

· ADR, IMDG, IATA

II

· 14.5 Miljøfarer:

Ikke relevant.

· 14.6 Særlige forsigtighedsregler for brugeren

Advarsel: Ætsende stoffer

· Farenummer (Kemler-tal):

80

· EMS-nummer:

F-A,S-B

· Segregation groups

Acids

· Stowage Category

B

· Stowage Code

SW2 Clear of living quarters.

· 14.7 Bulktransport i henhold til bilag II til MARPOL og IBC-koden

Ikke relevant.

· Transport/yderligere oplysninger:

· ADR

· Begrænsede mængder (LQ)

1L

· Undtagne mængder (EQ)

Kode: E2

Største tilladte nettomængde pr. indvendig emballage: 30 ml

Største tilladte nettomængde pr. ydre emballage: 500 ml

· Transportkategori

2

· Tunnelrestriktionskode

E

· IMDG

· Limited quantities (LQ)

1L

· Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· UN "Model Regulation":

UN 1760 ÆTSENDE VÆSKE, N.O.S. (GLUTARAL, FORMALDEHYDOPLØSNING), 8, II

PUNKT 15: Oplysninger om regulering

· 15.1 Særlige bestemmelser/særlig lovgivning for stoffet eller blandingen med hensyn til sikkerhed, sundhed og miljø

· Direktiv 2012/18/EU

· Navngivne farlige stoffer - BILAG I Ingen af indholdsstofferne er optaget i listen.

· Forordning (EF) nr. 1907/2006 BILAG XVII Begrænsninger: 3, 28, 72

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· **Direktiv 2011/65/EU om begrænsning af anvendelsen af visse farlige stoffer i elektrisk og elektronisk udstyr - Bilag II**

Ingen af indholdsstofferne er optaget i listen.

· **Nationale forskrifter:**

· **Oplysninger vedrørende beskæftigelsesbegrænsning:**

Arbejdstagere må ikke udsættes for de kræftfremkaldende farestoffer som dette præparat indeholder. I enkelte tilfælde kan myndighederne bevillige undtagelser.

· **MAL-Code:** 5-6

· **15.2 Kemikaliesikkerhedsvurdering:** Der er ikke udført kemikaliesikkerhedsvurdering.

PUNKT 16: Andre oplysninger

Alle ovenstående angivelser er baseret på vores aktuelle viden, udgør dog ikke nogen tilsikring af produkt egenskaber og stifter heller ikke noget kontraktligt retsforhold.

· **Risikoangivelser**

H301 Giftig ved indtagelse.

H311 Giftig ved hudkontakt.

H314 Forårsager svære ætsninger af huden og øjenskader.

H317 Kan forårsage allergisk hudreaktion.

H330 Livsfarlig ved indånding.

H331 Giftig ved indånding.

H334 Kan forårsage allergi- eller astmasymptomer eller åndedrætsbesvær ved indånding.

H335 Kan forårsage irritation af luftvejene.

H341 Mistænkt for at forårsage genetiske defekter.

H350 Kan fremkalde kræft.

H400 Meget giftig for vandlevende organismer.

H411 Giftig for vandlevende organismer, med langvarige virkninger.

· **Forkortelser og akronymer:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

Måleteknisk Arbejdshygiejnisk Luftbehov

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 3: Akut toksicitet - oral – Kategori 3

Acute Tox. 2: Akut toksicitet - indånding – Kategori 2

Acute Tox. 4: Akut toksicitet - indånding – Kategori 4

Skin Corr. 1B: Hudætsning/hudirritation – Kategori 1B

Skin Irrit. 2: Hudætsning/hudirritation – Kategori 2

Eye Irrit. 2: Alvorlige øjenskader/øjenirritation – Kategori 2

Resp. Sens. 1: Respiratorisk sensibilisering – Kategori 1

Skin Sens. 1: Hudsensibilisering – Kategori 1

Skin Sens. 1A: Hudsensibilisering – Kategori 1A

Muta. 2: Kimcellemutagenicitet – Kategori 2

Carc. 1B: Carcinogenicitet – Kategori 1B

STOT SE 3: Specifik målorgantoksicitet (enkelt eksponering) – Kategori 3

Aquatic Acute 1: Farlig for vandmiljøet - akut fare for vandmiljøet – Kategori 1

Aquatic Chronic 2: Farlig for vandmiljøet - langtidsfare for vandmiljøet – Kategori 2

Aquatic Chronic 3: Farlig for vandmiljøet - langtidsfare for vandmiljøet – Kategori 3

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

· 1.1 Productidentificatie

· **Handelsnaam:** 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4

· **Artikelnummer:** 15960-01, 2%PARA2.5%GLUT, 15960-01-1L

· **UFI:** SX82-70VY-100C-70XP

· 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 verstreker van het veiligheidsinformatieblad

· **Fabrikant/leverancier:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

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

email: info@emsdiasum.com

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.



GHS07

Acute Tox. 4 H332 Schadelijk bij inademing.

Skin Irrit. 2 H315 Veroorzaakt huidirritatie.

Eye Irrit. 2 H319 Veroorzaakt ernstige oogirritatie.

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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(Vervolg van blz. 1)

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

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



GHS07 GHS08

- **Signaalwoord** Gevaar
- **Gevaaraanduidende componenten voor de etikettering:**
Glutaaraldehyd
formaldehyde
- **Gevarenaanduidingen**
H332 Schadelijk bij inademing.
H315 Veroorzaakt huidirritatie.
H319 Veroorzaakt ernstige oogirritatie.
H334 Kan bij inademing allergie- of astmasymptomen of ademhalingsmoeilijkheden veroorzaken.
H317 Kan een allergische huidreactie veroorzaken.
H341 Verdacht van het veroorzaken van genetische schade.
H350 Kan kanker veroorzaken.
H335 Kan irritatie van de luchtwegen veroorzaken.
H412 Schadelijk voor in het water levende organismen, met langdurige gevolgen.
- **Veiligheidsaanbevelingen**
P261 Inademing van stof/rook/gas/nevel/damp/spuitnevel vermijden.
P280 Beschermende handschoenen/beschermende kleding/oogbescherming/gelaatsbescherming dragen.
P284 [Bij ontoereikende 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.
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 Acute Tox. 3, H301; Acute Tox. 2, H330; Resp. Sens. 1, H334; Skin Corr. 1B, H314; Aquatic Acute 1, H400; Aquatic Chronic 2, H411; Skin Sens. 1A, H317; STOT SE 3, H335	≤2,5%
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(Vervolg op blz. 3)

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**Handelsnaam: 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE
BUFFER, pH 7.4**

(Vervolg van blz. 2)

CAS: 50-00-0

formaldehyde

≤2,5%

EINECS: 200-001-8

☠ 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

· **Aanvullende gegevens:**

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

RUBRIEK 4: Eerstehulpmaatregelen

· **4.1 Beschrijving van de eerstehulpmaatregelen**

· **Algemene informatie:**

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

· **Na het inademen:**

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

Bij bewusteloosheid ligging en vervoer in stabiele zijligging.

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

· **Na oogcontact:**

De ogen gedurende verscheidene minuten onder stromend water afspoelen terwijl de oogspleet geopend blijft. Bij aanhoudende klachten een dokter raadplegen.

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

· **4.2 Belangrijkste acute en uitgestelde symptomen en effecten** Geen verdere relevante informatie verkrijgbaar.

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

Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 5: Brandbestrijdingsmaatregelen

· **5.1 Blusmiddelen**

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

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

Geen verdere relevante informatie verkrijgbaar.

· **5.3 Advies voor brandweerlieden**

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

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

· **6.1 Persoonlijke voorzorgsmaatregelen, beschermingsmiddelen en noodprocedures** Niet nodig.

· **6.2 Milieuvoorzorgsmaatregelen:**

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

Met veel water verdunnen.

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.

NL

(Vervolg op blz. 4)

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(Vervolg van blz. 3)

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:** Ademhalingsstoestellen gereedhouden.
- **7.2 Voorwaarden voor een veilige opslag, met inbegrip van incompatibele producten**
- **Opslag:**
- **Eisen ten opzichte van opslagruimte en tanks:** Geen bijzondere eisen.
- **Informatie m.b.t. gezamenlijke opslag:** Niet noodzakelijk.
- **Verdere inlichtingen over eisen m.b.t. de opslag:** Tanks ondoordringbaar gesloten houden.
- **7.3 Specifiek eindgebruik** Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 8: Maatregelen ter beheersing van blootstelling/persoonlijke bescherming

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

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

50-00-0 formaldehyde

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 ogen en de huid vermijden.
- **Ademhalingsbescherming:**
Bij korte of geringe belasting ademfiltertoestel; bij intensieve resp. langdurige expositie een van de omringende lucht onafhankelijk ademhalingsstoestel gebruiken.
- **Handbescherming:**



Veiligheidshandschoenen

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

(Vervolg op blz. 5)

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(Vervolg van blz. 4)

- **Doordringingstijd van het handschoenmateriaal**
De precieze penetratietijd kunt u te weten komen bij de handschoenfabrikant; houd er rekening mee.
- **Oogbescherming:**



Nauw aansluitende veiligheidsbril

RUBRIEK 9: Fysische en chemische eigenschappen

· 9.1 Informatie over fysische en chemische basiseigenschappen

· Algemene gegevens

· Voorkomen:

- **Vorm:** Vloeistof
- **Kleur:** Helder
- **Geur:** Karakteristiek
- **Geurdrempelwaarde:** Niet bepaald.

· **pH-waarde bij 20 °C:** 7,2

· Toestandsverandering

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

· **Vlampunt:** Niet bruikbaar.

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

· **Ontledingstemperatuur:** Niet bepaald.

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

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

· Ontploffingsgrenzen:

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

· **Dampspanning:** Niet bepaald.

· **Dichtheid:** Niet bepaald.

· **Relatieve dichtheid** Niet bepaald.

· **Dampdichtheid** Niet bepaald.

· **Verdampingssnelheid** Niet bepaald.

· Oplosbaarheid in/mengbaarheid met

· **Water:** Volledig mengbaar.

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

· Viscositeit

· **Dynamisch:** Niet bepaald.

· **Kinematisch:** Niet bepaald.

· Oplosmiddelgehalte:

· **Organisch oplosmiddel:** 2,0 %

· **VOC (EG)** 2,00 %

(Vervolg op blz. 6)

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BUFFER, pH 7.4**

(Vervolg van blz. 5)

- **Gehalte aan vaste bestanddelen:** 0,0 %
- **9.2 Overige informatie** Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 10: Stabiliteit en reactiviteit

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

RUBRIEK 11: Toxicologische informatie

- **11.1 Informatie over toxicologische effecten**
- **Acute toxiciteit**
Schadelijk bij inademing.

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

111-30-8 Glutaaraldehyd

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

50-00-0 formaldehyde

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

- **Primaire aandoening:**
- **Huidcorrosie/-irritatie**
Veroorzaakt huidirritatie.
- **Ernstig oogletsel/oogirritatie**
Veroorzaakt ernstige oogirritatie.
- **Sensibilisatie van de luchtwegen/de huid**
Kan bij inademing allergie- of astmasymptomen of ademhalingsmoeilijkheden veroorzaken.
Kan een allergische huidreactie veroorzaken.
- **CMR-effecten (kankerverwekkendheid, mutageniteit en giftigheid voor de voortplanting)**
- **Mutageniteit in geslachtscellen**
Verdacht van het veroorzaken van genetische schade.
- **Kankerverwekkendheid**
Kan kanker veroorzaken.
- **Giftigheid voor de voortplanting** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **STOT bij eenmalige blootstelling**
Kan irritatie van de luchtwegen veroorzaken.
- **STOT bij herhaalde blootstelling** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Gevaar bij inademing** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

RUBRIEK 12: Ecologische informatie

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

(Vervolg op blz. 7)

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- **12.2 Persistentie en afbreekbaarheid** Geen verdere relevante informatie verkrijgbaar.
- **12.3 Bioaccumulatie** Geen verdere relevante informatie verkrijgbaar.
- **12.4 Mobiliteit in de bodem** Geen verdere relevante informatie verkrijgbaar.
- **Ecotoxische effecten:**
- **Opmerking:**
Giffig voor vissen.
Schadelijk voor vissen.
- **Verdere ecologische informatie:**
- **Algemene informatie:**
Waterbezwaarlijkheid (NL): Z(1) niet afbreekbare stoffen met gevaarlijke eigenschappen voor mens en milieu (carcinogeniteit/mutageniteit/ reprotoxiciteit/bioacumulerend vermogen/ toxiciteit of persistentie)
Gevaar voor water klasse 2 (D) (Zelfclassificatie): gevaar voor water
Niet lozen in grondwater, in oppervlaktewater of in riolering.
Gevaar voor drinkwater zelfs bij uitlopen van geringe hoeveelheden in de ondergrond.
In oppervlaktewater ook giffig voor vissen en plankton.
giffig voor in het water levende organismen
schadelijk voor in het water levende organismen
- **12.5 Resultaten van PBT- en zPzB-beoordeling**
- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.
- **12.6 Andere schadelijke effecten** Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 13: Instructies voor verwijdering

- **13.1 Afvalverwerkingsmethoden**
- **Aanbeveling:** Mag niet tesamen met huisvuil gestort worden of in de riolering terecht komen.
- **Niet gereinigde verpakkingen:**
- **Aanbeveling:** Afvalverwijdering volgens overheidsbepalingen.
- **Aanbevolen reinigingsmiddel:** Water, eventueel met toevoeging van reinigingsmiddelen.

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 | 1760 BIJTENDE VLOEISTOF, N.E.G. (Glutaaraldehyd, FORMALDEHYDE, OPLOSSING) |
| · IMDG, IATA | CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION) |
| · 14.3 Transportgevarenklasse(n) | |
| · ADR, IMDG, IATA | |
| |  |
| · klasse | 8 Bijtende stoffen |
| · Etiket | 8 |

(Vervolg op blz. 8)

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BUFFER, pH 7.4**

(Vervolg van blz. 7)

· 14.4 Verpakkingsgroep: · ADR, IMDG, IATA	<i>II</i>
· 14.5 Milieugevaren:	<i>Niet bruikbaar.</i>
· 14.6 Bijzondere voorzorgen voor de gebruiker · Gevaarsidentificatienummer (Kemler-getal): · EMS-nummer: · Segregation groups · Stowage Category · Stowage Code	<i>Waarschuwing: Bijtende stoffen</i> <i>80</i> <i>F-A,S-B</i> <i>Acids</i> <i>B</i> <i>SW2 Clear of living quarters.</i>
· 14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code	<i>Niet bruikbaar.</i>
· Transport/verdere gegevens:	
· ADR · Beperkte hoeveelheden (LQ) · Uitgezonderde hoeveelheden (EQ)	<i>1L</i> <i>Code: E2</i> <i>Grootste netto hoeveelheid per binnenverpakking: 30 ml</i> <i>Grootste netto hoeveelheid per buitenverpakking: 500 ml</i>
· Vervoerscategorie · Tunnelbeperkingscode	<i>2</i> <i>E</i>
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	<i>1L</i> <i>Code: E2</i> <i>Maximum net quantity per inner packaging: 30 ml</i> <i>Maximum net quantity per outer packaging: 500 ml</i>
· VN "Model Regulation":	<i>UN 1760 BIJTENDE VLOEISTOF, N.E.G. (GLUTAARALDEHYD, FORMALDEHYDE, OPLOSSING), 8, II</i>

RUBRIEK 15: Regelgeving

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

· **SZW-lijst van kankerverwekkende stoffen**

50-00-0 formaldehyde

· **SZW-lijst van mutagene stoffen**

geen der bestanddelen staat op de lijst.

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

geen der bestanddelen staat op de lijst.

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

geen der bestanddelen staat op de lijst.

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

geen der bestanddelen staat op de lijst.

· **Lijst Zeer Zorgwekkende Stoffen (ZZS)**

50-00-0 formaldehyde

(Vervolg op blz. 9)

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BUFFER, pH 7.4**

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· **Lijst van Potentieel Zeer Zorgwekkende Stoffen**

111-30-8	Glutaaraldehyd
----------	----------------

· **Richtlijn 2012/18/EU**

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

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

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

geen der bestanddelen staat op de lijst.

· **Nationale voorschriften:**

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

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

· **Gevaarklasse v. water:**

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

· **15.2 Chemischeveiligheidsbeoordeling:** Een chemische veiligheidsbeoordeling is niet uitgevoerd.

RUBRIEK 16: Overige informatie

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

· **Relevante zinnen**

H301 Giftig bij inslikken.

H311 Giftig bij contact met de huid.

H314 Veroorzaakt ernstige brandwonden en oogletsel.

H317 Kan een allergische huidreactie veroorzaken.

H330 Dodelijk bij inademing.

H331 Giftig bij inademing.

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

H335 Kan irritatie van de luchtwegen veroorzaken.

H341 Verdacht van het veroorzaken van genetische schade.

H350 Kan kanker veroorzaken.

H400 Zeer giftig voor in het water levende organismen.

H411 Giftig voor in het water levende organismen, met langdurige gevolgen.

· **Afkortingen en acroniemen:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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

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

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

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

(Vervolg op blz. 10)

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Skin Irrit. 2: Huidcorrosie/-irritatie – Categorie 2
Eye Irrit. 2: Ernstig oogletsel/oogirritatie – Categorie 2
Resp. Sens. 1: Sensibilisatie van de luchtwegen – Categorie 1
Skin Sens. 1: Sensibilisatie van de huid – Categorie 1
Skin Sens. 1A: Sensibilisatie van de huid – Categorie 1A
Muta. 2: Mutageniteit in geslachtscellen – Categorie 2
Carc. 1B: Kankerverwekkendheid – Categorie 1B
STOT SE 3: Specifieke doelorgaantoxiciteit bij eenmalige blootstelling – Categorie 3
Aquatic Acute 1: Gevaar voor het aquatisch milieu - acuut aquatisch gevaar – Categorie 1
Aquatic Chronic 2: Gevaar voor het aquatisch milieu - aquatisch gevaar op lange termijn – Categorie 2
Aquatic Chronic 3: Gevaar voor het aquatisch milieu - aquatisch gevaar op lange termijn – Categorie 3

NL

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 03.08.2021

Révision: 03.08.2021

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

- **1.1 Identificateur de produit**
- **Nom du produit:** 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4
- **Code du produit:** 15960-01, 2%PARA2.5%GLUT, 15960-01-1L
- **UFI:** SX82-70VY-100C-70XP
- **1.2 Utilisations identifiées pertinentes de la substance ou du mélange et utilisations déconseillées**
Pas d'autres informations importantes disponibles.
- **Emploi de la substance / de la préparation** Produits chimiques pour laboratoires
- **1.3 Renseignements concernant le fournisseur de la fiche de données de sécurité**
- **Producteur/fournisseur:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com
- **Service chargé des renseignements:** Product safety department
- **1.4 Numéro d'appel d'urgence:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

RUBRIQUE 2: Identification des dangers

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



GHS08 danger pour la santé

- | | |
|---------------|--|
| Resp. Sens. 1 | H334 Peut provoquer des symptômes allergiques ou d'asthme ou des difficultés respiratoires par inhalation. |
| Muta. 2 | H341 Susceptible d'induire des anomalies génétiques. |
| Carc. 1B | H350 Peut provoquer le cancer. |



GHS07

- | | |
|---------------|---|
| Acute Tox. 4 | H332 Nocif par inhalation. |
| Skin Irrit. 2 | H315 Provoque une irritation cutanée. |
| Eye Irrit. 2 | H319 Provoque une sévère irritation des yeux. |
| Skin Sens. 1 | H317 Peut provoquer une allergie cutanée. |
| STOT SE 3 | H335 Peut irriter les voies respiratoires. |
- Aquatic Chronic 3 H412 Nocif pour les organismes aquatiques, entraîne des effets néfastes à long terme.

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

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BUFFER, pH 7.4**

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· Pictogrammes de danger



GHS07 GHS08

· Mention d'avertissement Danger

· Composants dangereux déterminants pour l'étiquetage:

glutaral
Formaldéhyde

· Mentions de danger

- H332 Nocif par inhalation.
H315 Provoque une irritation cutanée.
H319 Provoque une sévère irritation des yeux.
H334 Peut provoquer des symptômes allergiques ou d'asthme ou des difficultés respiratoires par inhalation.
H317 Peut provoquer une allergie cutanée.
H341 Susceptible d'induire des anomalies génétiques.
H350 Peut provoquer le cancer.
H335 Peut irriter les voies respiratoires.
H412 Nocif pour les organismes aquatiques, entraîne des effets néfastes à long terme.

· Conseils de prudence

- P261 Éviter de respirer les poussières/fumées/gaz/brouillards/vapeurs/aérosols.
P280 Porter des gants de protection/des vêtements de protection/un équipement de protection des yeux/du visage.
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.
P405 Garder sous clef.
P501 Éliminer le contenu/récipient conformément à la réglementation locale/régionale/nationale/internationale.

· 2.3 Autres dangers

· Résultats des évaluations PBT et vPvB

- **PBT:** Non applicable.
· **vPvB:** Non applicable.

RUBRIQUE 3: Composition/informations sur les composants

· 3.2 Caractérisation chimique: Mélanges

· **Description:** Mélange des substances mentionnées à la suite avec des additifs non dangereux.

· Composants dangereux:

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

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

RUBRIQUE 4: Premiers secours

- **4.1 Description des premiers secours**
- **Remarques générales:**
Les symptômes d'intoxication peuvent apparaître après de nombreuses heures seulement; une surveillance médicale est donc nécessaire au moins 48 heures après un accident.
- **Après inhalation:**
Donner de l'air frais en abondance et consulter un médecin pour plus de sécurité.
En cas d'inconscience, coucher et transporter la personne en position latérale stable.
- **Après contact avec la peau:** Laver immédiatement à l'eau et au savon et bien rincer.
- **Après contact avec les yeux:**
Rincer les yeux, pendant plusieurs minutes, sous l'eau courante en écartant bien les paupières. Si les troubles persistent, consulter un médecin.
- **Après ingestion:** Consulter immédiatement un médecin.
- **4.2 Principaux symptômes et effets, aigus et différés** Pas d'autres informations importantes disponibles.
- **4.3 Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires**
Pas d'autres informations importantes disponibles.

RUBRIQUE 5: Mesures de lutte contre l'incendie

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

RUBRIQUE 6: Mesures à prendre en cas de dispersion accidentelle

- **6.1 Précautions individuelles, équipement de protection et procédures d'urgence** Pas nécessaire.
- **6.2 Précautions pour la protection de l'environnement:**
En cas de pénétration dans les eaux ou les égouts, avertir les autorités compétentes.
Diluer avec beaucoup d'eau.
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 rubriques**
Afin d'obtenir des informations pour une manipulation sûre, consulter le chapitre 7.
Afin d'obtenir des informations sur les équipements de protection personnels, consulter le chapitre 8.
Afin d'obtenir des informations sur l'élimination, consulter le chapitre 13.

RUBRIQUE 7: Manipulation et stockage

- **7.1 Précautions à prendre pour une manipulation sans danger**
Veiller à une bonne ventilation/aspiration du poste de travail.

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- Ouvrir et manipuler les récipients avec précaution.*
- Eviter 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.
- **Indications concernant le stockage commun:** Pas nécessaire.
- **Autres indications sur les conditions de stockage:** Tenir les emballages hermétiquement fermés.
- **7.3 Utilisation(s) finale(s) particulière(s)** Pas d'autres informations importantes disponibles.

RUBRIQUE 8: Contrôles de l'exposition/protection individuelle

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

· 8.1 Paramètres de contrôle

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

111-30-8 glutaral

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

50-00-0 Formaldéhyde

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

- **Remarques supplémentaires:**
Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.
- **8.2 Contrôles de l'exposition**
- **Equipement de protection individuel:**
- **Mesures générales de protection et d'hygiène:**
Tenir à l'écart des produits alimentaires, des boissons et de la nourriture pour animaux.
Retirer immédiatement les vêtements souillés ou humectés.
Se laver les mains avant les pauses et en fin de travail.
Conservé à part les vêtements de protection.
Eviter tout contact avec les yeux et avec la peau.
- **Protection respiratoire:**
En cas d'exposition faible ou de courte durée, utiliser un filtre respiratoire; en cas d'exposition intense ou durable, utiliser un appareil de respiration indépendant de l'air ambiant.
- **Protection des mains:**



Gants de protection

- Le matériau des gants doit être imperméable et résistant au produit / à la substance / à la préparation.*
- À cause du manque de tests, aucune recommandation pour un matériau de gants pour le produit / la préparation / le mélange de produits chimiques ne peut être donnée.*
- Choix du matériau des gants en fonction des temps de pénétration, du taux de perméabilité et de la dégradation.*
- **Matériau des gants**
Le choix de gants appropriés dépend non seulement du matériau, mais aussi d'autres critères de qualité qui peuvent varier d'un fabricant à l'autre. Puisque le produit représente une préparation composée de plusieurs substances, la résistance des matériaux des gants ne peut pas être calculée à l'avance et doit, alors, être contrôlée avant l'utilisation.

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- **Temps de pénétration du matériau des gants**
Le temps de pénétration exact est à déterminer par le fabricant des gants de protection et à respecter.
- **Protection des yeux:**



Lunettes de protection hermétiques

RUBRIQUE 9: Propriétés physiques et chimiques

· 9.1 Informations sur les propriétés physiques et chimiques essentielles

· Indications générales

· Aspect:

· Forme:

Liquide

· Couleur:

Transparent

· Odeur:

Caractéristique

· Seuil olfactif:

Non déterminé.

· valeur du pH à 20 °C:

7,2

· Changement d'état

· Point de fusion/point de congélation:

Non déterminé.

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

Non déterminé.

· Point d'éclair

Non applicable.

· Inflammabilité (solide, gaz):

Non applicable.

· Température de décomposition:

Non déterminé.

· Température d'auto-inflammabilité:

Le produit ne s'enflamme pas spontanément.

· Propriétés explosives:

Le produit n'est pas explosif.

· Limites d'explosion:

· Inférieure:

Non déterminé.

· Supérieure:

Non déterminé.

· Pression de vapeur:

Non déterminé.

· Densité:

Non déterminée.

· Densité relative

Non déterminé.

· Densité de vapeur:

Non déterminé.

· Taux d'évaporation:

Non déterminé.

· Solubilité dans/miscibilité avec

· l'eau:

Entièrement miscible

· Coefficient de partage: n-octanol/eau:

Non déterminé.

· Viscosité:

· Dynamique:

Non déterminé.

· Cinématique:

Non déterminé.

· Teneur en solvants:

· Solvants organiques:

2,0 %

· VOC (CE)

2,00 %

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- | | |
|--|--|
| <ul style="list-style-type: none"> · Teneur en substances solides: · 9.2 Autres informations | <p style="text-align: center;">0,0 %</p> <p style="text-align: center;">Pas d'autres informations importantes disponibles.</p> |
|--|--|

RUBRIQUE 10: Stabilité et réactivité

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

RUBRIQUE 11: Informations toxicologiques

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

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

111-30-8 glutaral

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

50-00-0 Formaldéhyde

Oral	LD50	>200 mg/kg (rat)
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- **Effet primaire d'irritation:**
- **Corrosion cutanée/irritation cutanée**
Provoque une irritation cutanée.
- **Lésions oculaires graves/irritation oculaire**
Provoque une sévère irritation des yeux.
- **Sensibilisation respiratoire ou cutanée**
Peut provoquer des symptômes allergiques ou d'asthme ou des difficultés respiratoires par inhalation.
Peut provoquer une allergie cutanée.
- **Effets CMR (cancérogène, mutagène et toxique pour la reproduction)**
- **Mutagénicité sur les cellules germinales**
Susceptible d'induire des anomalies génétiques.
- **Cancérogénicité**
Peut provoquer le cancer.
- **Toxicité pour la reproduction**
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité spécifique pour certains organes cibles - exposition unique**
Peut irriter les voies respiratoires.
- **Toxicité spécifique pour certains organes cibles - exposition répétée**
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Danger par aspiration** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

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RUBRIQUE 12: Informations écologiques

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

RUBRIQUE 13: Considérations relatives à l'élimination

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

RUBRIQUE 14: Informations relatives au transport

- | | |
|---|--|
| <ul style="list-style-type: none"> · 14.1 Numéro ONU · ADR, IMDG, IATA | <p>UN1760</p> |
| <ul style="list-style-type: none"> · 14.2 Désignation officielle de transport de l'ONU · ADR · IMDG, IATA | <p>1760 LIQUIDE CORROSIF, N.S.A. (glutaral, FORMALDÉHYDE EN SOLUTION)
CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)</p> |

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· **14.3 Classe(s) de danger pour le transport**

· **ADR, IMDG, IATA**



· **Classe** 8 Matières corrosives.
· **Étiquette** 8

· **14.4 Groupe d'emballage**

· **ADR, IMDG, IATA** II

· **14.5 Dangers pour l'environnement:** Non applicable.

· **14.6 Précautions particulières à prendre par l'utilisateur**

Attention: Matières corrosives.

· **Numéro d'identification du danger (Indice Kemler):** 80

· **No EMS:** F-A,S-B

· **Segregation groups** Acids

· **Stowage Category** B

· **Stowage Code** SW2 Clear of living quarters.

· **14.7 Transport en vrac conformément à l'annexe II de la convention Marpol et au recueil IBC**

Non applicable.

· **Indications complémentaires de transport:**

· **ADR**

· **Quantités limitées (LQ)** 1L

· **Quantités exceptées (EQ)** Code: E2

Quantité maximale nette par emballage intérieur: 30 ml
Quantité maximale nette par emballage extérieur: 500 ml

· **Catégorie de transport** 2

· **Code de restriction en tunnels** E

· **IMDG**

· **Limited quantities (LQ)** 1L

· **Excepted quantities (EQ)** Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **"Règlement type" de l'ONU:**

UN 1760 LIQUIDE CORROSIF, N.S.A. (GLUTARAL, FORMALDÉHYDE EN SOLUTION), 8, II

RUBRIQUE 15: Informations relatives à la réglementation

· **15.1 Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement**

· **Directive 2012/18/UE**

· **Substances dangereuses désignées - ANNEXE I** Aucun des composants n'est compris.

· **RÈGLEMENT (CE) N° 1907/2006 ANNEXE XVII** Conditions de limitation: 3, 28, 72

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

Aucun des composants n'est compris.

· **Prescriptions nationales:**

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

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

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

RUBRIQUE 16: Autres informations

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

· **Phrases importantes**

H301 Toxique en cas d'ingestion.

H311 Toxique par contact cutané.

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

H317 Peut provoquer une allergie cutanée.

H330 Mortel par inhalation.

H331 Toxique par inhalation.

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

H335 Peut irriter les voies respiratoires.

H341 Susceptible d'induire des anomalies génétiques.

H350 Peut provoquer le cancer.

H400 Très toxique pour les organismes aquatiques.

H411 Toxique pour les organismes aquatiques, entraîne des effets néfastes à long terme.

· **Acronymes et abréviations:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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

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

Acute Tox. 4: Toxicité aiguë - inhalation – Catégorie 4

Skin Corr. 1B: Corrosion cutanée/irritation cutanée – Catégorie 1B

Skin Irrit. 2: Corrosion cutanée/irritation cutanée – Catégorie 2

Eye Irrit. 2: Lésions oculaires graves/irritation oculaire – Catégorie 2

Resp. Sens. 1: Sensibilisation respiratoire – Catégorie 1

Skin Sens. 1: Sensibilisation cutanée – Catégorie 1

Skin Sens. 1A: Sensibilisation cutanée – Catégorie 1A

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

Carc. 1B: Cancérogénicité – Catégorie 1B

STOT SE 3: Toxicité spécifique pour certains organes cibles (exposition unique) – Catégorie 3

Aquatic Acute 1: Dangers pour le milieu aquatique- toxicité aiguë pour le milieu aquatique – Catégorie 1

Aquatic Chronic 2: Dangers pour le milieu aquatique- toxicité à long terme pour le milieu aquatique – Catégorie 2

Aquatic Chronic 3: Dangers pour le milieu aquatique- toxicité à long terme pour le milieu aquatique – Catégorie 3

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 03.08.2021

überarbeitet am: 03.08.2021

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

- **1.1 Produktidentifikator**
- **Handelsname: 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4**
- **Artikelnummer: 15960-01, 2%PARA2.5%GLUT, 15960-01-1L**
- **UFI: SX82-70VY-100C-70XP**
- **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**
Keine weiteren relevanten Informationen verfügbar.
- **Verwendung des Stoffs / des Gemisches Laborchemikalien**
- **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**
- **Hersteller/Lieferant:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com

Science Services GmbH
Unterhachinger Str. 75
81737 München Germany

Tel: +49(0)89 18 93 668-0
safety@scienceservices.de

Deutschland: +49 (0)89 19240, 24h Giftnotruf Munchen, www.toxinfo.org
Osterreich: +43 1406 43 43, Gesundheit Osterreich GmbH, 24 h
- **Auskunftgebender Bereich: Product safety department**
- **1.4 Notrufnummer:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

ABSCHNITT 2: Mögliche Gefahren

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



GHS08 Gesundheitsgefahr

- | | | |
|---------------|--|--|
| Resp. Sens. 1 | | H334 Kann bei Einatmen Allergie, asthmaartige Symptome oder Atembeschwerden verursachen. |
| Muta. 2 | | H341 Kann vermutlich genetische Defekte verursachen. |
| Carc. 1B | | H350 Kann Krebs erzeugen. |



GHS07

- | | | |
|---------------|--|---|
| Acute Tox. 4 | | H332 Gesundheitsschädlich bei Einatmen. |
| Skin Irrit. 2 | | H315 Verursacht Hautreizungen. |
| Eye Irrit. 2 | | H319 Verursacht schwere Augenreizung. |

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Skin Sens. 1 H317 Kann allergische Hautreaktionen verursachen.

STOT SE 3 H335 Kann die Atemwege reizen.

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

· 2.2 Kennzeichnungselemente

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

Das Produkt ist gemäß CLP-Verordnung eingestuft und gekennzeichnet.

· Gefahrenpiktogramme



GHS07 GHS08

· Signalwort Gefahr

· Gefahrbestimmende Komponenten zur Etikettierung:

Glutaral

Formaldehyd

· Gefahrenhinweise

H332 Gesundheitsschädlich bei Einatmen.

H315 Verursacht Hautreizungen.

H319 Verursacht schwere Augenreizung.

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

H317 Kann allergische Hautreaktionen verursachen.

H341 Kann vermutlich genetische Defekte verursachen.

H350 Kann Krebs erzeugen.

H335 Kann die Atemwege reizen.

H412 Schädlich für Wasserorganismen, mit langfristiger Wirkung.

· Sicherheitshinweise

P261 Einatmen von Staub/Rauch/Gas/Nebel/Dampf/Aerosol vermeiden.

P280 Schutzhandschuhe/Schutzkleidung/Augenschutz/Gesichtsschutz tragen.

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.

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.

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

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

ABSCHNITT 4: Erste-Hilfe-Maßnahmen

- **4.1 Beschreibung der Erste-Hilfe-Maßnahmen**
- **Allgemeine Hinweise:**
Vergiftungssymptome können erst nach vielen Stunden auftreten, deshalb ärztliche Überwachung mindestens 48 Stunden nach einem Unfall.
- **Nach Einatmen:**
Reichlich Frischluftzufuhr und sicherheitshalber Arzt aufsuchen.
Bei Bewusstlosigkeit Lagerung und Transport in stabiler Seitenlage.
- **Nach Hautkontakt:** Sofort mit Wasser und Seife abwaschen und gut nachspülen.
- **Nach Augenkontakt:**
Augen mehrere Minuten bei geöffnetem Lidspalt unter fließendem Wasser spülen. Bei anhaltenden Beschwerden Arzt konsultieren.
- **Nach Verschlucken:** Sofort Arzt aufsuchen.
- **4.2 Wichtigste akute und verzögert auftretende Symptome und Wirkungen**
Keine weiteren relevanten Informationen verfügbar.
- **4.3 Hinweise auf ärztliche Soforthilfe oder Spezialbehandlung**
Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

- **5.1 Löschmittel**
- **Geeignete Löschmittel:** Feuerlöschmaßnahmen auf die Umgebung abstimmen.
- **5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren**
Keine weiteren relevanten Informationen verfügbar.
- **5.3 Hinweise für die Brandbekämpfung**
- **Besondere Schutzausrüstung:** Atemschutzgerät anlegen.

ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

- **6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren**
Nicht erforderlich.
- **6.2 Umweltschutzmaßnahmen:**
Bei Eindringen in Gewässer oder Kanalisation zuständige Behörden benachrichtigen.
Mit viel Wasser verdünnen.
Nicht in die Kanalisation/Oberflächenwasser/Grundwasser gelangen lassen.
- **6.3 Methoden und Material für Rückhaltung und Reinigung:**
Mit flüssigkeitsbindendem Material (Sand, Kieslur, Säurebinder, Universalbinder, Sägemehl) aufnehmen.
Kontaminiertes Material als Abfall nach Abschnitt 13 entsorgen.

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Für ausreichende Lüftung sorgen.

· **6.4 Verweis auf andere Abschnitte**

Informationen zur sicheren Handhabung siehe Abschnitt 7.

Informationen zur persönlichen Schutzausrüstung siehe Abschnitt 8.

Informationen zur Entsorgung siehe Abschnitt 13.

ABSCHNITT 7: Handhabung und Lagerung

· **7.1 Schutzmaßnahmen zur sicheren Handhabung**

Für gute Belüftung/Absaugung am Arbeitsplatz sorgen.

Behälter mit Vorsicht öffnen und handhaben.

Aerosolbildung vermeiden.

· **Hinweise zum Brand- und Explosionsschutz:** Atemschutzgeräte bereithalten.

· **7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten**

· **Lagerung:**

· **Anforderung an Lagerräume und Behälter:** Keine besonderen Anforderungen.

· **Zusammenlagerungshinweise:** Nicht erforderlich.

· **Weitere Angaben zu den Lagerbedingungen:** Behälter dicht geschlossen halten.

· **Lagerklasse:**

· **Klassifizierung nach 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/m³, 0,05 ml/m³

2(I);AGS, Sh, Y

50-00-0 Formaldehyd

AGW Langzeitwert: 0,37 mg/m³, 0,3 ml/m³

2(I);AGS, Sh, Y, X

· **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 den Augen und der Haut vermeiden.

· **Atemschutz:**

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

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· **Handschutz:**



Schutzhandschuhe

Das Handschuhmaterial muss undurchlässig und beständig gegen das Produkt / den Stoff / die Zubereitung sein. Aufgrund fehlender Tests kann keine Empfehlung zum Handschuhmaterial für das Produkt / die Zubereitung / das Chemikaliengemisch abgegeben werden.

Auswahl des Handschuhmaterials unter Beachtung der Durchbruchzeiten, Permeationsraten und der Degradation.

· **Handschuhmaterial**

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

· **Durchdringungszeit des Handschuhmaterials**

Die genaue Durchbruchzeit ist beim Schutzhandschuhhersteller zu erfahren und einzuhalten.

· **Augenschutz:**



Dichtschließende Schutzbrille

ABSCHNITT 9: Physikalische und chemische Eigenschaften

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

· **Allgemeine Angaben**

· **Aussehen:**

· Form:	Flüssigkeit
· Farbe:	Klar
· Geruch:	Charakteristisch
· Geruchsschwelle:	Nicht bestimmt.

· **pH-Wert bei 20 °C:** 7,2

· **Zustandsänderung**

· Schmelzpunkt/Gefrierpunkt:	Nicht bestimmt.
· Siedebeginn und Siedebereich:	Nicht bestimmt.

· **Flammpunkt:** Nicht anwendbar.

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

· **Zersetzungstemperatur:** Nicht bestimmt.

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

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

· **Explosionsgrenzen:**

· Untere:	Nicht bestimmt.
· Obere:	Nicht bestimmt.

· **Dampfdruck:** Nicht bestimmt.

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· Dichte:	Nicht bestimmt.
· Relative Dichte	Nicht bestimmt.
· Dampfdichte	Nicht bestimmt.
· Verdampfungsgeschwindigkeit	Nicht bestimmt.
· Löslichkeit in / Mischbarkeit mit	
· Wasser:	Vollständig mischbar.
· Verteilungskoeffizient: n-Octanol/Wasser:	Nicht bestimmt.
· Viskosität:	
· Dynamisch:	Nicht bestimmt.
· Kinematisch:	Nicht bestimmt.
· Lösemittelgehalt:	
· Organische Lösemittel:	2,0 %
· VOC (EU)	2,00 %
· Festkörpergehalt:	0,0 %
· 9.2 Sonstige Angaben	Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 10: Stabilität und Reaktivität

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

ABSCHNITT 11: Toxikologische Angaben

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

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

111-30-8 Glutaral

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

50-00-0 Formaldehyd

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

- **Primäre Reizwirkung:**
- **Ätz-/Reizwirkung auf die Haut**
Verursacht Hautreizungen.
- **Schwere Augenschädigung/-reizung**
Verursacht schwere Augenreizung.
- **Sensibilisierung der Atemwege/Haut**
Kann bei Einatmen Allergie, asthmaartige Symptome oder Atembeschwerden verursachen.
Kann allergische Hautreaktionen verursachen.

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- **CMR-Wirkungen (krebserzeugende, erbgutverändernde und fortpflanzungsgefährdende Wirkung)**
- **Keimzell-Mutagenität**
Kann vermutlich genetische Defekte verursachen.
- **Karzinogenität**
Kann Krebs erzeugen.
- **Reproduktionstoxizität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Spezifische Zielorgan-Toxizität bei einmaliger Exposition**
Kann die Atemwege reizen.
- **Spezifische Zielorgan-Toxizität bei wiederholter Exposition**
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Aspirationsgefahr** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

ABSCHNITT 12: Umweltbezogene Angaben

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

ABSCHNITT 13: Hinweise zur Entsorgung

- **13.1 Verfahren der Abfallbehandlung**
- **Empfehlung:** Darf nicht zusammen mit Hausmüll entsorgt werden. Nicht in die Kanalisation gelangen lassen.
- **Ungereinigte Verpackungen:**
- **Empfehlung:** Entsorgung gemäß den behördlichen Vorschriften.
- **Empfohlenes Reinigungsmittel:** Wasser, gegebenenfalls mit Zusatz von Reinigungsmitteln.

ABSCHNITT 14: Angaben zum Transport

- **14.1 UN-Nummer**
- **ADR, IMDG, IATA** UNI760

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<ul style="list-style-type: none"> · 14.2 Ordnungsgemäße UN-Versandbezeichnung · ADR · IMDG, IATA 	<p>1760 ÄTZENDER FLÜSSIGER STOFF, N.A.G. (Glutaral, FORMALDEHYDLÖSUNG)</p> <p>CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)</p>
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- **14.3 Transportgefahrenklassen**

- **ADR, IMDG, IATA**



<ul style="list-style-type: none"> · Klasse · Gefahrzettel 	<p>8 Ätzende Stoffe</p> <p>8</p>
--	----------------------------------

- **14.4 Verpackungsgruppe**

- **ADR, IMDG, IATA**

II

- **14.5 Umweltgefahren:**

Nicht anwendbar.

- **14.6 Besondere Vorsichtsmaßnahmen für den Verwender**

Achtung: Ätzende Stoffe

- **Nummer zur Kennzeichnung der Gefahr (Kemler-Zahl):**

80

- **EMS-Nummer:**

F-A,S-B

- **Segregation groups**

Acids

- **Stowage Category**

B

- **Stowage Code**

SW2 Clear of living quarters.

- **14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens und gemäß IBC-Code** Nicht anwendbar.

- **Transport/weitere Angaben:**

- **ADR**

- **Begrenzte Menge (LQ)**

1L

- **Freigestellte Mengen (EQ)**

Code: E2

Höchste Nettomenge je Innenverpackung: 30 ml

Höchste Nettomenge je Außenverpackung: 500 ml

- **Beförderungskategorie**

2

- **Tunnelbeschränkungscode**

E

- **IMDG**

- **Limited quantities (LQ)**

1L

- **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

- **UN "Model Regulation":**

UN 1760 ÄTZENDER FLÜSSIGER STOFF, N.A.G. (GLUTARAL, FORMALDEHYDLÖSUNG), 8, II

DE

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ABSCHNITT 15: Rechtsvorschriften

- **15.1 Vorschriften zu Sicherheit, Gesundheits- und Umweltschutz/spezifische Rechtsvorschriften für den Stoff oder das Gemisch**
- Richtlinie 2012/18/EU
- **Namentlich aufgeführte gefährliche Stoffe - ANHANG I** Keiner der Inhaltsstoffe ist enthalten.
- **VERORDNUNG (EG) Nr. 1907/2006 ANHANG XVII** Beschränkungsbedingungen: 3, 28, 72

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

Keiner der Inhaltsstoffe ist enthalten.

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

- **Technische Anleitung Luft:**

Klasse	Anteil in %
I	4,5

- **Wassergefährdungsklasse: WGK 2 (Selbsteinstufung):** deutlich wassergefährdend.
- **Sonstige Vorschriften, Beschränkungen und Verbotsverordnungen**
Das Produkt unterliegt der Anlage 2 der Chemikalienverbotsverordnung (ChemVerbotsV) - Anforderungen in Bezug auf die Abgabe
- **15.2 Stoffsicherheitsbeurteilung:** Eine Stoffsicherheitsbeurteilung wurde nicht durchgeführt.

ABSCHNITT 16: Sonstige Angaben

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

- **Relevante Sätze**

H301 Giftig bei Verschlucken.

H311 Giftig bei Hautkontakt.

H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.

H317 Kann allergische Hautreaktionen verursachen.

H330 Lebensgefahr bei Einatmen.

H331 Giftig bei Einatmen.

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

H335 Kann die Atemwege reizen.

H341 Kann vermutlich genetische Defekte verursachen.

H350 Kann Krebs erzeugen.

H400 Sehr giftig für Wasserorganismen.

H411 Giftig für Wasserorganismen, mit langfristiger Wirkung.

- **Abkürzungen und Akronyme:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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)

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VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 3: Akute Toxizität - oral – Kategorie 3

Acute Tox. 2: Akute Toxizität - inhalativ – Kategorie 2

Acute Tox. 4: Akute Toxizität - inhalativ – Kategorie 4

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

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

Eye Irrit. 2: Schwere Augenschädigung/Augenreizung – Kategorie 2

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

Skin Sens. 1: Sensibilisierung der Haut – Kategorie 1

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

Muta. 2: Keimzellmutagenität – Kategorie 2

Carc. 1B: Karzinogenität – Kategorie 1B

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

Aquatic Acute 1: Gewässergefährdend - akut gewässergefährdend – Kategorie 1

Aquatic Chronic 2: Gewässergefährdend - langfristig gewässergefährdend – Kategorie 2

Aquatic Chronic 3: Gewässergefährdend - langfristig gewässergefährdend – Kategorie 3

DE

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

Stampato il: 03.08.2021

Revisione: 03.08.2021

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

· **1.1 Identificatore del prodotto**

· **Denominazione commerciale:** 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4

· **Articolo numero:** 15960-01, 2%PARA2.5%GLUT, 15960-01-1L

· **UFI:** SX82-70VY-100C-70XP

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

Non sono disponibili altre informazioni.

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

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

· **Produttore/fornitore:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

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

email: info@emsdiasum.com

www.emsdiasum.com

Societa Italiana Chimici

Via Rio Nell Ellba 140

00138 Rome, Italy

Tel: 39 06 8800211

Fax: 39 30 06 8815313

Web: www.sichim.com

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

· **1.4 Numero telefonico di emergenza:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

SEZIONE 2: Identificazione dei pericoli

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

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



GHS08 pericolo per la salute

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

Muta. 2 H341 Sospettato di provocare alterazioni genetiche.

Carc. 1B H350 Può provocare il cancro.



GHS07

Acute Tox. 4 H332 Nocivo se inalato.

Skin Irrit. 2 H315 Provoca irritazione cutanea.

Eye Irrit. 2 H319 Provoca grave irritazione oculare.

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

STOT SE 3 H335 Può irritare le vie respiratorie.

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

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· **2.2 Elementi dell'etichetta**

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

Il prodotto è classificato ed etichettato conformemente al regolamento CLP.

· **Pittogrammi di pericolo**



GHS07 GHS08

· **Avvertenza Pericolo**

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

glutarale
formaldeide

· **Indicazioni di pericolo**

H332 Nocivo se inalato.

H315 Provoca irritazione cutanea.

H319 Provoca grave irritazione oculare.

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

H317 Può provocare una reazione allergica cutanea.

H341 Sospettato di provocare alterazioni genetiche.

H350 Può provocare il cancro.

H335 Può irritare le vie respiratorie.

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

· **Consigli di prudenza**

P261 Evitare di respirare la polvere/i fumi/i gas/la nebbia/i vapori/gli aerosol.

P280 Indossare guanti/indumenti protettivi/Proteggere gli occhi/il viso.

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.

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 ⚠ Acute Tox. 3, H301; Acute Tox. 2, H330; ⚠ Resp. Sens. 1, H334; ⚠ Skin Corr. 1B, H314; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 2, H411; ⚠ Skin Sens. 1A, H317; STOT SE 3, H335	≤2,5%
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%

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

SEZIONE 4: Misure di primo soccorso

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

· **Indicazioni generali:**

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

· **Inalazione:**

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

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

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

· **Contatto con gli occhi:**

Lavare con acqua corrente per diversi minuti tenendo le palpebre ben aperte. Se persiste il dolore consultare il medico.

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

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

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

Non sono disponibili altre informazioni.

SEZIONE 5: Misure antincendio

· **5.1 Mezzi di estinzione**

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

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

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

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

SEZIONE 6: Misure in caso di rilascio accidentale

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

· **6.2 Precauzioni ambientali:**

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

Diluire abbondantemente con acqua.

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 una manipolazione sicura, vedere capitolo 7.

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

Per informazioni relative allo smaltimento vedere Capitolo 13.

SEZIONE 7: Manipolazione e immagazzinamento

· **7.1 Precauzioni per la manipolazione sicura**

Accurata ventilazione/aspirazione nei luoghi di lavoro.

Aprire e manipolare i recipienti con cautela.

Evitare la formazione di aerosol.

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- **Indicazioni in caso di incendio ed esplosione:** Tener pronto il respiratore.
- **7.2 Condizioni per lo stoccaggio sicuro, comprese eventuali incompatibilità**
- **Stoccaggio:**
- **Requisiti dei magazzini e dei recipienti:** Non sono richiesti requisiti particolari.
- **Indicazioni sullo stoccaggio misto:** Non necessario.
- **Ulteriori indicazioni relative alle condizioni di immagazzinamento:** Mantenere i recipienti ermeticamente chiusi.
- **7.3 Usi finali particolari** Non sono disponibili altre informazioni.

SEZIONE 8: Controllo dell'esposizione/protezione individuale

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

8.1 Parametri di controllo

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

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 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:

Caratteristico

· Soglia olfattiva:

Non definito.

· valori di pH a 20 °C:

7,2

· Cambiamento di stato

· Punto di fusione/punto di congelamento:

Non definito.

· Punto di ebollizione iniziale e intervallo di ebollizione: Non definito.

· Punto di infiammabilità:

Non applicabile.

· Infiammabilità (solidi, gas):

Non applicabile.

· Temperatura di decomposizione:

Non definito.

· Temperatura di autoaccensione:

Prodotto non autoinfiammabile.

· Proprietà esplosive:

Prodotto non esplosivo.

· Limiti di infiammabilità:

· Inferiore:

Non definito.

· Superiore:

Non definito.

· Tensione di vapore:

Non definito.

· Densità:

Non definito.

· Densità relativa

Non definito.

· Densità di vapore:

Non definito.

· Velocità di evaporazione

Non definito.

· Solubilità in/Miscibilità con

· acqua:

Completamente miscibile.

· Coefficiente di ripartizione: n-ottanolo/acqua:

Non definito.

· Viscosità:

· Dinamica:

Non definito.

· Cinematica:

Non definito.

· Tenore del solvente:

· Solventi organici:

2,0 %

· VOC (CE)

2,00 %

· Contenuto solido:

0,0 %

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· 9.2 Altre informazioni

Non sono disponibili altre informazioni.

SEZIONE 10: Stabilità e reattività

- 10.1 Reattività Non sono disponibili altre informazioni.
- 10.2 Stabilità chimica
- **Decomposizione termica/ condizioni da evitare:** Il prodotto non si decompone se utilizzato secondo le norme.
- 10.3 Possibilità di reazioni pericolose Non sono note reazioni pericolose.
- 10.4 Condizioni da evitare Non sono disponibili altre informazioni.
- 10.5 Materiali incompatibili: Non sono disponibili altre informazioni.
- 10.6 Prodotti di decomposizione pericolosi: Non sono noti prodotti di decomposizione pericolosi.

SEZIONE 11: Informazioni tossicologiche

- 11.1 Informazioni sugli effetti tossicologici
- **Tossicità acuta**
Nocivo se inalato.

· Valori LD/LC50 rilevanti per la classificazione:

111-30-8 glutarale

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

50-00-0 formaldeide

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

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

SEZIONE 12: Informazioni ecologiche

- 12.1 Tossicità
- **Tossicità acquatica:** Non sono disponibili altre informazioni.
- 12.2 Persistenza e degradabilità Non sono disponibili altre informazioni.

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

SEZIONE 14: Informazioni sul trasporto

- | | |
|---|--|
| · 14.1 Numero ONU
· ADR, IMDG, IATA | UN1760 |
| · 14.2 Nome di spedizione dell'ONU
· ADR
· IMDG, IATA | 1760 LIQUIDO CORROSIVO, N.A.S. (glutarale, FORMALDEIDE IN SOLUZIONE)
CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION) |
| · 14.3 Classi di pericolo connesso al trasporto
· ADR, IMDG, IATA | |
|  | |
| · Classe
· Etichetta | 8 Materie corrosive
8 |
| · 14.4 Gruppo di imballaggio
· ADR, IMDG, IATA | II |

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· 14.5 Pericoli per l'ambiente:	Non applicabile.
· 14.6 Precauzioni speciali per gli utilizzatori	Attenzione: Materie corrosive
· N° identificazione pericolo (Numero Kemler):	80
· Numero EMS:	F-A,S-B
· Segregation groups	Acids
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· 14.7 Trasporto di rifiuti secondo l'allegato II di MARPOL ed il codice IBC	Non applicabile.
· Trasporto/ulteriori indicazioni:	
· ADR	
· Quantità limitate (LQ)	1L
· Quantità esenti (EQ)	Codice: E2
	Quantità massima netta per imballaggio interno: 30 ml
	Quantità massima netta per imballaggio esterno: 500 ml
· Categoria di trasporto	2
· Codice di restrizione in galleria	E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1760 LIQUIDO CORROSIVO, N.A.S. (GLUTARALE, FORMALDEIDE IN SOLUZIONE), 8, II

SEZIONE 15: Informazioni sulla regolamentazione

· **15.1 Disposizioni legislative e regolamentari su salute, sicurezza e ambiente specifiche per la sostanza o la miscela**

· **Direttiva 2012/18/UE**

· **Sostanze pericolose specificate - ALLEGATO I** Nessuno dei componenti è contenuto.

· **REGOLAMENTO (CE) n. 1907/2006 ALLEGATO XVII** Restrizioni: 3, 28, 72

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

Nessuno dei componenti è contenuto.

· **Disposizioni nazionali:**

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

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

· **Istruzione tecnica aria:**

Classe	quota in %
NC	2,0

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IT

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

SEZIONE 16: Altre informazioni

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

· **Fraasi rilevanti**

- H301 Tossico se ingerito.
- H311 Tossico per contatto con la pelle.
- H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.
- H317 Può provocare una reazione allergica cutanea.
- H330 Letale se inalato.
- H331 Tossico se inalato.
- H334 Può provocare sintomi allergici o asmatici o difficoltà respiratorie se inalato.
- H335 Può irritare le vie respiratorie.
- H341 Sospettato di provocare alterazioni genetiche.
- H350 Può provocare il cancro.
- H400 Molto tossico per gli organismi acquatici.
- H411 Tossico per gli organismi acquatici con effetti di lunga durata.

· **Abbreviazioni e acronimi:**

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Acute Tox. 3: Tossicità acuta per via orale – Categoria 3
- Acute Tox. 2: Tossicità acuta per inalazione – Categoria 2
- Acute Tox. 4: Tossicità acuta per inalazione – Categoria 4
- Skin Corr. 1B: Corrosione/irritazione della pelle – Categoria 1B
- Skin Irrit. 2: Corrosione/irritazione della pelle – Categoria 2
- Eye Irrit. 2: Gravi lesioni oculari/irritazione oculare – Categoria 2
- Resp. Sens. 1: Sensibilizzazione delle vie respiratorie – Categoria 1
- Skin Sens. 1: Sensibilizzazione della pelle – Categoria 1
- Skin Sens. 1A: Sensibilizzazione della pelle – Categoria 1A
- Muta. 2: Mutagenicità sulle cellule germinali – Categoria 2
- Carc. 1B: Cancerogenicità – Categoria 1B
- STOT SE 3: Tossicità specifica per organi bersaglio (esposizione singola) – Categoria 3
- Aquatic Acute 1: Pericoloso per l'ambiente acquatico - pericolo acuto per l'ambiente acquatico – Categoria 1
- Aquatic Chronic 2: Pericoloso per l'ambiente acquatico - pericolo a lungo termine per l'ambiente acquatico – Categoria 2
- Aquatic Chronic 3: Pericoloso per l'ambiente acquatico - pericolo a lungo termine per l'ambiente acquatico – Categoria 3

安全データシート

JIS Z 7253:2012 による

印刷日: 2021.08.03

改訂日: 2021.08.03

1 化学品及び会社情報

- ・製品識別子

- ・商品名: **2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4**

- ・製品番号: 15960-01, 2%PARA2.5%GLUT, 15960-01-1L

- ・該当純物質または混合物の関連特定用途及び使用禁止用途 追加的な関連情報は得られていません。

- ・成分の種類 調合 調製用化学物質

- ・安全データシートの供給元の詳細情報

- ・製造者/納入者:

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

- ・その他の情報問い合わせ先: Product safety department

- ・緊急通報用電話番号:

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

2 危険有害性の要約

- ・純物質または混合物の分類



健康に危険

感作性(呼吸器) 区分1

H334 吸入するとアレルギー, ぜん(喘)息又は呼吸困難を起こすおそれ

生殖細胞変異原性 区分2

H341 遺伝性疾患のおそれの疑い

発がん性 区分1B

H350 発がんのおそれ



急性毒性(吸入) 区分4

H332 吸入すると有害

皮膚腐食性/刺激性 区分2

H315 皮膚刺激

重篤な眼の損傷性/眼刺激性 区分2A

H319 強い眼刺激

感作性(皮膚) 区分1

H317 アレルギー性皮膚反応を起こすおそれ

特定標的臓器有害性(単回暴露) 区分3

H335 呼吸器への刺激のおそれ

水生環境有害性(急性毒性) 区分2

H401 水生生物に毒性

水生環境有害性(慢性毒性) 区分3

H412 長期継続的影響によって水生生物に有害

- ・ラベル要素

- ・GHS ラベル要素

本製品はGHS(化学品の分類および表示に関する世界調和システム)により分類及び表示されています。

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危険図表



GHS07 GHS08

表示語 危険

危険と定められた成分をラベル表示:

Glutaraldehyde
ホルムアルデヒド
sodium dimethylarsinate

危険文句

吸入すると有害
皮膚刺激
強い眼刺激
吸入するとアレルギー、ぜん（喘）息又は呼吸困難を起こすおそれ
アレルギー性皮膚反応を起こすおそれ
遺伝性疾患のおそれの疑い
発がんのおそれ
呼吸器への刺激のおそれ
水生生物に毒性
長期継続的影響によって水生生物に有害

注意文句

粉じん/煙/ガス/ミスト/蒸気/スプレーの吸入を避けること。
保護手袋/保護衣/保護眼鏡/保護面を着用すること。
【換気が不十分な場合】呼吸用保護具を着用すること。
眼に入った場合：水で数分間注意深く洗うこと。次にコンタクトレンズを着用していて容易に外せる場合は外すこと。その後も洗浄を続けること。
施錠して保管すること。
現地/地域/国/国際規定に従い内容物・容器の露出

その他の危険性

- ・PBT (残留性、生物濃縮性、毒性物質) 及び vPvB (高残留性、高生物濃縮性物質) アセスメント
- ・PBT (残留性、生物濃縮性、毒性物質): 情報なし
- ・vPvB (高残留性、高生物濃縮性物質): 情報なし

3 組成及び成分情報

化学的特性: 混合物

説明説明説明のない混ぜ合わせかたをした以下成分からなる混合物

危険な含有成分:

111-30-8	Glutaraldehyde ⚠ 急性毒性(経口) 区分3, H301; 急性毒性(吸入) 区分2, H330; ⚠ 感作性(呼吸器) 区分1, H334; ⚠ 皮膚腐食性/刺激性 区分1B, H314; ⚠ 水生環境有害性(急性毒性) 区分1, H400; 水生環境有害性(慢性毒性) 区分2, H411; ⚠ 感作性(皮膚) 区分1A, H317; 特定標的臓器有害性(単回暴露) 区分3, H335; 引火性液体 区分4, H227	≤2.5%
50-00-0	ホルムアルデヒド ⚠ 急性毒性(経口) 区分3, H301; 急性毒性(経皮) 区分3, H311; 急性毒性(吸入) 区分3, H331; ⚠ 生殖細胞変異原性 区分2, H341; 発がん性 区分1B, H350; ⚠ 皮膚腐食性/刺激性 区分1B, H314; ⚠ 感作性(皮膚) 区分1, H317; 引火性液体 区分4, H227	≤2.5%

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124-65-2 sodium dimethylarsinate

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≤2.5%

 急性毒性(経口) 区分3, H301

4 応急措置

・応急手当処置に関する説明

・一般情報:

中毒症状は時間がかかり経過した後に現れる場合もあるため、事故後最低 4 8 時間は医師の監視のもとで過ごすこと

・吸い込んだ場合:

外気を十分に送り込み、安全のため医師を呼ぶ

意識不明の場合には安定させた状態で横向きに寝かせ、移送する

・皮膚が触れた場合: 即刻石鹼と水で洗い、よくすすぐ

・眼に入った場合:

瞼を開けたまま、流水で何分間か眼をすすぎ、状態がよくなる場合には医者に相談する

・飲み込んだ場合: 即医師を呼ぶ

・医師への指示事項:

最も重要な急性及び慢性の症状及び影響 追加的な関連情報は得られていません。

何らかの即時医療処置及び特別治療の必要性を示す兆候 追加的な関連情報は得られていません。

5 火災時の措置

・消火剤

適切な消火剤: 周辺の状況に合わせた消火措置を取る

本化学物質または混合物から発生する特別な危険性 追加的な関連情報は得られていません。

・消防士向けアドバイス

特別な保護装備: 呼吸保護マスクを着用

6 漏出時の措置

個人的予防措置、保護具及び応急処置法 必要ない

・環境関連予防措置:

河川、下水処理施設に流れ込んだ場合には関係当局に連絡する

大量の水で薄める

下水処理施設、地上水あるいは地下水に達しないようにする

・封じ込め及び浄化のための方法及び材料:

液体吸収材 (砂、珪藻土、酸結合剤、ユニバーサル結合剤、おがくず) で吸収する

13 項に下がい汚染材は廃棄物として処理する

十分な換気を心がける

・他のセクションへの言及

安全な取り扱い方に関しては 7 項を参照

人の保護装備の情報に関しては 8 項を参照

廃棄処分に関しては 13 項参照

7 取扱い及び保管上の注意

・取り扱い方:

・安全操作のための予防措置

作業場では十分な換気、埃を吸い取るよう心がける

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容器は十分に注意しながら開封し、取り扱う

エアゾールの発生を防ぐ

・**火災および爆発防止に関する注意事項:** 呼吸保護装置を用意しておく

・**混融危険性を含めた安全貯蔵条件**

保管保管保管

・**保管スペースおよび容器に関する要求事項:** 特別な要求事項なし

・**同じ場所に保管する際の注意事項:** 必要ない

・**保管条件に関するその他の注意事項:** 容器は密閉した状態に保つ

・**特定の最終用途** 追加的な関連情報は得られていません。

8ばく 霧防止及び保護措置

・**技術設備の形体に関する追加注意事項:** その他の申し立てなし、7項参照

・**管理パラメーター**

・**作業場において限界値の監視を要する成分:**

111-30-8 Glutaraldehyde

OEL 最大許容濃度: 0.03 ppm

50-00-0 ホルムアルデヒド

OEL 長期値: 0.12 mg/m³, 0.1 ppm

最大許容濃度: 0.24 mg/m³, 0.2 ppm

・**追加注意事項:** 生成時に有効なリストがもとなっている

・**暴露管理**

・**人的保護装備:**

・**一般防止措置および衛生措置:**

食物、飲み物、飼料からは遠ざける

汚れのしみ込んだ衣類は即刻脱ぐ

休憩の前、作業終了後には手を洗う

防護服は別に保管する

眼に入らないよう、また皮膚に接触しないよう注意する

・**呼吸保護器具:**

短時間もしくは負担が小さい場合には呼吸フィルター付装置を、集中的にあるいは長時間触れる場合には、酸素ボンベ付き呼吸保護装置を使用すること

・**手の保護:**



保護手袋

手袋の材質は物質/材料/調剤に対して耐性であり、成分を通すことがあってはならない

テストをおこなっていないため、物質/調剤/化合物を取り扱う際の手袋の材質として勧められるものはない

浸透時間、透過性および劣化の点を留意しながら手袋の材質を選択する

・**手袋材**

適当な手袋は材質だけではなく、その他の品質によっても変わり、各メーカーによって異なる。調剤する際の物質は複数の成分から生成されるため、手袋材の耐久性は予想できない。このため使用前には必ずチェックしなければならない

・**手袋材の浸透時間** 正確な浸透時間については保護手袋メーカーに問い合わせ、それを遵守すること

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・眼の保護:

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密閉式保護めがね

9 物理的及び化学的性質

<ul style="list-style-type: none"> 基本的な物理及び化学特性に関する情報 一般指示事項 	
外観外観外観 <ul style="list-style-type: none"> 形: 液体 色: 透明 におい: 特徴的 嗅覚閾値: 決まっていない. 	
<ul style="list-style-type: none"> pH-値 約 20 °C: 7.2 	
<ul style="list-style-type: none"> 状態の変化 融点融点融点融点融点 <ul style="list-style-type: none"> 沸点/沸点範囲: 決まっていない 沸点/沸点範囲: 決まっていない 	
火焔火点火点 情報なし	
<ul style="list-style-type: none"> 発火性 (個体、気体): 情報なし 	
分解温度温度温度 決まっていない.	
自然自然発火性: プロダクトは自然発火しない	
<ul style="list-style-type: none"> 爆発の危険: プロダクトは爆発する危険はない 	
<ul style="list-style-type: none"> 爆発限界: 下限: 決まっていない. 上限: 決まっていない. 	
<ul style="list-style-type: none"> 蒸気圧: 決まっていない. 	
密度密度密度 相対相対飽和度密度 <ul style="list-style-type: none"> 蒸気密度: 決まっていない. 蒸気密度: 決まっていない. 揮発速度速度: 決まっていない. 	
以下以下成分における消和性/との混和性 <ul style="list-style-type: none"> 水: 完全に混合できる 	
<ul style="list-style-type: none"> 分配係数 (n-オクタノール/水): 決まっていない. 	
<ul style="list-style-type: none"> 粘性: 学的学的学的 運動運動運動 決まっていない. 	
<ul style="list-style-type: none"> 溶剤含有量: 機液機溶劑溶 2.0 % 	
<ul style="list-style-type: none"> 固形物含有量: 0.0 % 	

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他の情報

追加的な関連情報は得られていません。

10 安定性及び反応性

反応性: 追加的な関連情報は得られていません。

化学的安定性

分解: 規定どおりの使用では分解しない
危険: 危険な反応は起きていない

避けるべき条件: 追加的な関連情報は得られていません。

不適合物質: 追加的な関連情報は得られていません。

危険な分解生成物: 危険な分解プロダクトはない

11 有害性情報

毒性学的影響に関する情報

急性毒性:

分類分類: LD/LC50 値:

111-30-8 Glutaraldehyde

口	LD50	134 mg/kg (rat)
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皮膚	LD50	2,560 mg/kg (rabbit)
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50-00-0 ホルムアルデヒド

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

初期刺激作用

皮膚において: 皮膚と粘膜を刺激

眼において: 刺激作用

感作作用:

吸い込むことで感作作用がある場合あり

皮膚接触によって感作作用の可能性あり

毒性に關補足補足補足事項:

調査に関する EU の最新の一般分類ガイドラインの計算によれば、プロダクトでは以下の危険が見込まれる

毒性がある

刺激的

発ガン性

次類種変異原性誘発作用に関する情報

C作用: 変異原性誘発作用 (進化危険作用)

生殖細胞変異原性 区分2, 発がん性 区分1B

12 環境影響情報

毒性毒性毒性

水生生物に対する毒性: 追加的な関連情報は得られていません。

持続性: 追加的な関連情報は得られていません。

環境システムにおける作用:

生体蓄積性: 追加的な関連情報は得られていません。

土壌内移動性: 追加的な関連情報は得られていません。

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- ・生態毒性作用:
 - ・注:
 - 魚類に対して毒性が高い
 - 魚類にたいして毒性がある
 - ・その他のエコロジーに関する注意事項:
 - ・一般注意事項:
 - 水への危険度分類 2 (ドイツの規定) (自己査定): 水に対する危険性あり
 - 地下水、河川あるいは下水設備に流してはならない
 - 地下に少量流れ込んでも飲料水を汚染する
 - 水域においては魚やプランクトンにも毒性がある
 - 水生生物にとり毒性が高い
 - 水生生物にとり毒性がある
 - ・PBT (残留性、生物濃縮性、毒性物質) 及び vPvB (高残留性、高生物濃縮性物質) アセスメント
 - ・PBT (残留性、生物濃縮性、毒性物質): 情報なし
 - ・vPvB (高残留性、高生物濃縮性物質): 情報なし
- 他の他作用作用作用的な関連情報は得られていません。

13 廃棄上の注意

廃棄廃棄物処理方法


勧告勧告勧告庭ごみとはいっしょに処分できない。下水処理施設に流してはならない

・洗浄されていないガツケツツ:

勧告勧告勧告係当局の規則に従って処分する

推薦推薦推薦洗剤: 水、場合に応じて洗剤も使って

14 輸送上の注意

・番号番号番号 ・ADR, IMDG, IATA	UN1760
・国連出荷正式名 ・ADR ・IMDG, IATA	1760 CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION) CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)
輸送輸送輸危険性クラス ・ADR, IMDG, IATA	
	
分類分類分類 ・危険物ラベル	8 腐食性成分 8
ツツツツツの分類 ・ADR, IMDG, IATA	II
・環境危険:	情報なし
・ユーザー用特別予防措置	警告: 腐食性成分

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・ケムラー符号: 80
 ・EMS (電子メールサービスナン/番号番号番号) F-A,S-B
 ・Segregation groups Acids
 ・Stowage Category B
 ・Stowage Code SW2 Clear of living quarters.

・マルポール条約 (MARPOL73/78) 付属書I及び及び
 IBCコードに準じた包装輸送輸送輸送 情報なし

輸送輸送輸送他の説明:

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

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

・UN "模範規制": UN 1760 CORROSIVE LIQUID, N.O.S.
 (GLUTARALDEHYDE, FORMALDEHYDE SOLUTION),
 8, II

15 適用法令

・該当純物質または混合物に対する安全、衛生及び環境規制・法律
 ・化審法

既存既存既知物質

111-30-8	Glutaraldehyde	2-509
50-00-0	ホルムアルデヒド	2-482
124-65-2	sodium dimethylarsinate	

・特定化学物質

内容成分はリストアップされていない

・監視化学物質、旧第二種監視化学物質、旧第三種監視化学物質

111-30-8	Glutaraldehyde	旧第二
50-00-0	ホルムアルデヒド	旧第二

・優先評価既知物質

50-00-0 | ホルムアルデヒド

物質物質物質

内容成分はリストアップされていない

既存既存既知物質安全性点検結果 (分解性・蓄積性) 性)

111-30-8	Glutaraldehyde
50-00-0	ホルムアルデヒド

既存既存既知物質安全性点検結果 (毒性)

内容成分はリストアップされていない

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安全データシート

JIS Z 7253:2012 による

印刷日: 2021.08.03

改訂日: 2021.08.03

商品名: 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4

(8ページの続き)

・PR制度制度制策一種指定化学物質		
111-30-8	Glutaraldehyde	85
50-00-0	ホルムアルデヒド	411

・PR制度制度制策二種指定化学物質		
内容成分はリストアップされていない		

・毒物及劇物取締法:劇物		
50-00-0	ホルムアルデヒド	

・毒物及劇物取締法:有機シアン化合物から除かれるもの		
内容成分はリストアップされていない		

・毒物及劇物取締法:劇物毒物		
124-65-2	sodium dimethylarsinate	

・毒物及劇物取締法:特定毒物		
内容成分はリストアップされていない		

労働労働安全衛生法

・危険物

・爆発性の物 (施錠表別表第 1 号) 号)		
内容成分はリストアップされていない		

・発火性の物 (施錠表別表第 2 号) 号)		
内容成分はリストアップされていない		

・酸化性の物 (施錠表別表第 3 号) 号)		
内容成分はリストアップされていない		

・引火性の物 (施錠表別表第 4 号) 号)		
内容成分はリストアップされていない		

可燃性液体 (施錠表別表第 5 号) 号)

内容成分はリストアップされていない

・特定化学物質等

・第一類物質		
内容成分はリストアップされていない		

第二第二類物質

50-00-0	ホルムアルデヒド	
124-65-2	sodium dimethylarsinate	

第三第三類物質

内容成分はリストアップされていない

称書称意通知すべき有害物 (別表第 9)

111-30-8	Glutaraldehyde	139
50-00-0	ホルムアルデヒド	548
124-65-2	sodium dimethylarsinate	458

製造製造製造物質

内容成分はリストアップされていない

鉛中鉛中毒規規則規則表別表第 9)

内容成分はリストアップされていない

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ア四アル鉛中毒規則規施別表別表表

内容成分はリストアップされていない

機溶機溶毒予防規則第 (施別表別表表の 2)

・ 第一種機溶機溶

内容成分はリストアップされていない

・ 第二種機溶機溶

内容成分はリストアップされていない

・ 第三種機溶機溶

内容成分はリストアップされていない

い強異毒原認られた化学物質

111-30-8 | Glutaraldehyde

・ 消防法

111-30-8 | Glutaraldehyde

50-00-0 | ホルムアルデヒド

・ 海洋汚染防止法

111-30-8 | Glutaraldehyde

50-00-0 | ホルムアルデヒド

・ 特定物質等の規制等によるオゾン層の保護に関する法律

・ 特定物質物質物質物質

内容成分はリストアップされていない

・ 特定物質

内容成分はリストアップされていない

・ 大気汚染防止法

111-30-8 | Glutaraldehyde

50-00-0 | ホルムアルデヒド

・ 水質汚濁防止法

・ 物質物質物質

124-65-2 | sodium dimethylarsinate

2-6

・ 指定物質

50-00-0 | ホルムアルデヒド

3-3-1

・ GHS ラベル要素

本製品はGHS(化学品の分類および表示に関する世界調和システム)により分類及び表示されています。

・ 危険図表



GHS07 GHS08

・ 表示語 危険

・ 危険と定められた成分をラベル表示:

Glutaraldehyde

ホルムアルデヒド

sodium dimethylarsinate

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危険文句

吸入すると有害
 皮膚刺激
 強い眼刺激
 吸入するとアレルギー、ぜん（喘）息又は呼吸困難を起こすおそれ
 アレルギー性皮膚反応を起こすおそれ
 遺伝性疾患のおそれの疑い
 発がんのおそれ
 呼吸器への刺激のおそれ
 水生生物に毒性
 長期継続的影響によって水生生物に有害

注意文句

粉じん/煙/ガス/ミスト/蒸気/スプレーの吸入を避けること。
 保護手袋/保護衣/保護眼鏡/保護面を着用すること。
 【換気が不十分な場合】呼吸用保護具を着用すること。
 眼に入った場合：水で数分間注意深く洗うこと。次にコンタクトレンズを着用していて容易に外せる場合は外すこと。その後も洗浄を続けること。
 施錠して保管すること。
 現地/地域/国/国際規定に従い内容物・容器の露出

国内規定:

使用 使用使用制約に関する注意事項:

被用者はこの調合に含まれる発ガン性危険成分に暴露されてはならない。ただし、場合に依りて関係当局が例外許可をおろすこともある

・化学物質の安価評価評価学物質安全性評価が遂行されていない

16 その他の情報

この情報は現在の我々の認識に基づいている。ただし、プロダクトの特性を保証するものではなく、また契約において法的根拠にはならない

縮約と二文字語:

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
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 PRTR/化管法: 化学物質排出把握管理促進法
 引火性液体 区分4: Flammable liquids – Category 4
 急性毒性(経口) 区分3: Acute toxicity – Category 3
 急性毒性(吸入) 区分2: Acute toxicity – Category 2
 急性毒性(吸入) 区分4: Acute toxicity – Category 4
 皮膚腐食性/刺激性 区分1B: Skin corrosion/irritation – Category 1B
 皮膚腐食性/刺激性 区分2: Skin corrosion/irritation – Category 2
 重篤な眼の損傷性/眼刺激性 区分2A: Serious eye damage/eye irritation – Category 2A
 感作性(呼吸器) 区分1: Respiratory sensitisation – Category 1
 感作性(皮膚) 区分1: Skin sensitisation – Category 1
 感作性(皮膚) 区分1A: Skin sensitisation – Category 1A
 生殖細胞変異原性 区分2: Germ cell mutagenicity – Category 2
 発がん性 区分1B: Carcinogenicity – Category 1B
 特定標的臓器有害性(単回暴露) 区分3: Specific target organ toxicity (single exposure) – Category 3
 水生環境有害性(急性毒性) 区分1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
 水生環境有害性(急性毒性) 区分2: Hazardous to the aquatic environment - acute aquatic hazard – Category 2

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水生環境有害性(慢性毒性) 区分2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
水生環境有害性(慢性毒性) 区分3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

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JP

물질안전보건자료 GHS에 따라 라다

인쇄일자: 2021.08.03

개정: 2021.08.03

1 화학제품과 회사에 관한 정보

제품제품제명

· **제품명: 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4**

· **상품번호: 15960-01, 2%PARA2.5%GLUT, 15960-01-1L**

해당 해당 물질이나 혼합물 관련 위험도 및 사용금지용도 추가적인 정보가 존재하지 않습니다.

· **제품의 권고 용도와 사용 용도에 대한 제한 사항** 실험실 화학품

· **안전데이터표(Safety Data Sheet)내 공급업체 관련 경고 사항** 정보

· **제조사/수입자/유통업체 정보**

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

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

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

· **추가적인 정보** 제품 특성 등 제품 가능 product safety department

· **비상연락 전화번호:**

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

2 유해성·위험성

· **순물질 또는 혼합물** 분류분류



건강에 위험

호흡기 과민성 - 구분 1

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

생식세포 변이원성 - 구분 2

H341 유전적인 결함을 일으킬 것으로 의심됨

발암성 - 구분 1B

H350 암을 일으킬 수 있음



급성 독성 - 흡입 - 구분 4

H332 흡입하면 유해함

피부 부식성/피부 자극성 - 구분 2

H315 피부에 자극을 일으킴

심한 눈 손상성/눈 자극성 - 구분 2

H319 눈에 심한 자극을 일으킴

(2 쪽에 계속)

물질안전보건자료

GHS에 따라라따

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(1 쪽부터계속)

피부 과민성 - 구분 1	H317 알레르기성 피부 반응을 일으킬 수 있음
특정표적장기 독성 - 1회 노출 - 구분 3	H335 호흡 자극성을 일으킬 수 있음
수생환경 유해성 - 만성3	H412 장기적 영향에 의해 수생생물에 유해함

· 라벨표기요소
· 라벨표기요소

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

· 그림문자



GHS07 GHS08

· 신호어 위험

· 상표상에명확히위험성이표시된성분:

글루타르알데히드
포르말린

sodium dimethylarsinate

유해위험성구분

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

· 예방조치문구

· 분진·흙·가스·미스트·증기·스프레이의 흡입을 피하십시오.
· 보호장갑·보호의·보안경·안면보호구를 착용하십시오.
· 호흡 보호구를 착용하십시오.
· 눈에 묻으면 몇 분간 물로 조심해서 씻으십시오. 가능하면 콘택트렌즈를 제거하십시오. 계속 씻으십시오.
· 밀봉하여 저장하십시오.
(지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기하십시오.

기타기타위험성

· PBT(잔류성, 생물농축성, 독성물질) 및 vPvB(고 잔류성, 고 생물농축성 물질)에 해당하지 않음
· PBT(잔류성, 생물농축성, 독성물질)에 해당하지 않음
· vPvB(고 잔류성, 고 생물농축성 물질)에 해당하지 않음

3 구성성분의 명칭 및 함유량

· 화학적 특성: 혼합물

설명설명: 혼합물 이 함유된 아래에 열거된 물질로 만들어진 혼합물.

· 위험요소

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

(3 쪽에계속)

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(3 쪽부터 계속)

7 취급 및 저장방법

취급 취급 취급

안전 안전 안전을 위한 예방 조치

- 작업장에서는 통풍이 잘 되고 습기 제거가 잘 되게 주의한다.
- 조심스럽게 용기를 개봉하거나 취급한다.
- 연무질이 형성되는 것을 피한다.

화재 화재 발생 시 대피 및 대피 시 주의 사항 관련 정보 정보 보호 장비를 항상 비치한다.

혼합 위험성 혼합 위험성 조건

보관 보관 보관

- 안전 예방 저장 방법 별 한 요구 사항이 없음.
- 하늘 등 공중 공간 및 시설에 대한 대피 및 대피 시 주의 사항 정보 없음
- 보관 조건에 관한 추가 정보 정보를 새지 않게 밀폐한 채 보관한다.
- 구체적 최종 사용자 추가적인 정보가 존재하지 않습니다.

8 노출방지 및 개인보호구

- 첨단 시설 디자인에 대한 추가 정보: 더 이상 의 자료는 없음. 항목 7 을 참고하시 오.

통제 통제 통제 변수

화학 물질의 노출 기준, 생물학적 노출 기준 등:

111-30-8 글루타르알데히드

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

50-00-0 포르말린

TLV (KR)	장기간 의 값: 0.3 ppm 발암성 1A, 생식 세포 변이원성 2
BOELV (EU)	단기간 의 값: 0.74 mg/m ³ , 0.6 ppm 장기간 의 값: 0.37 (0.62)* mg/m ³ , 0.3 (0.5)* ppm Skin sens;*health/funeral/embalming till 11/7/24
PEL (US)	단기간 의 값: 2 ppm 장기간 의 값: 0.75 ppm see 29 CFR 1910.1048(c)
REL (US)	장기간 의 값: 0.016 ppm 최고 노출 기준: 0.1* ppm *15-min; See Pocket Guide App. A
TLV (US)	단기간 의 값: 0.37 mg/m ³ , 0.3 ppm 장기간 의 값: 0.12 mg/m ³ , 0.1 ppm DSEN; RSEN

- 추가 정보 정보 할 당시에 유효 한 목록을 기초로 사용했다.

노출 통제 통제 통제

개인 개인 보호 구

일반적 보호 조치 및 위생 조치:

- 식품, 음료수와 사료로부터 멀리 떨어져 뜨려 놓는다.
- 더러워지거나 음료수가 묻은 옷은 즉시 탈의한다.

(5 쪽에 계속)

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(4 쪽부터 계속)

휴식 전 이 나 작업이 끝날 때 마다 손을 씻는다.
방호복은 따로 보관한다.
눈 과 피부와 의 접촉 은 피 한다.

· 호흡기 보호보호

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

· 보호보호보호



보호용 장갑

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

· 장갑의 재료

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

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

· 보호보호보호



확조이는 보안경

9 물리화학적 특성

기본 물리화학적 특성에 대한 기본 정보

· 일반정보	
외형외형외형	
· 물리적 상태 상태	액체
· 색:	밝은
냄새 냄새 냄새	특색있는
· 후각역치	알맞지 않다.

· pH 의 경우 20 °C:	7.2
------------------	-----

· 상태변화	
· 녹는 점/어는 점:	맞지 않는다
초기 초기 끓는 점과 끓는 범위 범위	맞지 않는다

· 인화점:	해당 사항 없음.
--------	-----------

· 인화성 고체 고체	해당 사항 없음.
-------------	-----------

분해 분해 분해 온도	알맞지 않다.
-------------	---------

· 자기점화:	이 제품은 자연발화성이 없다.
---------	------------------

· 폭발 위험:	이 제품은 폭발 위험성이 없다
----------	------------------

인화 인화 인화 폭발 위험의 상한 상한 하한

· 아래로:	알맞지 않다.
위로 위로 위로	알맞지 않다.

(6 쪽에 계속)

물질안전보건자료 GHS에 따라라따

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(5 쪽부터계속)

· 중기압:	알맞지않다.
밀도 밀도 밀도	맞지않는다.
비중 비중 비중	알맞지않다.
· 중기밀도:	알맞지않다.
증발 증발 증발 속도	알맞지않다.
· 용해도:	
· 물:	완전히 혼합할수있는
· n 옥탄올/물 분배계수:	알맞지않다.
점도 점도 점도	
· 역학성:	알맞지않다.
· 등점성:	알맞지않다.
· 용매 내용물	
· 유기용매:	2.0 %
· VOC (EU)	2.00 %
· 고체 함량 함량	0.0 %
기타 정보 정보	추가적인 정보가 존재하지 않습니다.

10 안정성 및 반응성

- **반응성** 추가적인 정보가 존재하지 않습니다.
- **화학적 안정성**
- **화학적 안정성** 유해 반응의 가능성 / **피해 야할 조건** 조정에 따라 사용 할 경우 해체는 없다
- **유해 반응 가능성** 위험한 반응으로는 알려지지 않았다.
- **피해 야할 조건** 추가적인 정보가 존재하지 않습니다.
- **혼합 혼합 혼합 물질** 추가적인 정보가 존재하지 않습니다.
- **유해 분해 물질:** 위험성 있는 분해물들은 알려지지 않았다.

11 독성에 관한 정보

- **독성학적 영향에 대한 정보**
급성 독성 독성 독성
- **LD/LC50-수 치에 따른 분류**
- **111-30-8 글루타르알데히드**
- 구강의 LD50 134 mg/kg (rat)
- 피부의 LD50 2,560 mg/kg (rabbit)
- **50-00-0 포르말린**
- 구강의 LD50 >200 mg/kg (rat)
- **일차적 자극 효과**
- **피부 피부 자극성 또는 자극 성:** 피부와 접촉을 자극한다.
- **심한 심한 자극 또는 자극 성:** 자극
- **감각 화:**
- **호흡을 통한 감각 화** 가능성이 있다.
- **피부 접촉을 통하여 감각 화** 가능성이 있다.

(7 쪽에 계속)

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(6 쪽부터 계속)

· 추가적인 독성에 관한 정보

이제 품은 유럽공동체의공등분류원칙의합법적인절차에근거하여최근에발효된원고에서아래위험들의사전 준비에대하여제시하고있다.

- 건강에해로운
- 자극적인
- 암을유발하는

· 다음다음종류의 잠재적인 효과에 대한 정보

- CMR과 효과유발, 유전자변이성, 그리고 생식독성
- 생식세포 변이원성 - 구분 2, 발암성 - 구분 1B

12 환경에 미치는 영향

독성독성독성

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

의견의견의견

- 어류에독이됨
- 어류에해로움

· 추가적인 생태학 정보정보

일반 물질오염특징

- 수질오염등급 2 (자체등급분류): 수질오염이된 지하수나, 하천으로또는 하수도망에도달하지않게한다.
- 지하수로경미한양이유입되었을경우엔이미식수오염상태이다
- 하천에서는역시물고기나플랑크톤게는독성이있다.
- 물속의유기체에독이되는것
- 물속의유기체에해가되는것

- PBT(잔류성, 생물농축성, 물질물질물질) vPvB(고 잔류성, 고 생물농축성 물질물질물질) 결과
- PBT(잔류성, 생물농축성, 물질물질물질) 당사항 없음.
- vPvB(고 잔류성, 고 생물농축성 물질물질물질) 당사항 없음.

기타기타 부속용 추가적인 정보가 존재하지 않습니다.

13 폐기시 주의사항

· 폐기물 처리 방법

권고 권고 권고 생활쓰레기와함께처리되어서는안된다. 하수도망으로유입되어서는안된다.

· 비위생적 포장포장

권고 권고 권고 극의지침에입각한쓰레기처리.

- 추천 세정제: 경우에따라서세제가첨가된물

14 운송에 필요한 정보

유엔 유엔 유엔 번호

- ADR, IMDG, IATA

UN1760

(8 쪽에 계속)

물질안전보건자료

GHS에 따라라따

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(7 쪽부터계속)

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

KR

(9 쪽에계속)

물질안전보건자료

GHS에 따라 라다

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(8 쪽부터 계속)

15 법적 규제 현황

· 산업안전보건법에 의해 규제

제조제 조제 금지 물질:

어떠한 내용물도 목록화 되어 있지 않다

· 허가대상 물질:

어떠한 내용물도 목록화 되어 있지 않다

· 관리대상 유해물질:

111-30-8 글루타르알데히드

50-00-0 포르말린

· 관리대상 유해물질의 종류 종류: 화합물: 118

· 작업환경 측정 대상 유해인자

111-30-8 글루타르알데히드

1A1

50-00-0 포르말린

1A105

· 특수건강 진단 대상 유해인자

111-30-8 글루타르알데히드

1A2

50-00-0 포르말린

1A98

해당 해당 물질 또는 혼합물에 대한 국내 안전 환경 관리 관련 법률

· Korean Existing Chemical Inventory

111-30-8 글루타르알데히드

KE-27969

50-00-0 포르말린

KE-17074

124-65-2 sodium dimethylarsinate

KE-11204

· 화학물질 관리법

· 사고대비 물질

50-00-0 포르말린

· 금지물질

어떠한 내용물도 목록화 되어 있지 않다

· 제한물질

50-00-0 포르말린

· 유독물질

모든 내용물이 목록화 되어 있다

· 허가물질

111-30-8 글루타르알데히드

50-00-0 포르말린

· 위험물 안전 관리법 (위험물 및 지정수량) 제 4: 4,000 리터

등록 유해물질 또는 산제 대상 화학물질

어떠한 내용물도 목록화 되어 있지 않다

년까 년까 된 특정하여야 할 암, 돌연변이, 생식능력 이상을 일으킬 우려가 있는 기존 화학물질

어떠한 내용물도 목록화 되어 있지 않다

· 중점관리물질 지정 지정

· 표1 중점관리물질(제관 관련 관련)

50-00-0 포르말린

(10 쪽에 계속)

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(9 쪽부터계속)

· **표2 중점관리물질(제한관련관련)**

어떠한내용물도목록화되어있지않다

· **라벨과발우발** 요소

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

· **그림문자**



GHS07 GHS08

· **신호어** 위험

· **상표상에명확히위험성이표시된성분:**

글루타르알데히드

포르말린

sodium dimethylarsinate

· **유해** 유해위험성

흡입하면 유해함

피부에 자극을 일으킴

눈에 심한 자극을 일으킴

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

알레르기성 피부 반응을 일으킬 수 있음

유전적인 결함을 일으킬 것으로 의심됨

암을 일으킬 수 있음

호흡 자극성을 일으킬 수 있음

장기적 영향에 의해 수생생물에 유해함

· **예방조치** 문구문구

분진·흡·가스·미스트·증기·스프레이의 흡입을 피하십시오.

보호장갑·보호의·보안경·안면보호구를 착용하십시오.

호흡 보호구를 착용하십시오.

눈에 묻으면 몇 분간 물로 조심해서 씻으십시오. 가능하면 콘택트렌즈를 제거하십시오. 계속 씻으십시오.

밀봉하여 저장하십시오.

(지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기하십시오.

· **국내규정:**

· **사용제한에 대한정보**

노동자들은 이러한예방준비하에암을유발시키는성분을함유한위험물을버리지말아야한다. 개별적인경우에관청은예외를허가할수있다.

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

16 그 밖의 참고사항

이보고는우리지식에대한오늘날의상태에대하여평가하고있다, 하지만이보고서는생산특성에관한보증은기술하지않았으며계약적인법률관계에기반을두고있지도않다

최초최초작성일자: 2021.08.03

개정개정일자: 1 / 2021.08.03

· **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

(11 쪽에계속)

물질안전보건자료

GHS에 따라라따

인쇄일자: 2021.08.03

개정: 2021.08.03

**제품명: 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE
BUFFER, pH 7.4**

(10 쪽부터계속)

ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative

KR

Ficha de datos de seguridad

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fecha de impresión 03.08.2021

Revisión: 03.08.2021

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

· 1.1 Identificador del producto

· **Nombre comercial:** 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4

· **Número del artículo:** 15960-01, 2%PARA2.5%GLUT, 15960-01-1L

· **UFI:** SX82-70VY-100C-70XP

· **1.2 Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados**

No existen más datos relevantes disponibles.

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

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

· **Fabricante/distribuidor:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

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

email: info@emsdiasum.com

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.



GHS07

Acute Tox. 4 H332 Nocivo en caso de inhalación.

Skin Irrit. 2 H315 Provoca irritación cutánea.

Eye Irrit. 2 H319 Provoca irritación ocular grave.

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

STOT SE 3 H335 Puede irritar las vías respiratorias.

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

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



GHS07 GHS08

- **Palabra de advertencia Peligro**
- **Componentes peligrosos a indicar en el etiquetaje:**
glutaral
formaldehído
- **Indicaciones de peligro**
H332 Nocivo en caso de inhalación.
H315 Provoca irritación cutánea.
H319 Provoca irritación ocular grave.
H334 Puede provocar síntomas de alergia o asma o dificultades respiratorias en caso de inhalación.
H317 Puede provocar una reacción alérgica en la piel.
H341 Se sospecha que provoca defectos genéticos.
H350 Puede provocar cáncer.
H335 Puede irritar las vías respiratorias.
H412 Nocivo para los organismos acuáticos, con efectos nocivos duraderos.
- **Consejos de prudencia**
P261 Evitar respirar el polvo/el humo/el gas/la niebla/los vapores/el aerosol.
P280 Llevar guantes/prendas/gafas/máscara de protección.
P284 [En caso de ventilación insuficiente,] llevar equipo de protección respiratoria.
P305+P351+P338 **EN CASO DE CONTACTO CON LOS OJOS: Enjuagar con agua cuidadosamente durante varios minutos. Quitar las lentes de contacto cuando estén presentes y pueda hacerse con facilidad. Proseguir con el lavado.**
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 Acute Tox. 3, H301; Acute Tox. 2, H330; Resp. Sens. 1, H334; Skin Corr. 1B, H314; Aquatic Acute 1, H400; Aquatic Chronic 2, H411; Skin Sens. 1A, H317; STOT SE 3, H335	≤2,5%
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CAS: 50-00-0

formaldehído

≤2,5%

EINECS: 200-001-8

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

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

SECCIÓN 4: Primeros auxilios

· 4.1 Descripción de los primeros auxilios

· Instrucciones generales:

Los síntomas de intoxicación pueden presentarse después de muchas horas, por lo que se requiere una supervisión médica durante un mínimo de 48 horas después del accidente.

· En caso de inhalación del producto:

Suministrar suficiente aire fresco y, para mayor seguridad, consultar el médico.

Las personas desmayadas deben tenderse y transportarse de lado con la suficiente estabilidad.

· En caso de contacto con la piel: Lavar inmediatamente con agua y jabón y enjuagar bien.

· En caso de con los ojos:

Limpia los ojos abiertos durante varios minutos con agua corriente. En caso de trastornos persistentes consultar un médico.

· En caso de ingestión: Consultar inmediatamente un médico.

· 4.2 Principales síntomas y efectos, agudos y retardados No existen más datos relevantes disponibles.

· 4.3 Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente No existen más datos relevantes disponibles.

SECCIÓN 5: Medidas de lucha contra incendios

· 5.1 Medios de extinción

· Sustancias extintoras apropiadas: Combatir los incendios con medidas adaptados al ambiente circundante.

· 5.2 Peligros específicos derivados de la sustancia o la mezcla No existen más datos relevantes disponibles.

· 5.3 Recomendaciones para el personal de lucha contra incendios

· Equipo especial de protección: Colocarse la protección respiratoria.

SECCIÓN 6: Medidas en caso de vertido accidental

· 6.1 Precauciones personales, equipo de protección y procedimientos de emergencia No es necesario.

· 6.2 Precauciones relativas al medio ambiente:

Al penetrar en las aguas o en el alcantarillado, avisar a las autoridades pertinentes.

Diluir con mucha agua.

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.

ES

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SECCIÓN 7: Manipulación y almacenamiento

- **7.1 Precauciones para una manipulación segura**
Asegurar suficiente ventilación /aspiración en el puesto de trabajo.
Abrir y manejar el recipiente con cuidado.
Evitar la formación de aerosoles.
- **Prevención de incendios y explosiones:** Tener preparados los aparatos respiratorios.
- **7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**
- **Almacenamiento:**
- **Exigencias con respecto al almacén y los recipientes:** No se requieren medidas especiales.
- **Normas en caso de un almacenamiento conjunto:** No es necesario.
- **Indicaciones adicionales sobre las condiciones de almacenamiento:**
Mantener el recipiente cerrado herméticamente.
- **7.3 Usos específicos finales** No existen más datos relevantes disponibles.

SECCIÓN 8: Controles de exposición/protección individual

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

· 8.1 Parámetros de control

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

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: 0,74 mg/m ³ , 0,6 ppm
	Valor de larga duración: 0,37 mg/m ³ , 0,3 ppm
	CIB, 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 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.

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

· **Material de los guantes**

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

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

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

· **Protección de ojos:**



Gafas de protección herméticas

SECCIÓN 9: Propiedades físicas y químicas

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

· **Datos generales**

· **Aspecto:**

· **Forma:** Líquido

· **Color:** Claro

· **Olor:** Característico

· **Umbral olfativo:** No determinado.

· **valor pH a 20 °C:** 7,2

· **Cambio de estado**

· **Punto de fusión/punto de congelación:** Indeterminado.

· **Punto inicial de ebullición e intervalo de ebullición:** Indeterminado.

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

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

· **Temperatura de descomposición:** No determinado.

· **Temperatura de auto-inflamación:** El producto no es autoinflamable.

· **Propiedades explosivas:** El producto no es explosivo.

· **Límites de explosión:**

· **Inferior:** No determinado.

· **Superior:** No determinado.

· **Presión de vapor:** No determinado.

· **Densidad:** Indeterminado.

· **Densidad relativa** No determinado.

· **Densidad de vapor** No determinado.

· **Tasa de evaporación:** No determinado.

· **Solubilidad en / miscibilidad con**

· **agua:** Completamente mezclable.

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

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· Viscosidad:	
· Dinámica:	No determinado.
· Cinemática:	No determinado.
· Concentración del disolvente:	
· Disolventes orgánicos:	2,0 %
· VOC (CE)	2,00 %
· Contenido de cuerpos sólidos:	0,0 %
· 9.2 Otros datos	No existen más datos relevantes disponibles.

SECCIÓN 10: Estabilidad y reactividad

- **10.1 Reactividad** No existen más datos relevantes disponibles.
- **10.2 Estabilidad química**
- **Descomposición térmica / condiciones que deben evitarse:** No se descompone al emplearse adecuadamente.
- **10.3 Posibilidad de reacciones peligrosas** No se conocen reacciones peligrosas.
- **10.4 Condiciones que deben evitarse** No existen más datos relevantes disponibles.
- **10.5 Materiales incompatibles:** No existen más datos relevantes disponibles.
- **10.6 Productos de descomposición peligrosos:** No se conocen productos de descomposición peligrosos.

SECCIÓN 11: Información toxicológica

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

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

111-30-8 glutaral

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

50-00-0 formaldehído

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

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

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- **Toxicidad específica en determinados órganos (STOT) – exposición repetida**
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Peligro de aspiración** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

SECCIÓN 12: Información ecológica

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

SECCIÓN 14: Información relativa al transporte

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

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

· **ADR, IMDG, IATA**



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

· **14.4 Grupo de embalaje**

· **ADR, IMDG, IATA** II

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

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

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

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

· **Transporte/datos adicionales:**

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

· **IMDG**

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

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

SECCIÓN 15: Información reglamentaria

· **15.1 Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla**

· **Directiva 2012/18/UE**
 · **Sustancias peligrosas nominadas - ANEXO I** ninguno de los componentes está incluido en una lista
 · **REGLAMENTO (CE) n° 1907/2006 ANEXO XVII** Restricciones: 3, 28, 72

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

ninguno de los componentes está incluido en una lista

· **Disposiciones nacionales:**

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

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

· **15.2 Evaluación de la seguridad química:** Una evaluación de la seguridad química no se ha llevado a cabo.

SECCIÓN 16: Otra información

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

· **Frases relevantes**

H301 Tóxico en caso de ingestión.

H311 Tóxico en contacto con la piel.

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

H317 Puede provocar una reacción alérgica en la piel.

H330 Mortal en caso de inhalación.

H331 Tóxico en caso de inhalación.

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

H335 Puede irritar las vías respiratorias.

H341 Se sospecha que provoca defectos genéticos.

H350 Puede provocar cáncer.

H400 Muy tóxico para los organismos acuáticos.

H411 Tóxico para los organismos acuáticos, con efectos nocivos duraderos.

· **Abreviaturas y acrónimos:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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

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

Acute Tox. 4: Toxicidad aguda - por inhalación – Categoría 4

Skin Corr. 1B: Corrosión o irritación cutáneas – Categoría 1B

Skin Irrit. 2: Corrosión o irritación cutáneas – Categoría 2

Eye Irrit. 2: Lesiones oculares graves o irritación ocular – Categoría 2

Resp. Sens. 1: Sensibilización respiratoria – Categoría 1

Skin Sens. 1: Sensibilización cutánea – Categoría 1

Skin Sens. 1A: Sensibilización cutánea – Categoría 1A

Muta. 2: Mutagenicidad en células germinales – Categoría 2

Carc. 1B: Carcinogenicidad – Categoría 1B

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

Aquatic Acute 1: Peligroso para el medio ambiente acuático - peligro acuático agudo – Categoría 1

Aquatic Chronic 2: Peligroso para el medio ambiente acuático - peligro acuático a largo plazo – Categoría 2

Aquatic Chronic 3: Peligroso para el medio ambiente acuático - peligro acuático a largo plazo – Categoría 3

แผ่นข้อมูลความปลอดภัย

มาตรฐาน GHS

วันที่พิมพ์ 2021.08.03

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1 การปฐษสารเดี่ยวหรือสารผสม และผู้ผลิต

- 1.1 ลักษณะเฉพาะของผลิตภัณฑ์
- ชื่อทางการค้า **2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4**
- เลขที่รายชื่อ 15960-01, 2%PARA2.5%GLUT, 15960-01-1L
- 1.2 สารหรือสารผสมที่เกี่ยวข้องที่ระบุให้ใช้และที่ไม่ควรให้ใช้ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- การประยุกต์ใช้สาร/ การทำ เคมีภัณฑ์ห้องทดลอง
- 1.3 รายละเอียดของผู้จัดหาข้อมูลด้านความปลอดภัย
- ผู้ผลิต/ ผู้จัดหา
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com
- ข้อมูลรายละเอียดเพิ่มเติมหาได้จาก Product safety department
- 1.4 หมายเลขโทรศัพท์ฉุกเฉิน:
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 การปฐษความเป็นอันตราย

- 2.1 การจำแนกประเภทของสารหรือสารผสม
- การแบ่งประเภทตามข้อบังคับจีเอสดีซีจีเอชซีที 1272/2008



สิ่งอันตรายต่อสุขภาพ

Resp. Sens. 1	H334	อาจเป็นสาเหตุให้เกิดการแพ้หรืออาการโรคหืดหรือหายใจลำบากหากสูดหายใจเข้า
Muta. 2	H341	สงสัยว่าจะเป็นสาเหตุให้เกิดข้อบกพร่องทางพันธุกรรม
Carc. 1B	H350	อาจเป็นเหตุให้เกิดมะเร็ง



Acute Tox. 4	H332	ให้โทษหากสูดหายใจเข้า
Skin Irrit. 2	H315	เป็นสาเหตุให้เกิดการระคายเคืองผิวหนัง
Eye Irrit. 2	H319	เป็นสาเหตุให้เกิดการระคายเคืองอย่างร้ายแรงที่ตา
Skin Sens. 1	H317	อาจเป็นสาเหตุให้ผิวหนังแสดงอาการแพ้
STOT SE 3	H335	อาจเป็นสาเหตุให้เกิดการระคายเคืองต่อระบบหายใจ
Aquatic Chronic 3	H412	ให้โทษต่อสิ่งมีชีวิตในน้ำพร้อมผลกระทบต่อระยะยาว

- 2.2 องค์ประกอบของฉลาก
- ฉลากตามระเบียบ (EC) เลขที่ 1272/2008 ผลิตภัณฑ์ได้รับการจัดประเภทและติดฉลากตามข้อบังคับของ CLP
- ภาพสัญลักษณ์สิ่งที่เป็นอันตราย



GHS07



GHS08

(ต่อที่หน้า 2)

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แผ่นข้อมูลความปลอดภัย

มาตรฐาน GHS

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(ต่อหน้า 1)

- **สัญญาณคำ อันตราย**
- **ส่วนประกอบที่ระบุอันตรายบนฉลาก**
กลูตารัลดีไฮด์
ฟอร์มัลดีไฮด์
- **ประกาศสิ่งที่อันตราย**
H332 ให้โทษหากสูดหายใจเข้า
H315 เป็นสาเหตุให้เกิดการระคายเคืองผิวหนัง
H319 เป็นสาเหตุให้เกิดการระคายเคืองอย่างร้ายแรงที่ตา
H334 อาจเป็นสาเหตุให้เกิดการแพ้หรืออาการโรคหืดหรือหายใจลำบากหากสูดหายใจเข้า
H317 อาจเป็นสาเหตุให้ผิวหนังแสดงอาการแพ้
H341 สงสัยว่าจะเป็นสาเหตุให้เกิดข้อบกพร่องทางพันธุกรรม
H350 อาจเป็นเหตุให้เกิดมะเร็ง
H335 อาจเป็นสาเหตุให้เกิดการระคายเคืองต่อระบบหายใจ
H412 ให้โทษต่อสิ่งมีชีวิตในน้ำพร้อมผลกระทบระยะยาว
- **ประกาศการป้องกันระดับระงับภัย**
P261 หลีกเลี่ยงการสูดหายใจเอาฝุ่น/ ไอสาร/ แกส/ หมอก/ไอ/ ละอองปน
P280 สวมถุงมือป้องกัน/ เสื้อผ้าป้องกัน/ ที่ป้องกันตา/ ที่ป้องกันหน้า
P284 [ในกรณีที่การระบายอากาศไม่เพียงพอ] สวมใส่อุปกรณ์ป้องกันระบบทางเดินหายใจ
P305+P351+P338 หากเข้าตา : ชะล้างตาอย่างระมัดระวังเป็นเวลาหลายๆนาทีถอดคอนแทกซ์เลนส์ถ้ายังอยู่ที่เดิมและสะดวกที่จะทำก็ให้ชะล้างต่อไป
P405 เก็บในที่ใส่กุญแจปิด
P501 ทิ้งสิ่งที่บรรจุ/ภาชนะที่บรรจุตามกฎหมายของท้องถิ่น/แคว้น/ในประเทศ/ระหว่างประเทศ
- **2.3 อันตรายอื่นๆ**
- **ผลของ PBT และการประเมิน vPvB**
- **PBT:** ไม่สามารถใช้ได้
- **vPvB:** ไม่สามารถใช้ได้

3 องค์ประกอบและข้อมูลเกี่ยวกับส่วนผสม

- **3.2 คุณลักษณะทางเคมี: ส่วนผสม**
- **คำอธิบาย** ส่วนผสมของสารในรายการข้างล่างพร้อมสารเติมแต่งที่ไม่เป็นอันตราย

• ส่วนประกอบที่มีอันตราย		
CAS: 111-30-8 EINECS: 203-856-5	กลูตารัลดีไฮด์ ☠ Acute Tox. 3, H301; Acute Tox. 2, H330; ☠ Resp. Sens. 1, H334; ☠ Skin Corr. 1, H314; ☠ Aquatic Acute 1, H400; Aquatic Chronic 2, H411; ☠ Skin Sens. 1A, H317; STOT SE 3, H335	≤2.5%
CAS: 50-00-0 EINECS: 200-001-8	ฟอร์มัลดีไฮด์ ☠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ☠ Muta. 2, H341; Carc. 1B, H350; ☠ Skin Corr. 1, H314; ☠ Skin Sens. 1, H317	≤2.5%

- **ข้อมูลรายละเอียดเสริม** สำหรับข้อความที่ระบุในรายการวลีความเสี่ยงที่อ้างอิงถึงในส่วนที่ 16

4 มาตรการปฐมพยาบาล

- **4.1 คำอธิบายถึงมาตรการปฐมพยาบาล**
- **ข้อมูลรายละเอียดทั่วไป**
อาการจากพิษอาจเกิดขึ้นหลังจากนั้นหลายชั่วโมงดังนั้นจะต้องเฝ้าติดตามดูอาการทางการแพทย์อย่างน้อย 48 ชั่วโมงหลังจากอุบัติเหตุ
- **หลังจากการสูดหายใจเข้าไป**
หาบริเวณที่มีอากาศบริสุทธิ์และเพื่อให้มั่นใจติดต่อแพทย์
ในกรณีที่คนไข้ไม่รู้สึกตัวให้ขนย้ายคนไข้อย่างมั่นคงในท่าตะแคงด้านข้าง

(ต่อหน้า 3)

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แผนข้อมูลความปลอดภัย

มาตรฐาน GHS

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(ต่อหน้า 2)

- หลังจากการสัมผัสถูกผิวหนัง ล้างด้วยน้ำและสบู่แล้วฟอกให้ทั่วทันที
- หลังจากการสัมผัสถูกตา ชะตาที่เปิดอยู่ใต้น้ำที่กำลังไหลเป็นเวลาหลายนาทีถ้าอาการไม่ดีขึ้นให้ปรึกษาแพทย์
- หลังจากการกลืนเข้าไป: พบแพทย์โดยทันที
- 4.2 อาการสำคัญส่วนใหญ่และผลกระทบ ทั้งชนิดเฉียบพลันและค่อยๆ แสดงอาการ
ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 4.3 ข้อบ่งชี้ของการที่ต้องเข้ารับการรักษาจากแพทย์ทันทีและการบำบัดพิเศษที่จำเป็น
ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

5 มาตรการพดงพิลลิ่ง

- 5.1 สารที่ใช้ดับเพลิง
- สารดับเพลิงที่เหมาะสม ใช้วิธีดับเพลิงที่เหมาะสมกับสภาพแวดล้อม
- 5.2 อันตรายเฉพาะอย่างที่เกิดจากสารหรือส่วนผสม ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 5.3 คำแนะนำสำหรับพนักงานดับเพลิง
- อุปกรณ์ป้องกันภัย อุปกรณ์ป้องกันซึ่งเหมาะสำหรับการหายใจทางปาก

6 มาตรการจัดการเมื่อมีการหกรั่วไหลของสาร

- 6.1 การป้องกันส่วนบุคคล อุปกรณ์ป้องกัน และขั้นตอนดำเนินการเมื่อเกิดกรณีฉุกเฉิน ไม่ได้กำหนด
- 6.2 การให้ความคุ้มครองสิ่งแวดล้อมสว่างหน้า:
แจ้งผู้มีอำนาจที่เกี่ยวข้องในกรณีที่เกิดการไหลซึมเข้าสู่น้ำหรือระบบระบายน้ำ
ทำให้เจือจางด้วยน้ำมากๆ
อย่าปล่อยให้เข้าไปในท่อน้ำทิ้ง/ น้ำบนดินหรือใต้ดิน
- 6.3 วิธีดำเนินการและวัสดุสำหรับการบรรจและการทำงานสะอาด:
ดูดซับด้วยวัสดุที่สามารถยึดของเหลวไว้ (ทรายไคอะโตไมท์ตัวยึดเกาะกรดตัวยึดทั่วๆไปซีลีย)
ทิ้งวัสดุที่ปนเปื้อนเป็นของเสียตามรายการในบัญชี 13
ตรวจให้แน่ใจว่ามีกระบายอากาศที่ดีพอ
- 6.4 การอ้างอิงถึงส่วนอื่น
ดูข้อมูลรายละเอียดเรื่องความปลอดภัยในการขนถ่ายจากส่วนที่ 7
ดูข้อมูลรายละเอียดเรื่องอุปกรณ์ป้องกันส่วนบุคคลจากส่วนที่ 8
ดูข้อมูลรายละเอียดเรื่องการกำจัดจากส่วนที่ 13

7 การขนถ่าย เคลื่อนย้าย ใช้งาน และเก็บรักษา

- 7.1 การป้องกันสว่างหน้าสำหรับการจัดการด้านความปลอดภัย
ทำให้แน่ใจว่าสถานที่ทำงานมีการระบายอากาศ/ ไอเสียที่ดี
เปิดและถือภาชนะรองรับอย่างระมัดระวัง
ป้องกันการเกิดละอองสารฟุ้ง
- ข้อมูลรายละเอียดเกี่ยวกับการป้องกันอัคคีภัยและการระเบิด
เก็บอุปกรณ์ป้องกันสำหรับการช่วยหายใจให้มีพร้อมใช้งาน
- 7.2 เงื่อนไขในการเก็บรักษาอย่างปลอดภัย, รวมถึงสิ่งที่เข้ากันไม่ได้ใดๆ
- การจัดเก็บ
- ข้อกำหนดที่ต้องปฏิบัติตามสำหรับห้องเก็บและภาชนะบรรจุ ไม่มีข้อกำหนดพิเศษ
- ข้อมูลรายละเอียดด้านการจัดเก็บในสถานที่จัดเก็บรวม ไม่ได้กำหนด
- ข้อมูลรายละเอียดเพิ่มเติมด้านสภาพการจัดเก็บ เก็บโดยปิดผนึกอย่างแน่นหนา
- 7.3 การระบุถึงการสิ้นสุดการใช้ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

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(ต่อหน้า 4)

แผนข้อมูลความปลอดภัย

มาตรฐาน GHS

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(ต่อที่หน้า 3)

8 การควบคุมการสัมผัสและการป้องกันส่วนบุคคล

· ข้อมูลรายละเอียดเสริมสำหรับการออกแบบสิ่งอำนวยความสะดวกทางเทคนิค ไม่มีข้อมูลนอกเหนือจากนี้ดูรายการ 7

· 8.1 การควบคุมตัวแปร

· ส่วนผสมพร้อมค่าขอบเขตที่ต้องเฝ้าดูในสถานที่ปฏิบัติงาน

111-30-8 กลูตารัลดีไฮด์

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

TLV (US) Ceiling limit value: 0.2 mg/m³, 0.05 ppm
DSEN;RSEN ;activated or inactivated

50-00-0 ฟอร์มัลดีไฮด์

PEL (US) ค่าระยะสั้น: 2 ppm
ค่าระยะยาว: 0.75 ppm
see 29 CFR 1910.1048(c)

REL (US) ค่าระยะยาว: 0.016 ppm
Ceiling limit value: 0.1* ppm
*15-min; See Pocket Guide App. A

TLV (US) ค่าระยะสั้น: 0.37 mg/m³, 0.3 ppm
ค่าระยะยาว: 0.12 mg/m³, 0.1 ppm
DSEN; RSEN

· ข้อมูลรายละเอียดเสริม รายการถูกต้องระหว่างที่จัดทำโดยอาศัยการใช้งานเป็นหลัก

· 8.2 การควบคุมการสัมผัส

· อุปกรณ์ป้องกันภัยส่วนบุคคล

· มาตรการการป้องกันและสุขอนามัยทั่วไป

เก็บให้ห่างจากสิ่งของที่เป็นอาหาร เครื่องดื่ม และอาหารสัตว์

ให้ถอดเสื้อผ้าที่เปื้อนและเช็ดออกทันที

ล้างมือก่อนที่จะหยุดพักและเมื่อสิ้นสุดเวลาทำงาน

เก็บชุดป้องกันแยกต่างหาก

หลีกเลี่ยงการสัมผัสถูกตาและผิวหนัง

· การป้องกันการสูดหายใจเข้าไป

ในกรณีที่อยู่เป็นเวลานานหรืออากาศเป็นพิษระดับต่ำ ใช้หน้ากากกรองเพื่อช่วยหายใจในกรณีที่มีความเข้มข้นสูงหรืออยู่เป็นเวลานานให้ใช้เครื่องป้องกันที่มีอุปกรณ์ช่วยหายใจในตัว

· การป้องกันมือ



ถุงมือป้องกัน

วัสดุของถุงมือจะต้องไม่ให้อากาศผ่านเข้าออกและทนทานต่อผลิตภัณฑ์/ สาร/ การผลิต

เนื่องจากขาดการทดสอบจึงไม่มีคำแนะนำสำหรับวัสดุที่ใช้ทำถุงมือสำหรับผลิตภัณฑ์/ การผลิต/ ของผสมเคมี

เลือกวัสดุสำหรับถุงมือโดยพิจารณาจากเวลาที่ใช้ในการซึมผ่านอัตราการแพร่และการเสื่อม

· วัสดุที่ใช้ทำถุงมือ

การเลือกใช้ถุงมือที่เหมาะสมไม่เพียงแต่ขึ้นอยู่กับวัสดุแต่ยังขึ้นกับมาตรฐานด้านคุณภาพและข้อแตกต่างระหว่างผู้ผลิตแต่ละแห่ง โดยที่ผลิตภัณฑ์เตรียมมาจากสารหลายชนิดความทนทานของวัสดุถุงมือไม่สามารถที่จะคำนวณล่วงหน้า ดังนั้นจึงต้องตรวจสอบกับการใช้งาน

· เวลาที่ใช้ในการทะลุผ่านวัสดุที่ใช้ทำถุงมือ

ผู้ผลิตถุงมือป้องกันจะต้องทดสอบหาเวลาแน่นอนที่ใช้ในการทะลุผ่านและจะต้องมีการตรวจสอบติดตาม

(ต่อที่หน้า 5)

แผ่นข้อมูลความปลอดภัย

มาตรฐาน GHS

วันที่พิมพ์ 2021.08.03

การปรับปรุงใหม่ : 2021.08.03

ชื่อทางการค้า 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4

· การป้องกันตา

(ต่อที่หน้า 4)



แว่นตาที่ขอบปิดสนิท

9 คุณสมบัติทางกายภาพและทางเคมี

<ul style="list-style-type: none"> · 9.1 ข้อมูลคุณสมบัติพื้นฐานทางกายภาพและเคมี · ข้อมูลรายละเอียดทั่วไป · ลักษณะ : · รูปสีฐาน · สี · กลิ่นกลิ่นกลิ่น · เกณฑ์กลิ่น : 		ของเหลว ใส ลักษณะพิเศษ ไม่ได้กำหนดไว้.
ค่าค่า pH ที่ 20 °C		7.2
<ul style="list-style-type: none"> · การเปลี่ยนสถานะ · จุดหลอมเหลว/ ขอบเขตการหลอมละลาย · จุดเดือด/ ขอบเขตการเดือด 		ไม่ได้กำหนด ไม่ได้กำหนด
· จุดวาบไฟ		ไม่สามารถใช้ได้
· ความสามารถติดไฟ (ของแข็งแกส)		ไม่สามารถใช้ได้
· อุณหภูมิสลายตัว		ไม่ได้กำหนดไว้.
· การเผาไหม้ด้วยตัวเอง		ผลิตภัณฑ์ไม่เป็นสารจุดไฟติดด้วยตัวเอง
· อันตรายจากการระเบิด		ผลิตภัณฑ์ไม่ได้มีอันตรายจากการระเบิด
<ul style="list-style-type: none"> · ขอบเขตการระเบิด · ขั้วต่ำ · ขั้วสูง 		ไม่ได้กำหนดไว้. ไม่ได้กำหนดไว้.
· ความดันไอ		ไม่ได้กำหนดไว้.
<ul style="list-style-type: none"> · ความหนาแน่น · ความหนาแน่นสัมพัทธ์ · ความหนาแน่นของไอ · อัตราการระเหย 		ไม่ได้กำหนด ไม่ได้กำหนดไว้. ไม่ได้กำหนดไว้. ไม่ได้กำหนดไว้.
<ul style="list-style-type: none"> · ความสามารถในการละลายใน / ความสามารถผสมเป็นสารละลายเนื้อเดียวทุกส่วนผสมกับน้ำ 		ผสมกันได้อย่างเต็มที่
· สัมประสิทธิ์การแยกตัวอินทรีย์/อินทรีย์		ไม่ได้กำหนดไว้.
<ul style="list-style-type: none"> · ความหนืด · (ไดนามิค) พลศาสตร์ · (คิเนมาติก) จลนศาสตร์ 		ไม่ได้กำหนดไว้. ไม่ได้กำหนดไว้.
<ul style="list-style-type: none"> · ปริมาณส่วนประกอบตัวทำละลาย · ตัวทำละลายอินทรีย์ · VOC (EC) 		2.0 % 2.00 %
· ส่วนประกอบที่เป็นของแข็ง		0.0 %

(ต่อที่หน้า 6)

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แผ่นข้อมูลความปลอดภัย

มาตาม GHS

วันที่พิมพ์ 2021.08.03

การปรับปรุงใหม่ : 2021.08.03

ชื่อทางการค้า 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4

(ต่อที่หน้า 5)

9.2 ข้อมูลอื่นๆ

ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

10 ความเสถียรและการเกิดปฏิกิริยา

- 10.1 ปฏิกิริยาโต้ตอบ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 10.2 เสถียรภาพทางเคมี
- การสลายตัวด้วยความร้อน / เงื่อนไขที่ต้องหลีกเลี่ยง ไม่มีการสลายตัวถ้าใช้ตามรายละเอียดที่ระบุไว้
- 10.3 ความเป็นไปได้ของการเกิดปฏิกิริยาอันตราย ไม่มีปฏิกิริยาเป็นอันตรายที่รู้จัก
- 10.4 เงื่อนไขเพื่อการหลีกเลี่ยง ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 10.5 วัสดุที่เข้ากันไม่ได้: ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 10.6 อันตรายจากการสลายตัวของผลิตภัณฑ์: ไม่มีสารจากการสลายตัวที่เป็นอันตรายที่รู้จัก

11 ข้อมูลด้านพิษวิทยา

- 11.1 ข้อมูลเกี่ยวกับผลกระทบทางพิษวิทยา
- ความเป็นพิษอย่างสาหัส:
ให้โทษหากสูดหายใจเข้า

- การจัดแบ่งตามค่า LD/LC50

111-30-8 กลูตารัลดีไฮด์

ทางปาก	LD50	134 mg/kg (rat)
ทางผิวหนัง	LD50	2,560 mg/kg (rabbit)

50-00-0 ฟอร์มัลดีไฮด์

ทางปาก	LD50	>200 mg/kg (rat)
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- อาการระคายเคืองเบื้องต้น
- บนผิวหนัง
เป็นสาเหตุให้เกิดการระคายเคืองผิวหนัง
- ที่ดวงตา
เป็นสาเหตุให้เกิดการระคายเคืองอย่างร้ายแรงที่ตา
- การทำให้แพ้
อาจเป็นสาเหตุให้เกิดการแพ้หรืออาการโรคหืดหรือหายใจลำบากหากสูดหายใจเข้า
อาจเป็นสาเหตุให้ผิวหนังแสดงอาการแพ้
- ผลกระทบ CMR (การทำให้เกิดมะเร็งการผ่าเหล่าและพิษต่อการสืบพันธุ์)
- การผ่าเหล่าในเซลล์สืบพันธุ์
สงสัยว่าจะเป็นสาเหตุให้เกิดข้อบกพร่องทางพันธุกรรม
- การกระตุ้นให้เกิดมะเร็ง
อาจเป็นเหตุให้เกิดมะเร็ง
- พิษต่อระบบสืบพันธุ์
- ความเป็นพิษต่ออวัยวะเป้าหมายเฉพาะ – การสัมผัสในครรภ์
อาจเป็นสาเหตุให้เกิดการระคายเคืองต่อระบบหายใจ
- ความเป็นพิษต่ออวัยวะเป้าหมายเฉพาะ – การสัมผัสซ้ำหลาย
- อันตรายต่อระบบหายใจ

12 ข้อมูลด้านนิเวศวิทยา

- 12.1 ความเป็นพิษ
- ความเป็นพิษที่เกี่ยวกับน้ำ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 12.2 การคงอยู่และการย่อยสลาย ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 12.3 การสะสมทางชีวภาพที่อาจเกิดขึ้น ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

(ต่อที่หน้า 7)

แผ่นข้อมูลความปลอดภัย

มาตรฐาน GHS

วันที่พิมพ์ 2021.08.03

การปรับปรุงใหม่ : 2021.08.03

ชื่อทางการค้า 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4

(ต่อที่หน้า 6)

- 12.4 การเปลี่ยนแปลงในดิน ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- ผลกระทบด้านพืชต่อระบบนิเวศน์
- ข้อสังเกต
 - เป็นพิษสำหรับปลา
 - เป็นอันตรายกับปลา
- ข้อมูลรายละเอียดเสริมเกี่ยวกับนิเวศวิทยา
- หมายเหตุทั่วไป
 - เป็นอันตรายต่อน้ำชั้น 2 (กฎข้อบังคับของเยอรมัน)(การประเมินค่าด้วยตัวเอง):เป็นอันตรายกับน้ำ
 - อย่าปล่อยให้ผลิตภัณฑ์ไปถึงน้ำผิวดินเส้นทางน้ำหรือระบบระบายน้ำเสีย
 - เป็นอันตรายต่อน้ำดื่มแม้จะร่วงลงในพื้นที่ดินเป็นปริมาณน้อย
 - เป็นพิษกับปลาและแพลงค์ตอนในผิวน้ำ
 - มีพิษต่อสิ่งมีชีวิตในน้ำ
 - เป็นอันตรายต่อสิ่งมีชีวิตในน้ำ
- 12.5 ผลของ PBT และการประเมิน vPvB
- PBT: ไม่สามารถใช้ได้
- vPvB: ไม่สามารถใช้ได้
- 12.6 ผลข้างเคียงอื่นๆ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

13 ข้อพิจารณาในการกำจัด

- 13.1 วิธีการกำจัดของเสีย
- คำแนะนำ ต้องไม่ทิ้งไปพร้อมกับขยะจากบ้านเรือนอย่าปล่อยให้ผลิตภัณฑ์เข้าถึงระบบระบายน้ำเสีย
- ภาชนะบรรจุที่ยังไม่ได้ล้างทำความสะอาด
- คำแนะนำ การกำจัดจะต้องทำตามกฎระเบียบที่เป็นทางการ
- สารทำความสะอาดที่แนะนำ น้ำถ้าจำเป็นใช้คู่กับสารทำความสะอาด

14 ข้อมูลการขนส่ง

- 14.1 เลขที่ UN
 - ADR, IMDG, IATA UN1760
- 14.2 ชื่อการจัดส่งสินค้าที่เหมาะสมของ UN
 - ADR 1760 CORROSIVE LIQUID, N.O.S. (กลูตารัลดีไฮด์, FORMALDEHYDE SOLUTION)
 - IMDG, IATA CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)
- 14.3 ชั้นเรียนอันตรายจากการขนส่ง
 - ADR, IMDG, IATA
- ประเภท
 - ผลากสิ่งที่เป็นอันตราย 8 สารกัดกร่อน
- 14.4 กลุ่มของภาชนะบรรจุ
 - ADR, IMDG, IATA II
- 14.5 สิ่งที่เป็นอันตรายต่อสภาพแวดล้อม ไม่สามารถใช้ได้

(ต่อที่หน้า 8)

แผนข้อมูลความปลอดภัย

มาตรฐาน GHS

วันที่พิมพ์ 2021.08.03

การปรับปรุงใหม่ : 2021.08.03

ชื่อทางการค้า 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4

(ต่อหน้า 7)

- 14.6 การป้องกันพิเศษล่วงหน้าสำหรับผู้ใช้ ค่าเตือน !: สารกัดกร่อน
- รหัสความอันตราย: 80
- หมายเลข EMS F-A,S-B
- Segregation groups Acids
- Stowage Category B
- Stowage Code SW2 Clear of living quarters.

- 14.7 การขนส่งขนาดใหญ่ตามภาคผนวกของของ MARPOL73/78 และรหัส IBC ไม่สามารถใช้ได้

· การขนส่ง/ข้อมูลรายละเอียดเสริม

- ADR
- ปริมาณที่จำกัด (LQ) 1L
- Excepted quantities (EQ) Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

- หมวดหมู่การขนส่ง 2
- รหัสควบคุมการผ่านอุโมงค์ E

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

- “ภาวะเทียบต้นเขียงของขีปนาวุธ” UN 1760 CORROSIVE LIQUID, N.O.S. (กลูตารัลดีไฮด์, FORMALDEHYDE SOLUTION), 8, II

15 ข้อมูลด้านกฎข้อบังคับ

- 15.1 ความปลอดภัย สุขภาพและระเบียบ/กฎหมายสิ่งแวดล้อมโดยเฉพาะของสารหรือสารผสม
- บัญชีรายชื่อวัตถุอันตราย

· กรมวิชาการเกษตร

ไม่มีส่วนผสมใดอยู่ในรายการ

· กรมประมง

111-30-8	กลูตารัลดีไฮด์	ชนิดที่ 3
50-00-0	ฟอร์มัลดีไฮด์	ชนิดที่ 2

· กรมปศุสัตว์

50-00-0	ฟอร์มัลดีไฮด์	ชนิดที่ 3
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· อาหารและยา

111-30-8	กลูตารัลดีไฮด์	ชนิดที่ 3
50-00-0	ฟอร์มัลดีไฮด์	ชนิดที่ 4

· กรมโรงงานอุตสาหกรรม

50-00-0	ฟอร์มัลดีไฮด์	ชนิดที่ 2
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· กรมธุรกิจพลังงาน

ไม่มีส่วนผสมใดอยู่ในรายการ

(ต่อหน้า 9)

แผนข้อมูลความปลอดภัย

มาตรฐาน GHS

วันที่พิมพ์ 2021.08.03

การปรับปรุงใหม่ : 2021.08.03

ชื่อทางการค้า 2% PARAFORMALDEHYDE, 2.5% GLUTARALDEHYDE IN 0.1M SODIUM CACODYLATE BUFFER, pH 7.4

(ต่อหน้า 8)

ทำเนียบสารเคมีที่มีอยู่แล้วของประเทศไทย (กรมโรงงานอุตสาหกรรม)

50-00-0 | ฟอรั่มัลดีไฮด์

กฎหมายของประเทศ

ข้อมูลรายละเอียดเกี่ยวกับขอบเขตการใช้งาน

ไม่อนุญาตให้คนงานเข้าไปสัมผัสกับวัตถุอันตรายที่ทำให้เกิดมะเร็งซึ่งมีอยู่ในการผลิตช็อกวุ้นอาจทำได้เมื่อได้รับอนุญาตจากผู้มีอำนาจในบางกรณี

15.2 การประเมินความปลอดภัยของสารเคมี: ไม่ได้ดำเนินการตามการประเมินความปลอดภัยของสารเคมี

16 ข้อมูลอื่นๆ

ข้อมูลรายละเอียดนี้ใช้ความรู้ปัจจุบันของเราเป็นหลัก อย่างไรก็ตามข้อมูลนี้ไม่ใช่การรับประกันจากสถาบันต่อคุณสมบัติเฉพาะของผลิตภัณฑ์และไม่สามารถยืนยันการบังคับใช้ตามกฎหมายที่เกี่ยวข้องกับสัญญา

วัสดุที่เกี่ยวข้องกับ

- H301 มีพิษหากกลืนเข้าไป
- H311 มีพิษโดยการสัมผัสกับผิวหนัง
- H314 เป็นสาเหตุให้ผิวหนังไหม้อย่างสาหัสและทำอันตรายต่อดวงตา
- H317 อาจเป็นสาเหตุให้ผิวหนังแสดงอาการแพ้
- H330 เป็นอันตรายถึงชีวิตหากสูดหายใจเข้าไป
- H331 มีพิษหากสูดหายใจเข้าไป
- H334 อาจเป็นสาเหตุให้เกิดการแพ้หรืออาการโรคหืดหรือหายใจลำบากหากสูดหายใจเข้าไป
- H335 อาจเป็นสาเหตุให้เกิดการระคายเคืองต่อระบบหายใจ
- H341 สงสัยว่าจะเป็นสาเหตุให้เกิดข้อบกพร่องทางพันธุกรรม
- H350 อาจเป็นเหตุให้เกิดมะเร็ง
- H400 มีพิษมากต่อสิ่งมีชีวิตในน้ำ
- H411 มีพิษต่อสิ่งมีชีวิตในน้ำพร้อมผลกระทบต่อระยะยาว

คำย่อและชื่อย่อที่ผสมขึ้น

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Acute Tox. 3: Acute toxicity – Category 3
- Acute Tox. 2: Acute toxicity – Category 2
- Acute Tox. 4: Acute toxicity – Category 4
- Skin Corr. 1: Skin corrosion/irritation – Category 1
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- Resp. Sens. 1: Respiratory sensitisation – Category 1
- Skin Sens. 1: Skin sensitisation – Category 1
- Skin Sens. 1A: Skin sensitisation – Category 1A
- Muta. 2: Germ cell mutagenicity – Category 2
- Carc. 1B: Carcinogenicity – Category 1B
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
- Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
- Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3