

Safety Data Sheet

acc. to OSHA HCS

Printing date 04/09/2020

Reviewed on 04/09/2020

1 Identification

- **Product identifier**
- **Trade name:** KARNOVSKY'S FIXATIVE
- **Article number:**
15720, 15732, CUSTOM FIXATIVE, 15730, 15720-CUSTOM, 15732-10, 15732-10 SPECIAL, 15732-1/2-SP, 15732-SP, 15720 SPECIAL, 15730 SPECIAL, 15732-10/CUSTOM
- **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.



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

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

STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements**

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

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· **Hazard pictograms**

GHS05 GHS07 GHS08

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

Glutaraldehyde
formaldehyde

· **Hazard statements**

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

· **Precautionary statements**

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

· **Classification system:**· **NFPA ratings (scale 0 - 4)**

Health = 3
Fire = 0
Reactivity = 0

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· **HMIS-ratings (scale 0 - 4)**

HEALTH	*3
FIRE	0
REACTIVITY	0

Health = *3

Fire = 0

Reactivity = 0

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

3 Composition/information on ingredients

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

· **Dangerous components:**

111-30-8	Glutaraldehyde	>2.5-≤10%
50-00-0	formaldehyde	>2.5-≤10%

4 First-aid measures

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

5 Fire-fighting measures

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

6 Accidental release measures

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

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- **Environmental precautions:**

*Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.*

- **Methods and material for containment and cleaning up:**

*Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.*

- **Reference to other sections**

*See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.*

- **Protective Action Criteria for Chemicals**

- **PAC-1:**

7778-77-0	potassium dihydrogenorthophosphate	9.6 mg/m ³
111-30-8	Glutaraldehyde	0.2 ppm
50-00-0	formaldehyde	0.90 ppm

- **PAC-2:**

7778-77-0	potassium dihydrogenorthophosphate	110 mg/m ³
111-30-8	Glutaraldehyde	1 ppm
50-00-0	formaldehyde	14 ppm

- **PAC-3:**

7778-77-0	potassium dihydrogenorthophosphate	630 mg/m ³
111-30-8	Glutaraldehyde	5 ppm
50-00-0	formaldehyde	56 ppm

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.*

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· **Control parameters**

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

111-30-8 Glutaraldehyde

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

TLV Ceiling limit value: 0.2 mg/m³, 0.05 ppm
DSEN; RSEN ;activated or inactivated

50-00-0 formaldehyde

PEL Short-term value: 2 ppm
Long-term value: 0.75 ppm
see 29 CFR 1910.1048(c)

REL Long-term value: 0.016 ppm
Ceiling limit value: 0.1* ppm
*15-min; See Pocket Guide App. A

TLV Short-term value: 0.37 mg/m³, 0.3 ppm
Long-term value: 0.12 mg/m³, 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 skin.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

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

· **Protection of hands:**



Protective gloves

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

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

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

· **Material of gloves**

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

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- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

Form:	Liquid
Color:	Clear
Odor:	Fruit-like
Odor threshold:	Not determined.

- **pH-value at 20 °C (68 °F):** 4.5

- **Change in condition**

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

- **Flash point:** Not applicable.

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

- **Decomposition temperature:** Not determined.

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

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

- **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

- **Vapor pressure at 20 °C (68 °F):** 23 hPa (17.3 mm Hg)

Density at 20 °C (68 °F):	0.99592 g/cm ³ (8.31095 lbs/gal)
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.

- **Solubility in / Miscibility with**

Water: Not miscible or difficult to mix.

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

- **Viscosity:**

Dynamic:	Not determined.
Kinematic:	Not determined.

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· Solvent content:	
Organic solvents:	3.2 %
Water:	42.8 %
VOC content:	3.20 %
	55.5 g/l / 0.46 lb/gal
Solids content: 0.0 %	
· Other information	No further relevant information available.

10 Stability and reactivity

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

11 Toxicological information

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

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

111-30-8 Glutaraldehyde

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

50-00-0 formaldehyde

Oral	LD50	>200 mg/kg (rat)
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- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:**
Sensitization possible through inhalation.
Sensitization possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant
Carcinogenic.
- **Carcinogenic categories**

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

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

50-00-0 formaldehyde

K

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

50-00-0 formaldehyde

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:**
Toxic for fish
Harmful to fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
Harmful to aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

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

14 Transport information

- **UN-Number**
- **DOT, ADR, IMDG, IATA** UN1760

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

· **Transport hazard class(es)**· **DOT**· **Class** *8 Corrosive substances*· **Label** *8*· **ADR, IMDG, IATA**· **Class** *8 Corrosive substances*· **Label** *8*· **Packing group**· **DOT, 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**· **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*

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· 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):
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50-00-0 formaldehyde

· 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.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency)
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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

· GHS label elements

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



GHS05 GHS07 GHS08

· **Signal word** *Danger*

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

Glutaraldehyde
formaldehyde

· **Hazard statements**

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

· **Precautionary statements**

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

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

16 Other information

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

· **Date of preparation / last revision** 04/09/2020 / -

· **Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety **Health**

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 4: Acute toxicity – Category 4

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

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

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Muta. 2: Germ cell mutagenicity – Category 2

Carc. 1B: Carcinogenicity – Category 1B

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

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- **Trade name:** KARNOVSKY'S FIXATIVE
- **Article number:**
15720, 15732, CUSTOM FIXATIVE, 15730, 15720-CUSTOM, 15732-10, 15732-10 SPECIAL, 15732-1/2-SP, 15732-SP, 15720 SPECIAL, 15730 SPECIAL, 15732-10/CUSTOM
- **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.



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.

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GHS07

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

· **Label elements**

· **GHS label elements**

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

· **Hazard pictograms**



GHS05

GHS07

GHS08

· **Signal word** *Danger*

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

Glutaraldehyde
 formaldehyde

· **Hazard statements**

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

· **Precautionary statements**

Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Avoid breathing dust/fume/gas/mist/vapours/spray.
 Wash thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 Contaminated work clothing should not be allowed out of the workplace.
 Wear protective gloves/protective clothing/eye protection/face protection.
 Wear respiratory protection.
 IF ON SKIN: Wash with plenty of water.
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Immediately call a POISON CENTER/doctor.
 IF exposed or concerned: Get medical advice/attention.
 Specific treatment (see on this label).
 Take off contaminated clothing and wash it before reuse.
 If skin irritation or rash occurs: Get medical advice/attention.

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

Wash contaminated clothing before reuse.

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

Store locked up.

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

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

3 Composition and Information on Ingredients

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

· **Dangerous components:**

111-30-8	Glutaraldehyde	>2.5-≤10%
50-00-0	formaldehyde	>2.5-≤10%

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

4 First Aid Measures

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

5 Fire Fighting Measures

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

AU

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6 Accidental Release Measures

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

7 Handling and Storage

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

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

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- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 Keep away from foodstuffs, beverages and feed.
 Immediately remove all soiled and contaminated clothing
 Wash hands before breaks and at the end of work.
 Store protective clothing separately.
 Avoid contact with the skin.
 Avoid contact with the eyes and skin.
- **Respiratory protection:**
 In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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



Tightly sealed goggles

9 Physical and Chemical Properties

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

Form:	Liquid
Colour:	Clear
Odour:	Fruit-like
Odour threshold:	Not determined.
- **pH-value at 20 °C:** 4.5

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· Change in condition	
Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	100 °C
· Flash point:	Not applicable.
· Flammability (solid, gas):	Not applicable.
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure at 20 °C:	23 hPa
· Density at 20 °C:	0.99592 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	3.2 %
Water:	42.8 %
VOC (EC)	3.20 %
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 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** Strong irritant with the danger of severe eye injury.
- **Respiratory or skin sensitisation**
Sensitisation possible through inhalation.
Sensitisation possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Harmful
Irritant
Carcinogenic.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Muta. 2, Carc. 1B

12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:**
Toxic for fish
Harmful to fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
Harmful to aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· UN-Number · ADG, IMDG, IATA	UN1760
· UN proper shipping name · ADG · IMDG, IATA	1760 CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION) CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)
· Transport hazard class(es) · ADG, IMDG, IATA	
	
· Class · Label	8 Corrosive substances. 8
· Packing group · ADG, IMDG, IATA	II
· Environmental hazards:	Not applicable.
· Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Segregation groups · Stowage Category · Stowage Code	Warning: Corrosive substances. 80 F-A,S-B Acids B 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

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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
· Transport category	2
· Tunnel restriction code	E
<hr style="border-top: 1px dashed black;"/>	
· 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 Chemical Substances**

All ingredients are listed.

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

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

· **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**



GHS05 GHS07 GHS08

· **Signal word** *Danger*

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

Glutaraldehyde
formaldehyde

· **Hazard statements**

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

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May cause cancer.

May cause respiratory irritation.

· Precautionary statements

Obtain special instructions before use.

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

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

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

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

Wear respiratory protection.

IF ON SKIN: Wash with plenty of water.

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

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

Immediately call a POISON CENTER/doctor.

IF exposed or concerned: Get medical advice/attention.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

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

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

Wash contaminated clothing before reuse.

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

Store locked up.

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

· Directive 2012/18/EU

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

· 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

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Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Resp. Sens. 1: Respiratory sensitisation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
Muta. 2: Germ cell mutagenicity – Category 2
Carc. 1B: Carcinogenicity – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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1 Identification

- **Product identifier**
- **Trade name:** KARNOVSKY'S FIXATIVE
- **Article number:**
15720, 15732, CUSTOM FIXATIVE, 15730, 15720-CUSTOM, 15732-10, 15732-10 SPECIAL, 15732-1/2-SP, 15732-SP, 15720 SPECIAL, 15730 SPECIAL, 15732-10/CUSTOM
- **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.



GHS05 Corrosion

Serious Eye Damage - Category 1

H318 Causes serious eye damage.



GHS07

Acute Toxicity (Inhalation) - Category 4

H332 Harmful if inhaled.

Skin Irritation - Category 2

H315 Causes skin irritation.

Skin Sensitizer - Category 1

H317 May cause an allergic skin reaction.

Specific Target Organ Toxicity - Single Exposure - Category 3

H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements**

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

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· **Hazard pictograms**

GHS05 GHS07 GHS08

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

Glutaraldehyde
formaldehyde

· **Hazard statements***Harmful if inhaled.**Causes skin irritation.**Causes serious eye damage.**May cause allergy or asthma symptoms or breathing difficulties if inhaled.**May cause an allergic skin reaction.**Suspected of causing genetic defects.**May cause cancer.**May cause respiratory irritation.*· **Precautionary statements***Obtain special instructions before use.**Do not handle until all safety precautions have been read and understood.**Avoid breathing dust/fume/gas/mist/vapours/spray.**Wash thoroughly after handling.**Use only outdoors or in a well-ventilated area.**Contaminated work clothing should not be allowed out of the workplace.**Wear protective gloves/protective clothing/eye protection/face protection.**[In case of inadequate ventilation] wear respiratory protection.**If on skin: Wash with plenty of water.**IF INHALED: Remove person to fresh air and keep comfortable for breathing.**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**Immediately call a poison center/doctor.**IF exposed or concerned: Get medical advice/attention.**Specific treatment (see on this label).**Take off contaminated clothing and wash it before reuse.**If skin irritation or rash occurs: Get medical advice/attention.**If experiencing respiratory symptoms: Call a poison center/doctor.**Store in a well-ventilated place. Keep container tightly closed.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.*· **Classification system:**· **NFPA ratings (scale 0 - 4)***Health = 3**Fire = 0**Reactivity = 0*

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· **HMIS-ratings (scale 0 - 4)**

HEALTH	*3	Health = *3
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

3 Composition/Information on ingredients

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

· **Dangerous components:**

111-30-8	Glutaraldehyde	1-5% w/w *
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. Then consult a doctor.
- **After swallowing:** Immediately call a doctor.
- **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

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

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.

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- **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.
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	TWA: 0.3 ppm Ceiling: 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.

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Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

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

· **Protection of hands:**



Protective gloves

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

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

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

· **Material of gloves**

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

· **Penetration time of glove material**

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

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form: Liquid

Color: Clear

· **Odor:** Fruit-like

· **Odor threshold:** Not determined.

· **pH-value at 20 °C:** 4.5

· **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 100 °C

· **Flash point:** Not applicable.

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· Flammability (solid, gaseous):	Not flammable.
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapor pressure at 20 °C:	23 hPa
· Density at 20 °C:	0.99592 g/cm ³
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	3.2 %
Water:	42.8 %
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)
------	------	-----------------

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

· **Sensitization:**

Sensitization possible through inhalation.
Sensitization possible through skin contact.

· **Additional toxicological information:**

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

Harmful
Irritant
Carcinogenic.

· **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)		
50-00-0	formaldehyde	I
· 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 3 (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

Harmful to aquatic organisms

· **Results of PBT and vPvB assessment**

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

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13 Disposal considerations

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

14 Transport information

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

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CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 04/09/2020

Reviewed on 04/09/2020

Trade name: **KARNOVSKY'S FIXATIVE**

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

15 Regulatory information

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

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

50-00-0 formaldehyde

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

50-00-0 formaldehyde

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

All 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).

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Trade name: KARNOVSKY'S FIXATIVE

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· **Hazard pictograms**



GHS05 GHS07 GHS08

· **Signal word** *Danger*

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

*Glutaraldehyde
formaldehyde*

· **Hazard statements**

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

· **Precautionary statements**

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

· **National regulations:**

· **Information about limitation of use:**

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

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

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Safety Data Sheet
according to HPR, Schedule 1

Printing date 04/09/2020

Reviewed on 04/09/2020

Trade name: KARNOVSKY'S FIXATIVE

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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** 04/09/2020 / -

· **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

CA

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

Printing date 09.04.2020

Revision: 09.04.2020

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

- **Product identifier**
- **Trade name:** KARNOVSKY'S FIXATIVE
- **Article number:**
15720, 15732, CUSTOM FIXATIVE, 15730, 15720-CUSTOM, 15732-10, 15732-10 SPECIAL, 15732-1/2-SP, 15732-SP, 15720 SPECIAL, 15730 SPECIAL, 15732-10/CUSTOM
- **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.



corrosion

Eye Dam. 1 H318 Causes serious eye damage.



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

Acute Tox. 5 H303 May be harmful if swallowed.
Aquatic Acute 2 H401 Toxic to aquatic life.

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Trade name: **KARNOVSKY'S FIXATIVE**

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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).

· **Hazard pictograms**



GHS05 GHS07 GHS08

· **Signal word** *Danger*

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

Glutaraldehyde

formaldehyde

· **Hazard statements**

May be harmful if swallowed.

Harmful if inhaled.

Causes skin irritation.

Causes serious eye damage.

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

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause cancer.

May cause respiratory irritation.

Toxic to aquatic life.

Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

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

Immediately call a POISON CENTER/doctor.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

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	>2.5-≤10%
	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	

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






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Trade name: KARNOVSKY'S FIXATIVE

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50-00-0 formaldehyde

>2.5-≤10%

 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

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

4 First aid measures

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

5 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.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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



Protective gloves

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

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

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

· **Material of gloves**

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

· **Penetration time of glove material**

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

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

· Form:	Liquid
· Colour:	Clear
· Odour:	Fruit-like
· Odour threshold:	Not determined.

· **pH-value at 20 °C:** 4.5

· **Change in condition**

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

· **Flash point:** Not applicable.

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

· **Decomposition temperature:** Not determined.

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

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

· **Explosion limits:**

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

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

· Density at 20 °C:	0.99592 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.

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· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	3.2 %
Water:	42.8 %
VOC (EC)	3.20 %
· 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** Strong irritant with the danger of severe eye injury.
- **Respiratory or skin sensitisation**
Sensitisation possible through inhalation.
Sensitisation possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Harmful

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- 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.*
- **Ecotoxic effects:**
- **Remark:**
- Toxic for fish*
- Harmful to fish*
- **Additional ecological information:**
- **General notes:**
- Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water*
- Do not allow product to reach ground water, water course or sewage system, even in small quantities.*
- Danger to drinking water if even extremely small quantities leak into the ground.*
- Also poisonous for fish and plankton in water bodies.*
- Toxic for aquatic organisms*
- Harmful to aquatic organisms*
- **Results of PBT and vPvB assessment**
- **PBT:** *Not applicable.*
- **vPvB:** *Not applicable.*
- **Other adverse effects** *No further relevant information available.*

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
- Must not be disposed together with household garbage. Do not allow product to reach sewage system.*
- **Uncleaned packaging:**
- **Recommendation:** *Disposal must be made according to official regulations.*

14 Transport information

- | | |
|--|--|
| <ul style="list-style-type: none"> · UN-Number · ADR, IMDG, IATA | <p>UNI760</p> |
| <ul style="list-style-type: none"> · UN proper shipping name · ADR | <p>1760 CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)</p> |

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Trade name: KARNOVSKY'S FIXATIVE

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· IMDG, IATA	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: · Segregation groups · Stowage Category · Stowage Code	Warning: Corrosive substances. 80 F-A,S-B Acids B 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) · Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category · Tunnel restriction code	2 E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	1L 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).

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Printing date 09.04.2020

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Trade name: **KARNOVSKY'S FIXATIVE**

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· **Hazard pictograms**

GHS05 GHS07 GHS08

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

Glutaraldehyde
formaldehyde

· **Hazard statements**

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

· **Precautionary statements**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
Specific treatment (see on this label).
Take off contaminated clothing and wash it before reuse.
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.

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according to 1907/2006/EC, Article 31

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Trade name: KARNOVSKY'S FIXATIVE

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

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

Printing date 09.04.2020

Revision: 09.04.2020

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

- **1.1 Product identifier**
- **Trade name:** KARNOVSKY'S FIXATIVE
- **Article number:**
15720, 15732, CUSTOM FIXATIVE, 15730, 15720-CUSTOM, 15732-10, 15732-10 SPECIAL, 15732-1/2-SP, 15732-SP, 15720 SPECIAL, 15730 SPECIAL, 15732-10/CUSTOM
- **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.



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

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

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

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Trade name: **KARNOVSKY'S FIXATIVE**

(Contd. of page 1)

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



GHS05 GHS07 GHS08

- **Signal word** *Danger*
- **Hazard-determining components of labelling:**
Glutaraldehyde
formaldehyde
- **Hazard statements**
H332 Harmful if inhaled.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.
- **Precautionary statements**
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P321 Specific treatment (see on this label).
P362+P364 Take off contaminated clothing and wash it before reuse.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** *Not applicable.*
- **vPvB:** *Not applicable.*

SECTION 3: Composition/information on ingredients

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

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Safety data sheet

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








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· 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-≤10%
CAS: 50-00-0 EINECS: 200-001-8	formaldehyde  Acute Tox. 3, H301;  Acute Tox. 3, H311;  Acute Tox. 3, H331;  Muta. 2, H341;  Carc. 1B, H350;  Skin Corr. 1B, H314;  Skin Sens. 1, H317	>2.5-≤10%

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

SECTION 4: First aid measures

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

SECTION 5: Firefighting measures

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

SECTION 6: Accidental release measures

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

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- **6.4 Reference to other sections**
- See Section 7 for information on safe handling.
- See Section 8 for information on personal protection equipment.
- See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
- Ensure good ventilation/exhaustion at the workplace.
- Open and handle receptacle with care.
- Prevent formation of aerosols.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** 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 skin.
- Avoid contact with the eyes and skin.
- **Respiratory protection:**
- In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

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· **Protection of hands:**

Protective gloves

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

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

· **Material of gloves**

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

· **Penetration time of glove material**

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

· **Eye protection:**

Tightly sealed goggles

SECTION 9: Physical and chemical properties

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

Form:	Liquid
Colour:	Clear
Odour:	Fruit-like
Odour threshold:	Not determined.

pH-value at 20 °C:	4.5
---------------------------	-----

· **Change in condition**

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

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

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

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

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

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

Lower:	Not determined.
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Upper:	Not determined.
· Vapour pressure at 20 °C:	23 hPa
· Density at 20 °C:	0.99592 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	3.2 %
Water:	42.8 %
VOC (EC)	3.20 %
Solids content:	0.0 %
· 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)
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- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes skin irritation.

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

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicical effects:**
- **Remark:**
Toxic for fish
Harmful to fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
Harmful to aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

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- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· 14.1 UN-Number · ADR, IMDG, IATA	UN1760
· 14.2 UN proper shipping name · ADR · 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
· 14.5 Environmental hazards:	Not applicable.
· 14.6 Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Segregation groups · Stowage Category · Stowage Code	Warning: Corrosive substances. 80 F-A,S-B Acids B 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) · Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category · Tunnel restriction code	2 E
· IMDG · Limited quantities (LQ)	1L

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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

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
- **National regulations:**
- **Information about limitation of use:**
Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

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

- **Relevant phrases**
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
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

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

GB

化学品安全技术说明书

据根根据据根T 16483-2008, GB/T 17519-2013

打印日期 2020.04.09

在 2020.04.09 审核

1 化学品及企业标识

- **产品识别者**
- **化学品中文名称/英文名称/化学品俗名或商品名:** KARNOVSKY'S FIXATIVE
- **商品编号:**
15720, 15732, CUSTOM FIXATIVE, 15730, 15720-CUSTOM, 15732-10, 15732-10 SPECIAL, 15732-1/2-SP, 15732-SP, 15720 SPECIAL, 15730 SPECIAL, 15732-10/CUSTOM
- **相应纯物质或者混合物的相关下位用途及禁止用途** 无相关详细资料。
- **原材料的应用/准备工作进行** 实验室化学物
- **安全技术说明书内供应商详细信息**
- **企业名称:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com
- **可获取更多资料的部门:** Product safety department
- **紧急联系电话号码:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 危险性概述

· 紧急情况概述:

纯净的，液体，吞咽可能有害。吸入有害。造成皮肤刺激。造成严重眼损伤。吸入可能导致过敏或哮喘病症状或呼吸困难。可能导致皮肤过敏反应。怀疑会导致遗传性缺陷。可能致癌。可引起呼吸道刺激。对水生生物有毒。对水生生物有害并具有长期持续影响。

· GHS危险性类别



健康危害

敏化(呼吸) 第1类

H334 吸入可能导致过敏或哮喘病症状或呼吸困难

生殖细胞致突变性 第2类

H341 怀疑会导致遗传性缺陷

致癌性 第1B类

H350 可能致癌



腐蚀

严重眼睛损伤/眼睛刺激性 第1类

H318 造成严重眼损伤



急性毒性(吸入) 第4类

H332 吸入有害

皮肤腐蚀/刺激 第2类

H315 造成皮肤刺激

敏化(皮肤) 第1类

H317 可能导致皮肤过敏反应

特定靶器官系统毒性 (单次接触) 第3类 H335 可引起呼吸道刺激

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打印日期 2020.04.09

在 2020.04.09 审核

化学品中文名称: 福尔马林
 化学品英文名称: 福尔马林
 化学品俗名或商品名: KARNOVSKY'S FIXATIVE

(在 1 页继续)

急性毒性(经口) 第5类	H303 吞咽可能有害
对水环境的危害(急性) 第2类	H401 对水生生物有毒
对水环境的危害(慢性) 第3类	H412 对水生生物有害并具有长期持续影响

· 标签因素

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

图示图示图示



GHS05 GHS07 GHS08

名称名称名称

· 标签上辨别危险的成份:

1,5-戊二醛 (>2.5-≤10 %)
 福尔马林溶液 (>2.5-≤10 %)

· 危险字句

吞咽可能有害
 吸入有害
 造成皮肤刺激
 造成严重眼损伤
 吸入可能导致过敏或哮喘病症状或呼吸困难
 可能导致皮肤过敏反应
 怀疑会导致遗传性缺陷
 可能致癌
 可引起呼吸道刺激
 对水生生物有毒
 对水生生物有害并具有长期持续影响

· 警戒字句

· 事故响应

如进入眼睛:用水小心冲洗几分钟。如戴隐形眼镜并可方便地取出,取出隐形眼镜。继续冲洗
 立即呼叫急救中心/医生
 具体治疗(见本标签上的)
 脱掉沾染的衣服,清洗后方可重新使用

· 安全储存

存放处须加锁

· 废弃处置

处置内装物/容器按照地方/区域/国家/国际规章

· 其他有害性

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

· PBT(残留性、生物浓缩性、毒性物质) 不适用的

· vPvB(高残留性、高生物浓缩性物质): 不适用的

3 成分/组成信息

· 混合物

描述描述描述以下含有无害添加剂的成分组成的混合物

(在 3 页继续)

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据根根据据根T 16483-2008, GB/T 17519-2013

打印日期 2020.04.09

在 2020.04.09 审核

化学品中文名称: 福尔马林溶液
 化学品英文名称: 福尔马林溶液
 俗名或商品名: KARNOVSKY'S FIXATIVE

(在 2 页继续)

危险的成分:

111-30-8	1,5-戊二醛 ⚠ 急性毒性(经口) 第3类, H301; 急性毒性(吸入) 第2类, H330; ⚠ 敏化(呼吸) 第1类, H334; ⚠ 皮肤腐蚀/刺激 第1B类, H314; ⚠ 对水环境的危害(急性) 第1类, H400; 对水环境的危害(慢性) 第2类, H411; ⚠ 敏化(皮肤) 第1A类, H317; 特定靶器官系统毒性(单次接触) 第3类, H335; 易燃液体 第4类, H227; 急性毒性(经皮肤) 第5类, H313	>2.5-≤10%
50-00-0	福尔马林溶液 ⚠ 急性毒性(经口) 第3类, H301; 急性毒性(经皮肤) 第3类, H311; 急性毒性(吸入) 第3类, H331; ⚠ 生殖细胞致突变性 第2类, H341; 致癌性 第1B类, H350; ⚠ 皮肤腐蚀/刺激 第1B类, H314; ⚠ 敏化(皮肤) 第1类, H317; 易燃液体 第4类, H227	>2.5-≤10%

4 急救措施

应急措施要领

总说明:

中毒的症状可能会在几个小时以后才出现;因此在发生事故之后起码要有 48 小时的医疗观察。

吸入吸入吸入

供给新鲜空气并且确保会叫医生。

万一病人不清醒时,请让病人侧躺以便移动。

· **皮肤接触:** 马上用水和肥皂进行彻底的冲洗。

· **眼睛接触:** 张开眼睛在流水下冲洗数分钟。然后咨询医生。

食入食入食入

马上召唤医生。

给医生的资料:

· **最重要的急慢性症状及其影响** 无相关详细资料。

· **需要及时的医疗处理及特别处理的症状** 无相关详细资料。

5 消防措施

灭火方法

· **灭火的方法和灭火剂:** 使用适合四周环境的灭火措施。

· **特别危险性** 无相关详细资料。

特殊灭火方法

· **消防人员特殊的防护装备:** 口腔呼吸保护装置。

6 泄漏应急处理

· **保护措施** 没有要求。

环境保护措施:

如果渗入了水源或污水系统,请通知有关当局。

切勿让其进入下水道/水面或地下水。

密封及净化方法和材料:

吸收液体粘合原料(沙粒、硅藻土、酸性粘合剂、通用粘合剂、锯屑)。

根据第 13 条款弃置受污染物。

确保有足够的通风装置。

(在 4 页继续)

化学品安全技术说明书

据根根据据根T 16483-2008, GB/T 17519-2013

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在 2020.04.09 审核

化学品中文名称: 卡诺夫氏固定剂
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(在 3 页继续)

· 参照其他部分

- 有关安全处理的资料请参阅第 7 节.
- 有关个人防护装备的资料请参阅第 8 节.
- 有关弃置的资料请参阅第 13 节.

7 操作处置与储存

· 操作处置

储存

- 确保工作间有良好的通风/排气装置.
- 小心打开及处理贮藏器.
- 防止气溶胶的形成.
- **有关火灾及防止爆炸的资料:** 提供呼吸保护装置.

· 混合危险性等安全储存条件

储存

- **储存库和容器须要达到的要求:** 没有特别的要求.
- **有关使用一个普通的储存设施来储存的资料:** 不需要.
- **有关储存条件的更多资料:** 将容器密封.
- **具体的最终用户** 无相关详细资料.

8 接触控制和个体防护

- **工程控制方法:** 没有进一步数据;见第 7 项.

· 控制变数

· 在工作场需要监控的限值成分

111-30-8 1,5-戊二醛

PEL (TW)	PC-TWA: 0.82 mg/m ³ , 0.2 ppm
----------	--

50-00-0 福尔马林溶液

OEL (CN)	最高容许浓度: 0.5 mg/m ³ 敏, G1
----------	--

PEL (TW)	PC-TWA: 1.2 mg/m ³ , 1 ppm
----------	---------------------------------------

- **额外的资料:** 制作期间有效的清单将作为基础来使用.

· 泄漏控制

· 个人防护设备:

· 一般保护和卫生措施:

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

· 呼吸系统防护:

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

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(在 4 页继续)

· 手防护:



保护手套

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

· 手套材料

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

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

· 眼睛防护:



密封的护目镜

9 理化特性

· 有关基本物理及化学特性的信息

· 一般说明

外观外观外观

形状形状形状 液体

颜色颜色颜色 纯净的

气味气味气味 类似水果

· 嗅觉阈限 未决定.

· pH值 在 20 °C: 4.5

· 条件的更改

熔点熔点熔点 未确定的

沸点沸点初沸点和沸程: 100 °C

闪点闪点闪点 不适用的

· 可燃性 (固体、气体): 不适用的

· 分解温度: 未决定.

· 自然温度: 该产品是不自燃的

· 爆炸的危险性: 该产品并没有爆炸的危险

· 爆炸极限:

较低较低较低 未决定.

较高: 未决定.

· 蒸气压 在 20 °C: 23 hPa

密度密度密度 在 0 °C: 0.99592 g/cm³

· 相对密度密度 未决定.

· 蒸气密度 未决定.

(在 6 页继续)

化学品安全技术说明书

据根根据据根T 16483-2008, GB/T 17519-2013

打印日期 2020.04.09

在 2020.04.09 审核

化学品中文名称: 福尔马林溶液
 化学品英文名称: 福尔马林溶液
 俗名或商品名: KARNOVSKY'S FIXATIVE

(在 5 页继续)

· 蒸发速率	未决定.
· 溶解性	
水:	不能拌和的或难以拌和
· 辛醇-水分配系数	未决定.
· 黏性:	
动态黏度	未决定.
运动黏度	未决定.
· 溶剂成份:	
溶剂	3.2 %
水:	42.8 %
· 固体成份:	0.0 %
· 其他信息	无相关详细资料。

10 稳定性和反应性

- 稳定性: 无相关详细资料。
- 稳定性: 稳定
- 分解: 分解
- 分解产物: 如果遵照规格使用则不会分解。
- 有害性: 未有已知的危险反应。
- 避免条件: 无相关详细资料。
- 不相容的物质: 无相关详细资料。
- 危险的分解产物: 未知有危险的分解产品。

11 毒理学信息

- 对毒性学影响的信息
- 急性毒性:

· 与分类相关的 LD/ LC50 值:		
111-30-8 1,5-戊二醛		
口腔	LD50	134 mg/kg (rat)
皮肤	LD50	2,560 mg/kg (rabbit)
50-00-0 福尔马林溶液		
口腔	LD50	>200 mg/kg (rat)

- 主要刺激影响:
- 皮肤刺激: 刺激皮肤和粘膜。
- 在眼睛上面: 强烈的刺激性和造成严重伤害眼睛的危险。
- 致敏作用:
- 通过吸入可能造成敏化作用。
- 通过皮肤接触可能造成敏化作用。
- 更多毒物的资料:
- 根据有关配制的一般欧盟分类指南的计算方法 (刊印在最新版本), 该产品显示以下的危险:
- 有害的
- 刺激性的
- 致癌的。

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(在 7 页继续)

运输危险等级

· ADR, IMDG, IATA



· 级别 8 腐蚀性物质
 标签 8

· 包装组别

· ADR, IMDG, IATA

II

· 危害环境:

不适用的

· 用户特别预防措施

警告: 腐蚀性物质

· 危险编码:

80

· 环境代码

F-A,S-B

· Segregation groups

Acids

· Stowage Category

B

· Stowage Code

SW2 Clear of living quarters.

· MARPOL73/78(针对船舶引起的海洋污染预防协
 议)附件 I 根据国际船舶载运危险货物规则
 的大量运送

不适用的

运输额外的资料:

· 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

· 标准规定

UN 1760 腐蚀性液体, 未另作规定的 (1,5-戊二醛, 甲醛溶液), 8, II

15 法规信息

· 对相应纯物质或者混合物的安全、保健及环境法规/法律

· 危险化学品安全管理条例

· 危险化学品目录

111-30-8 1,5-戊二醛

50-00-0 福尔马林溶液

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CN

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(在 8 页继续)

· 新化学物质环境管理办法

· 国家环境优先化学品名录

列出所有成分

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



GHS05 GHS07 GHS08

名称名称名称

· 标签上辨别危险的成份:

1,5-戊二醛 (>2.5-≤10 %)
 福尔马林溶液 (>2.5-≤10 %)

· 危险字句

吞咽可能有害
 吸入有害
 造成皮肤刺激
 造成严重眼损伤
 吸入可能导致过敏或哮喘病症状或呼吸困难
 可能导致皮肤过敏反应
 怀疑会导致遗传性缺陷
 可能致癌
 可引起呼吸道刺激
 对水生生物有毒
 对水生生物有害并具有长期持续影响

· 警戒字句

· 事故响应

如进入眼睛:用水小心冲洗几分钟。如戴隐形眼镜并可方便地取出,取出隐形眼镜。继续冲洗
 立即呼叫急救中心/医生
 具体治疗(见本标签上的)
 脱掉沾染的衣服,清洗后方可重新使用

· 安全储存

存放处须加锁

· 废弃处置

处置内装物/容器按照地方/区域/国家/国际规章

国家国家国家

- **有关使用限制的资料:** 禁止员工接触在配制中含有致癌的物料. 在某些情况中由当局作出例外的决定.
- **化学物质安全性评价:** 尚未进行化学物质安全性评价

16 其他信息

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

· 缩写:

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

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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: 持久性生物累积性有毒物质
 vPvB: very Persistent and very Bioaccumulative
 易燃液体 第4类: Flammable liquids – Category 4
 急性毒性(经口) 第3类: Acute toxicity – Category 3
 急性毒性(经皮肤) 第5类: Acute toxicity – Category 5
 急性毒性(吸入) 第2类: Acute toxicity – Category 2
 急性毒性(吸入) 第4类: Acute toxicity – Category 4
 皮肤腐蚀/刺激 第1B类: Skin corrosion/irritation – Category 1B
 皮肤腐蚀/刺激 第2类: Skin corrosion/irritation – Category 2
 严重眼睛损伤/眼睛刺激性 第1类: Serious eye damage/eye irritation – Category 1
 敏化(呼吸) 第1类: Respiratory sensitisation – Category 1
 敏化(皮肤) 第1类: Skin sensitisation – Category 1
 敏化(皮肤) 第1A类: Skin sensitisation – Category 1A
 生殖细胞致突变性 第2类: Germ cell mutagenicity – Category 2
 致癌性 第1B类: Carcinogenicity – Category 1B
 特定靶器官系统毒性 (单次接触) 第3类: Specific target organ toxicity (single exposure) – Category 3
 对水环境的危害(急性) 第1类: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
 对水环境的危害(急性) 第2类: Hazardous to the aquatic environment - acute aquatic hazard – Category 2
 对水环境的危害(慢性) 第2类: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
 对水环境的危害(慢性) 第3类: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

-CN-

Bezpečnostní list

podle 1907/2006/ES, Článek 31

Datum vydání: 09.04.2020

Revize: 09.04.2020

ODDÍL 1: Identifikace látky/směsi a společnosti/podniku

- **1.1 Identifikátor výrobku**
- **Obchodní označení:** KARNOVSKY'S FIXATIVE
- **Číslo výrobku:**
15720, 15732, CUSTOM FIXATIVE, 15730, 15720-CUSTOM, 15732-10, 15732-10 SPECIAL, 15732-1/2-SP, 15732-SP, 15720 SPECIAL, 15730 SPECIAL, 15732-10/CUSTOM
- **1.2 Příslušná určená použití látky nebo směsi a nedoporučená použití**
Další relevantní informace nejsou k dispozici.
- **Použití látky / přípravku** Laboratorní chemikálie
- **1.3 Podrobné údaje o dodavateli bezpečnostního listu**
- **Identifikace výrobce/dovozce:**
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
- **Obor poskytující informace:** Product safety department
- **1.4 Telefonní číslo pro naléhavé situace:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

ODDÍL 2: Identifikace nebezpečnosti

- **2.1 Klasifikace látky nebo směsi**
- **Klasifikace v souladu s nařízením (ES) č. 1272/2008**



GHS08 nebezpečnost pro zdraví

Resp. Sens. 1 H334 Při vdechování může vyvolat příznaky alergie nebo astmatu nebo dýchací potíže.

Muta. 2 H341 Podezření na genetické poškození.

Carc. 1B H350 Může vyvolat rakovinu.



GHS05 korozivita

Eye Dam. 1 H318 Způsobuje vážné poškození očí.



GHS07

Acute Tox. 4 H332 Zdraví škodlivý při vdechování.

Skin Irrit. 2 H315 Dráždí kůži.

Skin Sens. 1 H317 Může vyvolat alergickou kožní reakci.

STOT SE 3 H335 Může způsobit podráždění dýchacích cest.

Aquatic Chronic 3 H412 Škodlivý pro vodní organismy, s dlouhodobými účinky.

(pokračování na straně 2)

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Obchodní označení: **KARNOVSKY'S FIXATIVE**

(pokračování strany 1)

- **2.2 Prvky označení**
- **Označování v souladu s nařízením (ES) č. 1272/2008**
Produkt je klasifikován a označen podle nařízení CLP.
- **Výstražné symboly nebezpečnosti**



GHS05 GHS07 GHS08

- **Signální slovo Nebezpečí**
- **Nebezpečné komponenty k etiketování:**
Glutaraldehyd
Formaldehyd
- **Standardní věty o nebezpečnosti**
H332 Zdraví škodlivý při vdechování.
H315 Dráždí kůži.
H318 Způsobuje vážné poškození očí.
H334 Při vdechování může vyvolat příznaky alergie nebo astmatu nebo dýchací potíže.
H317 Může vyvolat alergickou kožní reakci.
H341 Podezření na genetické poškození.
H350 Může vyvolat rakovinu.
H335 Může způsobit podráždění dýchacích cest.
H412 Škodlivý pro vodní organismy, s dlouhodobými účinky.
- **Pokyny pro bezpečné zacházení**
P305+P351+P338 **PŘI ZASAŽENÍ OČÍ:** Několik minut opatrně vyplachujte vodou. Vyjměte kontaktní čočky, jsou-li nasazeny a pokud je lze vyjmout snadno. Pokračujte ve vyplachování.
P310 Okamžitě volejte TOXIKOLOGICKÉ INFORMAČNÍ STŘEDISKO/lékaře.
P321 Odborné ošetření (viz na tomto štítku).
P362+P364 Kontaminovaný oděv svlekněte a před opětovným použitím vyperte.
P405 Skladujte uzamčené.
P501 Obsah/nádobu likvidujte v souladu s místními/regionálními/národními/mezinárodními předpisy.
- **2.3 Další nebezpečnost**
- **Výsledky posouzení PBT a vPvB**
- **PBT:** Nedá se použít.
- **vPvB:** Nedá se použít.

ODDÍL 3: Složení/informace o složkách

- **3.2 Chemická charakteristika: Směsi**
- **Popis:** Směs obsahuje následné látky bez nebezpečných příměsí.

(pokračování na straně 3)

Bezpečnostní list

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Obchodní označení: KARNOVSKY'S FIXATIVE

(pokračování strany 2)

· **Výrobek obsahuje tyto nebezpečné látky:**

CAS: 111-30-8 EINECS: 203-856-5	Glutaraldehyd Acute Tox. 3, H301; Acute Tox. 2, H330; Resp. Sens. 1, H334; Skin Corr. 1B, H314; Aquatic Acute 1, H400; Aquatic Chronic 2, H411; Skin Sens. 1A, H317; STOT SE 3, H335	>2,5-≤10%
CAS: 50-00-0 EINECS: 200-001-8	Formaldehyd Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Muta. 2, H341; Carc. 1B, H350; Skin Corr. 1B, H314; Skin Sens. 1, H317	>2,5-≤10%

· **Dodatečná upozornění:** Znění uvedených údajů o nebezpečnosti látky je uvedeno v kapitole 16.

ODDÍL 4: Pokyny pro první pomoc

· **4.1 Popis první pomoci**

· **Všeobecné pokyny:**

Příznaky otravy se mohou projevit až po mnoha hodinách, proto je nutný lékařský dohled nejméně 48 hodin po nehodě.

· **Při nadýchání:**

Bohatý přívod čerstvého vzduchu a pro jistotu vyhledat lékaře.

Při bezvědomí uložit a přepravit ve stabilní poloze na boku.

· **Při styku s kůží:** Ihned omýt vodou a mýdlem a dobře opláchnout.

· **Při zasažení očí:** Otevřené oči po více minut oplachovat pod tekoucí vodou a poradit se s lékařem.

· **Při požití:** Ihned vyhledat lékaře.

· **4.2 Nejdůležitější akutní a opožděné symptomy a účinky** Další relevantní informace nejsou k dispozici.

· **4.3 Pokyn týkající se okamžité lékařské pomoci a zvláštního ošetření**

Další relevantní informace nejsou k dispozici.

ODDÍL 5: Opatření pro hašení požáru

· **5.1 Hasiva**

· **Vhodná hasiva:** Způsob hašení přizpůsobit podmínkám v okolí.

· **5.2 Zvláštní nebezpečnost vyplývající z látky nebo směsi** Další relevantní informace nejsou k dispozici.

· **5.3 Pokyny pro hasiče**

· **Zvláštní ochranné prostředky pro hasiče:** Použít ochranný dýchací přístroj.

ODDÍL 6: Opatření v případě náhodného úniku

· **6.1 Opatření na ochranu osob, ochranné prostředky a nouzové postupy** Není nutné.

· **6.2 Opatření na ochranu životního prostředí:**

Při vniknutí do kanalizace nebo vodního toku informovat příslušné orgány.

Nenechat proniknout do kanalizace/povrchových vod/podzemních vod.

· **6.3 Metody a materiál pro omezení úniku a pro čištění:**

Sebrat s materiály, vázícími kapaliny (písek, šterkový písek, pojidla kyselin, universální pojidla, piliny).

Kontaminovaný materiál odstranit jako odpad podle bodu 13.

Zajistit dostatečné větrání.

· **6.4 Odkaz na jiné oddíly**

Informace o bezpečnému zacházení viz kapitola 7.

(pokračování na straně 4)

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Informace o osobní ochranné výstroji viz kapitola 8.
Informace k odstranění viz kapitola 13.

(pokračování strany 3)

ODDÍL 7: Zacházení a skladování

- **7.1 Opatření pro bezpečné zacházení**
Na pracovišti zabezpečit dobré větrání a odsávání.
Nádrž opatrně otevřít a zacházet s ní opatrně.
Zamezit vytváření aerosolů.
- **Upozornění k ochraně před ohněm a explozí:** Mít připravené ochranné dýchací přístroje.
- **7.2 Podmínky pro bezpečné skladování látek a směsí včetně neslučitelných látek a směsí**
- **Pokyny pro skladování:**
- **Požadavky na skladovací prostory a nádoby:** Žádné zvláštní požadavky.
- **Upozornění k hromadnému skladování:** Není nutné.
- **Další údaje k podmínkám skladování:** Nádrž držet neprodyšně uzavřenou.
- **7.3 Specifické konečné / specifická konečná použití** Další relevantní informace nejsou k dispozici.

ODDÍL 8: Omezování expozice / osobní ochranné prostředky

- **Technická opatření:** Žádné další údaje, viz bod 7.
- **8.1 Kontrolní parametry**

· **Kontrolní parametry:**

111-30-8 Glutaraldehyd

NPK	Krátkodobá hodnota: 0,4 mg/m ³ Dlouhodobá hodnota: 0,2 mg/m ³ I, S
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50-00-0 Formaldehyd

NPK	Krátkodobá hodnota: 1 mg/m ³ Dlouhodobá hodnota: 0,5 mg/m ³ I, K, P
-----	---

- **Další upozornění:** Jako podklad sloužily při zhotovení platné listiny.
- **8.2 Omezování expozice**
- **Osobní ochranné prostředky:**
- **Všeobecná ochranná a hygienická opatření:**
Zdržovat od potravin, nápojů a krmiv.
Zašpiněné, nasáknuté šaty ihned vysvléci.
Před přestávkami a po práci umýt ruce.
Ochranný oděv odděleně přechovávat.
Zabránit styku s pokožkou.
Zamezit styku s pokožkou a zrakem.
- **Ochrana dýchacích orgánů:**
Při krátkodobém nebo nízkém zatížení použít dýchací přístroj s filtrem, při intenzivním nebo delším zatížení se musí použít dýchací přístroj nezávislý na okolním vzduchu.

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· Ochrana rukou:



Ochranné rukavice

Materiál rukavic musí být nepropustný a odolný proti produktu / látce / směsi.

Vzhledem k tomu, že chybí testy, není možné doporučit materiál rukavic pro produkt / přípravek / chemickou směs.

Výběr materiálu rukavic proveďte podle času průniku, permeability a degradace.

· Materiál rukavic

Správný výběr rukavic nezávisí jen na materiálu, ale také na dalších kritériích, která se liší podle výrobce. Protože je výrobek směs více látek, nelze materiál rukavic předem vypočítat a je nutno udělat před použitím zkoušku.

· Doba průniku materiálem rukavic

Je nutno u výrobce rukavic zjistit a dodržovat přesné časy průniku materiálem ochranných rukavic.

· Ochrana očí:



Uzavřené ochranné brýle

ODDÍL 9: Fyzikální a chemické vlastnosti

· 9.1 Informace o základních fyzikálních a chemických vlastnostech

· Všeobecné údaje

· Vzhled:

Skupenství: Tekutina

Barva: Jasná

· Zápach: Po plodech

· Prahová hodnota zápachu: Není určeno.

· Hodnota pH při 20 °C: 4,5

· Změna stavu

Bod tání/bod tuhnutí: Není určeno.

Počáteční bod varu a rozmezí bodu varu: 100 °C

· Bod vzplanutí: Nedá se použít.

· Hořlavost (pevné látky, plyny): Nedá se použít.

· Teplota rozkladu: Není určeno.

· Teplota samovznícení: Produkt není samozápalný.

· Výbušné vlastnosti: U produktu nehrozí nebezpečí exploze.

· Meze výbušnosti:

Dolní mez: Není určeno.

Horní mez: Není určeno.

· Tlak páry při 20 °C: 23 hPa

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· Hustota při 20 °C:	0,99592 g/cm ³
· Relativní hustota	Není určeno.
· Hustota páry:	Není určeno.
· Rychlost odpařování	Není určeno.
· Rozpuštnost ve / směšitelnost s vodě:	Vůbec nemísitelná nebo jen málo mísitelná.
· Rozdělovací koeficient: n-oktanol/voda:	Není určeno.
· Viskozita:	
Dynamicky:	Není určeno.
Kinematicky:	Není určeno.
· Obsah ředidel:	
Organická ředidla:	3,2 %
Voda:	42,8 %
VOC (EC)	3,20 %
Obsah netěkavých složek:	0,0 %
· 9.2 Další informace	Další relevantní informace nejsou k dispozici.

ODDÍL 10: Stálost a reaktivita

- **10.1 Reaktivita** Další relevantní informace nejsou k dispozici.
- **10.2 Chemická stabilita**
- **Termický rozklad / Podmínky, kterých je nutno se vyvarovat:**
Nedochází k rozkladu při doporučeném způsobu použití.
- **10.3 Možnost nebezpečných reakcí** Žádné nebezpečné reakce nejsou známy.
- **10.4 Podmínky, kterým je třeba zabránit** Další relevantní informace nejsou k dispozici.
- **10.5 Neslučitelné materiály:** Další relevantní informace nejsou k dispozici.
- **10.6 Nebezpečné produkty rozkladu:** Nejsou známy žádné nebezpečné produkty při rozkladu.

ODDÍL 11: Toxikologické informace

- **11.1 Informace o toxikologických účincích**
- **Akutní toxicita**
Zdraví škodlivý při vdechování.

- **Zařazení relevantní hodnoty LD/LC 50:**

111-30-8 Glutaraldehyd

Orálně	LD50	134 mg/kg (rat)
Pokožkou	LD50	2.560 mg/kg (rabbit)

50-00-0 Formaldehyd

Orálně	LD50	>200 mg/kg (rat)
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- **Primární dráždivé účinky:**
- **Žíravost/dráždivost pro kůži**
Dráždí kůži.

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- **Vážné poškození očí / podráždění očí**
Způsobuje vážné poškození očí.
- **Senzibilizace dýchacích cest / senzibilizace kůže**
Při vdechování může vyvolat příznaky alergie nebo astmatu nebo dýchací potíže.
Může vyvolat alergickou kožní reakci.
- **Účinky CMR (karcinogenita, mutagenita a toxicita pro reprodukci)**
- **Mutagenita v zárodečných buňkách**
Podezření na genetické poškození.
- **Karcinogenita**
Může vyvolat rakovinu.
- **Toxicita pro reprodukci** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Toxicita pro specifické cílové orgány – jednorázová expozice**
Může způsobit podráždění dýchacích cest.
- **Toxicita pro specifické cílové orgány – opakovaná expozice**
Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Nebezpečnost při vdechnutí** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.

ODDÍL 12: Ekologické informace

- **12.1 Toxicita**
- **Aquatická toxicita:** Další relevantní informace nejsou k dispozici.
- **12.2 Perzistence a rozložitelnost** Další relevantní informace nejsou k dispozici.
- **12.3 Bioakumulační potenciál** Další relevantní informace nejsou k dispozici.
- **12.4 Mobilita v půdě** Další relevantní informace nejsou k dispozici.
- **Ekotoxické účinky:**
- **Poznámka:**
Jedovatý pro ryby.
Škodlivý pro ryby.
- **Další ekologické údaje:**
- **Všeobecná upozornění:**
Třída ohrožení vody 3 (Samozařazení): silně ohrožuje vodu
Nesmí vniknout do spodní vody, povodí nebo do kanalizace, ani v malých množstvích.
Ohrožuje pitnou vodu už při proniknutí nepatrného množství do zeminy.
V povodích je také jedovatá pro ryby a plankton.
jedovatá pro vodní organismy
škodlivá pro vodní organismy
- **12.5 Výsledky posouzení PBT a vPvB**
- **PBT:** Nedá se použít.
- **vPvB:** Nedá se použít.
- **12.6 Jiné nepříznivé účinky** Další relevantní informace nejsou k dispozici.

ODDÍL 13: Pokyny pro odstraňování

- **13.1 Metody nakládání s odpady**
- **Doporučení:** Nesmí se odstraňovat společně s odpady z domácnosti. Nepřipustit únik do kanalizace.

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- **Kontaminované obaly:**
- **Doporučení:** Odstranění podle příslušných předpisů.

ODDÍL 14: Informace pro přepravu

<ul style="list-style-type: none"> · 14.1 UN číslo · ADR, IMDG, IATA 	<p style="text-align: right;">UN1760</p>
<ul style="list-style-type: none"> · 14.2 Oficiální (OSN) pojmenování pro přepravu · ADR · IMDG, IATA 	<p style="text-align: right;">1760 LÁTKA ŽÍRAVÁ, KAPALNÁ, J.N. (Glutaraldehyd, FORMALDEHYD, ROZTOK) CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)</p>
<ul style="list-style-type: none"> · 14.3 Třída/třídy nebezpečnosti pro přepravu · ADR, IMDG, IATA 	<div style="text-align: center;">  </div>
<ul style="list-style-type: none"> · třída · Etiketa 	<p style="text-align: right;">8 Žíravé látky 8</p>
<ul style="list-style-type: none"> · 14.4 Obalová skupina · ADR, IMDG, IATA 	<p style="text-align: right;">II</p>
<ul style="list-style-type: none"> · 14.5 Nebezpečnost pro životní prostředí: 	<p style="text-align: right;">Nedá se použít.</p>
<ul style="list-style-type: none"> · 14.6 Zvláštní bezpečnostní opatření pro uživatele · Identifikační číslo nebezpečnosti (Kemlerovo číslo): · EMS-skupina: · Segregation groups · Stowage Category · Stowage Code 	<p style="text-align: right;">Varování: Žíravé látky 80 F-A, S-B Acids B SW2 Clear of living quarters.</p>
<ul style="list-style-type: none"> · 14.7 Hromadná přeprava podle přílohy II úmluvy MARPOL a předpisu IBC 	<p style="text-align: right;">Nedá se použít.</p>
<ul style="list-style-type: none"> · Přeprava/další údaje: 	
<ul style="list-style-type: none"> · ADR · Omezené množství (LQ) · Vyňatá množství (EQ) 	<p style="text-align: right;">1L Kód: E2 Nejvyšší čisté množství na vnitřní obal: 30 ml Nejvyšší čisté množství na vnější obal: 500 ml</p>
<ul style="list-style-type: none"> · Přepavní kategorie · Kód omezení pro tunely: 	<p style="text-align: right;">2 E</p>
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) 	<p style="text-align: right;">1L</p>

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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 LÁTKA ŽÍRAVÁ, KAPALNÁ, J.N. (GLUTARALDEHYD, FORMALDEHYD, ROZTOK), 8, II

ODDÍL 15: Informace o předpisech

- **15.1 Předpisy týkající se bezpečnosti, zdraví a životního prostředí/specifické právní předpisy týkající se látky nebo směsi**
- **Rady 2012/18/EU**
- **Nebezpečné látky jmenovitě uvedené - PŘÍLOHA I** Žádná z obsažených látek není na seznamu.
- **Rady (ES) č. 1907/2006 PŘÍLOHA XVII** Omezující podmínky: 3, 28, 72
- **Národní předpisy:**
- **Upozornění na omezení práce:**
Pracovníci nesmí přijít do styku s nebezpečnými látkami způsobujícími rakovinu, obsaženými v tomto přípravku. V jednotlivých případech mohou úřady povolit výjimku.
- **15.2 Posouzení chemické bezpečnosti:** Posouzení chemické bezpečnosti nebylo provedeno.

ODDÍL 16: Další informace

Údaje se opírají o dnešní stav našich vědomostí, nepředstavují však záruku vlastností produktu a nevznikají tak žádné smluvní právní vztahy.

- **Relevantní věty**
H301 Toxický při požití.
H311 Toxický při styku s kůží.
H314 Způsobuje těžké poleptání kůže a poškození očí.
H317 Může vyvolat alergickou kožní reakci.
H330 Při vdechování může způsobit smrt.
H331 Toxický při vdechování.
H334 Při vdechování může vyvolat příznaky alergie nebo astmatu nebo dýchací potíže.
H335 Může způsobit podráždění dýchacích cest.
H341 Podezření na genetické poškození.
H350 Může vyvolat rakovinu.
H400 Vysoce toxický pro vodní organismy.
H411 Toxický pro vodní organismy, s dlouhodobými účinky.
- **Zkratky a akronymy:**
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

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*LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Acute Tox. 3: Akutní toxicita - orální – Kategorie 3**Acute Tox. 2: Akutní toxicita - inhalační – Kategorie 2**Acute Tox. 4: Akutní toxicita - inhalační – Kategorie 4**Skin Corr. 1B: Žíravost/dráždivost pro kůži – Kategorie 1B**Skin Irrit. 2: Žíravost/dráždivost pro kůži – Kategorie 2**Eye Dam. 1: Vážné poškození očí / podráždění očí – Kategorie 1**Resp. Sens. 1: Senzibilizace dýchacích cest – Kategorie 1**Skin Sens. 1: Senzibilizace kůže – Kategorie 1**Skin Sens. 1A: Senzibilizace kůže – Kategorie 1A**Muta. 2: Mutagenita v zárodečných buňkách – Kategorie 2**Carc. 1B: Karcinogenita – Kategorie 1B**STOT SE 3: Toxicita pro specifické cílové orgány (jednorázová expozice) – Kategorie 3**Aquatic Acute 1: Nebezpečnost pro vodní prostředí - akutní nebezpečnost pro vodní prostředí – Kategorie 1**Aquatic Chronic 2: Nebezpečnost pro vodní prostředí - dlouhodobá nebezpečnost pro vodní prostředí – Kategorie 2**Aquatic Chronic 3: Nebezpečnost pro vodní prostředí - dlouhodobá nebezpečnost pro vodní prostředí – Kategorie 3*

CZ

Sikkerhedsdatablad

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

· 1.1 Produktidentifikator

· Handelsnavn: KARNOVSKY'S FIXATIVE

· Artikelnummer:

15720, 15732, CUSTOM FIXATIVE, 15730, 15720-CUSTOM, 15732-10, 15732-10 SPECIAL, 15732-1/2-SP, 15732-SP, 15720 SPECIAL, 15730 SPECIAL, 15732-10/CUSTOM

· 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.



GHS05 ætsning

Eye Dam. 1 H318 Forårsager alvorlig øjenskade.



GHS07

Acute Tox. 4 H332 Farlig ved indånding.

Skin Irrit. 2 H315 Forårsager hudirritation.

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.

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Sikkerhedsdatablad

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



GHS05 GHS07 GHS08

- **Signalord Fare**
- **Farebestemmende komponent(er) til etikettering:**
glutaral
formaldehyd
- **Faresætninger**
H332 Farlig ved indånding.
H315 Forårsager hudirritation.
H318 Forårsager alvorlig øjenskade.
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**
P305+P351+P338 VED KONTAKT MED ØJNENE: Skyl forsigtigt med vand i flere minutter. Fjern eventuelle kontaktlinser, hvis dette kan gøres let. Fortsæt skylning.
P310 Ring omgående til en GIFTINFORMATION/læge.
P321 Særlig behandling (se på denne etiket).
P362+P364 Alt tilsmudset tøj tages af og vaskes inden genanvendelse.
P405 Opbevares under lås.
P501 Bortskaffelse af indholdet/holderen 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.

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




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

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

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 tilskadekomne 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 og søg læge.

· **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.

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.

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- 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.
- **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/m ³ , 0,2 ppm
L	

50-00-0 formaldehyd

GV	Loftværdi: 0,4 mg/m ³ , 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 huden.
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.

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- **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.

- **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:	Frugtagtig
· Lugttærskel:	Ikke bestemt.

- **pH-værdi ved 20 °C:** 4,5

- **Tilstandsændring**

· Smeltepunkt/frysepunkt:	Ikke bestemt.
· Begyndelseskogepunkt og kogepunktsinterval:	100 °C

- **Flammepunkt:** Ikke relevant.

- **Antændelighed (fast stof, luftart):** Ikke relevant.

- **Dekomponeringstemperatur:** Ikke bestemt.

- **Selvantændelsestemperatur:** Produktet er ikke selvantændeligt.

- **Eksplorative egenskaber:** Produktet er ikke eksplosivt.

- **Eksplisionsgrænser:**

· Nedre:	Ikke bestemt.
· Øvre:	Ikke bestemt.

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· Damptryk ved 20 °C:	23 hPa
· Densitet ved 20 °C:	0,99592 g/cm ³
· Relativ massefylde:	Ikke bestemt.
· Dampmassefylde:	Ikke bestemt.
· Fordampningshastighed	Ikke bestemt.
· Opløselighed i/blandbarhed med vand:	Ikke eller kun lidt blandbar.
· Fordelelingskoefficient: n-oktanol/vand:	Ikke bestemt.
· Viskositet:	
dynamisk:	Ikke bestemt.
kinematisk:	Ikke bestemt.
· Opløsningsmiddelindhold:	
Organiske opløsningsmidler:	3,2 %
Vand	42,8 %
VOC (EU)	3,20 %
· Tørstofindhold:	0,0 %
· 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.

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- **Alvorlig øjenskade/øjenirritation**
Forårsager alvorlig øjenskade.
- **Respiratorisk sensibilisering eller hudsensibilisering**
*Kan forårsage allergi- eller astmasymptomer eller åndedrætsbesvær ved indånding.
Kan forårsage allergisk hudreaktion.*
- **CMR-virkninger (kræftfremkaldende egenskaber, mutagenitet og reproduktionstoksicitet)**
- **Kimcellemutagenitet**
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.

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 3 (Selvklassificering): stærkt vandforurenende
Må ikke udledes i grundvandet, vandløb eller kloaksystemet, heller ikke i små mængder.
Risiko for forurening af drikkevandet allerede ved udslip af ganske 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.

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- **Urensede emballager:**
- **Anbefaling:** Bortskaffes i overensstemmelse med myndighedernes forskrifter.

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) |
| · 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 |

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- | | |
|--|---|
| <ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) | <p>1L
Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml</p> |
| <ul style="list-style-type: none"> · UN "Model Regulation": | <p>UN 1760 ÆTSENDE VÆSKE, N.O.S. (GLUTARAL, FORMALDEHYDOPLØSNING), 8, II</p> |

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
- **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 produktgenskaber 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

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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: Hudetsning/hudirritation – Kategori 1B
Skin Irrit. 2: Hudetsning/hudirritation – Kategori 2
Eye Dam. 1: Alvorlige øjenskader/øjenirritation – Kategori 1
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 - langtidfare for vandmiljøet – Kategori 2
Aquatic Chronic 3: Farlig for vandmiljøet - langtidfare for vandmiljøet – Kategori 3

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Herziening van: 09.04.2020

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

· 1.1 Productidentificatie

· **Handelsnaam:** KARNOVSKY'S FIXATIVE

· **Artikelnummer:**

15720, 15732, CUSTOM FIXATIVE, 15730, 15720-CUSTOM, 15732-10, 15732-10 SPECIAL, 15732-1/2-SP, 15732-SP, 15720 SPECIAL, 15730 SPECIAL, 15732-10/CUSTOM

· 1.2 Relevant geïdentificeerd gebruik van de stof of het mengsel en ontraden gebruik

Geen verdere relevante informatie verkrijgbaar.

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

· 1.3 Details betreffende de verstrekker van het veiligheidsinformatieblad

· **Fabrikant/leverancier:**

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

Aurion
Binnenhaven 5
6709 PD Wageningen
The Netherlands
Tel: 31 317 415094
Fax: 31 317 415955
email: info@aurion.nl

· **Inlichtingengevende sector:** Product safety department

· 1.4 Telefoonnummer voor noodgevallen:

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

RUBRIEK 2: Identificatie van de gevaren

· 2.1 Indeling van de stof of het mengsel

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



GHS08 gezondheidsgevaar

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

Muta. 2 H341 Verdacht van het veroorzaken van genetische schade.

Carc. 1B H350 Kan kanker veroorzaken.



GHS05 corrosie

Eye Dam. 1 H318 Veroorzaakt ernstig oogletsel.

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GHS07

Acute Tox. 4 H332 Schadelijk bij inademing.
 Skin Irrit. 2 H315 Veroorzaakt huidirritatie.
 Skin Sens. 1 H317 Kan een allergische huidreactie veroorzaken.
 STOT SE 3 H335 Kan irritatie van de luchtwegen veroorzaken.
 Aquatic Chronic 3 H412 Schadelijk voor in het water levende organismen, met langdurige gevolgen.

· 2.2 Etiketteringselementen

· Etikettering overeenkomstig Verordening (EG) nr. 1272/2008

Het product is geclassificeerd en geëtiketteerd volgens de CLP-verordening.

· Gevarenpictogrammen



GHS05 GHS07 GHS08

· Signaalwoord Gevaar

· Gevaaraanduidende componenten voor de etikettering:

Glutaaraldehyd

formaldehyde

· Gevarenaanduidingen

H332 Schadelijk bij inademing.

H315 Veroorzaakt huidirritatie.

H318 Veroorzaakt ernstig oogletsel.

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

H317 Kan een allergische huidreactie veroorzaken.

H341 Verdacht van het veroorzaken van genetische schade.

H350 Kan kanker veroorzaken.

H335 Kan irritatie van de luchtwegen veroorzaken.

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

· Veiligheidsaanbevelingen

P305+P351+P338 **BIJ CONTACT MET DE OGEN:** voorzichtig afspoelen met water gedurende een aantal minuten; contactlenzen verwijderen, indien mogelijk; blijven spoelen.

P310 Onmiddellijk een ANTIGIFCENTRUM/arts raadplegen.

P321 Specifieke behandeling vereist (zie op dit etiket).

P362+P364 Verontreinigde kleding uittrekken en wassen alvorens deze opnieuw te gebruiken.

P405 Achter slot bewaren.

P501 De inhoud en de verpakking verwerken volgens de plaatselijke/regionale/nationale/internationale voorschriften.

· 2.3 Andere gevaren

· Resultaten van PBT- en zPzB-beoordeling

· **PBT:** Niet bruikbaar.

· **zPzB:** Niet bruikbaar.

NL

(Vervolg op blz. 3)

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

- **Aanvullende gegevens:**

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

RUBRIEK 4: Eerstehulpmaatregelen

- **4.1 Beschrijving van de eerstehulpmaatregelen**
- **Algemene informatie:**
Het is mogelijk dat vergiftigingssymptomen pas na vele uren optreden. Om deze reden is medische controle gedurende minstens 48 uur na een ongeval noodzakelijk.
- **Na het inademen:**
Veel verse lucht toedienen en voor alle zekerheid een arts raadplegen.
Bij bewusteloosheid ligging en vervoer in stabiele zijligging.
- **Na huidcontact:** Onmiddellijk met water en zeep afwassen en goed naspoelen.
- **Na oogcontact:**
Ogen met open ooglid een aantal minuten onder stromend water afspoelen en dokter raadplegen.
- **Na inslikken:** Onmiddellijk arts raadplegen.
- **4.2 Belangrijkste acute en uitgestelde symptomen en effecten**
Geen verdere relevante informatie verkrijgbaar.
- **4.3 Vermelding van de vereiste onmiddellijke medische verzorging en speciale behandeling**
Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 5: Brandbestrijdingsmaatregelen

- **5.1 Blusmiddelen**
- **Geschikte blusmiddelen:** Brandblusmaatregelen op omgeving afstemmen.
- **5.2 Speciale gevaren die door de stof of het mengsel worden veroorzaakt**
Geen verdere relevante informatie verkrijgbaar.
- **5.3 Advies voor brandweertieners**
- **Speciale beschermende kleding:** Ademhalingstoestel aantrekken.

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

- **6.1 Persoonlijke voorzorgsmaatregelen, beschermde uitrusting en noodprocedures** Niet nodig.

(Vervolg op blz. 4)

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- **6.2 Milieuvorzorgsmaatregelen:**
Bij indringen in afvalwater of riolering moet de bevoegde instantie gewaarschuwd worden.
Niet in de riolering/het oppervlaktewater/het grondwater laten terechtkomen.
- **6.3 InsluTINGS- en reinigingsmethoden en -materiaal:**
Met vloeistofbindend materiaal (zand, bergmeel, zuurbinder, universele binder, zaagmeel) opnemen.
Besmet materiaal zoals afval volgens punt 13 verwijderen.
Voor voldoende ventilatie zorgen.
- **6.4 Verwijzing naar andere rubrieken**
Informatie inzake veilig gebruik - zie hoofdstuk 7.
Informatie inzake persoonlijke beschermingsuitrusting - zie hoofdstuk 8.
Informatie inzake berging - zie hoofdstuk 13.

RUBRIEK 7: Hantering en opslag

- **7.1 Voorzorgsmaatregelen voor het veilig hanteren van de stof of het mengsel**
Voor goede ventilatie/afzuiging op de werkplaatsen zorgen.
Tanks voorzichtig openen en behandelen.
Aërosolvorming vermijden.
- **Informatie m.b.t. brand- en ontploffingsgevaar:** Ademhalingstoestellen gereedhouden.
- **7.2 Voorwaarden voor een veilige opslag, met inbegrip van incompatibele producten**
- **Opslag:**
- **Eisen ten opzichte van opslagruimte en tanks:** Geen bijzondere eisen.
- **Informatie m.b.t. gezamenlijke opslag:** Niet noodzakelijk.
- **Verdere inlichtingen over eisen m.b.t. de opslag:** Tanks ondoordringbaar gesloten houden.
- **7.3 Specifiek eindgebruik** Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 8: Maatregelen ter beheersing van blootstelling/persoonlijke bescherming

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

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

50-00-0 formaldehyde

WGW	Korte termijn waarde: 0,5 mg/m ³ , 0,4 ppm Lange termijn waarde: 0,15 mg/m ³ , 0,1 ppm
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- **Aanvullende gegevens:** Als basis dienden lijsten die bij opstelling geldig waren.
- **8.2 Maatregelen ter beheersing van blootstelling**
- **Persoonlijke beschermingsvoorzieningen:**
- **Algemene beschermings- en gezondheidsmaatregelen:**
Verwijderd houden van eet- en drinkwaren.
Verontreinigde kleding onmiddellijk uittrekken.
Vóór de pauze en aan het einde van werktijd handen wassen.
Beschermende kleding afzonderlijk bewaren.
Aanraking met de huid vermijden.
Aanraking met de ogen en de huid vermijden.
- **Ademhalingsbescherming:**
Bij korte of geringe belasting ademfiltertoestel; bij intensieve resp. langdurige expositie een van de omringende lucht onafhankelijk ademhalingstoestel gebruiken.

(Vervolg op blz. 5)

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· Handbescherming:

Veiligheidshandschoenen

Het handschoenmateriaal moet ondoorlatend en bestand zijn tegen het product / de stof / de bereiding.
Op grond van falende testen kan geen aanbeveling voor handschoenmateriaal voor het product / de bereiding / het chemicaliënmengsel afgegeven worden.

Kies handschoenmateriaal rekening houdend met de penetratietijden, de permeatiegraden en de degradatie.

· Handschoenmateriaal

De keuze van een geschikte handschoen is niet alleen afhankelijk van het materiaal, maar ook van andere kwaliteitskenmerken en verschilt van fabrikant tot fabrikant. Aangezien het product uit meerdere stoffen is samengesteld, is de duurzaamheid van de handschoenmaterialen niet vooraf berekenbaar en moet derhalve vóór het gebruik worden getest.

· Doordringingstijd van het handschoenmateriaal

De precieze penetratietijd kunt u te weten komen bij de handschoenfabrikant; houd er rekening mee.

· Oogbescherming:

Nauw aansluitende veiligheidsbril

RUBRIEK 9: Fysische en chemische eigenschappen

· 9.1 Informatie over fysische en chemische basiseigenschappen**· Algemene gegevens****· Voorkomen:**

Vorm:	Vloeistof
Kleur:	Helder
Geur:	Vruchtachtig
Geurdrempelwaarde:	Niet bepaald.

· pH-waarde bij 20 °C: 4,5

· Toestandsverandering

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

· Vlampunt: Niet bruikbaar.

· Ontvlambaarheid (vast, gas): Niet bruikbaar.

· Ontledingstemperatuur: Niet bepaald.

· Zelfontbrandingstemperatuur: Het produkt ontbrandt niet uit zichzelf.

· Ontploffingseigenschappen: Het produkt is niet ontploffingsgevaarlijk.

· Ontploffingsgrenzen:

Onderste:	Niet bepaald.
Bovenste:	Niet bepaald.

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· Dampspanning bij 20 °C:	23 hPa
· Dichtheid bij 20 °C:	0,99592 g/cm ³
· Relatieve dichtheid	Niet bepaald.
· Dampdichtheid	Niet bepaald.
· Verdampingssnelheid	Niet bepaald.
· Oplosbaarheid in/mengbaarheid met Water:	Niet resp. gering mengbaar.
· Verdelingscoëfficiënt: n-octanol/water:	Niet bepaald.
· Viscositeit	
Dynamisch:	Niet bepaald.
Kinematisch:	Niet bepaald.
· Oplosmiddelgehalte:	
Organisch oplosmiddel:	3,2 %
Water:	42,8 %
VOC (EG)	3,20 %
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)
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- **Primaire aandoening:**
- **Huidcorrosie/-irritatie**
Veroorzaakt huidirritatie.

(Vervolg op blz. 7)

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

RUBRIEK 12: Ecologische informatie

- **12.1 Toxiciteit**
- **Aquatische toxiciteit:** Geen verdere relevante informatie verkrijgbaar.
- **12.2 Persistentie en afbreekbaarheid** Geen verdere relevante informatie verkrijgbaar.
- **12.3 Bioaccumulatie** Geen verdere relevante informatie verkrijgbaar.
- **12.4 Mobiliteit in de bodem** Geen verdere relevante informatie verkrijgbaar.
- **Ecotoxische effecten:**
- **Opmerking:**
Giftig voor vissen.
Schadelijk voor vissen.
- **Verdere ecologische informatie:**
- **Algemene informatie:**
Waterbezwaarlijkheid (NL): Z(1) niet afbreekbare stoffen met gevaarlijke eigenschappen voor mens en milieu (carcinogeniteit/mutageniteit/ reprotoxiciteit/bioaccumulerend vermogen/ toxiciteit of persistentie)
Gevaar voor water klasse 3 (D) (Zelfclassificatie): gevaar voor water groot
Niet lozen in grondwater, oppervlaktewater of riolering, ook niet in kleine hoeveelheden.
Gevaar voor drinkwater zelfs bij het uitlopen van zeer geringe hoeveelheden in de ondergrond.
In oppervlaktewater ook giftig voor vissen en plankton.
giftig voor in het water levende organismen
schadelijk voor in het water levende organismen
- **12.5 Resultaten van PBT- en zPzB-beoordeling**
- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.
- **12.6 Andere schadelijke effecten** Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 13: Instructies voor verwijdering

- **13.1 Afvalverwerkingsmethoden**
- **Aanbeveling:** Mag niet tesamen met huisvuil gestort worden of in de riolering terechtkomen.

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- **Niet gereinigde verpakkingen:**
- **Aanbeveling:** Afvalverwijdering volgens overheidsbepalingen.

RUBRIEK 14: Informatie met betrekking tot het vervoer

· 14.1 VN-nummer · ADR, IMDG, IATA	UN1760
· 14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN · ADR · IMDG, IATA	1760 BIJTENDE VLOEISTOF, N.E.G. (Glutaaraldehyd, FORMALDEHYDE, OPLOSSING) CORROSIVE LIQUID, N.O.S. (Glutaaraldehyde, FORMALDEHYDE SOLUTION)
· 14.3 Transportgevaarenklasse(n) · ADR, IMDG, IATA	
	
· klasse · Etiket	8 Bijtende stoffen 8
· 14.4 Verpakkingsgroep: · ADR, IMDG, IATA	II
· 14.5 Milieugevaren:	Niet bruikbaar.
· 14.6 Bijzondere voorzorgen voor de gebruiker · Gevaarsidentificatienummer (Kemler-getal): · EMS-nummer: · Segregation groups · Stowage Category · Stowage Code	Waarschuwing: Bijtende stoffen 80 F-A,S-B Acids B SW2 Clear of living quarters.
· 14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code	Niet bruikbaar.
· Transport/verdere gegevens:	
· ADR · Beperkte hoeveelheden (LQ) · Uitgezonderde hoeveelheden (EQ)	1L Code: E2 Grootste netto hoeveelheid per binnenverpakking: 30 ml Grootste netto hoeveelheid per buitenverpakking: 500 ml
· Vervoerscategorie · Tunnelbeperkingscode	2 E

(Vervolg op blz. 9)

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- | | |
|--|---|
| <ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) | <p>1L
Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml</p> |
| <ul style="list-style-type: none"> · VN "Model Regulation": | <p>UN 1760 BIJTENDE VLOEISTOF, N.E.G. (GLUTAARALDEHYD, FORMALDEHYDE, OPLOSSING), 8, II</p> |

RUBRIEK 15: Regelgeving

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

- **SZW-lijst van kankerverwekkende stoffen**

50-00-0 formaldehyde

- **SZW-lijst van mutagene stoffen**

geen der bestanddelen staat op de lijst.

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

geen der bestanddelen staat op de lijst.

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

geen der bestanddelen staat op de lijst.

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

geen der bestanddelen staat op de lijst.

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

50-00-0 formaldehyde

- **Lijst van Potentieel Zeer Zorgwekkende Stoffen**

111-30-8 Glutaaraldehyd

- **Richtlijn 2012/18/EU**

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

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

- **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.

NL

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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

INECS: 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

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

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

Resp. Sens. 1: Sensibilisatie van de luchtwegen – Categorie 1

Skin Sens. 1: Sensibilisatie van de huid – Categorie 1

Skin Sens. 1A: Sensibilisatie van de huid – Categorie 1A

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

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 09.04.2020

Révision: 09.04.2020

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

- **1.1 Identificateur de produit**
- **Nom du produit:** KARNOVSKY'S FIXATIVE
- **Code du produit:**
15720, 15732, CUSTOM FIXATIVE, 15730, 15720-CUSTOM, 15732-10, 15732-10 SPECIAL, 15732-1/2-SP, 15732-SP, 15720 SPECIAL, 15730 SPECIAL, 15732-10/CUSTOM
- **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. |



GHS05 corrosion

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



GHS07

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

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



GHS05 GHS07 GHS08

- **Mention d'avertissement** Danger
- **Composants dangereux déterminants pour l'étiquetage:**
glutaral
Formaldéhyde
- **Mentions de danger**
H332 Nocif par inhalation.
H315 Provoque une irritation cutanée.
H318 Provoque de graves lésions des yeux.
H334 Peut provoquer des symptômes allergiques ou d'asthme ou des difficultés respiratoires par inhalation.
H317 Peut provoquer une allergie cutanée.
H341 Susceptible d'induire des anomalies génétiques.
H350 Peut provoquer le cancer.
H335 Peut irriter les voies respiratoires.
H412 Nocif pour les organismes aquatiques, entraîne des effets néfastes à long terme.
- **Conseils de prudence**
P305+P351+P338 **EN CAS DE CONTACT AVEC LES YEUX: Rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.**
P310 Appeler immédiatement un CENTRE ANTIPOISON/un médecin.
P321 Traitement spécifique (voir sur cette étiquette).
P362+P364 Enlever les vêtements contaminés et les laver avant réutilisation.
P405 Garder sous clef.
P501 Éliminer le contenu/récipient conformément à la réglementation locale/régionale/nationale/internationale.
- **2.3 Autres dangers**
- **Résultats des évaluations PBT et vPvB**
- **PBT:** Non applicable.
- **vPvB:** Non applicable.

RUBRIQUE 3: Composition/informations sur les composants

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

- **Composants dangereux:**

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

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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	(suite de la page 2) >2,5-≤10%
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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 et consulter un médecin.
- **Après ingestion:** Consulter immédiatement un médecin.
- **4.2 Principaux symptômes et effets, aigus et différés** Pas d'autres informations importantes disponibles.
- **4.3 Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires**
Pas d'autres informations importantes disponibles.

RUBRIQUE 5: Mesures de lutte contre l'incendie

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

RUBRIQUE 6: Mesures à prendre en cas de dispersion accidentelle

- **6.1 Précautions individuelles, équipement de protection et procédures d'urgence** Pas nécessaire.
- **6.2 Précautions pour la protection de l'environnement:**
En cas de pénétration dans les eaux ou les égouts, avvertir les autorités compétentes.
Ne pas rejeter dans les canalisations, dans les eaux de surface et dans les nappes d'eau souterraines.
- **6.3 Méthodes et matériel de confinement et de nettoyage:**
Recueillir les liquides à l'aide d'un produit absorbant (sable, kieselguhr, neutralisant d'acide, liant universel, sciure).
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.

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Afin d'obtenir des informations sur l'élimination, consulter le chapitre 13.

RUBRIQUE 7: Manipulation et stockage

- **7.1 Précautions à prendre pour une manipulation sans danger**
Veiller à une bonne ventilation/aspiration du poste de travail.
Ouvrir et manipuler les récipients avec précaution.
Eviter la formation d'aérosols.
- **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 C1B, M2, (7)
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- **Remarques supplémentaires:**
Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.
- **8.2 Contrôles de l'exposition**
- **Equipement de protection individuel:**
- **Mesures générales de protection et d'hygiène:**
Tenir à l'écart des produits alimentaires, des boissons et de la nourriture pour animaux.
Retirer immédiatement les vêtements souillés ou humectés.
Se laver les mains avant les pauses et en fin de travail.
Conserver à part les vêtements de protection.
Eviter tout contact avec la peau.
Eviter tout contact avec les yeux et avec la peau.
- **Protection respiratoire:**
En cas d'exposition faible ou de courte durée, utiliser un filtre respiratoire; en cas d'exposition intense ou durable, utiliser un appareil de respiration indépendant de l'air ambiant.

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· **Protection des mains:**



Gants de protection

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

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

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

· **Matériau des gants**

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

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

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

· **Protection des yeux:**



Lunettes de protection hermétiques

RUBRIQUE 9: Propriétés physiques et chimiques

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

· **Indications générales**

· **Aspect:**

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

· **valeur du pH à 20 °C:** 4,5

· **Changement d'état**

Point de fusion/point de congélation:	Non déterminé.
Point initial d'ébullition et intervalle d'ébullition:	100 °C

· **Point d'éclair** Non applicable.

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

· **Température de décomposition:** Non déterminé.

· **Température d'auto-inflammabilité:** Le produit ne s'enflamme pas spontanément.

· **Propriétés explosives:** Le produit n'est pas explosif.

· **Limites d'explosion:**

Inférieure:	Non déterminé.
Supérieure:	Non déterminé.

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· Pression de vapeur à 20 °C:	23 hPa
· Densité à 20 °C:	0,99592 g/cm ³
· Densité relative	Non déterminé.
· Densité de vapeur:	Non déterminé.
· Taux d'évaporation:	Non déterminé.
· Solubilité dans/miscibilité avec l'eau:	Pas ou peu miscible
· Coefficient de partage: n-octanol/eau:	Non déterminé.
· Viscosité:	
Dynamique:	Non déterminé.
Cinématique:	Non déterminé.
· Teneur en solvants:	
Solvants organiques:	3,2 %
Eau:	42,8 %
VOC (CE)	3,20 %
· Teneur en substances solides:	0,0 %
· 9.2 Autres informations	Pas d'autres informations importantes disponibles.

RUBRIQUE 10: Stabilité et réactivité

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

RUBRIQUE 11: Informations toxicologiques

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

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

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.

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

RUBRIQUE 12: Informations écologiques

- **12.1 Toxicité**
- **Toxicité aquatique:** Pas d'autres informations importantes disponibles.
- **12.2 Persistance et dégradabilité** Pas d'autres informations importantes disponibles.
- **12.3 Potentiel de bioaccumulation** Pas d'autres informations importantes disponibles.
- **12.4 Mobilité dans le sol** Pas d'autres informations importantes disponibles.
- **Effets écotoxiques:**
- **Remarque:**
Toxique chez les poissons.
Nocif pour les poissons.
- **Autres indications écologiques:**
- **Indications générales:**
Catégorie de pollution des eaux 3 (D) (Classification propre): très polluant
Ne pas laisser pénétrer dans la nappe phréatique, les eaux ou les canalisations, même pas en petite quantité.
Danger pour l'eau potable dès fuite d'une quantité minime dans le sous-sol.
Dans les eaux, également toxique pour les poissons et le plancton.
Toxique pour les organismes aquatiques.
Nocif pour les organismes aquatiques.
- **12.5 Résultats des évaluations PBT et VPVB**
- **PBT:** Non applicable.
- **vPvB:** Non applicable.
- **12.6 Autres effets néfastes** Pas d'autres informations importantes disponibles.

RUBRIQUE 13: Considérations relatives à l'élimination

- **13.1 Méthodes de traitement des déchets**
- **Recommandation:**
Ne doit pas être évacué avec les ordures ménagères. Ne pas laisser pénétrer dans les égouts.

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- **Emballages non nettoyés:**
- **Recommandation:** Evacuation conformément aux prescriptions légales.

RUBRIQUE 14: Informations relatives au transport

<ul style="list-style-type: none"> · 14.1 Numéro ONU · ADR, IMDG, IATA 	<p style="text-align: right;">UN1760</p>
<ul style="list-style-type: none"> · 14.2 Désignation officielle de transport de l'ONU · ADR · IMDG, IATA 	<p style="text-align: right;">1760 LIQUIDE CORROSIF, N.S.A. (glutaral, FORMALDÉHYDE EN SOLUTION) CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)</p>
<ul style="list-style-type: none"> · 14.3 Classe(s) de danger pour le transport · ADR, IMDG, IATA 	<p style="text-align: right;">8 Matières corrosives. 8</p>
	
<ul style="list-style-type: none"> · 14.4 Groupe d'emballage · ADR, IMDG, IATA 	<p style="text-align: right;">II</p>
<ul style="list-style-type: none"> · 14.5 Dangers pour l'environnement: 	<p style="text-align: right;">Non applicable.</p>
<ul style="list-style-type: none"> · 14.6 Précautions particulières à prendre par l'utilisateur · Numéro d'identification du danger (Indice Kemler): · No EMS: · Segregation groups · Stowage Category · Stowage Code 	<p style="text-align: right;">Attention: Matières corrosives. 80 F-A,S-B Acids B SW2 Clear of living quarters.</p>
<ul style="list-style-type: none"> · 14.7 Transport en vrac conformément à l'annexe II de la convention Marpol et au recueil IBC 	<p style="text-align: right;">Non applicable.</p>
<ul style="list-style-type: none"> · Indications complémentaires de transport: 	
<ul style="list-style-type: none"> · ADR · Quantités limitées (LQ) · Quantités exceptées (EQ) · Catégorie de transport · Code de restriction en tunnels 	<p style="text-align: right;">1L Code: E2 Quantité maximale nette par emballage intérieur: 30 ml Quantité maximale nette par emballage extérieur: 500 ml 2 E</p>

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<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	<p>1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml</p>
<ul style="list-style-type: none"> · "Règlement type" de l'ONU: 	<p>UN 1760 LIQUIDE CORROSIF, N.S.A. (GLUTARAL, FORMALDÉHYDE EN SOLUTION), 8, II</p>

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
- **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

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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

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

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

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

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

Eye Dam. 1: Lésions oculaires graves/irritation oculaire – Catégorie 1

Resp. Sens. 1: Sensibilisation respiratoire – Catégorie 1

Skin Sens. 1: Sensibilisation cutanée – Catégorie 1

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

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

Carc. 1B: Cancérogénicité – Catégorie 1B

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

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

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

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

FR

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 09.04.2020

überarbeitet am: 09.04.2020

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

· **1.1 Produktidentifikator**

· **Handelsname:** KARNOVSKY'S FIXATIVE

· **Artikelnummer:**

15720, 15732, CUSTOM FIXATIVE, 15730, 15720-CUSTOM, 15732-10, 15732-10 SPECIAL, 15732-1/2-SP, 15732-SP, 15720 SPECIAL, 15730 SPECIAL, 15732-10/CUSTOM

· **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.



GHS05 Ätzwirkung

Eye Dam. 1 H318 Verursacht schwere Augenschäden.

(Fortsetzung auf Seite 2)

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GHS07

Acute Tox. 4 H332 *Gesundheitsschädlich bei Einatmen.*
 Skin Irrit. 2 H315 *Verursacht Hautreizungen.*
 Skin Sens. 1 H317 *Kann allergische Hautreaktionen verursachen.*
 STOT SE 3 H335 *Kann die Atemwege reizen.*

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

· **2.2 Kennzeichnungselemente**

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

Das Produkt ist gemäß CLP-Verordnung eingestuft und gekennzeichnet.

· **Gefahrenpiktogramme**



GHS05 GHS07 GHS08

· **Signalwort Gefahr**

· **Gefahrbestimmende Komponenten zur Etikettierung:**

Glutaral

Formaldehyd

· **Gefahrenhinweise**

H332 *Gesundheitsschädlich bei Einatmen.*

H315 *Verursacht Hautreizungen.*

H318 *Verursacht schwere Augenschäden.*

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

H317 *Kann allergische Hautreaktionen verursachen.*

H341 *Kann vermutlich genetische Defekte verursachen.*

H350 *Kann Krebs erzeugen.*

H335 *Kann die Atemwege reizen.*

H412 *Schädlich für Wasserorganismen, mit langfristiger Wirkung.*

· **Sicherheitshinweise**

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

P310 *Sofort GIFTINFORMATIONSZENTRUM/Arzt anrufen.*

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

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

P405 *Unter Verschluss aufbewahren.*

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

· **Zusätzliche Angaben:**

Nur für gewerbliche Anwender.

· **2.3 Sonstige Gefahren**

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

· **PBT:** Nicht anwendbar.

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· **vPvB:** Nicht anwendbar.

ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

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

- **Gefährliche Inhaltsstoffe:**

CAS: 111-30-8 EINECS: 203-856-5	Glutaral ----- ☠ Acute Tox. 3, H301; Acute Tox. 2, H330; ☠ Resp. Sens. 1, H334; ☠ Skin Corr. 1B, H314; ☠ Aquatic Acute 1, H400; Aquatic Chronic 2, H411; ☠ Skin Sens. 1A, H317; STOT SE 3, H335	>2,5-≤10%
CAS: 50-00-0 EINECS: 200-001-8	Formaldehyd ----- ☠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ☠ Muta. 2, H341; Carc. 1B, H350; ☠ Skin Corr. 1B, H314; ☠ Skin Sens. 1, H317	>2,5-≤10%

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

ABSCHNITT 4: Erste-Hilfe-Maßnahmen

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

ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

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

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ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

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

ABSCHNITT 7: Handhabung und Lagerung

- **7.1 Schutzmaßnahmen zur sicheren Handhabung**
Für gute Belüftung/Absaugung am Arbeitsplatz sorgen.
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/m ³ , 0,05 ml/m ³ 2(I);AGS, Sah, Y
-----	--

50-00-0 Formaldehyd

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

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

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- **8.2 Begrenzung und Überwachung der Exposition**
- **Persönliche Schutzausrüstung:**
- **Allgemeine Schutz- und Hygienemaßnahmen:**
*Von Nahrungsmitteln, Getränken und Futtermitteln fernhalten.
 Beschmutzte, getränkte Kleidung sofort ausziehen.
 Vor den Pausen und bei Arbeitsende Hände waschen.
 Getrennte Aufbewahrung der Schutzkleidung.
 Berührung mit der Haut vermeiden.
 Berührung mit den Augen und der Haut vermeiden.*
- **Atemschutz:**
Bei kurzzeitiger oder geringer Belastung Atemfiltergerät; bei intensiver bzw. längerer Exposition unluftunabhängiges Atemschutzgerät verwenden.
- **Handschutz:**



Schutzhandschuhe

- Das Handschuhmaterial muss undurchlässig und beständig gegen das Produkt / den Stoff / die Zubereitung sein.
 Aufgrund fehlender Tests kann keine Empfehlung zum Handschuhmaterial für das Produkt / die Zubereitung / das Chemikaliengemisch abgegeben werden.
 Auswahl des Handschuhmaterials unter Beachtung der Durchbruchzeiten, Permeationsraten und der Degradation.*
- **Handschuhmaterial**
Die Auswahl eines geeigneten Handschuhs ist nicht nur vom Material, sondern auch von weiteren Qualitätsmerkmalen abhängig und von Hersteller zu Hersteller unterschiedlich. Da das Produkt eine Zubereitung aus mehreren Stoffen darstellt, ist die Beständigkeit von Handschuhmaterialien nicht vorausberechenbar und muß deshalb vor dem Einsatz überprüft werden.
 - **Durchdringungszeit des Handschuhmaterials**
Die genaue Durchbruchzeit ist beim Schutzhandschuhhersteller zu erfahren und einzuhalten.
 - **Augenschutz:**



Dichtschließende Schutzbrille

ABSCHNITT 9: Physikalische und chemische Eigenschaften

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

Form:	Flüssigkeit
Farbe:	Klar
Geruch:	Fruchtartig
Geruchsschwelle:	Nicht bestimmt.
- **pH-Wert bei 20 °C:** 4,5

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· Zustandsänderung	
Schmelzpunkt/Gefrierpunkt:	Nicht bestimmt.
Siedebeginn und Siedebereich:	100 °C
· Flammpunkt:	Nicht anwendbar.
· Entzündbarkeit (fest, gasförmig):	Nicht anwendbar.
· Zersetzungstemperatur:	Nicht bestimmt.
· Selbstentzündungstemperatur:	Das Produkt ist nicht selbstentzündlich.
· Explosive Eigenschaften:	Das Produkt ist nicht explosionsgefährlich.
· Explosionsgrenzen:	
Untere:	Nicht bestimmt.
Obere:	Nicht bestimmt.
· Dampfdruck bei 20 °C:	23 hPa
· Dichte bei 20 °C:	0,99592 g/cm ³
· Relative Dichte	Nicht bestimmt.
· Dampfdichte	Nicht bestimmt.
· Verdampfungsgeschwindigkeit	Nicht bestimmt.
· Löslichkeit in / Mischbarkeit mit Wasser:	Nicht bzw. wenig mischbar.
· Verteilungskoeffizient: n-Octanol/Wasser:	Nicht bestimmt.
· Viskosität:	
Dynamisch:	Nicht bestimmt.
Kinematisch:	Nicht bestimmt.
· Lösemittelgehalt:	
Organische Lösemittel:	3,2 %
Wasser:	42,8 %
VOC (EU)	3,20 %
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.

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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 Augenschäden.

- **Sensibilisierung der Atemwege/Haut**

Kann bei Einatmen Allergie, asthmaartige Symptome oder Atembeschwerden verursachen.

Kann allergische Hautreaktionen verursachen.

- **CMR-Wirkungen (krebserzeugende, erbgutverändernde und fortpflanzungsgefährdende Wirkung)**

- **Keimzell-Mutagenität**

Kann vermutlich genetische Defekte verursachen.

- **Karzinogenität**

Kann Krebs erzeugen.

- **Reproduktionstoxizität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

- **Spezifische Zielorgan-Toxizität bei einmaliger Exposition**

Kann die Atemwege reizen.

- **Spezifische Zielorgan-Toxizität bei wiederholter Exposition**

Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

- **Aspirationsgefahr** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

ABSCHNITT 12: Umweltbezogene Angaben

- **12.1 Toxizität**

· **Aquatische Toxizität:** Keine weiteren relevanten Informationen verfügbar.

· **12.2 Persistenz und Abbaubarkeit** Keine weiteren relevanten Informationen verfügbar.

· **12.3 Bioakkumulationspotenzial** Keine weiteren relevanten Informationen verfügbar.

· **12.4 Mobilität im Boden** Keine weiteren relevanten Informationen verfügbar.

- **Ökotoxische Wirkungen:**

- **Bemerkung:**

Giftig für Fische.

Schädlich für Fische.

- **Weitere ökologische Hinweise:**

- **Allgemeine Hinweise:**

Wassergefährdungsklasse 3 (Selbsteinstufung): stark wassergefährdend

Nicht in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen, auch nicht in kleinen Mengen.

Trinkwassergefährdung bereits beim Auslaufen geringster Mengen in den Untergrund.

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*In Gewässern auch giftig für Fische und Plankton.
giftig für Wasserorganismen
schädlich für Wasserorganismen*

- **12.5 Ergebnisse der PBT- und vPvB-Beurteilung**
- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.
- **12.6 Andere schädliche Wirkungen** Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 13: Hinweise zur Entsorgung

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

ABSCHNITT 14: Angaben zum Transport

<ul style="list-style-type: none"> · 14.1 UN-Nummer · ADR, IMDG, IATA 	<p style="text-align: right;">UNI760</p>
<ul style="list-style-type: none"> · 14.2 Ordnungsgemäße UN-Versandbezeichnung · ADR · IMDG, IATA 	<p style="text-align: right;">1760 ÄTZENDER FLÜSSIGER STOFF, N.A.G. (Glutaral, FORMALDEHYDLÖSUNG) CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)</p>
<ul style="list-style-type: none"> · 14.3 Transportgefahrenklassen · ADR, IMDG, IATA 	<div style="text-align: center;">  </div> <p style="text-align: right;">8 Ätzende Stoffe 8</p>
<ul style="list-style-type: none"> · 14.4 Verpackungsgruppe · ADR, IMDG, IATA 	<p style="text-align: right;">II</p>
<ul style="list-style-type: none"> · 14.5 Umweltgefahren: 	<p style="text-align: right;">Nicht anwendbar.</p>
<ul style="list-style-type: none"> · 14.6 Besondere Vorsichtsmaßnahmen für den Verwender · Nummer zur Kennzeichnung der Gefahr (Kemler-Zahl): · EMS-Nummer: · Segregation groups · Stowage Category 	<p style="text-align: right;">Achtung: Ätzende Stoffe 80 F-A,S-B Acids B</p>

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· 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

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

Klasse	Anteil in %
Wasser	42,8
I	7,2
- **Wassergefährdungsklasse: WGK 3 (Selbsteinstufung):** stark wassergefährdend.
- **Sonstige Vorschriften, Beschränkungen und Verbotserordnungen**
Das Produkt unterliegt der Anlage 2 der Chemikalienverbotsverordnung (ChemVerbotsV) - Anforderungen in Bezug auf die Abgabe
- **15.2 Stoffsicherheitsbeurteilung:** Eine Stoffsicherheitsbeurteilung wurde nicht durchgeführt.

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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)

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 Dam. 1: Schwere Augenschädigung/Augenreizung – Kategorie 1

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

Skin Sens. 1: Sensibilisierung der Haut – Kategorie 1

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

Muta. 2: Keimzellmutagenität – Kategorie 2

Carc. 1B: Karzinogenität – Kategorie 1B

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

Aquatic Acute 1: Gewässergefährdend - akut gewässergefährdend – Kategorie 1

Aquatic Chronic 2: Gewässergefährdend - langfristig gewässergefährdend – Kategorie 2

Aquatic Chronic 3: Gewässergefährdend - langfristig gewässergefährdend – Kategorie 3

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

Stampato il: 09.04.2020

Revisione: 09.04.2020

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

· **1.1 Identificatore del prodotto**

· **Denominazione commerciale:** KARNOVSKY'S FIXATIVE

· **Articolo numero:**

15720, 15732, CUSTOM FIXATIVE, 15730, 15720-CUSTOM, 15732-10, 15732-10 SPECIAL, 15732-1/2-SP, 15732-SP, 15720 SPECIAL, 15730 SPECIAL, 15732-10/CUSTOM

· **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.



GHS05 corrosione

Eye Dam. 1 H318 Provoca gravi lesioni oculari.



GHS07

Acute Tox. 4 H332 Nocivo se inalato.

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Skin Irrit. 2 H315 Provoca irritazione cutanea.
Skin Sens. 1 H317 Può provocare una reazione allergica cutanea.
STOT SE 3 H335 Può irritare le vie respiratorie.
Aquatic Chronic 3 H412 Nocivo per gli organismi acquatici con effetti di lunga durata.

· **2.2 Elementi dell'etichetta**

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

Il prodotto è classificato ed etichettato conformemente al regolamento CLP.

· **Pittogrammi di pericolo**



GHS05 GHS07 GHS08

· **Avvertenza Pericolo**

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

*glutarale
formaldeide*

· **Indicazioni di pericolo**

H332 Nocivo se inalato.
H315 Provoca irritazione cutanea.
H318 Provoca gravi lesioni oculari.
H334 Può provocare sintomi allergici o asmatici o difficoltà respiratorie se inalato.
H317 Può provocare una reazione allergica cutanea.
H341 Sospettato di provocare alterazioni genetiche.
H350 Può provocare il cancro.
H335 Può irritare le vie respiratorie.
H412 Nocivo per gli organismi acquatici con effetti di lunga durata.

· **Consigli di prudenza**

P305+P351+P338 IN CASO DI CONTATTO CON GLI OCCHI: sciacquare accuratamente per parecchi minuti. Togliere le eventuali lenti a contatto se è agevole farlo. Continuare a sciacquare.
P310 Contattare immediatamente un CENTRO ANTIVELENI/un medico.
P321 Trattamento specifico (vedere su questa etichetta).
P362+P364 Togliere tutti gli indumenti contaminati e lavarli prima di indossarli nuovamente.
P405 Conservare sotto chiave.
P501 Smaltire il prodotto/recipiente in conformità con le disposizioni locali / regionali / nazionali / internazionali.

· **2.3 Altri pericoli**

· **Risultati della valutazione PBT e vPvB**

· **PBT:** Non applicabile.

· **vPvB:** Non applicabile.

SEZIONE 3: Composizione/informazioni sugli ingredienti

· **3.2 Caratteristiche chimiche: Miscela**

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

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










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

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

SEZIONE 4: Misure di primo soccorso

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

· **Indicazioni generali:**

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

· **Inalazione:**

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

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

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

· **Contatto con gli occhi:**

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

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

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

· **4.3 Indicazione dell'eventuale necessità di consultare immediatamente un medico e di trattamenti speciali**
Non sono disponibili altre informazioni.

SEZIONE 5: Misure antincendio

· **5.1 Mezzi di estinzione**

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

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

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

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

SEZIONE 6: Misure in caso di rilascio accidentale

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

· **6.2 Precauzioni ambientali:**

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

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

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

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

Smaltimento del materiale contaminato conformemente al punto 13.

Provvedere ad una sufficiente areazione.

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- **6.4 Riferimento ad altre sezioni**
Per informazioni relative ad un manipolazione sicura, vedere capitolo 7.
Per informazioni relative all'equipaggiamento protettivo ad uso personale vedere Capitolo 8.
Per informazioni relative allo smaltimento vedere Capitolo 13.

SEZIONE 7: Manipolazione e immagazzinamento

- **7.1 Precauzioni per la manipolazione sicura**
Accurata ventilazione/aspirazione nei luoghi di lavoro.
Aprire e manipolare i recipienti con cautela.
Evitare la formazione di aerosol.
- **Indicazioni in caso di incendio ed esplosione:** Tener pronto il respiratore.
- **7.2 Condizioni per 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 la pelle.
- Evitare il contatto con gli occhi e la pelle.

- **Maschera protettiva:**

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

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· 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.

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

· Materiale dei guanti

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

· Tempo di permeazione del materiale dei guanti

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

· Occhiali protettivi:

Occhiali protettivi a tenuta

SEZIONE 9: Proprietà fisiche e chimiche

· 9.1 Informazioni sulle proprietà fisiche e chimiche fondamentali**· Indicazioni generali****· Aspetto:**

Forma:	Liquido
Colore:	Chiaro
Odore:	Simile a frutto
Soglia olfattiva:	Non definito.

· valori di pH a 20 °C: 4,5

· Cambiamento di stato

Punto di fusione/punto di congelamento:	Non definito.
Punto di ebollizione iniziale e intervallo di ebollizione:	100 °C

· Punto di infiammabilità: Non applicabile.

· Infiammabilità (solidi, gas): Non applicabile.

· Temperatura di decomposizione: Non definito.

· Temperatura di autoaccensione: Prodotto non autoinfiammabile.

· Proprietà esplosive: Prodotto non esplosivo.

· Limiti di infiammabilità:

Inferiore:	Non definito.
Superiore:	Non definito.

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· Tensione di vapore a 20 °C:	23 hPa
· Densità a 20 °C:	0,99592 g/cm ³
· Densità relativa	Non definito.
· Densità di vapore:	Non definito.
· Velocità di evaporazione	Non definito.
· Solubilità in/Miscibilità con acqua:	Poco e/o non miscibile.
· Coefficiente di ripartizione: n-ottanolo/acqua:	Non definito.
· Viscosità:	
Dinamica:	Non definito.
Cinematica:	Non definito.
· Tenore del solvente:	
Solventi organici:	3,2 %
Acqua:	42,8 %
VOC (CE)	3,20 %
· Contenuto solido:	0,0 %
· 9.2 Altre informazioni	Non sono disponibili altre informazioni.

SEZIONE 10: Stabilità e reattività

- **10.1 Reattività** Non sono disponibili altre informazioni.
- **10.2 Stabilità chimica**
- **Decomposizione termica/ condizioni da evitare:**
Il prodotto non si decompone se utilizzato secondo le norme.
- **10.3 Possibilità di reazioni pericolose** Non sono note reazioni pericolose.
- **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)
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- **Irritabilità primaria:**
- **Corrosione/irritazione cutanea**
Provoca irritazione cutanea.

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

SEZIONE 12: Informazioni ecologiche

- **12.1 Tossicità**
- **Tossicità acquatica:** *Non sono disponibili altre informazioni.*
- **12.2 Persistenza e degradabilità** *Non sono disponibili altre informazioni.*
- **12.3 Potenziale di bioaccumulo** *Non sono disponibili altre informazioni.*
- **12.4 Mobilità nel suolo** *Non sono disponibili altre informazioni.*
- **Effetti tossici per l'ambiente:**
- **Osservazioni:**
*Tossico per i pesci.
 Nocivo per i pesci.*
- **Ulteriori indicazioni in materia ambientale:**
- **Ulteriori indicazioni:**
*Pericolosità per le acque classe 3 (D) (Autoclassificazione): molto pericoloso
 Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature, anche in piccole dosi.
 Pericolo per le acque potabili anche in caso di perdite nel sottosuolo di quantità minime di prodotto.
 Tossico per pesci e plancton.
 tossico per gli organismi acquatici
 nocivo per gli organismi acquatici*
- **12.5 Risultati della valutazione PBT e vPvB**
- **PBT:** *Non applicabile.*
- **vPvB:** *Non applicabile.*
- **12.6 Altri effetti avversi** *Non sono disponibili altre informazioni.*

SEZIONE 13: Considerazioni sullo smaltimento

- **13.1 Metodi di trattamento dei rifiuti**
- **Consigli:** *Non smaltire il prodotto insieme ai rifiuti domestici Non immettere nelle fognature.*

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- **Imballaggi non puliti:**
- **Consigli:** Smaltimento in conformità con le disposizioni amministrative.

SEZIONE 14: Informazioni sul trasporto

· 14.1 Numero ONU · ADR, IMDG, IATA	UN1760
· 14.2 Nome di spedizione dell'ONU · ADR · 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
· 14.5 Pericoli per l'ambiente:	Non applicabile.
· 14.6 Precauzioni speciali per gli utilizzatori · N° identificazione pericolo (Numero Kemler): · Numero EMS: · Segregation groups · Stowage Category · Stowage Code	Attenzione: Materie corrosive 80 F-A,S-B Acids B SW2 Clear of living quarters.
· 14.7 Trasporto di rinfuse secondo l'allegato II di MARPOL ed il codice IBC	Non applicabile.
· Trasporto/ulteriori indicazioni:	
· ADR · Quantità limitate (LQ) · Quantità esenti (EQ) · Categoria di trasporto · Codice di restrizione in galleria	1L Codice: E2 Quantità massima netta per imballaggio interno: 30 ml Quantità massima netta per imballaggio esterno: 500 ml 2 E
· IMDG · Limited quantities (LQ)	1L

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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 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

· **Disposizioni nazionali:**

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

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

· **Istruzione tecnica aria:**

Classe	quota in %
NC	3,2

· **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.

· **Frasei 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

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*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 Dam. 1: Gravi lesioni oculari/irritazione oculare – Categoria 1**Resp. Sens. 1: Sensibilizzazione delle vie respiratorie – Categoria 1**Skin Sens. 1: Sensibilizzazione della pelle – Categoria 1**Skin Sens. 1A: Sensibilizzazione della pelle – Categoria 1A**Muta. 2: Mutagenicità sulle cellule germinali – Categoria 2**Carc. 1B: Cancerogenicità – Categoria 1B**STOT SE 3: Tossicità specifica per organi bersaglio (esposizione singola) – Categoria 3**Aquatic Acute 1: Pericoloso per l'ambiente acquatico - pericolo acuto per l'ambiente acquatico – Categoria 1**Aquatic Chronic 2: Pericoloso per l'ambiente acquatico - pericolo a lungo termine per l'ambiente acquatico – Categoria 2**Aquatic Chronic 3: Pericoloso per l'ambiente acquatico - pericolo a lungo termine per l'ambiente acquatico – Categoria 3*

安全データシート

JIS Z 7253:2012 による

印刷日: 2020.04.09

改訂日: 2020.04.09

1 化学品及び会社情報

- ・ **製品識別子**
- ・ **商品名:** KARNOVSKY'S FIXATIVE
- ・ **製品番号:**
15720, 15732, CUSTOM FIXATIVE, 15730, 15720-CUSTOM, 15732-10, 15732-10 SPECIAL, 15732-1/2-SP, 15732-SP, 15720 SPECIAL, 15730 SPECIAL, 15732-10/CUSTOM
- ・ **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/調合用化学物質**
- ・ **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
- ・ **こ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

感受性(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



腐食

重篤な眼の損傷性/眼刺激性 区分1	H318 重篤な眼の損傷
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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
感受性(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

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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。

危険図表



GHS05 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

危険文句

吸入すると有害
皮膚刺激
重篤な眼の損傷
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

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。
ただちに毒物センター/医師に連絡すること。
特別な処置が必要である(このラベルのを見よ)。
汚染された衣類を脱ぎ、再使用する場合には洗濯をすること。
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

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・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-≤10%
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-≤10%

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:

眼を開けたまま、流水で何分間か眼をすすぎ、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

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

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- ・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
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 ばく露防止及び保護措置

- ・**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/m ³ , 0.1 ppm 最大許容濃度: 0.24 mg/m ³ , 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
皮膚が触れないようにする
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備を使用すること

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手の保護:



保護手袋

手袋の材質は物質/材料/調合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/調合剤/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。調合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

眼の保護:



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
形:	液体
色:	透明
におい:	フルーティーな
嗅覚閾値	決まっていない。
pH-値 約 20 °C:	4.5
状態の変化	
融点/凝固点	決まっていない
沸点/凝固点	100 °C
火焔火点	情報なし
発火性 (個体、気体):	情報なし
分解温度	決まっていない。
自然発火性:	プロダクトは自然発火しない
爆発の危険:	プロダクトは爆発する危険はない
爆発限界:	
下限:	決まっていない。
上限:	決まっていない。
蒸気圧 約 20 °C:	23 hPa

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密度密度測定0 °C:	0.99592 g/cm ³
相対相対飽和度密度	決まっていない.
・蒸気密度	決まっていない.
・揮発速度	決まっていない.

以下成分における消和性/との混和性

水: 混ぜ合わせられない、ほとんど混ぜ合わせられない

・分配係数 (nオクタノール/水) 決まっていない.

・粘性:
 学的学的学的 決まっていない.
 運動運動運動 決まっていない.

・溶剤含有量:
 機着機溶機溶 3.2 %
 水: 42.8 %

・固形物含有量: 0.0 %
 ・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

応度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

分解分解分解条件条件条件条件どおりの使用では分解しない
 危険危険危険能可能能能危険な反応は起きていない

け避ける条件条件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:

分類分類分類 LD/LC50 値:

111-30-8 Glutaraldehyde		
口	LD50	134 mg/kg (rat)
皮膚	LD50	2,560 mg/kg (rabbit)
50-00-0 ホルムアルデヒド		
口	LD50	>200 mg/kg (rat)

・初期刺激作用作用

・皮膚において: 皮膚と粘膜を刺激

・眼において: 重大な目の損傷の危険を伴う強い刺激作用

・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

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- ・ **毒性に関する補足補足補足事項:**
調合に関する E U 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
- ・ **次類種類が環境に有害な効果をもたらす情報**
- ・ **C(使用用途) 発ガン性 (遺伝子変異を伴う進化危険作用)**
生殖細胞変異原性 区分2, 発ガン性 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。
- ・ **持続持続持続及び分解性:** 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:**
- ・ **生体生体内蓄積能:** 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。
- ・ **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 3 (ドイツの規定) (自己査定): 水に対する危険性が大きい
 - 地下水、河川あるいは下水施設に極少量でも流してはならない
 - 地下に極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
- ・ **他の有害作用(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

警告警告警告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ジェット:**
警告警告警告関係当局の規則に従って処分する

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14 輸送上の注意

<ul style="list-style-type: none"> 番号番号番号 ADR, IMDG, IATA 	UN1760
<ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> ADR, IMDG, IATA 	
	
分類分類分類 <ul style="list-style-type: none"> 危険物ラベル 	8 腐食性成分 8
パッケージの分類 <ul style="list-style-type: none"> ADR, IMDG, IATA 	II
<ul style="list-style-type: none"> 環境危険: 	情報なし
<ul style="list-style-type: none"> ユーザー用特別予防措置 ケムラー符号: EMS (電子メールサービスナンバ番号番号番号) Segregation groups Stowage Category Stowage Code 	警告: 腐食性成分 80 F-A,S-B Acids B SW2 Clear of living quarters.
<ul style="list-style-type: none"> マルポール条約 (MARPOL73/78) 付属書I及び及び IBCコードに準じたバ輸送輸送輸送 	情報なし
輸送輸送輸他の説明:	
<ul style="list-style-type: none"> ADR Excepted quantities (EQ) 	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<ul style="list-style-type: none"> IMDG Limited quantities (LQ) Excepted quantities (EQ) 	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<ul style="list-style-type: none"> UN "模範規制: 	UN 1760 CORROSIVE LIQUID, N.O.S. (GLUTARALDEHYDE, FORMALDEHYDE SOLUTION), 8, II

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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

既存既存有害物質

7778-77-0	potassium dihydrogenorthophosphate	1-452
111-30-8	Glutaraldehyde	2-509
50-00-0	ホルムアルデヒド	2-482

・ 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	旧第二種監視化学物質
50-00-0	ホルムアルデヒド	旧第二種監視化学物質

・ 優先評価対象物質

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

既存既存有害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

既存既存有害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

・ PR制度制度制第一種指定化学物質

111-30-8	Glutaraldehyde	85
50-00-0	ホルムアルデヒド	411

・ PR制度制度制第二種指定化学物質

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

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: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

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・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		
可燃種燃種燃種 (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	
第三第三類物質		
内容成分はリストアップされていない		
称告称楚悉理知達べき有害物 (別表第9)		
111-30-8	Glutaraldehyde	139
50-00-0	ホルムアルデヒド	548
製造製造製造物質物質		
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施錠表別表第表)		
内容成分はリストアップされていない		
ア四アル鉛中鉛中毒規規則規施錠表別表第表)		
内容成分はリストアップされていない		
機溶機溶潤毒予防規則第 (施錠表別表第表の2)		
・第一種溶機溶潤毒		
内容成分はリストアップされていない		
・第二種溶機溶潤毒		
内容成分はリストアップされていない		
・第三種溶機溶潤毒		
内容成分はリストアップされていない		
い強異変異変異原認められた化学物質		
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		

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安全データシート

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・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

内容成分はリストアップされていない

・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



GHS05

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

・危険文句

吸入すると有害

皮膚刺激

重篤な眼の損傷

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

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。

ただちに毒物センター/医師に連絡すること。

特別な処置が必要である(このラベルのを見よ)。

汚染された衣類を脱ぎ、再使用する場合には洗濯をすること。

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、場合に応じて関係当局が例外許可をおろすこともある

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・化学物質の安齋値評価評価(化学物質安全性評価)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1: Serious eye damage/eye irritation – Category 1

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

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

물질안전보건자료 GHS에 따라라다

인쇄일자: 2020.04.09

개정: 2020.04.09

1 화학제품과 회사에 관한 정보

제품제품제별자

· **제품명: KARNOVSKY'S FIXATIVE**

· **상품번호:**

15720, 15732, CUSTOM FIXATIVE, 15730, 15720-CUSTOM, 15732-10, 15732-10 SPECIAL, 15732-1/2-SP, 15732-SP, 15720 SPECIAL, 15730 SPECIAL, 15732-10/CUSTOM

해당 해당 물질이나 혼합물에 대한 관련 위험도 및 사용금지용도 추가적인 정보가 존재하지 않습니다.

· **제품의 권고 용도와 사용 제한** (제한 없음 실화 학품)

· **안전데이터표(Safety Data Sheet)내 공급업체 관련 정보** (상세 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** (특정 제품 가능) product safety department

· **비상연락 전화번호:**

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

2 유해성·위험성

· **순물질 또는 혼합물**에 분류 분류



건강에 위험

호흡기 과민성 – 구분 1

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

생식세포 변이원성 – 구분 2

H341 유전적인 결함을 일으킬 것으로 의심됨

발암성 – 구분 1B

H350 암을 일으킬 수 있음

(2 쪽에 계속)

물질안전보건자료

GHS에 따라라따

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(1 쪽부터계속)



부식

심한 눈 손상성/눈 자극성 - 구분 1 H318 눈에 심한 손상을 일으킴



급성 독성 - 흡입 - 구분 4	H332 흡입하면 유해함
피부 부식성/피부 자극성 - 구분 2	H315 피부에 자극을 일으킴
피부 과민성 - 구분 1	H317 알레르기성 피부 반응을 일으킬 수 있음
특정표적장기 독성 - 1회 노출 - 구분 3	H335 호흡 자극성을 일으킬 수 있음
수생환경 유해성 - 만성3	H412 장기적 영향에 의해 수생생물에 유해함

· **라벨표기요소요소**

· **라벨표기요소**

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

· **그림문자**



GHS05



GHS07



GHS08

· **신호어 위험**

· **상표상에명확히위험성이표시된성분:**

글루타르알데히드

포르말린

· **유해위험성**

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

· **예방조치** 문구문구

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

· **기타기타** 유해성

- PBT(잔류성, 생물농축성, 물질분해) 및 PpB(고 잔류성, 고 생물농축성, 물질분해) 평가 결과
- PBT(잔류성, 생물농축성, 물질분해) 대상사항 없음.

(3 쪽에계속)

물질안전보건자료

GHS에 따라라다

인쇄일자: 2020.04.09

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(2 쪽부터 계속)

· vPvB(고 잔류성, 고 생물농축물질)물질분류사항 없음.

3 구성성분의 명칭 및 함유량

· **화학적 특성:** 혼합물
설명설명설명...한 첨가 물 이 함유된 아래에 열거된 물 질로 만 들어진 혼합 물.

· **위험요소요소**

111-30-8	글루타르알데히드 ⚠ 급성 독성 - 경구 - 구분 3, H301; ⚠ 급성 독성 - 흡입 - 구분 2, H330; ⚠ 호흡기 과민성 - 구분 1, H334; ⚠ 피부 부식성/피부 자극성 - 구분 1, H314; ⚠ 수생환경 유해성 - 급성 1, H400; 수생환경 유해성 - 만성 2, H411; ⚠ 피부 과민성 - 구분 1, H317; 특정표적장기 독성 - 1회 노출 - 구분 3, H335	>2.5-≤10%
50-00-0	포르말린 ⚠ 급성 독성 - 경구 - 구분 3, H301; ⚠ 급성 독성 - 경피 - 구분 3, H311; ⚠ 급성 독성 - 흡입 - 구분 3, H331; ⚠ 생식세포 변이원성 - 구분 2, H341; ⚠ 발암성 - 구분 1B, H350; ⚠ 피부 부식성/피부 자극성 - 구분 1, H314; ⚠ 피부 과민성 - 구분 1, H317	>2.5-≤10%

4 응급조치 요령

· **응급조치요령 내용내용**

· **일반정보정보**

중독 증상은 몇 시간이 지난 뒤에 발생할 수 있다. 따라서 사고가 발생한 후에 적어도 48 시간 동안은 의료진의 관찰을 받아야 한다.

· **흡입했을 때:**

신선한 공기를 쐬고 나서 반드시 의료진의 도움을 구한다.

환자가 의식을 잃었을 경우에는 안전한 자세에서 환자를 운반한다.

· **피부에 접촉했을 때:** 즉시 물과 비누로 씻고 잘 행군다.

눈에 눈에 들어갔을 때: 흐르는 물에 눈을 몇 분 동안 씻어내고 나서, 의사와 상담한다

· **먹었을 때:** 즉시 의사의 도움을 구한다.

기타 기타 **각각의 주의사항:**

가장 가장 **중요한 긴급명령사항**은 영향 영향적인 정보가 존재하지 않습니다.

· **즉각적인 의료처리 및 특별처리가 필요함을 시사하는 징후** 중후적인 정보가 존재하지 않습니다.

5 폭발·화재시 대처방법

· **소화제**

· **적절한 소화제:** 주변 환경에 맞는 화재 진화 방법을 사용한다.

· **본 화학물질이나 혼합물에서 발생하는 특별한 위험성** 추가적인 정보가 존재하지 않습니다.

· **소방관에게 대한 안내사항**

화재 **화재화재** **전차용** 할 보호구 및 예방조치: 호흡보호장비 설치.

6 누출 사고 시 대처방법

· **개인적 예방조치, 보호장비 및 응급처치 절차** 없음.

(4 쪽에 계속)

물질안전보건자료 GHS에 따라라다

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제품명: KARNOVSKY'S FIXATIVE

(3 쪽부터계속)

환경환경안전 관련 조치:

하천이나 하수도로 유입되었을 경우 해당 관청에 보고한다.
하수도망/해수면 위의 물/지 하수로도 달하지 않게 한다.

밀폐 밀폐용기 및 용기 청소:

액체가 혼합된 물질 (모래, 구조토, 산성 결합물, 일반 결합물, 톱밥)에 흡입되도록 한다.
항목 13에 따라 오염된 물질을 쓰레기로 처분한다.
충분한 환기가 되도록 한다.

개인 보호장비 참조

안전 관리에 대한 정보는 제7 장 을 참고하시오.
개인 보호 장비에 대한 정보는 제8 장 을 참고하시오.
쓰레기 처리에 대한 정보는 제13 장 을 참고하시오.

7 취급 및 저장방법

취급 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 예방을 위해 화재 예방 대책에 관한 정보는 흡입 보호 장비를 항상 비치한다.

혼합 위험성 및 안전 조치 조건

보관 보관 보관

- 안전 정보 및 안전 정보 별 한 요구 사항이 없음.
- 하중을 공명 보관 보관에 대한 보관 보관 정보 없음
- 보관 조건에 관한 추가 정보 정보를 새지 않게 밀폐 한 채 보관한다.
- 구체적 최종 사용자 추가적인 정보가 존재하지 않습니다.

8 노출방지 및 개인보호구

· **첨단 시설 디자인에 대한 추가 정보:** 더 이상 의 자료는 없음. 항 목 7 을 참고하시오.

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 변이 원성 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)

(5 쪽에 계속)

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REL (US)	장기간의값: 0.016 ppm 최고노출기준: 0.1* ppm *15-min; See Pocket Guide App. A
TLV (US)	단기간의값: 0.37 mg/m ³ , 0.3 ppm 장기간의값: 0.12 mg/m ³ , 0.1 ppm DSEN; RSEN

· **추가정보** : 조 할 당시에 유 효 한 목 록 을 기 초 로 사 용 했 다.

노출 통제 통제 통제 개인개인 개인

· **일반적보호조치및위생조치:**

- 식료 품, 음 료 수 와 사 료 로 부 터 멀 리 떨 어 뜨 려 놓 는 다.
- 더 러 워 지 거 나 음 료 수 가 물 은 옷 은 즉 시 탈 의 한 다.
- 휴 식 전 이 나 작 업 이 끝 날 때 마 다 손 을 씻 는 다.
- 방 호 복 은 따 로 보 관 한 다.
- 피 부 와 의 접 촉 을 피 한 다.
- 눈 과 피 부 와 의 접 촉 은 피 한 다.

· **호흡기 보호보호**

· 단 시 간 또 는 경 미 한 오 염 의 경 우 에 는 호 흡 여 과 기 를 사 용 한 다. 심 각 한 또 는 장 기 간 노 출 시 에 는 호 흡 보 호 장 비 를 사 용 한 다.

보호 보호보호



보 호 용 장 갑

장갑재질은제품 / 원료 / 조제를투과시키지않아야하고, 내구성이있어야한다.
테 스트 를 하 지 않 았 기 때 문 에 제 품 / 조 제 / 화 학 혼 합 물 에 적 합 한 장 갑 재 질 에 대 한 추 천 이 없 다.
투 과 시 간, 침 투 율 과 저 하 를 고 려 해 서 장 갑 재 료 를 선 택 한 다.

· **장갑의재료**

· 적 합 한 장 갑 의 선 정 은 재 질 차 이 뿐 아 니 라 품 질 기 준 의 차 이 도 고 려 하 여 이 루 어 져 야 하 고 제 조 업 종 에 따 라 서 도 다 르 게 선 정 되 어 야 한 다. 제 품 은 다 양 한 재 료 로 부 터 의 조 제 로 이 루 어 지 는 것 이 기 때 문 에, 장 갑 재 질 의 안 정 성 은 사 전 에 예 측 되 어 질 수 있 는 것 이 아 니 고, 반 드 시 사 용 전 에 (그 안 전 성 이) 체 크 되 어 져 야 한 다.

· **장 갑 재 료 의 투 과 시 간** 정 확 한 관 통 시 간 은 보 호 장 갑 제 조 자 에 의 하 여 인 지 되 고, 준 수 되 어 야 한 다.

보호 보호보호



팍 조 이 는 보 안 경

9 물리화학적 특성

기본 기본 기본 기본 물리 화학적 특성에 대한 정보

· **일반정보**

외형외형외형

물량계상태상태

액체

색:

밝은

냄새냄새냄새

과일종류의

(6 쪽에계속)

물질안전보건자료

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· 후각역치	알맞지않다.
· pH 의경우 20 °C:	4.5
· 상태변화 녹는점/어는점: 초기초기 녹는 점과 끓는점범위범위	맞지않는 100 °C
· 인화점:	해당사항 없음.
· 인화성(고체)기체기체 분해온도온도	해당사항 없음. 알맞지않다.
· 자기점화:	이제품은자연발화성이없다.
· 폭발위험:	이제품은폭발위험성이없다
인화 인화 인화 폭발 위험성 상한 상한 하한 아래로: 위로 위로 위로	알맞지않다. 알맞지않다.
· 증기압 의경우 20 °C:	23 hPa
밀도 밀도 의경우 20 °C: 비중 비중 비중 · 증기 밀도: 증 발 증 발 증 발 속도	0.99592 g/cm ³ 알맞지않다. 알맞지않다. 알맞지않다.
· 용해도: 물:	각각의경우에따라서는 거의 혼합할 수 없는
· n 옥탄올/물 분배계수:	알맞지않다.
점도 점도 점도 역학성: 등점성:	알맞지않다. 알맞지않다.
· 용매 내용물 유기 용매: 물: VOC (EU)	3.2 % 42.8 % 3.20 %
고체 양 함 량 함 량 기타 정보 정보 정보	0.0 % 추가적인 정보가 존재 하지 않습니다.

10 안정성 및 반응성

- 반응성 추가적인 정보가 존재 하지 않습니다.
- 화학적 안정성
- 화학적 안정성 및 유해 반응 의 가능성 / 피해 야 할 조건 조건 에 따라 사용할 경우 해체는 없다
- 유해 반응 가능성 위험한 반응으로는 알려 지지 않았다.
- 피해 야 할 조건 조건 추가적인 정보가 존재 하지 않습니다.
- 혼합 유해 반응 유해 반응 추가적인 정보가 존재 하지 않습니다.

(7 쪽에계속)

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· **유해분해물질:** 위험성있는분해물들은알려지지않았다.

11 독성에 관한 정보

· **독성학적 영향에 대한정보**
급성독성독성독성

· LD/LC50-수체에 대한분류

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 자극효과**

피부피부 **피부자극성** 또는 **자극성:** 피부와점막을자극한다.

심한심한 **심한자극성** 또는 **자극성:** 심각한안구상처의위험이있는강한자극

· **감각화:**

호흡을통한감각화가능성이있다.

피부접촉을통하여감각화가능성이있다.

· **추가적인 독성에 관한정보**

이제품은유럽공동체의공동분류원칙의합법적인절차에근거하여최근에발효된원고에서아래위험들의사전준비에대하여제시하고있다.

건강에해로운

자극적인

압을유발하는

다음다음 **중독의 잠재적인 효과에 대한정보**

· **크로모소마적염색체변이성** 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

어류에 해로움

· **추가적인 생태정보**

일반 **물생태독성**

수질오염등급 3 (자체등급분류): 심하게수질오염이된

지하수나, 하천으로또는하수도망에도달하지않게한다. 역시극소수의양이라도안된다.

지하수로아주미세한양이유입되었을경우엔이미식수오염상태이다

하천에서는역시물고기나플랑크톤게는독성이있다.

물속의유기체에독이되는것

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물속의유기체에해가되는것
 · PBT(잔류성, 생물농축성, 물질분해성) 및 vPvB(고 잔류성, 고 생물농축성) 물질로 평가된 결과
 · PBT(잔류성, 생물농축성, 물질분해성) 해당사항 없음.
 · vPvB(고 잔류성, 고 생물농축성) 물질로 평가된 해당사항 없음.
 기타기타 **부작용** 추가적인 정보가 존재하지 않습니다.

13 폐기시 주의사항

· 폐기물 처리 방법
 권고 권고 권고 환경 쓰레기와 함께 처리되어서는 안 된다. 하수도망으로 유입되어서는 안 된다.
 · 비위생적 포장 포장
 권고 권고 권고 의지침에 입각한 쓰레기 처리.

14 운송에 필요한 정보

유엔 유엔 번호 · ADR, IMDG, IATA	UN1760
· 적정 적정 · ADR · IMDG, IATA	1760 CORROSIVE LIQUID, N.O.S. (글루타르알데히드, FORMALDEHYDE SOLUTION) CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)
교통 교통 · ADR, IMDG, IATA	
	
등급 등급 · 위험 라벨라벨	8 부식작용 하는 물질 8
· 용기 등급 · ADR, IMDG, IATA	II
· 환경적 유해물질:	해당사항 없음.
· 이동 특별 조치 위험 코드 · E 번호 · Segregation groups · Stowage Category · Stowage Code	경고: 부식작용 하는 물질 80 F-A,S-B Acids B SW2 Clear of living quarters.
· MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서 2 및 IBC Code(국제선적화물코드)에 따른 다른 운송	해당사항 없음.

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· 운송/ 추가정보

· ADR 한정수량(수량 제한)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Excepted quantities (EQ)	
운송 위험등급 구분	2
터널 제한 코드	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

· UN번호

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

15 법적 규제현황

· 산업안전보건법에 의해 규제

제조제한금지물질:

어떠한내용물도목록화되어있지않다

· 허가대상물질:

어떠한내용물도목록화되어있지않다

· 관리대상유해물질:

111-30-8 글루타르알데히드

50-00-0 포르말린

· 관리대상 유해물 종류 종류 화합물: 117

· 작업환경측정 대상 유해인자

111-30-8	글루타르알데히드	1A1
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50-00-0	포르말린	1A105
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· 특수건강 집합 대상 유해인자

111-30-8	글루타르알데히드	1A2
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50-00-0	포르말린	1A98
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해당해당 물질 또는 혼합물에 대한 안전보건자료 작성 관련 법률

· Korean Existing Chemical Inventory

7778-77-0	potassium dihydrogenorthophosphate	KE-28622
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7732-18-5	물	KE-35400
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111-30-8	글루타르알데히드	KE-27969
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50-00-0	포르말린	KE-17074
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· 화학물질관리법

· 사고대비물질

50-00-0 포르말린

· 금지물질

어떠한내용물도목록화되어있지않다

· 제한물질

50-00-0 포르말린

· 유독물질

111-30-8 글루타르알데히드

50-00-0 포르말린

· 허가물질

111-30-8 글루타르알데히드

50-00-0 포르말린

· 위험물안전관리법 (위험물 및 지정수량) 제 4: 4,000 리터

등록물질관리법(선제대상 화학물질)

7732-18-5 물

· ‘21년까지 등록하여야 할 압, 들연변이, 생식능력 이상을 일으킬 우려가 있는 화학물질

어떠한내용물도목록화되어있지않다

· 중점관리물질(제2종) 지정지정

· 표1 중점관리물질(제2종) 관련관련

50-00-0 포르말린

· 표2 중점관리물질(제2종) 관련관련

어떠한내용물도목록화되어있지않다

· 라벨라벨작성요소

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

· 그림문자



GHS05 GHS07 GHS08

· 신호어 위험

· 상표상에명확히위험성이표시된성분:

글루타르알데히드

포르말린

유해성분명칭

흡입하면 유해함

피부에 자극을 일으킴

눈에 심한 손상을 일으킴

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

알레르기성 피부 반응을 일으킬 수 있음

유전적인 결함을 일으킬 것으로 의심됨

암을 일으킬 수 있음

(11 쪽에계속)

물질안전보건자료 GHS에 따라라다

인쇄일자: 2020.04.09

개정: 2020.04.09

제품명: KARNOVSKY'S FIXATIVE

(10 쪽부터계속)

호흡 자극성을 일으킬 수 있음
장기적 영향에 의해 수생생물에 유해함

· 예방조치 문구문구

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

· 국내규정:

· 사용제한에 대한정보정보

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

· 화학물질 안전성 평가 평가 화학물질 안전성 평가가 수행되지 않음

16 그 밖의 참고사항

이 보고는 우리 지식에 대한 오늘날의 이상태에 대하여 평가하고 있다, 하지만 이 보고서는 생산특성에 관한 보증은 기술하지 않았으며 계약적인 법률 관계에 기반을 두고 있지 않다

최초 최초 작성 일자: 2020.04.09

개정 개정 일자: 1 / 2020.04.09

· 약어와 두문자어:

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative

Helaiian Data Keselamatan

menurut P.U.(A) 310/2013

Tarikh cetak 09.04.2020

Disemak semula pada 09.04.2020

1 Pengenalan bahan kimia berbahaya dan pembekal

- **Pengenal pasti produk**
- **Nama dagang:** KARNOVSKY'S FIXATIVE
- **Nombor artikel:**
15720, 15732, CUSTOM FIXATIVE, 15730, 15720-CUSTOM, 15732-10, 15732-10 SPECIAL, 15732-1/2-SP, 15732-SP, 15720 SPECIAL, 15730 SPECIAL, 15732-10/CUSTOM
- **Kegunaan yang disarankan bagi bahan dan sekatan penggunaan** Tiadak maklumat lanjut yang diperoleh.
- **Penggunaan bahan/sediaan** Bahan kimia makmal
- **Perincian pembekal** risalah data keselamatan
- **Pengilang/Pembekal:**
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
- **Maklumat lanjut dapat diperoleh daripada:** Product safety department
- **Nombor telefon kecemasan:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Pengenalan bahaya

- **Pengelasan bahan atau campuran**



Bahaya kesihatan

- Pem. Naf. 1 H334 Boleh menyebabkan gejala alahan atau asma atau kesukaran bernafas jika tersedut.
- Muta. 2 H341 Disyaki menyebabkan kecacatan genetik.
- Kars. 1B H350 Boleh menyebabkan kanser.



Kakisan

- Skin Corr. 1 H314 Menyebabkan lecuran kulit dan kerosakan mata yang teruk.
- Kros. Mata 1 H318 Menyebabkan kerosakan mata yang serius.



- Toks. Akut 4 H332 Memudaratkan jika tersedut.
- Pem. Kulit 1 H317 Boleh menyebabkan tindak balas alahan kulit.
- STOT SE 3 H335 Boleh menyebabkan kerengsaan pernafasan.

Akuatik Kronik 3 H412 Memudaratkan kepada hidupan akuatik dengan kesan kekal berpanjangan.

- **Melabelkan unsur**
- **Unsur label GHS** Produk ini dikelaskan dan dilabelkan menurut Sistem Terharmoni Global (GHS).

(Bersambung ke halaman 2)

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Nama dagang: KARNOVSKY'S FIXATIVE

(Sambungan halaman 1)

· **Piktogram bahaya**



GHS05 GHS07 GHS08

· **Kata isyarat Bahaya**

· **Komponen pelabelan yang menentukan bahaya:**

1,5-pentanadial
formaldehid

· **Pernyataan Bahaya**

Memudaratkan jika tersedut.

Menyebabkan lecuran kulit dan kerosakan mata yang teruk.

Boleh menyebabkan gejala alahan atau asma atau kesukaran bernafas jika tersedut.

Boleh menyebabkan tindak balas alahan kulit.

Disyaki menyebabkan kecacatan genetik.

Boleh menyebabkan kanser.

Boleh menyebabkan kerengsaan pernafasan.

Memudaratkan kepada hidupan akuatik dengan kesan kekal berpanjangan.

· **Pernyataan Berjaga-jaga**

JIKA TERKENA KULIT (atau rambut): Segera tanggalkan/buka semua pakaian yang tercemar. Basuh kulit dengan air/pancuran air.

JIKA TERKENA MATA: Bilas berhati-hati dengan air selama beberapa minit. Tanggalkan kanta lekap, jika ada dan dapat dilakukan dengan mudah. Teruskan membilas.

Segera hubungi PUSAT RACUN/doktor.

Rawatan khas (lihat label ini).

Simpan di tempat berkunci.

Lupuskan kandungan/bekas menurut peraturan tempatan/wilayah/kebangsaan/antarabangsa.

· **Bahaya lain**

· **Keputusan penilaian PBT dan vPvB**

· **PBT:** Tidak berkenaan

· **vPvB:** Tidak berkenaan

3 Komposisi dan maklumat mengenai ramuan bahan kimia berbahaya

· **Ciri kimia: Campuran**

· **Keterangan:** Campuran bahan disenaraikan di bawah bersama dengan bahan tambah tidak berbahaya.

· **Komponen berbahaya :**

111-30-8	1,5-pentanadial ☠ Toks. Akut 3, H301; Toks. Akut 2, H330; ☠ Pem. Naf. 1, H334; ☠ Skin Corr. 1, H314; ☠ Akuatik Akut 1, H400; Akuatik Kronik 2, H411; ☠ Pem. Kulit 1, H317; STOT SE 3, H335	>2.5-≤10%
50-00-0	formaldehid ☠ Toks. Akut 3, H301; Toks. Akut 3, H311; Toks. Akut 3, H331; ☠ Muta. 2, H341; Kars. 1B, H350; ☠ Skin Corr. 1, H314; ☠ Pem. Kulit 1, H317	>2.5-≤10%

MY

(Bersambung ke halaman 3)

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Nama dagang: KARNOVSKY'S FIXATIVE

(Sambungan halaman 2)

4 Langkah-langkah pertolongan cemas

- **Keterangan langkah pertolongan cemas**
- **Maklumat am:**
Gejala keracunan boleh berlaku selepas beberapa jam, maka rawatan perubatan hendaklah diberikan sekurang-kurangnya 48 jam selepas kemalangan.
- **Jika tersedut:**
Berikan udara bersih dan pastikan rawatan doktor diperoleh.
Jika mangsa tidak sedarkan diri, letakkan pesakit dengan stabil dalam kedudukan mengiring untuk diangkat.
- **Jika terkena kulit:** Segera basuh dengan air dan sabun serta bilas bersih-bersih.
- **Jika terkena mata:**
Bilas mata sambil membukanya di bawah air yang mengalir selama beberapa minit. Kemudian hubungi doktor.
- **Jika tertelan:** Segera hubungi doctor.
- **Maklumat untuk doktor:**
- **Gejala dan kesan paling penting, akut dan lewat** Tiadak maklumat lanjut yang diperoleh.
- **Arahan bagi apa-apa rawatan perubatan dan rawatan khas yang diperlukan**
Tiadak maklumat lanjut yang diperoleh.

5 Langkah-langkah pepadaman kebakaran

- **Bahan pepadam api**
- **Agen pepadam yang sesuai:**
Gunakan kaedah pepadaman kebakaran yang sesuai dengan keadaan sekeliling.
- **Bahaya khusus yang timbul daripada bahan atau campuran** Tiadak maklumat lanjut yang diperoleh.
- **Panduan kepada pepadam kebakaran**
- **Kelengkapan perlindungan:** Peralatan perlindungan pernafasan mulut.

6 Langkah-langkah pelepasan tidak sengaja

- **Langkah perlindungan diri, kelengkapan pelindung dan prosedur kecemasan** Tidak diperlukan.
- **Langkah perlindungan alam sekitar:**
Hubungi pihak berkuasa berkaitan jika berlaku peresapan masuk ke dalam saluran air atau sistem pemetungan.
Jangan biarkannya memasuki pembentung/air permukaan atau tanah.
- **Kaedah dan bahan untuk pembendungan dan pembersihan:**
Serap dengan bahan cecair pengikat (pasir, diatomit, pengikat asid, pengikat semesta, habuk papan)
Lupuskan bahan tercemar sebagai sisa mengikut perkara 13.
Pastikan pengalihudaraan mencukupi.
- **Rujukan ke bahagian lain**
Lihat Bahagian 7 untuk maklumat pengendalian yang selamat.
Lihat Bahagian 8 untuk maklumat kelengkapan perlindungan diri.
Lihat Bahagian 13 untuk maklumat pelupusan.

MY

(Bersambung ke halaman 4)

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Tarikh cetak 09.04.2020

Disemak semula pada 09.04.2020

Nama dagang: KARNOVSKY'S FIXATIVE

(Sambungan halaman 3)

7 Pengendalian dan penyimpanan

- **Pengendalian:**
- **Langkah perlindungan untuk pengendalian selamat**
Pastikan pengalihudaraan/ekzos yang mencukupi di tempat kerja.
Buka dan kendalikan bekas dengan cermat.
Elakkan pembentukan aerosol.
- **Maklumat kebakaran dan perlindungan daripada letupan:**
Pastikan alat perlindungan pernafasan sentiasa ada.
- **Keadaan untuk penyimpanan selamat, termasuk apa-apa ketakserasian**
- **Penyimpanan:**
- **Keperluan yang mesti dipenuhi oleh bilik stor dan ruang simpanan.** Tiada keperluan khusus.
- **Maklumat penyimpanan di dalam satu tempat penyimpanan yang biasa:** Tidak diperlukan.
- **Maklumat lanjut tentang syarat penyimpanan:** Pastikan bekas sentiasa bertutup rapat.
- **Kegunaan akhir yang khusus** Tiada maklumat lanjut yang diperoleh.

8 Kawalan pendedahan dan perlindungan diri

- **Maklumat tambahan tentang reka bentuk kemudahan teknikal:** Tiada maklumat lanjut, lihat perkara 7.
- **Parameter kawalan**

- **Ramuan dengan nilai had yang memerlukan pemantauan di tempat kerja:**

111-30-8 1,5-pentanadial

PEL had siling: 0.21 mg/m³, 0.05 ppm

50-00-0 formaldehid

PEL had siling: 0.37 mg/m³, 0.3 ppm

- **Maklumat tambahan:** Senarai yang sah semasa pembuatan digunakan sebagai asas.
- **Kawalan pendedahan**
- **Kelengkapan perlindungan diri:**
- **Langkah perlindungan dan kebersihan am:**
Jauhkan daripada makanan, minuman dan makanan haiwan.
Segera tanggalkan semua pakaian yang tercemar dan kotor.
Basuh tangan sebelum berhenti rehat dan apabila kerja selesai.
Simpan pakaian perlindungan secara berasingan.
Elakkan daripada terkena kulit.
Elakkan daripada terkena mata dan kulit.
- **Perlindungan pernafasan:**
Jika berlaku pendedahan sekejap atau sedikit pencemaran, gunakan alat penapis pernafasan. Jika berlaku pendedahan yang intensif atau berpanjangan, gunakan alat pernafasan perlindungan serba lengkap.
- **Perlindungan tangan:**



Sarung tangan pelindung.

Bahan sarung tangan hendaklah telus dan kalis terhadap produk/bahan/sediaan.
Oleh sebab tiada ujian yang dijalankan, maka tiada syor bagi bahan sarung tangan yang boleh diberikan untuk produk/sediaan/campuran kimia.

(Bersambung ke halaman 5)

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Nama dagang: KARNOVSKY'S FIXATIVE

(Sambungan halaman 4)

Pemilihan bahan sarung tangan berdasarkan waktu penembusan, kadar pembauran dan degradasi.

· **Bahan sarung tangan**

Pemilihan sarung tangan yang sesuai bukan hanya bergantung pada bahannya, tetapi juga tanda kualiti lainnya serta perbezaannya daripada satu pengeluar dengan pengeluar yang lain. Memandangkan produk merupakan suatu sediaan daripada beberapa bahan, ketahanan bahan sarung tangan tidak boleh dipastikan terlebih dahulu, oleh itu sarung tangan hendaklah diperiksa sebelum digunakan.

· **Jangka masa penyerapan bahan sarung tangan**

Waktu kemunculan yang tepat hendaklah diperoleh pengeluar sarung tangan pelindung dan hendaklah dipatuhi.

· **Perlindungan mata:**



Gogal bertutup rapat

9 Sifat fizikal dan kimia

· **Maklumat tentang ciri fizik dan kimia**

· **Maklumat Am**

· **Rupa:**

Bentuk:

Cecair

Warna:

Jernih

· **Bau:**

Seperti buah

· **Ambang bau**

Tidak ditentukan.

· **Nilai pH pada 20 °C:**

4.5

· **Perubahan pada keadaan**

Takat lebur/takat beku

Tidak ditentukan.

Takat didih awal dan julat didih

100 °C

· **Takat kilat:**

Tidak berkenaan

· **Kemudahbakaran (pepejal, gas)**

Tidak berkenaan

· **Suhu penguraian:**

Tidak ditentukan.

· **Suhu pengautocucuhan**

Produk tidak terucuh sendiri

· **Bahaya letupan:**

Produk tidak ada bahaya letupan.

· **Had letupan :**

Bawah:

Tidak ditentukan.

Atas:

Tidak ditentukan.

· **Tekanan wap pada 20 °C:**

23 hPa

· **Ketumpatan pada 20 °C:**

0.99592 g/cm³

· **Ketumpatan bandingan**

Tidak ditentukan.

· **Ketumpatan wap**

Tidak ditentukan.

· **Kadar penyejatan**

Tidak ditentukan.

· **Keterlarutan dalam / Keterlarutcampuran dengan**

Air:

Tidak terlarut campur atau sukar bercampur.

(Bersambung ke halaman 6)

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Nama dagang: KARNOVSKY'S FIXATIVE

(Sambungan halaman 5)

· Pekali sekatan: n-oktanol/air	Tidak ditentukan.
· Kelikatan:	
Dinamik:	Tidak ditentukan.
Kinematik:	Tidak ditentukan.
· Kandungan pelarut:	
Pelarut organik:	3.2 %
Air:	42.8 %
· Kandungan pepejal:	0.0 %
· Maklumat lain	Tiada maklumat lanjut yang diperoleh.

10 Kestabilan dan kereaktifan

- **Kereaktifan** Tiada maklumat lanjut yang diperoleh.
- **Kestabilan kimia**
- **Penguraian terma/keadaan yang perlu dielakkan:** Tiada penguraian jika digunakan mengikut spesifikasi.
- **Kemungkinan tindak balas berbahaya** Tiada tindak balas berbahaya yang diketahui.
- **Keadaan yang perlu dielakkan** Tiada maklumat lanjut yang diperoleh.
- **Bahan tidak serasi:** Tiada maklumat lanjut yang diperoleh.
- **Produk penguraian yang berbahaya:** Tiada produk penguraian berbahaya yang diketahui.

11 Maklumat toksikologi

- **Maklumat tentang kesan toksikologi**
- **Ketoksikan akut:**

- **Nilai LD/LC50 yang berkaitan untuk pengelasan:**

111-30-8 1,5-pentanadial

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

50-00-0 formaldehid

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

- **Kesan kerengsaan primer:**
- **Kakisan atau kerengsaan kulit** Merengsa kepada kulit dan mukus membran.
- **Kerosakan atau kerengsaan mata yang serius**
Perengsa yang kuat dengan bahaya kecederaan mata yang teruk.
- **Pemekaan pernafasan / kulit**
Pemekaan mungkin berlaku melalui penyedutan.
Pemekaan mungkin berlaku jika terkena kulit.
- **Maklumat tambahan toksikologi:**
Produk menunjukkan bahaya berikut mengikut kaedah pengiraan Garis Panduan Pengelasan Am EU bagi Sediaan seperti yang dikeluarkan dalam versi terbaru:
Memudaratkan
Perengsa
Karsinogen.

(Bersambung ke halaman 7)

MY

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Nama dagang: KARNOVSKY'S FIXATIVE

(Sambungan halaman 6)

- **Maklumat bagi kumpulan berikut tentang kesan yang mungkin timbul.**
- **Kesan CMR (karsinogen, mutagen dan gangguan kesuburan)**
Muta. 2, Kars. 1B

12 Maklumat ekologi

- **Ketoksikan**
- **Ketoksikan akuatik:** Tiadak maklumat lanjut yang diperoleh.
- **Keterusan dan keterdegradasikan** Tiadak maklumat lanjut yang diperoleh.
- **Kelakuan dalam sistem alam sekitar:**
- **Potensi bioakumulatif** Tiadak maklumat lanjut yang diperoleh.
- **Mobiliiti di dalam tanah** Tiadak maklumat lanjut yang diperoleh.
- **Kesan ekotoksik:**
- **Catatan:**
Toksik kepada ikan.
Memudaratkan kepada ikan.
- **Maklumat tambahan ekologi:**
- **Nota am:**
Bahaya air kelas 3 (Peraturan Jerman) (Penilaian sendiri): amat berbahaya kepada air
Jangan biarkan produk memasuki air tanah, saluran air atau sistem pembetulan, walaupun sedikit.
Bahaya kepada air minuman walaupun amat sedikit produk kebocoran yang memasuki tanah
Juga beracun kepada ikan dan plankton dalam jasad air
Toksik kepada organisma akuatik
Memudaratkan organisma akuatik
- **Keputusan penilaian PBT dan vPvB**
- **PBT:** Tidak berkenaan
- **vPvB:** Tidak berkenaan
- **Kesan buruk yang lain** Tiadak maklumat lanjut yang diperoleh.

13 Maklumat pelupusan

- **Kaedah rawatan sisa**
- **Syor:**
Tidak boleh dilupuskan bersama dengan sampah isi rumah. Jangan biarkan produk memasuki sistem pembetulan.
- **Pembungkusan yang tidak bersih:**
- **Syor:** Pelupusan mestilah dijalankan menurut peraturan rasmi

14 Maklumat pengangkutan

- | | |
|--|--|
| <ul style="list-style-type: none"> · Nombor UN · ADR, IMDG, IATA | UN1760 |
| <ul style="list-style-type: none"> · Nama penghantaran UN yang betul · ADR | 1760 CORROSIVE LIQUID, N.O.S. (1,5-pentanadial, FORMALDEHYDE SOLUTION) |

(Bersambung ke halaman 8)

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Nama dagang: KARNOVSKY'S FIXATIVE

(Sambungan halaman 7)

· **IMDG, IATA**

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

· **pengangkutan kelas bahaya**

· **ADR, IMDG, IATA**



· **Kelas**

8 Bahan mengakis.

· **Label**

8

· **Kumpulan pembungkusan**

· **ADR, IMDG, IATA**

II

· **Hazard persekitaran:**

Tidak berkenaan

· **Langkah perlindungan khas untuk pengguna**

Amaran: Bahan mengakis.

· **Kod bahaya (Kemler):**

80

· **Nombor EMS:**

F-A,S-B

· **Segregation groups**

Acids

· **Stowage Category**

B

· **Stowage Code**

SW2 Clear of living quarters.

· **Pengangkutan dalam pukal menurut Lampiran II
MARPOL73/78 dan Kod IBC**

Tidak berkenaan

· **Pengangkutan/Maklumat Tambahan:**

· **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

· **"Peraturan Model" UN:**

UN 1760 CORROSIVE LIQUID, N.O.S. (1,5-PENTANADIAL, FORMALDEHYDE SOLUTION), 8, II

15 Maklumat pengawalseliaan

· **Peraturan/undang-undang keselamatan, kesihatan dan persekitaran khusus untuk bahan atau campuran tersebut**

· **Senarai Rujukan Bahan Berbahaya Alam Sekitar**

111-30-8	1,5-pentanadial
50-00-0	formaldehid

· **Unsur label GHS** Produk ini dikelaskan dan dilabelkan menurut Sistem Terharmoni Global (GHS).

(Bersambung ke halaman 9)

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Nama dagang: KARNOVSKY'S FIXATIVE

(Sambungan halaman 8)

· **Piktogram hazard**



GHS05 GHS07 GHS08

· **Perkataan isyarat Bahaya**

· **Komponen pelabelan yang menentukan bahaya:**

1,5-pentanadial
formaldehid

· **Pernyataan hazard**

Memudaratkan jika tersedut.

Menyebabkan lecuran kulit dan kerosakan mata yang teruk.

Boleh menyebabkan gejala alahan atau asma atau kesukaran bernafas jika tersedut.

Boleh menyebabkan tindak balas alahan kulit.

Disyaki menyebabkan kecacatan genetik.

Boleh menyebabkan kanser.

Boleh menyebabkan kerengsaan pernafasan.

Memudaratkan kepada hidupan akuatik dengan kesan kekal berpanjangan.

· **Pernyataan langkah perlindungan**

JIKA TERKENA KULIT (atau rambut): Segera tanggalkan/buka semua pakaian yang tercemar. Basuh kulit dengan air/pancuran air.

JIKA TERKENA MATA: Bilas berhati-hati dengan air selama beberapa minit. Tanggalkan kanta lekap, jika ada dan dapat dilakukan dengan mudah. Teruskan membilas.

Segera hubungi PUSAT RACUN/doktor.

Rawatan khas (lihat label ini).

Simpan di tempat berkunci.

Lupuskan kandungan/bekas menurut peraturan tempatan/wilayah/kebangsaan/antarabangsa.

· **Peraturan kebangsaan:**

· **Maklumat had kegunaan:**

Pekerja tidak dibenarkan terdedah kepada bahan karsinogen berbahaya yang terkandung dalam sediaan ini. Pengecualian boleh dibuat oleh pihak berkuasa dalam kes tertentu.

· **Penilaian keselamatan bahan kimia:** Penilaian Keselamatan Bahan Kimia belum dilakukan.

16 Maklumat lain

Maklumat ini berdasarkan maklumat kami yang terkini. Walau bagaimanapun, ini tidak akan menjadi jaminan bagi apa-apa ciri produk yang khusus dan tidak akan mewujudkan hubungan kontraktual yang sah dari segi undang-undang.

· **Singkatan dan akronim:**

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

(Bersambung ke halaman 10)

Helaiian Data Keselamatan menurut P.U.(A) 310/2013

Tarikh cetak 09.04.2020

Disemak semula pada 09.04.2020

Nama dagang: KARNOVSKY'S FIXATIVE

(Sambungan halaman 9)

*vPvB: very Persistent and very Bioaccumulative**Toks. Akut 3: Ketoksikan akut – Kategori 3**Toks. Akut 2: Ketoksikan akut – Kategori 2**Toks. Akut 4: Ketoksikan akut – Kategori 4**Skin Corr. 1: Kakisan atau kerengsaan kulit – Kategori 1**Kros. Mata 1: Kerosakan mata atau kerengsaan mata yang serius – Kategori 1**Pem. Naf. 1: Pemekaan pernafasan – Kategori 1**Pem. Kulit 1: Pemekaan kulit – Kategori 1**Muta. 2: Kemutagenan sel germa – Kategori 2**Kars. 1B: Kekarsinogenan – Kategori 1B**STOT SE 3: Ketoksikan organ sasaran khusus (pendedahan tunggal) – Kategori 3**Akuatik Akut 1: Berbahaya kepada persekitaran akuatik - bahaya akut – Kategori 1**Akuatik Kronik 2: Berbahaya kepada persekitaran akuatik - bahaya kronik – Kategori 2**Akuatik Kronik 3: Berbahaya kepada persekitaran akuatik - bahaya kronik – Kategori 3*

MY

安全資料表

據根根據據害性化學品標示及通識規則

打印日期 2020.04.09

在 2020.04.09 審核

1 化學品與廠商資料

- 產品識別者
- 化學品中文名稱, 俗名, 化學品俗名或商品名: KARNOVSKY'S FIXATIVE
- 商品編號:
15720, 15732, CUSTOM FIXATIVE, 15730, 15720-CUSTOM, 15732-10, 15732-10 SPECIAL, 15732-1/2-SP, 15732-SP, 15720 SPECIAL, 15730 SPECIAL, 15732-10/CUSTOM
- 相應純物質或者混合物的相關下位用途及禁止用途 無相關詳細資料。
- 原材料的應用/準備工作進行 實驗室化學物
- 安全技術說明書內供應商詳細信息
- 企業名稱:
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
- 可獲取更多資料的部門: Product safety department
- 緊急聯繫電話號碼:
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 危害辨識資料

· 緊急情況概述:

純淨的，液體，吞食可能有害。吸入有害。造成皮膚刺激。造成嚴重眼睛損傷。吸入可能導致過敏或哮喘病症狀或呼吸困難。可能造成皮膚過敏。懷疑造成遺傳性缺陷。可能致癌。可能造成呼吸道刺激。對水生生物有毒。對水生生物有害並具有長期持續影響。

· GHS危險性類別



健康危險

呼吸道過敏物質 第1級

H334 吸入可能導致過敏或哮喘病症狀或呼吸困難

生殖細胞致突變性物質 第2級

H341 懷疑造成遺傳性缺陷

致癌物質 第1B級

H350 可能致癌



腐蝕

嚴重損傷/刺激眼睛物質 第1級

H318 造成嚴重眼睛損傷



急毒性物質(吸入) 第4級

H332 吸入有害

腐蝕/刺激皮膚物質 第2級

H315 造成皮膚刺激

皮膚過敏物質 第1級

H317 可能造成皮膚過敏

特定標的器官系統毒性物質(單一暴露) 第3級 H335 可能造成呼吸道刺激

(在 2 頁繼續)

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(在 1 頁繼續)

急毒性物質(吞食) 第5級	H303 吞食可能有害
水環境之危害物質(急毒性) 第2級	H401 對水生生物有毒
水環境之危害物質(慢毒性) 第3級	H412 對水生生物有害並具有長期持續影響

- **標籤因素**
 - **GHS標籤元素** 本產品根據化學物質分類及標記全球協調制度(GHS)進行了分類及標記。
- 圖示圖示圖示



名稱名稱名稱

- **標籤上辨別危險的成份:**
 - 1,5- 戊二 醛
 - 福 爾 馬 林 溶 液
- **危險字句**
 - 吞食可能有害
 - 吸入有害
 - 造成皮膚刺激
 - 造成嚴重眼睛損傷
 - 吸入可能導致過敏或哮喘病症狀或呼吸困難
 - 可能造成皮膚過敏
 - 懷疑造成遺傳性缺陷
 - 可能致癌
 - 可能造成呼吸道刺激
 - 對水生生物有毒
 - 對水生生物有害並具有長期持續影響
- **警戒字句**
- **事故響應**
 - 如進入眼睛：用水小心清洗數分鐘。如帶隱形眼鏡且可方便地取出，取出隱型眼鏡。繼續清洗。
 - 立即呼叫解毒中心/醫生
 - 專項處置(參見本標示)。
 - 脫掉沾染的衣服，清洗後方可重新使用
- **安全貯存**
 - 加鎖存放。
- **廢棄處置**
 - 按照地方/區域/國家/國際法規處理內容物之廢棄/容器。
- **其他有害性**
- **PBT(殘留性、生物濃縮性、毒性物質) 及 vPvB(高殘留性、高生物濃縮性物質)評價結果**
- **PBT(殘留性、生物濃縮性、毒性物質) 不適用的**
- **vPvB(高殘留性、高生物濃縮性物質): 不適用的**

3 成分辨識資料

- **混合物**
- **描述描述描述** 以下含有無害添加劑的成分組成的混合物

(在 3 頁繼續)

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· 危險的成分:

111-30-8	1,5- 戊二 醛 <ul style="list-style-type: none"> ☠ 急毒性物質(吞食) 第3級, H301; 急毒性物質(吸入) 第2級, H330; ☠ 呼吸道過敏物質 第1級, H334; ☠ 腐蝕/刺激皮膚物質 第1B級, H314; ☠ 水環境之危害物質(急毒性) 第1級, H400; 水環境之危害物質(慢毒性) 第2級, H411; ☠ 皮膚過敏物質 第1級, H317; 特定標的器官系統毒性物質(單一暴露) 第3級, H335; 易燃液體 第4級, H227; 急毒性物質(皮膚) 第5級, H313 	>2.5-≤10%
50-00-0	福爾 馬林溶液 <ul style="list-style-type: none"> ☠ 急毒性物質(吞食) 第3級, H301; 急毒性物質(皮膚) 第3級, H311; 急毒性物質(吸入) 第3級, H331; ☠ 生殖細胞致突變性物質 第2級, H341; 致癌物質 第1B級, H350; ☠ 腐蝕/刺激皮膚物質 第1B級, H314; ☠ 皮膚過敏物質 第1級, H317; 易燃液體 第4級, H227 	>2.5-≤10%

4 急救措施**· 應急措施要領****· 總說明:**

中毒的症狀可能會在幾個小時以後才出現;因此在發生事故之後起碼要有 48 小時的醫療觀察。

吸入吸入吸入

供給新鮮空氣並且確保會叫醫生。

萬一病人不清醒時,請讓病人側趟以便移動。

· **皮膚接觸:** 馬上用水和肥皂進行徹底的沖洗。

· **眼睛接觸:** 張開眼睛在流水下沖洗數分鐘, 然後諮詢醫生。

食入食入食入 上召喚醫生。**· 給醫生的資料:**

· **最重要的急慢性症狀及其影響** 無相關詳細資料。

· **需要及時的醫療處理及特別處理的症狀** 無相關詳細資料。

5 滅火措施**· 滅火方法**

· **滅火的方法和滅火劑:** 使用適合四周環境的滅火措施。

· **特別危險性** 無相關詳細資料。

· 特殊滅火方法

· **消防人員特殊的防護裝備:** 口腔呼吸保護裝置。

6 洩漏處理方法

· **保護措施** 沒有要求。

· 環境保護措施:

如果滲入了水源或污水系統,請通知有關當局。

切勿讓其進入下水道/水面或地下水。

· 密封及淨化方法和材料:

吸收液體粘台原料(沙粒、矽藻土、酸性粘台劑、通用粘台劑、鋸屑)。

根據第 13 條條款棄置受汙染物。

確保有足夠的通風裝置。

(在 4 頁繼續)

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(在 3 頁繼續)

- 參照其他部分
- 有關安全處理的資料請參閱第 7 節.
- 有關個人保護裝備的資料請參閱第 8 節.
- 有關棄置的資料請參閱第 13 節.

7 安全處置與儲存方法

- 操作處置
- 儲存
- 確保工作間有良好的通風/排氣裝置.
- 小心打開及處理貯藏器.
- 防止氣溶膠的形成.
- 有關火災及防止爆炸的資料: 提供呼吸保護裝置.
- 混合危險性等安全儲存條件
- 儲存
- 儲存庫和容器須要達到的要求: 沒有特別的要求.
- 有關使用一個普通的儲存設施來儲存的資料: 不需要.
- 有關儲存條件的更多資料: 將容器密封.
- 具體的最終用戶 無相關詳細資料.

8 暴露預防措施

- 工程控制方法: 沒有進一步數據, 見第 7 項.
 - 控制變數
 - 在工作場需要監控的限值成分
- | | |
|----------------|--|
| 111-30-8 戊二戊二肼 | |
| PEL (TW) | PC-TWA: 0.82 mg/m ³ , 0.2 ppm |
| 50-00-0 福爾馬林溶液 | |
| PEL (TW) | PC-TWA: 1.2 mg/m ³ , 1 ppm |
| OEL (CN) | 上限值: 0.5 mg/m ³
敏, G1 |
- 額外的資料: 制作期間有效的清單將作為基礎來使用.

- 遺漏控制
- 個人防護設備:
- 一般保護和衛生措施:
 - 遠離食品、飲料和飼料.
 - 立即除去所有的不潔的和被汙染的衣服.
 - 在休息之前和工作完畢後請清洗雙手.
 - 分開儲存保護性衣服.
 - 避免和皮膚接觸.
 - 避免和眼睛及皮膚接觸.
- 呼吸系統防護:
 - 如果會短暫接觸或在低汙染的情況下, 請使用呼吸過濾裝置. 如果會深入或較長時間接觸, 請使用獨立的呼吸保護裝置.

(在 5 頁繼續)

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(在 4 頁繼續)

· 手防護:



保護手套

手套的物料必須是不滲透性的, 且能抵抗該產品/物質/添加劑。
基於缺乏測試, 對於產品/制劑/化學混合物, 並不會提供手套材料的建議
選擇手套材料時, 請注意材料的滲透時間, 滲濾率和降解參數

· 手套材料

選擇合適的手套不單取決於材料, 亦取決於質量特征, 以及來自哪一間生產廠家, 因為該產品是由很多材料配制而成, 手套材料的抵抗力並不可預計, 所以, 必須在使用之前進行檢查

· 滲入手套材料的時間 請向勞保手套生產廠家獲取準確的破裂時間並觀察實際的破裂時間

· 眼睛防護:



密封的護目鏡

9 物理及化學性質

· 有關基本物理及化學特性的資訊

· 一般說明

外觀外觀外觀

形狀形狀形狀	液體
顏色顏色顏色	純淨的
氣味氣味氣味	類似水果
· 嗅覺閾限	未決定.

· pH值 在 20 °C: 4.5

· 條件的更改

熔點熔點熔點	未確定的
沸點沸點沸點和沸程:	100 °C

閃點閃點閃點 不適用的

· 可燃性 (固體、氣體): 不適用的

· 分解溫度: 未決定.

· 自然溫度: 該產品是不自燃的

· 爆炸的危險性: 該產品並沒有爆炸的危險

爆炸爆炸爆炸:

較低較低較低	未決定.
較高:	未決定.

· 蒸氣壓 在 20 °C: 23 hPa

密度密度密度在 0 °C: 0.99592 g/cm³

· 相對密度	未決定.
· 蒸氣密度	未決定.

(在 6 頁繼續)

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· 蒸發速率	未決定.
· 溶解性	
水:	不能拌和的或難以拌和
辛醇辛醇辛醇係數係數係數	未決定.
· 黏性:	
動態動態動態	未決定.
運動運動運動學的	未決定.
· 溶劑成份:	
有機溶劑溶劑	3.2 %
水:	42.8 %
· 固體成份:	0.0 %
· 其他資訊	無相關詳細資料。

10 安定性及反應性

- 應度應性應性相關詳細資料。
- 穩定穩定穩定
- 分解分解分解: 如果遵照規格使用則不會分解。
- 有害有腐腐腐可腐性: 未有已知的危險反應。
- 避應避免避條件: 無相關詳細資料。
- 不相容的物質: 無相關詳細資料。
- 危險的分解產物: 未知有危險的分解產品。

11 毒性資料

· 對毒性學影響的資訊		
· 急性毒性:		
· 與分類相關的 LD/ LC50 值:		
111-30-8 戊二酸二酐		
口腔	LD50	134 mg/kg (rat)
皮膚	LD50	2,560 mg/kg (rabbit)
50-00-0 福爾馬林溶液		
口腔	LD50	>200 mg/kg (rat)

- 要的弱刺激劑影響:
- 皮膚皮膚皮膚刺激皮膚和粘膜。
- 在眼睛上面: 強烈的刺激性和造成嚴重傷害眼睛的危險。
- 致敏致敏致敏作用
- 通過吸入可能造成敏化作用。
- 通過皮膚接觸可能造成敏化作用。
- 更多毒物的資料:
- 根據有關配制的一般歐盟分類指南的計算方法 (刊印在最新版本), 該產品顯示以下的危險:
- 有害的
- 刺激性的
- 致癌的。

(在 7 頁繼續)

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對以對以對組別可能產生影響的資料:

- 作用作用用致致致致致致致致、對生殖系統有害)
- 生殖細胞致突變性物質 第2級, 致癌物質 第1B級

12 生態資料

- 毒態毒性毒性
- 水生毒性: 無相關詳細資料。
- 持久性和降解性: 無相關詳細資料。
- 環境系統習性:
- 潛在的累積性: 無相關詳細資料。
- 土壤土壤動植物: 無相關詳細資料。
- 生態毒性的影響:
- 備注:
- 對魚類有毒
- 對魚類有害
- 額外的生態學資料:
- 括總括注
- 水危害級別 3 (德國規例) (通過名單進行自我評估): 對水是極其危害的即使是小量., 不要讓該產品接觸地下水、水道或汗水系統。即使是極其小量的產品滲入地下也會對飲用水造成危險。對水體中的魚和浮遊生物也有毒害。對水中的有機物有毒。對水中的有機物有危害。
- PBT(殘留性、生物濃縮性、毒性物質) 及 vPvB(高殘留性、高生物濃縮性物質) 評價結果
- PBT(殘留性、生物濃縮性、毒性物質) 不適用的
- vPvB(高殘留性、高生物濃縮性物質): 不適用的
- 其他其他用無用相關詳細資料。

13 廢棄處理方法

- 廢棄處理方法
- 建議建議建議將該產品和家居垃圾一起丟棄. 不要讓該產品接觸汗水系統。
- 受污染的容器和包裝:
- 建議建議建議根據官方的規章來丟棄。

14 運送資料

聯合聯合危險貨物編號(UN號)

- ADR, IMDG, IATA UN1760

適當適當船名

- ADR 1760 CORROSIVE LIQUID, N.O.S. (1,5- 戊二 醛, FORMALDEHYDE SOLUTION)
- IMDG, IATA CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)

(在 8 頁繼續)

安全資料表

據根據據據性化學品標示及通識規則

打印日期 2020.04.09

在 2020.04.09 審核

化學品中文名稱名稱名稱：KARNOVSKY'S FIXATIVE

(在 7 頁繼續)

運輸運輸危險等級

· ADR, IMDG, IATA



· 級別	8 腐蝕性物質
標籤標籤標籤	8

· 包裝組別

· ADR, IMDG, IATA

II

· 危害環境:

不適用的

· 用戶特別預防措施

警告: 腐蝕性物質

· 危險編碼:

80

· 標碼號碼號碼

F-A,S-B

· Segregation groups

Acids

· Stowage Category

B

· Stowage Code

SW2 Clear of living quarters.

· MARPOL73/78(針對船舶引起的海洋污染預防協
 約附件書根據根據國際國際貨物船編碼)
 的大量運送

不適用的

運輸運輸運輸的資料:

· 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 "標準規定":

UN 1760 CORROSIVE LIQUID, N.O.S. (1,5- 戊二
 醛, FORMALDEHYDE SOLUTION), 8, II**15 法規資料**

· 對相應純物質或者混合物的安全、保健及環境法規/法律

· 優先管理化學品之指定及運作管理辦法

附表附表對於未滿十八歲孩童或婦女未滿十六歲女性性工具危害性之化學品

沒有列出成份

二條二條條款條款

50-00-0 福爾馬林溶液

(在 9 頁繼續)

安全資料表

據根根據據害性化學品標示及通識規則

打印日期 2020.04.09

在 2020.04.09 審核

化學品中文名稱名稱名稱 化學品俗名或商品名：KARNOVSKY'S FIXATIVE

(在 8 頁繼續)

二條二條二條二條

111-30-8 | 1,5- 戊二 醛

· 新化學物質及既有化學物質資料登錄辦法 英

沒有列出成份

國現國現國現國現

列出所有成分

· TCSCA**列管編號編號編號**

50-00-0 | 福 爾 馬 林 溶 液

66/01

· 毒性分類

50-00-0 | 福 爾 馬 林 溶 液

2, 3

· 管制濃度 (w/w %)

50-00-0 | 福 爾 馬 林 溶 液

15

· 大量運作基準基公斤)

50-00-0 | 福 爾 馬 林 溶 液

50

· 新化學物質及既有化學物質資料登錄辦法, 附表六

沒有列出成份

· TCSI - Taiwan Chemical Substance Inventory

列出所有成分

· GHS 標籤元素 本產品根據化學物質分類及標記全球協調制度(GHS)進行了分類及標記。

圖示圖示圖示



GHS05

GHS07

GHS08

名稱名稱名稱**· 標籤上辨別危險的成份:**

1,5- 戊 二 醛

福 爾 馬 林 溶 液

· 危險字句

吞食可能有害

吸入有害

造成皮膚刺激

造成嚴重眼睛損傷

吸入可能導致過敏或哮喘病症狀或呼吸困難

可能造成皮膚過敏

懷疑造成遺傳性缺陷

可能致癌

可能造成呼吸道刺激

對水生生物有毒

對水生生物有害並具有長期持續影響

(在 10 頁繼續)

安全資料表

據根據據據性化學品標示及通識規則

打印日期 2020.04.09

在 2020.04.09 審核

化學品中文名稱名稱名稱 化學品俗名或商品名：KARNOVSKY'S FIXATIVE

(在 9 頁繼續)

- **警戒字句**

- **事故響應**

如進入眼睛：用水小心清洗數分鐘。如帶隱形眼鏡且可方便地取出，取出隱型眼鏡。繼續清洗。

立即呼叫解毒中心/醫生

專項處置(參見本標示)。

脫掉沾染的衣服，清洗後方可重新使用

- **安全貯存**

加鎖存放。

- **廢棄處置**

按照地方/區域/國家/國際法規處理內容物之廢棄/容器。

國家國家規章規章

- **有關使用限制的資料:** 禁止員工接觸在配制中含有致癌的物料. 在某些情況中由當局作出例外的決定.
- **化學物質安全性評價:** 尚未進行化學物質安全性評價

16 其他資料

該資料是基於我們目前的知識。然而，這並不構成對任何特定產品特性的擔保並且不建立一個法律上有效的合同關係。

- **縮寫:**

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: 持久性生物累積性有毒物質

vPvB: very Persistent and very Bioaccumulative

易燃液體 第4級: Flammable liquids – Category 4

急性毒性物質(吞食) 第3級: Acute toxicity – Category 3

急性毒性物質(皮膚) 第5級: Acute toxicity – Category 5

急性毒性物質(吸入) 第2級: Acute toxicity – Category 2

急性毒性物質(吸入) 第4級: Acute toxicity – Category 4

腐蝕/刺激皮膚物質 第1B級: Skin corrosion/irritation – Category 1B

腐蝕/刺激皮膚物質 第2級: Skin corrosion/irritation – Category 2

嚴重損傷/刺激眼睛物質 第1級: Serious eye damage/eye irritation – Category 1

呼吸道過敏物質 第1級: Respiratory sensitisation – Category 1

皮膚過敏物質 第1級: Skin sensitisation – Category 1

生殖細胞致突變性物質 第2級: Germ cell mutagenicity – Category 2

致癌物質 第1B級: Carcinogenicity – Category 1B

特定標的器官系統毒性物質(單一暴露) 第3級: Specific target organ toxicity (single exposure) – Category 3

水環境之危害物質(急性) 第1級: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

水環境之危害物質(急性) 第2級: Hazardous to the aquatic environment - acute aquatic hazard – Category 2

水環境之危害物質(慢性) 第2級: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

水環境之危害物質(慢性) 第3級: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

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SECÇÃO 1: Identificação da substância/mistura e da sociedade/empresa

- **1.1 Identificador do produto**
- **Nome comercial:** KARNOVSKY'S FIXATIVE
- **Código do produto:**
15720, 15732, CUSTOM FIXATIVE, 15730, 15720-CUSTOM, 15732-10, 15732-10 SPECIAL, 15732-1/2-SP, 15732-SP, 15720 SPECIAL, 15730 SPECIAL, 15732-10/CUSTOM
- **1.2 Utilizações identificadas relevantes da substância ou mistura e utilizações desaconselhadas**
Não existe mais nenhuma informação relevante disponível.
- **Utilização da substância / da preparação** Químicos de laboratório
- **1.3 Identificação do fornecedor da ficha de dados de segurança**
- **Fabricante/fornecedor:**
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
- **Entidade para obtenção de informações adicionais:** Product safety department
- **1.4 Número de telefone de emergência:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

SECÇÃO 2: Identificação dos perigos

- **2.1 Classificação da substância ou mistura**
- **Classificação em conformidade com o Regulamento (CE) n.º 1272/2008**



GHS08 perigo para a saúde

- Resp. Sens. 1 H334 Quando inalado, pode provocar sintomas de alergia ou de asma ou dificuldades respiratórias.
- Muta. 2 H341 Suspeito de provocar anomalias genéticas.
- Carc. 1B H350 Pode provocar cancro.



GHS05 corrosão

- Eye Dam. 1 H318 Provoca lesões oculares graves.



GHS07

- Acute Tox. 4 H332 Nocivo por inalação.
- Skin Irrit. 2 H315 Provoca irritação cutânea.
- Skin Sens. 1 H317 Pode provocar uma reacção alérgica cutânea.
- STOT SE 3 H335 Pode provocar irritação das vias respiratórias.
- Aquatic Chronic 3 H412 Nocivo para os organismos aquáticos com efeitos duradouros.

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(continuação da página 1)

- **2.2 Elementos do rótulo**
- **Rotulagem em conformidade com o Regulamento (CE) n.º 1272/2008**
O produto classificou-se e está etiquetado em conformidade com o regulamento CLP.
- **Pictogramas de perigo**



GHS05 GHS07 GHS08

- **Palavra-sinal Perigo**
- **Componentes determinantes para os perigos constantes do rótulo:**
glutaral
formaldeído
- **Advertências de perigo**
H332 Nocivo por inalação.
H315 Provoca irritação cutânea.
H318 Provoca lesões oculares graves.
H334 Quando inalado, pode provocar sintomas de alergia ou de asma ou dificuldades respiratórias.
H317 Pode provocar uma reacção alérgica cutânea.
H341 Suspeito de provocar anomalias genéticas.
H350 Pode provocar cancro.
H335 Pode provocar irritação das vias respiratórias.
H412 Nocivo para os organismos aquáticos com efeitos duradouros.
- **Recomendações de prudência**
P305+P351+P338 **SE ENTRAR EM CONTACTO COM OS OLHOS:** Enxaguar cuidadosamente com água durante vários minutos. Se usar lentes de contacto, retire-as, se tal lhe for possível. Continue a enxaguar.
P310 Contacte imediatamente um CENTRO DE INFORMAÇÃO ANTIVENENOS/médico.
P321 Tratamento específico (ver no presente rótulo).
P362+P364 Retirar a roupa contaminada e lavá-la antes de a voltar a usar.
P405 Armazenar em local fechado à chave.
P501 Eliminar o conteúdo/recipiente de acordo com a legislação local/regional/nacional/internacional.
- **2.3 Outros perigos**
- **Resultados da avaliação PBT e mPmB**
- **PBT:** Não aplicável.
- **mPmB:** Não aplicável.

SECÇÃO 3: Composição/informação sobre os componentes

- **3.2 Caracterização química: Misturas**
- **Descrição:** Mistura das seguintes substâncias com aditivos não perigosos.

· Substâncias perigosas:

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

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

Nome comercial: **KARNOVSKY'S FIXATIVE**

(continuação da página 2)

CAS: 50-00-0
EINECS: 200-001-8

formaldeído

>2,5-≤10%

 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

· **Avisos adicionais:** O texto das indicações de perigo aqui incluído poderá ser consultado no capítulo 16.

SECÇÃO 4: Medidas de primeiros socorros

· 4.1 Descrição das medidas de primeiros socorros

· Indicações gerais:

Os sintomas de envenenamento podem surgir apenas após várias horas, por isso é necessária vigilância médica pelo menos 48 horas após o acidente.

· Em caso de inalação:

Assegurar uma boa entrada de oxigénio e, por razões de segurança, procurar auxílio médico.

Se a vítima estiver inconsciente, posicioná-la e transportá-la com estabilidade, deitada lateralmente.

· Em caso de contacto com a pele: Lavar imediatamente com água e sabão e enxaguar abundantemente.

· Em caso de contacto com os olhos:

Enxaguar os olhos durante alguns minutos sob água corrente, mantendo as pálpebras abertas, e consultar o médico.

· Em caso de ingestão: Consultar imediatamente o médico

· 4.2 Sintomas e efeitos mais importantes, tanto agudos como retardados

Não existe mais nenhuma informação relevante disponível.

· 4.3 Indicações sobre cuidados médicos urgentes e tratamentos especiais necessários

Não existe mais nenhuma informação relevante disponível.

SECÇÃO 5: Medidas de combate a incêndios

· 5.1 Meios de extinção

· Meios adequados de extinção: Coordenar no local medidas para extinção do fogo.

· 5.2 Perigos especiais decorrentes da substância ou mistura

Não existe mais nenhuma informação relevante disponível.

· 5.3 Recomendações para o pessoal de combate a incêndios

· Equipamento especial de protecção: Colocar máscara de respiração.

SECÇÃO 6: Medidas a tomar em caso de fugas accidentais

· 6.1 Precauções individuais, equipamento de protecção e procedimentos de emergência Não necessário.

· 6.2 Precauções a nível ambiental:

Em caso de infiltrações nos leitos de água ou na canalização, comunicar aos serviços públicos competentes.

Evitar que penetre na canalização / águas superficiais / águas subterrâneas.

· 6.3 Métodos e materiais de confinamento e limpeza:

Recolher com produtos que absorvam líquidos (areia, seixos, absorventes universais, serradura).

Eliminar residualmente as substâncias contaminadas como um resíduo segundo o Ponto 13.

Assegurar uma ventilação adequada.

· 6.4 Remissão para outras secções

Para informações sobre uma manipulação segura, ver o capítulo 7.

Para informações referentes ao equipamento de protecção individual, ver o capítulo 8.

(continuação na página 4)

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(continuação da página 3)

Para informações referentes à eliminação residual, ver o capítulo 13.

SECÇÃO 7: Manuseamento e armazenagem

- **7.1 Precauções para um manuseamento seguro**
Assegurar uma boa ventilação / exaustão no local de trabalho.
Abrir e manusear o recipiente com cuidado
Evitar a formação de aerossóis.
- **Precauções para prevenir incêndios e explosões:** Manter uma máscara de respiração sempre preparada.
- **7.2 Condições de armazenagem segura, incluindo eventuais incompatibilidades**
- **Armazenagem:**
- **Requisitos para espaços ou contentores para armazenagem:** Sem requisitos especiais.
- **Avisos para armazenagem conjunta:** Não necessário.
- **Outros avisos sobre as condições de armazenagem:** Manter o recipiente hermeticamente fechado.
- **7.3 Utilização(ões) final(is) específica(s)** Não existe mais nenhuma informação relevante disponível.

SECÇÃO 8: Controlo da exposição/Protecção individual

- **Indicações adicionais para concepção de instalações técnicas:**
Não existem outras informações, ver ponto 7.

- **8.1 Parâmetros de controlo**

- **Componentes cujo valor do limite de exposição no local de trabalho deve ser monitorizado:**

111-30-8 glutaral

VLE	Valor limite de exposição – concentração máxima: 0,05 ppm (S); A4; Irrit.ocular, do TRS, cutânea; SCN
-----	--

50-00-0 formaldeído

VLE	Valor limite de exposição – concentração máxima: 0,3 ppm (S); A2; Irritação ocular e do TRS
-----	--

- **Indicações adicionais:** Foram utilizadas como base as listas válidas à data da elaboração.
- **8.2 Controlo da exposição**
- **Equipamento de protecção individual:**
- **Medidas gerais de protecção e higiene:**
Manter afastado de alimentos, bebidas e forragens.
Despir imediatamente a roupa contaminada e embebida.
Lavar as mãos antes das pausas e no fim do trabalho.
Guardar o vestuário de protecção separadamente.
Evitar o contacto com a pele.
Evitar o contacto com os olhos e com a pele.
- **Protecção respiratória:**
Utilizar uma máscara respiratória se a exposição for reduzida ou durante um curto espaço de tempo; se esta for mais prolongada ou mais intensa, utilizar uma máscara respiratória independente do ar ambiente.
- **Protecção das mãos:**



Luvas de protecção

(continuação na página 5)

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O material das luvas tem de ser impermeável e resistente ao produto / à substância / preparação.
Uma vez que não foram realizados testes nesta área, não podemos recomendar um determinado tipo de material para as luvas que seja adequado para o produto / a preparação / a mistura de químicos.

Escolher o material das luvas tendo em consideração a durabilidade, a permeabilidade e a degradação.

· **Material das luvas**

A escolha das luvas mais adequadas não depende apenas do material, mas também de outras características qualitativas e varia de fabricante para fabricante. O facto de o produto ser composto por uma variedade de materiais leva a que não seja possível prever a duração dos mesmos e, consequentemente, das luvas, sendo assim necessário proceder a uma verificação antes da sua utilização.

· **Tempo de penetração no material das luvas**

Deve informar-se sobre a validade exacta das suas luvas junto do fabricante e respeitá-la.

· **Protecção dos olhos:**



Óculos de protecção totalmente fechados

SECÇÃO 9: Propriedades físico-químicas

· **9.1 Informações sobre propriedades físicas e químicas de base**

· **Informações gerais**

· **Aspetto:**

Forma: Líquido

Cor: Claro

· **Odor:** frutado

· **Limiar olfactivo:** Não determinado.

· **valor pH em 20 °C:** 4,5

· **Mudança do estado:**

Ponto de fusão/ponto de congelação: Não determinado.

Ponto de ebulição inicial e intervalo de ebulição: 100 °C

· **Ponto de inflamação:** Não aplicável.

· **Inflamabilidade (sólido, gás):** Não aplicável.

· **Temperatura de decomposição:** Não determinado.

· **Temperatura de autoignição:** O produto não é auto-inflamável.

· **Propriedades explosivas:** O produto não corre o risco de explosão.

· **Limites de explosão:**

Inferior: Não determinado.

Superior: Não determinado.

· **Pressão de vapor em 20 °C:** 23 hPa

· **Densidade em 20 °C:** 0,99592 g/cm³

· **Densidade relativa** Não determinado.

· **Densidade de vapor** Não determinado.

· **Taxa de evaporação:** Não determinado.

(continuação na página 6)

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data da impressão 09.04.2020

Revisão: 09.04.2020

Nome comercial: **KARNOVSKY'S FIXATIVE**

(continuação da página 5)

· Solubilidade em / miscibilidade com água:	<i>Pouco misturável.</i>
· Coefficiente de partição: n-octanol/água	<i>Não determinado.</i>
· Viscosidade:	
Dinâmico:	<i>Não determinado.</i>
Cinemático:	<i>Não determinado.</i>
· Percentagem de solvente:	
Solventes orgânicos:	<i>3,2 %</i>
Água:	<i>42,8 %</i>
VOC (UE)	<i>3,20 %</i>
· Percentagem de substâncias sólidas:	<i>0,0 %</i>
· 9.2 Outras informações	<i>Não existe mais nenhuma informação relevante disponível.</i>

SECÇÃO 10: Estabilidade e reactividade

- **10.1 Reactividade** *Não existe mais nenhuma informação relevante disponível.*
- **10.2 Estabilidade química**
- **Decomposição térmica / condições a evitar:**
Não existe decomposição se usado de acordo com as especificações.
- **10.3 Possibilidade de reações perigosas** *Não se conhecem reações perigosas.*
- **10.4 Condições a evitar** *Não existe mais nenhuma informação relevante disponível.*
- **10.5 Materiais incompatíveis:** *Não existe mais nenhuma informação relevante disponível.*
- **10.6 Produtos de decomposição perigosos:** *Não se conhecem produtos de decomposição perigosos.*

SECÇÃO 11: Informação toxicológica

- **11.1 Informações sobre os efeitos toxicológicos**
- **Toxicidade aguda**
Nocivo por inalação.

· **Valores LD/LC50 relevantes para a classificação:**

111-30-8 glutaral

por via oral	LD50	134 mg/kg (rat)
por via dérmica	LD50	2.560 mg/kg (rabbit)

50-00-0 formaldeído

por via oral	LD50	>200 mg/kg (rat)
--------------	------	------------------

- **Efeito de irritabilidade primário:**
- **Corrosão/irritação cutânea**
Provoca irritação cutânea.
- **Lesões oculares graves/irritação ocular**
Provoca lesões oculares graves.
- **Sensibilização respiratória ou cutânea**
*Quando inalado, pode provocar sintomas de alergia ou de asma ou dificuldades respiratórias.
Pode provocar uma reacção alérgica cutânea.*

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(continuação da página 6)

- **Efeitos CMR (carcinogenicidade, mutagenicidade e efeitos tóxicos na reprodução)**
- **Mutagenicidade em células germinativas**
Suspeito de provocar anomalias genéticas.
- **Carcinogenicidade**
Pode provocar cancro.
- **Toxicidade reprodutiva** Com base nos dados disponíveis, os critérios de classificação não são preenchidos.
- **Toxicidade para órgãos-alvo específicos (STOT) - exposição única**
Pode provocar irritação das vias respiratórias.
- **Toxicidade para órgãos-alvo específicos (STOT) - exposição repetida**
Com base nos dados disponíveis, os critérios de classificação não são preenchidos.
- **Perigo de aspiração** Com base nos dados disponíveis, os critérios de classificação não são preenchidos.

SECÇÃO 12: Informação ecológica

- **12.1 Toxicidade**
- **Toxicidade aquática:** Não existe mais nenhuma informação relevante disponível.
- **12.2 Persistência e degradabilidade** Não existe mais nenhuma informação relevante disponível.
- **12.3 Potencial de bioacumulação** Não existe mais nenhuma informação relevante disponível.
- **12.4 Mobilidade no solo** Não existe mais nenhuma informação relevante disponível.
- **Efeitos ecotóxicos:**
- **Observação:**
Tóxico para os peixes.
Nocivo para os peixes.
- **Outras indicações ecológicas:**
- **Indicações gerais:**
Classe de perigo para a água 3 (D) (auto-classificação): muito perigoso para a água
Não deixar chegar às águas subterrâneas, aos cursos de água nem à canalização, nem em pequenas quantidades.
Perigo de poluição da água potável mesmo se forem derramadas quantidades muito pequenas no subsolo.
Tóxico nas águas para os peixes e para o plâncton.
tóxico para os organismos aquáticos
nocivo para os organismos aquáticos
- **12.5 Resultados da avaliação PBT e mPmB**
- **PBT:** Não aplicável.
- **mPmB:** Não aplicável.
- **12.6 Outros efeitos adversos** Não existe mais nenhuma informação relevante disponível.

SECÇÃO 13: Considerações relativas à eliminação

- **13.1 Métodos de tratamento de resíduos**
- **Recomendação:**
Não se pode eliminar juntamente com o lixo doméstico. Não permita que chegue à canalização.
- **Embalagens contaminadas:**
- **Recomendação:** Eliminação residual conforme o regulamento dos serviços públicos.

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(continuação na página 8)

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SECÇÃO 14: Informações relativas ao transporte

· 14.1 Número ONU · ADR, IMDG, IATA	UNI760
· 14.2 Designação oficial de transporte da ONU · ADR · IMDG, IATA	1760 LÍQUIDO CORROSIVO, N.S.A. (glutaral, FORMALDEÍDO EM SOLUÇÃO) CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)
· 14.3 Classes de perigo para efeitos de transporte · ADR, IMDG, IATA	
· Classe · Rótulo	8 Matérias corrosivas 8
· 14.4 Grupo de embalagem · ADR, IMDG, IATA	II
· 14.5 Perigos para o ambiente:	Não aplicável.
· 14.6 Precauções especiais para o utilizador · Número de identificação de perigo (Nº Kemler): · Nº EMS: · Segregation groups · Stowage Category · Stowage Code	Atenção: Matérias corrosivas 80 F-A,S-B Acids B SW2 Clear of living quarters.
· 14.7 Transporte a granel em conformidade com o anexo II da Convenção MARPOL e o Código IBC	Não aplicável.
· Transporte/outras informações:	
· ADR · Quantidades Limitadas (LQ) · Quantidades exceptuadas (EQ)	1L Código: E2 Quantidade líquida máxima por embalagem interior: 30 ml Quantidade líquida máxima por embalagem exterior: 500 ml
· Categoria de transporte · Código de restrição em túneis	2 E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

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· **UN "Model Regulation":** *UN 1760 LÍQUIDO CORROSIVO, N.S.A. (GLUTARAL, FORMALDEÍDO EM SOLUÇÃO), 8, II*

SECÇÃO 15: Informação sobre regulamentação

- **15.1 Regulamentação/legislação específica para a substância ou mistura em matéria de saúde, segurança e ambiente**
- **Diretiva 2012/18/UE**
- **Substâncias perigosas designadas - ANEXO I Nenhum dos componentes se encontra listado.**
- **Regulamento (CE) n.º 1907/2006 ANEXO XVII Condições de limitação: 3, 28, 72**
- **Disposições nacionais:**
- **Avisos para limitação da exposição no local de trabalho:**
Os trabalhadores não devem ser expostos às substâncias perigosas contidas nesta preparação que podem causar cancro. Em casos isolados os serviços públicos podem permitir exceções.
- **15.2 Avaliação da segurança química:** *Não foi realizada nenhuma Avaliação de Segurança Química.*

SECÇÃO 16: Outras informações

As informações fornecidas baseiam-se no estado actual dos nossos conhecimentos, embora não representem uma garantia das propriedades do produto e não fundamentam uma relação contratual.

- **Frases relevantes**
H301 Tóxico por ingestão.
H311 Tóxico em contacto com a pele.
H314 Provoca queimaduras na pele e lesões oculares graves.
H317 Pode provocar uma reacção alérgica cutânea.
H330 Mortal por inalação.
H331 Tóxico por inalação.
H334 Quando inalado, pode provocar sintomas de alergia ou de asma ou dificuldades respiratórias.
H335 Pode provocar irritação das vias respiratórias.
H341 Suspeito de provocar anomalias genéticas.
H350 Pode provocar cancro.
H400 Muito tóxico para os organismos aquáticos.
H411 Tóxico para os organismos aquáticos com efeitos duradouros.
- **Abreviaturas e 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: Toxicidade aguda - via oral – Categoria 3
Acute Tox. 2: Toxicidade aguda - via inalatória – Categoria 2

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Acute Tox. 4: Toxicidade aguda - via inalatória – Categoria 4
Skin Corr. 1B: Corrosão/irritação cutânea – Categoria 1B
Skin Irrit. 2: Corrosão/irritação cutânea – Categoria 2
Eye Dam. 1: Lesões oculares graves/irritação ocular – Categoria 1
Resp. Sens. 1: Sensibilização respiratória – Categoria 1
Skin Sens. 1: Sensibilização cutânea – Categoria 1
Skin Sens. 1A: Sensibilização cutânea – Categoria 1A
Muta. 2: Mutagenicidade em células germinativas – Categoria 2
Carc. 1B: Carcinogenicidade – Categoria 1B
STOT SE 3: Toxicidade para órgãos-alvo específicos (exposição única) – Categoria 3
Aquatic Acute 1: Perigoso para o ambiente aquático - perigo agudo para o ambiente aquático – Categoria 1
Aquatic Chronic 2: Perigoso para o ambiente aquático - perigo de longo prazo para o ambiente aquático – Categoria 2
Aquatic Chronic 3: Perigoso para o ambiente aquático - perigo de longo prazo para o ambiente aquático – Categoria 3

PT

Паспорт безопасности

в соответствии с ГОСТ 30333-2007

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1 Идентификация химической продукции и сведения о производителе или поставщике

- **Идентификатор продукта**
- **Торговое наименование:** KARNOVSKY'S FIXATIVE
- **Артикульный номер:**
15720, 15732, CUSTOM FIXATIVE, 15730, 15720-CUSTOM, 15732-10, 15732-10 SPECIAL, 15732-1/2-SP, 15732-SP, 15720 SPECIAL, 15730 SPECIAL, 15732-10/CUSTOM
- **Соответствующие установленные применения вещества или смеси и не рекомендуемые области использования**
Отсутствует какая-либо соответствующая информация.
- **Применение вещества / препарата** Лабораторные химикаты
- **Подробная информация поставщика паспорта безопасности**
- **Производитель / Поставщик:**
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
- **Отдел, предоставляющий информацию:** Product safety department
- **Номер телефона экстренной связи:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Идентификация опасности (опасностей)

- **Классификация вещества или смеси**



опасность для здоровья

- | | |
|-------------------------------|--|
| Респираторная синсбилизация 1 | H334 При вдыхании может вызывать аллергические или астматические симптомы или затруднение дыхания. |
| Мутагенность 1C | H341 Предположительно вызывает генетические дефекты. |
| Канцерогенность 1B | H350 Может вызывать рак. |



коррозия

- | | |
|--------------------|---|
| Повреждение глаз 1 | H318 Вызывает серьезные повреждения глаз. |
|--------------------|---|



- | | |
|------------------------|---|
| Острая токсичность 4 | H332 Наносит вред при вдыхании. |
| Раздражение кожи 2 | H315 Вызывает раздражение кожи. |
| Кожная синсбилизация 1 | H317 Может вызывать аллергическую кожную реакцию. |

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(Продолжение страницы 1)

<i>СТОМ - однократно 3</i>	<i>H335 Может вызывать раздражение дыхательных путей.</i>
<i>Острая токсичность 5</i>	<i>H303 Может нанести вред при проглатывании.</i>
<i>Острая токсичность для воды 2</i>	<i>H401 Токсично для водных организмов.</i>
<i>Хроническая токсичность для воды 3</i>	<i>H412 Вредно для водных организмов с долгосрочными последствиями.</i>

· **Элементы маркировки**

· **Элементы маркировки в соответствии с СГС**

Данный продукт классифицируется и маркируется в соответствии с Согласованной на глобальном уровне системой классификации и маркировки химических веществ (GHS).

· **Пиктограммы, обозначающие опасности**



GHS05 GHS07 GHS08

· **Сигнальное слово** *Опасно*

· **Компоненты этикетки, указывающие на опасность:**

Glutaraldehyde

formaldehyde

· **Предупреждения об опасности**

Может нанести вред при проглатывании.

Наносит вред при вдыхании.

Вызывает раздражение кожи.

Вызывает серьезные повреждения глаз.

При вдыхании может вызывать аллергические или астматические симптомы или затруднение дыхания.

Может вызывать аллергическую кожную реакцию.

Предположительно вызывает генетические дефекты.

Может вызывать рак.

Может вызывать раздражение дыхательных путей.

Токсично для водных организмов.

Вредно для водных организмов с долгосрочными последствиями.

· **Меры предосторожности**

ПРИ ПОПАДАНИИ В ГЛАЗА: Осторожно промыть глаза водой в течение нескольких минут.

Снять контактные линзы, если вы пользуетесь ими и если это легко сделать. Продолжить промывание глаз.

Немедленно обратиться в ТОКСИКОЛОГИЧЕСКИЙ ЦЕНТР/к врачу.

Применение специальных мер (см. на этом маркировочном знаке).

Снять загрязненную одежду и промыть ее перед повторным использованием.

Хранить под замком.

Утилизировать содержимое / тару в соответствии с местными / региональными / национальными / международными предписаниями.

· **Другие опасные факторы**

· **Результаты оценки PBT (устойчивое биоаккумулятивное токсическое вещество) и vPvB (очень устойчивое биоаккумулятивное вещество)**

· **PBT:** *Неприменимо.*

(Продолжение на странице 3)

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(Продолжение страницы 2)

· **vPvB:** Неприменимо.

3 Состав (информация о компонентах)

- **Химическая характеристика:** Смеси
- **Описание:** Смесь из веществ, перечисленных ниже, с неопасными добавками.

- **Содержащиеся опасные вещества:**

7778-77-0	potassium dihydrogenorthophosphate	>25-≤50%
111-30-8	Glutaraldehyde <ul style="list-style-type: none"> ⚠ Острая токсичность 3, H301; Острая токсичность 2, H330; ⚠ Респираторная синсбилизация 1, H334; ⚠ Разъедание кожи 1B, H314; ⚠ Острая токсичность для воды 1, H400; Хроническая токсичность для воды 2, H411; ⚠ СТОМ - однократно 3, H335; Воспламеняющаяся жидкость 4, H227; Острая токсичность 5, H313 	>2,5-≤10%
50-00-0	formaldehyde <ul style="list-style-type: none"> ⚠ Острая токсичность 3, H301; Острая токсичность 3, H311; Острая токсичность 3, H331; ⚠ Мутагенность 1С, H341; Канцерогенность 1B, H350; ⚠ Разъедание кожи 1B, H314; ⚠ Кожная синсбилизация 1, H317; Воспламеняющаяся жидкость 4, H227 	>2,5-≤10%

- **Дополнительные указания:** Текст приведённых указаний на факторы риска см. в Главе 16.

4 Меры первой помощи

- **Описание мер первой медицинской помощи**
- **Общие указания:**
Симптомы отравления могут проявиться даже спустя много часов, поэтому имеется необходимость в медицинском надзоре в течение как минимум 48 часов после аварии (несчастного случая).
- **После вдыхания:**
Обеспечить доступ свежего воздуха и для надёжности вызвать врача.
При потере сознания (обморочном состоянии) положить пациента на бок в стабильном положении для транспортировки.
- **После контакта с кожей:** Немедленно промыть с помощью воды и мыла, хорошо сполоснуть.
- **После контакта с глазами:**
Промыть открытый глаз под проточной водой в течение нескольких минут, затем обратиться к врачу.
- **После проглатывания:** Немедленно вызвать врача.
- **Указания для врача:**
- **Наиболее важные симптомы и эффекты, как немедленные, так и проявляющиеся впоследствии**
Отсутствует какая-либо соответствующая информация.
- **Указание на необходимость оперативной медицинской помощи и специального режима**
Отсутствует какая-либо соответствующая информация.

RU

(Продолжение на странице 4)

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(Продолжение страницы 3)

5 Меры и средства обеспечения пожаровзрывобезопасности

- **Средства пожаротушения**
- **Надлежащие средства тушения:**
Предпринять меры по тушению пожара, соответствующие окружающим условиям.
- **Особые опасности, создаваемые веществом или смесью**
Отсутствует какая-либо соответствующая информация.
- **Рекомендации для пожарных**
- **Защитное оснащение:** Применение устройства защиты дыхательных путей.

6 Меры по предотвращению и ликвидации аварийных и чрезвычайных ситуаций и их последствий

- **Меры по обеспечению личной безопасности, защитное снаряжение и порядок действий в чрезвычайной ситуации**
Не требуется.
- **Меры по защите окружающей среды:**
При попадании в водоёмы или в канализационную систему проинформировать об этом соответствующие службы.
Не допускать попадания в канализационную систему / поверхностные или грунтовые воды.
- **Методы и материалы для локализации и очистки:**
Собрать при помощи связывающего жидкость материала (песка, кизельгура, кислотно-вяжущего средства, универсальных вяжущих средств, опилок).
Утилизировать заражённый материал как отходы в соответствии с Пунктом 13.
Обеспечить достаточную вентиляцию.
- **Ссылки на другие разделы**
Информация по безопасному обращению - в Главе 7.
Информация по индивидуальному защитному снаряжению - в Главе 8.
Информация по утилизации - в Главе 13.

7 Правила хранения химической продукции и обращения с ней при погрузочно-разгрузочных работах

- **Обращение с веществом:**
- **Меры предосторожности по безопасному обращению**
Обеспечить хорошую вентиляцию / вытяжку на рабочем месте.
Соблюдать осторожность при открывании ёмкостей и при обращении с ними.
Не допускать образования аэрозолей.
- **Указания по защите от пожаров и взрывов:**
Держать наготове устройство защиты органов дыхания.
- **Условия безопасного хранения, включая несовместимости**
- **Хранение:**
- **Требования, предъявляемые к складским помещениям и таре:**
Никаких особенных требований не предъявляется.
- **Указания по совместимости с другими веществами при хранении:** Не требуется.
- **Дальнейшие данные по условиям хранения:** Держать ёмкости плотно закрытыми.

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- **Характерное конечное применение (или применения)**
Отсутствует какая-либо соответствующая информация.

8 Средства контроля за опасным воздействием и средства индивидуальной защиты

- **Дополнительные указания по структуре технических устройств:**
Никаких дополнительных данных; см. Пункт 7.

- **Параметры контроля**

- **Составляющие компоненты с предельными значениями, требующие мониторинга на рабочих местах:**

7778-77-0 potassium dihydrogenorthophosphate

PDK ПДК с.с.: 10 мг/м³
а;

111-30-8 Glutaraldehyde

PDK ПДК с.с.: 5 мг/м³
п; А;

50-00-0 formaldehyde

PDK ПДК с.с.: 0,5 мг/м³
п; О, А, +;

- **Дополнительные указания:**

В качестве основы послужили списки, являвшиеся на момент составления актуальными.

- **Требования по охране труда и меры по обеспечению безопасности персонала**

- **Средства индивидуальной защиты:**

- **Общие меры по защите от воздействия и гигиене:**

Держать подальше от продуктов питания, напитков и корма для животных.

Немедленно снять всю загрязнённую и пропитанную вредными веществами одежду.

Мыть руки перед перерывами и по окончании работы.

Хранить защитную одежду отдельно.

Избегать контакта с кожей.

Избегать контакта с глазами и с кожей.

- **Защита органов дыхания:**

При кратковременном контакте с веществом или при воздействии вещества низкой концентрации пользоваться фильтрующим устройством для защиты органов дыхания. При интенсивном или более продолжительном контакте следует воспользоваться автономным устройством защиты органов дыхания.

- **Защита рук:**



Защитные перчатки (рукавицы).

Материал перчаток / рукавиц должен быть устойчивым к воздействию продукта / вещества / препарата и не пропускать их.

Никаких рекомендаций в отношении материала перчаток / рукавиц, пригодных для применения в ходе работы с продуктом / препаратом / смесью химикатов дать нельзя, так как никаких испытаний в этом отношении не проводилось.

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Выбор материала перчаток / рукавиц производится с учётом времени прорыва, степени проницаемости и эрозии.

· Материал перчаток / рукавиц

Выбор подходящих перчаток / рукавиц определяется не только материалом, но также и другими качественными особенностями, причём между различными производителями существует большая разница. Так как продукт представляет собой смесь различных веществ, то не представляется никакой возможности для расчёта устойчивости материала, из которого изготовлены перчатки / рукавицы, что вызывает необходимость перепроверки на предмет пригодности перед использованием.

· Период проницаемости материала перчаток / рукавиц.

Необходимо осведомиться у производителя защитных перчаток / рукавиц о точном времени прорыва и придерживаться его.

· Защита глаз:



Плотно прилегающие защитные очки

9 Физико-химические свойства

· Информация по основным физическим и химическим свойствам

· Общая информация

· Внешний вид:

Форма:	Жидкость
Цвет:	Прозрачное
Запах:	Фруктоподобно
Порог запаха:	Не определено.

· Значение pH при 20 °C: 4,5

· Изменение состояния

Точка плавления / интервал температур плавления:	Не определено.
Точка кипения / интервал температур кипения:	100 °C

· Температурная точка вспышки: Неприменимо.

· Воспламеняемость (твёрдое, газообразное вещество): Неприменимо.

· Температура распада: Не определено.

· Самовоспламеняемость: Продукт не является самовоспламеняемым.

· Взрывоопасность: Продукт не является взрывоопасным.

· Границы взрываемости:

Нижняя:	Не определено.
Верхняя:	Не определено.

· Давление пара при 20 °C: 23 гПа

· Плотность при 20 °C: 0,99592 г/см³

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· Относительная плотность	Не определено.
· Плотность пара	Не определено.
· Скорость испарения	Не определено.
· Растворимость в / Смешиваемость с водой:	Несмешиваемо или трудносмешиваемо.
· Коэффициент распределения (n-октанол / вода):	Не определено.
· Вязкость:	
Динамическая:	Не определено.
Кинематическая:	Не определено.
· Содержание растворителя:	
Органические растворители:	3,2 %
Вода:	42,8 %
VOC (EC)	3,20 %
· Содержание твёрдых тел:	0,0 %
· Другая информация	Отсутствует какая-либо соответствующая информация.

10 Стабильность и реакционная способность

- **Реакционная способность** Отсутствует какая-либо соответствующая информация.
- **Химическая стабильность**
- **Термический распад / условия, которых следует избегать:**
При использовании в соответствии с предписаниями не происходит никакого распада.
- **Возможность опасных реакций** Неизвестно ни о каких опасных реакциях.
- **Условия, вызывающие опасные изменения**
Отсутствует какая-либо соответствующая информация.
- **Несовместимые материалы:** Отсутствует какая-либо соответствующая информация.
- **Опасные продукты распада:** Неизвестно ни о каких опасных продуктах распада.

11 Информация о токсичности

- **Информация по токсикологическому воздействию**
- **Острая токсичность:**

· **Значения LD/LC50 (летальной дозы/концентрации), необходимые для классифицирования:**

111-30-8 Glutaraldehyde

Орально (через рот)	LD50	134 мг/кг (rat)
Дермально (через кожу)	LD50	2.560 мг/кг (rabbit)

50-00-0 formaldehyde

Орально (через рот)	LD50	>200 мг/кг (rat)
---------------------	------	------------------

- **Первичное раздражающее воздействие:**
- **на кожу:** Раздражает кожу и слизистые оболочки.
- **на глаза:** Сильный раздражитель с опасностью серьёзного повреждения глаз.

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- **Сенсибилизация:**
Сенсибилизация возможна посредством вдыхания.
Сенсибилизация возможна посредством кожного контакта.
- **Дополнительные токсикологические указания:**
На основании расчётного метода Всеобщей Классификационной Директивы ЕС для Препаратов в её последней (актуальной) редакции продукт представляет следующие виды опасности:
Вредно для здоровья
Раздражающе
Вызывает рак
- **Информация по следующим группам потенциальных воздействий:**
- **Канцерогенное, изменяющее наследственность и вызывающее бесплодие действие**
Мутагенность 1С, Канцерогенность 1В

12 Информация о воздействии на окружающую среду

- **Токсичность**
- **Акватоксичность:** Отсутствует какая-либо соответствующая информация.
- **Стойкость и склонность к деградации** Отсутствует какая-либо соответствующая информация.
- **Поведение в экологических системах:**
- **Биоаккумулятивный потенциал** Отсутствует какая-либо соответствующая информация.
- **Подвижность в грунте** Отсутствует какая-либо соответствующая информация.
- **Экотоксические воздействия:**
- **Примечания:**
Ядовито для рыб.
Вредно для рыб.
- **Дополнительные экологические указания:**
- **Общие указания:**
Класс вредности для воды 3 (Само-классификация): очень вредно для воды
Не допускать попадания продукта в грунтовые воды, водоёмы или в канализационную систему, даже в малых количествах.
Вред для питьевой воды при попадании под землю даже минимальных количеств.
В водоёмах ядовито также для рыб и планктона.
Ядовито для водных организмов.
Вредно для водных организмов.
- **Результаты оценки РВТ (устойчивое биоаккумулятивное токсическое вещество) и vPvB (очень устойчивое биоаккумулятивное вещество)**
- **РВТ:** Неприменимо.
- **vPvB:** Неприменимо.
- **Другие вредные эффекты** Отсутствует какая-либо соответствующая информация.

13 Рекомендации по удалению отходов (остатков)

- **Методы обработки отходов**
- **Рекомендация:**
Утилизация совместно с бытовыми отходами недопустима. Не допускать попадания в канализацию.

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- **Неочищенные упаковки:**
- **Рекомендация:**
Утилизация должна быть осуществлена в соответствии с предписаниями компетентных служб.

14 Информация при перевозках (транспортировании)

<ul style="list-style-type: none"> · Номер UN · ADR, IMDG, IATA 	<p style="text-align: right;">UN1760</p>
<ul style="list-style-type: none"> · Собственное транспортное наименование ООН · ADR · IMDG, IATA 	<p style="text-align: right;">1760 КОРРОЗИОННАЯ ЖИДКОСТЬ, Н.У.К (Glutaraldehyde, ФОРМАЛЬДЕГИДА РАСТВОР) CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)</p>
<ul style="list-style-type: none"> · классов опасности транспорта · ADR, IMDG, IATA 	<p style="text-align: right;">8 Разъедающие вещества</p>
	<ul style="list-style-type: none"> · Класс · Этикетка для опасного содержимого <p style="text-align: right;">8</p>
<ul style="list-style-type: none"> · Группа упаковки · ADR, IMDG, IATA 	<p style="text-align: right;">II</p>
<ul style="list-style-type: none"> · Экологические риски: 	<p style="text-align: right;">Неприменимо.</p>
<ul style="list-style-type: none"> · Особые меры предосторожности для пользователей · Идентификационный номер опасности (Код опасности по Кемлеру): · Номер EMS: · Segregation groups · Stowage Category · Stowage Code 	<p style="text-align: right;">Осторожно: Разъедающие вещества</p> <p style="text-align: right;">80</p> <p style="text-align: right;">F-A,S-B</p> <p style="text-align: right;">Acids</p> <p style="text-align: right;">B</p> <p style="text-align: right;">SW2 Clear of living quarters.</p>
<ul style="list-style-type: none"> · Транспортировка навалом в соответствии с Приложением II MARPOL73/78 (Международная конвенция по предотвращению загрязнения вод с судов) и IBC Code (Международный кодекс перевозок опасных химических грузов наливом) 	<p style="text-align: right;">Неприменимо.</p>
<ul style="list-style-type: none"> · Транспорт / дополнительная информация: 	<p style="text-align: right;">Неприменимо.</p>
<ul style="list-style-type: none"> · ADR · Ограниченные объёмы (LQ) · Освобожденные количества (EQ) 	<p style="text-align: right;">1L</p> <p style="text-align: right;">Код: E2</p> <p style="text-align: right;">Максимальное количество нетто на внутреннюю тару: 30 мл</p> <p style="text-align: right;">Максимальное количество нетто на наружную</p>

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· Транспортная категория	тару: 500 мл 2
· Код ограничения проезда через туннели	E
<hr style="border-top: 1px dashed black;"/>	
· IMDG	
· Limited quantities (LQ)	1L
· Excerpted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 мл Maximum net quantity per outer packaging: 500 мл
· UN "Model Regulation":	UN 1760 КОРРОЗИОННАЯ ЖИДКОСТЬ, Н.У.К (GLUTARALDEHYDE, ФОРМАЛЬДЕГИДА РАСТВОР), 8, II

15 Информация о национальном и международном законодательстве

- **Нормы безопасности, правила охраны труда и экологические нормативы или стандарты, действующие для вещества или смеси**
- **Элементы маркировки в соответствии с СГС**
Данный продукт классифицируется и маркируется в соответствии с Согласованной на глобальном уровне системой классификации и маркировки химических веществ (GHS).
- **Пиктограммы, обозначающие опасности**



- **Сигнальное слово** Опасно
- **Компоненты этикетки, указывающие на опасность:**
Glutaraldehyde
formaldehyde
- **Предупреждения об опасности**
Может нанести вред при проглатывании.
Наносит вред при вдыхании.
Вызывает раздражение кожи.
Вызывает серьезные повреждения глаз.
При вдыхании может вызывать аллергические или астматические симптомы или затруднение дыхания.
Может вызывать аллергическую кожную реакцию.
Предположительно вызывает генетические дефекты.
Может вызывать рак.
Может вызывать раздражение дыхательных путей.
Токсично для водных организмов.
Вредно для водных организмов с долгосрочными последствиями.
- **Меры предосторожности**
ПРИ ПОПАДАНИИ В ГЛАЗА: Осторожно промыть глаза водой в течение нескольких минут.
Снять контактные линзы, если вы пользуетесь ими и если это легко сделать. Продолжить промывание глаз.
Немедленно обратиться в ТОКСИКОЛОГИЧЕСКИЙ ЦЕНТР/к врачу.

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Применение специальных мер (см. на этом маркировочном знаке).

Снять загрязненную одежду и промыть ее перед повторным использованием.

Хранить под замком.

Утилизировать содержимое / тару в соответствии с местными / региональными / национальными / международными предписаниями.

• **Национальные предписания:**

• **Указания по ограничению использования:**

Сотрудников нельзя подвергать воздействию вызывающих рак опасных веществ, содержащихся в данном препарате. В отдельных случаях компетентные службы могут допустить исключения.

• **Оценка химической безопасности:** Оценка химической безопасности не проведена.

16 Дополнительная информация

Данные опираются на актуальные знания, однако они не являются гарантией каких-либо конкретных свойств продукта и не устанавливают никаких действующих с юридической точки зрения договорных отношений.

• **Соответствующие данные**

H227 Горючая жидкость.

H301 Токсично при проглатывании.

H311 Токсично при контакте с кожей.

H313 Может нанести вред при контакте с кожей.

H314 Вызывает серьезные ожоги кожи и повреждения глаз.

H317 Может вызывать аллергическую кожную реакцию.

H330 Смертельно при вдыхании.

H331 Токсично при вдыхании.

H334 При вдыхании может вызывать аллергические или астматические симптомы или затруднение дыхания.

H335 Может вызывать раздражение дыхательных путей.

H341 Предположительно вызывает генетические дефекты.

H350 Может вызывать рак.

H400 Весьма токсично для водных организмов.

H411 Токсично для водных организмов с долгосрочными последствиями.

• **Аббревиатуры и акронимы:**

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

Воспламеняющаяся жидкость 4: Flammable liquids – Category 4

Острая токсичность 3: Acute toxicity – Category 3

Острая токсичность 5: Acute toxicity – Category 5

Острая токсичность 2: Acute toxicity – Category 2

Острая токсичность 4: Acute toxicity – Category 4

Разъедание кожи 1B: Skin corrosion/irritation – Category 1B

Раздражение кожи 2: Skin corrosion/irritation – Category 2

Повреждение глаз 1: Serious eye damage/eye irritation – Category 1

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*Респираторная синсбилизация 1: Respiratory sensitisation – Category 1**Кожная сенсбилизация 1: Skin sensitisation – Category 1**Мутагенность 1С: Germ cell mutagenicity – Category 2**Канцерогенность 1В: Carcinogenicity – Category 1В**СТОМ - однократно 3: Specific target organ toxicity (single exposure) – Category 3**Острая токсичность для воды 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1**Острая токсичность для воды 2: Hazardous to the aquatic environment - acute aquatic hazard – Category 2**Хроническая токсичность для воды 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2**Хроническая токсичность для воды 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3*

-RU-

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 09.04.2020

Revisión: 09.04.2020

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

· 1.1 Identificador del producto

· **Nombre comercial:** KARNOVSKY'S FIXATIVE

· **Número del artículo:**

15720, 15732, CUSTOM FIXATIVE, 15730, 15720-CUSTOM, 15732-10, 15732-10 SPECIAL, 15732-1/2-SP, 15732-SP, 15720 SPECIAL, 15730 SPECIAL, 15732-10/CUSTOM

· 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.



GHS05 corrosión

Eye Dam. 1 H318 Provoca lesiones oculares graves.

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GHS07

Acute Tox. 4 H332 Nocivo en caso de inhalación.
 Skin Irrit. 2 H315 Provoca irritación cutánea.
 Skin Sens. 1 H317 Puede provocar una reacción alérgica en la piel.
 STOT SE 3 H335 Puede irritar las vías respiratorias.
 Aquatic Chronic 3 H412 Nocivo para los organismos acuáticos, con efectos nocivos duraderos.

· 2.2 Elementos de la etiqueta

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

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

· Pictogramas de peligro



GHS05 GHS07 GHS08

· Palabra de advertencia Peligro

· Componentes peligrosos a indicar en el etiquetaje:

glutaral
formaldehído

· Indicaciones de peligro

H332 Nocivo en caso de inhalación.
 H315 Provoca irritación cutánea.
 H318 Provoca lesiones oculares graves.
 H334 Puede provocar síntomas de alergia o asma o dificultades respiratorias en caso de inhalación.
 H317 Puede provocar una reacción alérgica en la piel.
 H341 Se sospecha que provoca defectos genéticos.
 H350 Puede provocar cáncer.
 H335 Puede irritar las vías respiratorias.
 H412 Nocivo para los organismos acuáticos, con efectos nocivos duraderos.

· Consejos de prudencia

P305+P351+P338 EN CASO DE CONTACTO CON LOS OJOS: Enjuagar con agua cuidadosamente durante varios minutos. Quitar las lentes de contacto cuando estén presentes y pueda hacerse con facilidad. Proseguir con el lavado.
 P310 Llamar inmediatamente a un CENTRO DE TOXICOLOGÍA/médico.
 P321 Se necesita un tratamiento específico (ver en esta etiqueta).
 P362+P364 Quitar las prendas contaminadas y lavarlas antes de volver a usarlas.
 P405 Guardar bajo llave.
 P501 Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional.

· 2.3 Otros peligros

· Resultados de la valoración PBT y mPmB

· PBT: No aplicable.

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

· 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:

Limpicar los ojos abiertos durante varios minutos con agua corriente y consultar un médico.

· En caso de ingestión: Consultar inmediatamente un médico.

· 4.2 Principales síntomas y efectos, agudos y retardados No existen más datos relevantes disponibles.

· 4.3 Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente

No existen más datos relevantes disponibles.

SECCIÓN 5: Medidas de lucha contra incendios

· 5.1 Medios de extinción

· Sustancias extintoras apropiadas:

Combatir los incendios con medidas adaptados al ambiente circundante.

· 5.2 Peligros específicos derivados de la sustancia o la mezcla No existen más datos relevantes disponibles.

· 5.3 Recomendaciones para el personal de lucha contra incendios

· Equipo especial de protección: Colocarse la protección respiratoria.

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SECCIÓN 6: Medidas en caso de vertido accidental

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

SECCIÓN 7: Manipulación y almacenamiento

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

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· 8.2 Controles de la exposición

· **Equipo de protección individual:**

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

Mantener alejado de alimentos, bebidas y alimentos para animales.

Quitarse de inmediato la ropa ensuciada o impregnada.

Lavarse las manos antes de las pausas y al final del trabajo.

Guardar la ropa protectora por separado.

Evitar el contacto con la piel.

Evitar el contacto con los ojos y la piel.

· **Protección respiratoria:**

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

· **Protección de manos:**



Guantes de protección

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

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

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

· **Material de los guantes**

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

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

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

· **Protección de ojos:**



Gafas de protección herméticas

SECCIÓN 9: Propiedades físicas y químicas

· 9.1 Información sobre propiedades físicas y químicas básicas

· **Datos generales**

· **Aspecto:**

Forma: Líquido

Color: Claro

· **Olor:** Similar al de las frutas

· **Umbral olfativo:** No determinado.

· **valor pH a 20 °C:** 4,5

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· Cambio de estado Punto de fusión/punto de congelación:	Indeterminado.
Punto inicial de ebullición e intervalo de ebullición:	100 °C
· Punto de inflamación:	No aplicable.
· Inflamabilidad (sólido, gas):	No aplicable.
· Temperatura de descomposición:	No determinado.
· Temperatura de auto-inflamación:	El producto no es autoinflamable.
· Propiedades explosivas:	El producto no es explosivo.
· Límites de explosión: Inferior:	No determinado.
Superior:	No determinado.
· Presión de vapor a 20 °C:	23 hPa
· Densidad a 20 °C:	0,99592 g/cm ³
· Densidad relativa	No determinado.
· Densidad de vapor	No determinado.
· Tasa de evaporación:	No determinado.
· Solubilidad en / miscibilidad con agua:	Poco o no mezclable.
· Coefficiente de reparto: n-octanol/agua:	No determinado.
· Viscosidad: Dinámica:	No determinado.
Cinemática:	No determinado.
· Concentración del disolvente: Disolventes orgánicos:	3,2 %
Agua:	42,8 %
VOC (CE)	3,20 %
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.

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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)
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· Efecto estimulante primario:

· Corrosión o irritación cutáneas

Provoca irritación cutánea.

· Lesiones o irritación ocular graves

Provoca lesiones oculares graves.

· Sensibilización respiratoria o cutánea

Puede provocar síntomas de alergia o asma o dificultades respiratorias en caso de inhalación.

Puede provocar una reacción alérgica en la piel.

· Efectos CMR (carcinogenicidad, mutagenicidad y toxicidad para la reproducción)

· Mutagenicidad en células germinales

Se sospecha que provoca defectos genéticos.

· Carcinogenicidad

Puede provocar cáncer.

· Toxicidad para la reproducción

A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

· Toxicidad específica en determinados órganos (STOT) – exposición única

Puede irritar las vías respiratorias.

· Toxicidad específica en determinados órganos (STOT) – exposición repetida

A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

· Peligro de aspiración A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

SECCIÓN 12: Información ecológica

· 12.1 Toxicidad

· Toxicidad acuática: No existen más datos relevantes disponibles.

· 12.2 Persistencia y degradabilidad No existen más datos relevantes disponibles.

· 12.3 Potencial de bioacumulación No existen más datos relevantes disponibles.

· 12.4 Movilidad en el suelo No existen más datos relevantes disponibles.

· Efectos ecotóxicos:

· Observación:

Tóxico para peces.

Nocivo para los peces.

· Indicaciones medioambientales adicionales:

· Indicaciones generales:

Nivel de riesgo para el agua 3 (autoclasificación): muy peligroso para el agua

No dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados, ni siquiera en pequeñas cantidades.

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Una cantidad ínfima vertida en el subsuelo ya representa un peligro para el agua potable.

Vertido en aguas superficiales, también es tóxico para los peces y el plancton.

tóxico para organismos acuáticos

nocivo para organismos acuáticos

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

· **PBT:** No aplicable.

· **mPmB:** No aplicable.

· **12.6 Otros efectos adversos** No existen más datos relevantes disponibles.

SECCIÓN 13: Consideraciones relativas a la eliminación

· **13.1 Métodos para el tratamiento de residuos**

· **Recomendación:** No debe desecharse con la basura doméstica. No debe llegar al alcantarillado.

· **Embalajes sin limpiar:**

· **Recomendación:** Eliminar conforme a las disposiciones oficiales.

SECCIÓN 14: Información relativa al transporte

· **14.1 Número ONU**

· **ADR, IMDG, IATA**

UN1760

· **14.2 Designación oficial de transporte de las Naciones Unidas**

· **ADR**

1760 LÍQUIDO CORROSIVO, N.E.P. (glutaral, FORMALDEHÍDO EN SOLUCIÓN)

· **IMDG, IATA**

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

· **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.

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

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*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 Dam. 1: Lesiones oculares graves o irritación ocular – Categoría 1**Resp. Sens. 1: Sensibilización respiratoria – Categoría 1**Skin Sens. 1: Sensibilización cutánea – Categoría 1**Skin Sens. 1A: Sensibilización cutánea – Categoría 1A**Muta. 2: Mutagenicidad en células germinales – Categoría 2**Carc. 1B: Carcinogenicidad – Categoría 1B**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*

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

- **1.1 Produktbeteckning**
- **Handelsnamn:** KARNOVSKY'S FIXATIVE
- **Artikelnummer:**
15720, 15732, CUSTOM FIXATIVE, 15730, 15720-CUSTOM, 15732-10, 15732-10 SPECIAL, 15732-1/2-SP, 15732-SP, 15720 SPECIAL, 15730 SPECIAL, 15732-10/CUSTOM
- **1.2 Relevanta identifierade användningar av ämnet eller blandningen och användningar som det avråds från**
Ingen ytterligare relevant information finns till förfogande.
- **Ämnets användning / tillredningen** Laboratoriekemikalier
- **1.3 Närmare upplysningar om den som tillhandahåller säkerhetsdatablad**
- **Tillverkare/leverantör:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com
- **Område där upplysningar kan inhämtas:** Product safety department
- **1.4 Telefonnummer för nödsituationer:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

AVSNITT 2: Farliga egenskaper

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



GHS08 hälsofara

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



GHS05 frätande

Eye Dam. 1 H318 Orsakar allvarliga ögonskador.



GHS07

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

(Fortsättning på sida 2)

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(Fortsättning från sida 1)

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



GHS05 GHS07 GHS08

- **Signalord Fara**
- **Riskbestämmande komponenter för etikettering:**
Glutaraldehyd
formaldehyd
- **Faroangivelser**
H332 Skadligt vid inandning.
H315 Irriterar huden.
H318 Orsakar allvarliga ögonskador.
H334 Kan orsaka allergi- eller astmasymtom eller andningssvårigheter vid inandning.
H317 Kan orsaka allergisk hudreaktion.
H341 Misstänks kunna orsaka genetiska defekter.
H350 Kan orsaka cancer.
H335 Kan orsaka irritation i luftvägarna.
H412 Skadliga långtidseffekter för vattenlevande organismer.
- **Skyddsangivelser**
P305+P351+P338 VID KONTAKT MED ÖGONEN: Skölj försiktigt med vatten i flera minuter. Ta ur eventuella kontaktlinser om det går lätt. Fortsätt att skölja.
P310 Kontakta genast GIFTINFORMATIONSCENTRALEN/läkare.
P321 Särskild behandling (se på etiketten).
P362+P364 Ta av nedstänkta kläder och tvätta dem innan de används igen.
P405 Förvaras inläst.
P501 Innehållet / behållaren avfallshanteras enligt lokala / regionala / nationella / internationella föreskrifter.
- **2.3 Andra faror**
- **Resultat av PBT- och vPvB-bedömningen**
- **PBT:** Ej användbar.
- **vPvB:** Ej användbar.

AVSNITT 3: Sammansättning/information om beståndsdelar

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

(Fortsättning på sida 3)

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(Fortsättning från sida 2)

· Farliga ingredienser:

CAS: 111-30-8 EINECS: 203-856-5	Glutaraldehyd Acute Tox. 3, H301; Acute Tox. 2, H330; Resp. Sens. 1, H334; Skin Corr. 1B, H314; Aquatic Acute 1, H400; Aquatic Chronic 2, H411; Skin Sens. 1A, H317; STOT SE 3, H335	>2,5-≤10%
CAS: 50-00-0 EINECS: 200-001-8	formaldehyd Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Muta. 2, H341; Carc. 1B, H350; Skin Corr. 1B, H314; Skin Sens. 1, H317	>2,5-≤10%

· **Ytterligare hänvisningar:** De angivna farohänvisningarnas ordalydelse framgår av kapitel 16.**AVSNITT 4: Åtgärder vid första hjälpen****· 4.1 Beskrivning av åtgärder vid första hjälpen****· Allmänna hänvisningar:**

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

· Vid inandning:

Riklig tillförsel av friskluft, kontakta läkare för säkerhets skull.

Vid medvetslöshet lägg och transportera patient stabilt i framstupa sidoläge.

· Vid kontakt med huden: Tvätta omedelbart med vatten och tvål och spola därefter noggrant.**· Vid kontakt med ögonen:** Spola ögonen öppna i flera minuter under rinnande vatten och kontakta läkare.**· Vid förtäring:** Kontakta läkare omedelbart.**· 4.2 De viktigaste symptomen och effekterna, både akuta och fördröjda**

Ingen ytterligare relevant information finns till förfogande.

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

Ingen ytterligare relevant information finns till förfogande.

AVSNITT 5: Brandbekämpningsåtgärder**· 5.1 Släckmedel****· Lämpliga släckningsmedel:** Anpassa brandbekämpningsåtgärderna till omgivningen.**· 5.2 Särskilda faror som ämnet eller blandningen kan medföra**

Ingen ytterligare relevant information finns till förfogande.

· 5.3 Råd till brandbekämpningspersonal**· Speciell skyddsutrustning:** Använd andningsskyddsutrustning.**AVSNITT 6: Åtgärder vid oavsiktliga utsläpp****· 6.1 Personliga skyddsåtgärder, skyddsutrustning och åtgärder vid nödsituationer** Erfordras ej.**· 6.2 Miljöskyddsåtgärder:**

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

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

· 6.3 Metoder och material för inneslutning och sanering:

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

Omhändertat förorenat material som avfall enligt punkt 13.

Se till att ventilationen är tillräcklig.

(Fortsättning på sida 4)

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(Fortsättning från sida 3)

- **6.4 Hänvisning till andra avsnitt**
Information beträffande säker hantering se kapitel 7.
Information beträffande personlig skyddsutrustning se kapitel 8.
Information beträffande avfallshantering se kapitel 13.

AVSNITT 7: Hantering och lagring

- **7.1 Försiktighetsmått för säker hantering**
Sörj för god ventilation/utsug på arbetsplatsen.
Öppna behållaren försiktigt och hantera den varsamt.
Undvik bildning av aerosol.
- **Hänvisningar beträffande brand- och explosionsskydd:** Håll andningsskyddsutrustning i beredskap.
- **7.2 Förhållanden för säker lagring, inklusive eventuell oförenlighet**
- **Lagring:**
- **Krav på lagerutrymmen och behållare:** Inga speciella krav.
- **Hänvisningar beträffande sammanlagring:** Erfordras ej.
- **Ytterligare uppgifter till lagringsvillkoren:** Förvara behållaren tätt tillsluten.
- **7.3 Specifik slutanvändning** Ingen ytterligare relevant information finns till förfogande.

AVSNITT 8: Begränsning av exponeringen/personligt skydd

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

- **8.1 Kontrollparametrar**

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

111-30-8 Glutaraldehyd	
OEL	Korttidsvärde: 0,4 mg/m ³ , 0,1 ppm
	S
50-00-0 formaldehyd	
OEL	Korttidsvärde: 0,74 mg/m ³ , 0,6 ppm
	Nivågränsvärde: 0,37 mg/m ³ , 0,3 ppm
	C, H, S

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

- **8.2 Begränsning av exponeringen**

- **Personlig skyddsutrustning:**

- **Allmänna skydds- och hygienåtgärder:**

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

- **Andningsskydd:**

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

(Fortsättning på sida 5)

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(Fortsättning från sida 4)

· Handskydd:

Skyddshandskar

Handskmaterialet måste vara tätt och beständigt mot produkt/ämne/tillredning.
Handskmaterialrekommendationer kan inte ges för produkt/tillredning/kemikalielösning, då inga tester genomförts.

Val av handskmaterial beaktande penetrationstider, permeationskvoter och degradation.

· Handskmaterial

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

· Handskmaterialets penetreringstid

Exakt penetreringstid fastställs av skyddshandskarnas tillverkare och skall beaktas.

· Ögonskydd:

Tättslutande skyddsglasögon

AVSNITT 9: Fysikaliska och kemiska egenskaper

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

Form:	Vätska
Färg:	Klar
Lukt:	Fruktaktig
Luktröskel:	Ej bestämd.

· pH-värde vid 20 °C: 4,5

· Tillståndsändring

Smältpunkt/frys punkt:	Ej bestämd.
Initial kokpunkt och kokpunktsintervall:	100 °C

· Flampunkt: Ej användbar.

· Brandfarlighet (fast form, gas): Ej användbar.

· Sönderfallstemperatur: Ej bestämd.

· Självantändningstemperatur: Produkten är ej självantändande.

· Explosiva egenskaper: Produkten är ej explosiv.

· Explosionsgränser:

Nedre:	Ej bestämd.
Övre:	Ej bestämd.

· Ångtryck vid 20 °C: 23 hPa

(Fortsättning på sida 6)

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(Fortsättning från sida 5)

· Densitet vid 20 °C:	0,99592 g/cm ³
· Relativ densitet	Ej bestämd.
· Ångdensitet	Ej bestämd.
· Avdunstningshastighet:	Ej bestämd.
· Löslighet i / blandbarhet med Vatten:	Ej resp. föga blandbar.
· Fördelningskoefficient: n-oktanol/vatten:	Ej bestämd.
· Viskositet:	
Dynamisk:	Ej bestämd.
Kinematisk:	Ej bestämd.
· Lösningsmedelhalt:	
Organiska lösningsmedel:	3,2 %
Vatten:	42,8 %
VOC (EG)	3,20 %
Andel av fasta partiklar:	0,0 %
· 9.2 Annan information	Ingen ytterligare relevant information finns till förfogande.

AVSNITT 10: Stabilitet och reaktivitet

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

AVSNITT 11: Toxikologisk information

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

· **Klassificeringsrelevanta LD/LC50-värden:****111-30-8 Glutaraldehyd**

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

50-00-0 formaldehyd

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

- **Primär retningsseffekt:**
- **Frätande/irriterande på huden**
Irriterar huden.
- **Allvarlig ögonskada/ögonirritation**
Orsakar allvarliga ögonskador.

(Fortsättning på sida 7)

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(Fortsättning från sida 6)

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

AVSNITT 12: Ekologisk information

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

AVSNITT 13: Avfallshantering

- **13.1 Avfallsbehandlingsmetoder**
- **Rekommendation:** Får inte deponeras ihop med hushållsavfall. Får inte tömmas i avloppsnätet.

(Fortsättning på sida 8)

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(Fortsättning från sida 7)

- **Ej rengjorda förpackningar:**
- **Rekommendation:** Avfallshanteras enligt myndigheters föreskrifter.

AVSNITT 14: Transportinformation

· 14.1 UN-nummer · ADR, IMDG, IATA	UN1760
· 14.2 Officiell transportbenämning · ADR · IMDG, IATA	1760 FRÅTANDE VÄTSKA , N.O.S. (Glutaraldehyd, FORMALDEHYD, LÖSNING) CORROSIVE LIQUID, N.O.S. (Glutaraldehyde, FORMALDEHYDE SOLUTION)
· 14.3 Faroklass för transport · ADR, IMDG, IATA	
 · Klass · Etikett	8 Frätande ämnen 8
· 14.4 Förpackningsgrupp · ADR, IMDG, IATA	II
· 14.5 Miljöfaror:	Ej användbar.
· 14.6 Särskilda skyddsåtgärder · Farlighetsnummer (Kemler-tal): · EMS-nummer: · Segregation groups · Stowage Category · Stowage Code	Varning: Frätande ämnen 80 F-A,S-B Acids B SW2 Clear of living quarters.
· 14.7 Bulktransport enligt bilaga II till Marpol 73/78 och IBC-koden	Ej användbar.
· Transport / ytterligare uppgifter:	
· ADR · Begränsade mängder (LQ) · Reducerade mängder (EQ)	1L Kod: E2 Högsta nettomängd per innerförpackning: 30 ml Högsta nettomängd per ytterförpackning: 500 ml
· Transportkategori · Tunnelrestriktionskod	2 E
· IMDG · Limited quantities (LQ)	1L

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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 FRÄTANDE VÄTSKA , N.O.S. (GLUTARALDEHYD, FORMALDEHYD, LÖSNING), 8, II

AVSNITT 15: Gällande föreskrifter

- **15.1 Föreskrifter/lagstiftning om ämnet eller blandningen när det gäller säkerhet, hälsa och miljö**
- **Direktiv 2012/18/EU**
- **Namngivna farliga ämnen - BILAGA I** Inga beståndsdelar är listade.
- **Förordning (EG) nr 1907/2006 BILAGA XVII Villkor:** 3, 28, 72
- **Nationella föreskrifter:**
- **Hänvisningar beträffande inskränkning av sysselsättning:**
Arbetstagare får inte utsättas för det cancerframkallande farliga ämnet som denna tillredning innehåller. I enstaka fall kan myndigheten medge undantag.
- **15.2 Kemikaliesäkerhetsbedömning:** En kemikaliesäkerhetsbedömning har ej gjorts.

AVSNITT 16: Annan information

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

- **Relevanta fraser**
H301 Giftigt vid förtäring.
H311 Giftigt vid hudkontakt.
H314 Orsakar allvarliga frätskador på hud och ögon.
H317 Kan orsaka allergisk hudreaktion.
H330 Dödligt vid inandning.
H331 Giftigt vid inandning.
H334 Kan orsaka allergi- eller astmasymtom eller andningssvårigheter vid inandning.
H335 Kan orsaka irritation i luftvägarna.
H341 Misstänks kunna orsaka genetiska defekter.
H350 Kan orsaka cancer.
H400 Mycket giftigt för vattenlevande organismer.
H411 Giftigt för vattenlevande organismer med långtidseffekter.
- **Förkortningar och akronymer:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic

(Fortsättning på sida 10)

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(Fortsättning från sida 9)

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

SE