Safety Data Sheet
acc. to OSHA HCS

Printing date 09/01/2021 Reviewed on 09/01/2021

1 Identification

· **Product identifier**

· **Trade name: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE**

· **Article number:** 15700
· **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

Muta. 2	H341	Suspected of causing genetic defects.
Carc. 1B	H350	May cause cancer.

GHS07

Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 4	H312	Harmful in contact with skin.
Acute Tox. 4	H332	Harmful if inhaled.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2A	H319	Causes serious eye irritation.
Skin Sens. 1	H317	May cause an allergic skin reaction.
Flam. Liq. 4	H227	Combustible liquid.

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

GHS07 GHS08

· **Signal word** Danger

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

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· **Hazard statements**
Combustible liquid.
Harmful if swallowed, in contact with skin or if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
May cause cancer.
· **Precautionary statements**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from flames and hot surfaces. – No smoking.
Avoid breathing dust/fume/gas/mist/vapors/spray
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
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.
If swallowed: Call a poison center/doctor if you feel unwell.
Rinse mouth.
If on skin: Wash with plenty of water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see on this label).
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Wash contaminated clothing before reuse.
In case of fire: Use for extinction: CO2, powder or water spray.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 2
Fire = 2
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 2
Fire = 2
Reactivity = 0

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

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Trade name: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE

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3 Composition/information on ingredients

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

· **Dangerous components:**		
50-00-0	formaldehyde	>10-≤25%

4 First-aid measures

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

5 Fire-fighting measures

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

6 Accidental release measures

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

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Trade name: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE

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· **Protective Action Criteria for Chemicals**

· **PAC-1:**		
50-00-0	formaldehyde	0.90 ppm

· **PAC-2:**		
50-00-0	formaldehyde	14 ppm

· **PAC-3:**		
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.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
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 eyes and skin.

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Trade name: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE

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· **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:**	Colorless
· **Odor:**	Like aldehyde
· **Odor threshold:**	Not determined.
· **pH-value at 20 °C (68 °F):**	2.8
· **Change in condition**	
· **Melting point/Melting range:**	Undetermined.
· **Boiling point/Boiling range:**	>93 °C (>199.4 °F)
· **Flash point:**	62 °C (143.6 °F)
· **Flammability (solid, gaseous):**	Not flammable.
· **Ignition temperature:**	~300 °C (~572 °F)
· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Not determined.
· **Explosion limits:**	
· **Lower:**	7 Vol %

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· **Upper:**	73 Vol %
· **Vapor pressure at 20 °C (68 °F):**	23 hPa (17.3 mm Hg)
· **Density at 20 °C (68 °F):**	1.04 g/cm³ (8.6788 lbs/gal)
· **Relative density**	Not determined.
· **Vapor density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with**	
· **Water:**	Fully miscible.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
· **Dynamic:**	Not determined.
· **Kinematic:**	Not determined.
· **Solvent content:**	
· **Organic solvents:**	16.4 %
· **Water:**	83.5 %
· **VOC content:**	16.40 % 1,296.0 g/l / 10.82 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:**		
50-00-0 formaldehyde		
Oral	LD50	>200 mg/kg (rat)

· **Primary irritant effect:**
· **on the skin:** Irritant to skin and mucous membranes.
· **on the eye:** Irritating effect.
· **Sensitization:** Sensitization possible through skin contact.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant
Carcinogenic.

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Trade name: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE

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· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
50-00-0	formaldehyde	1

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

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

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

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

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**	
· **IMDG**	UN2209

· **UN proper shipping name**	
· **IMDG**	FORMALDEHYDE SOLUTION

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Trade name: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE

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· **Transport hazard class(es)**

· **DOT, ADR**
· **Label** NOTREGULATED

· **IMDG**

· **Class** 9 Miscellaneous dangerous substances and articles
· **Label** 9

· **IATA**
· **Label** MISCELLANEOUS

· **Environmental hazards:** Not applicable.

· **Special precautions for user** Not applicable.
· **EMS Number:** F-A,S-B
· **Stowage Category** A

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

· **Transport/Additional information:**

· **IMDG**
· **Limited quantities (LQ)** -
· **Excepted quantities (EQ)** Code: -

· **UN "Model Regulation":** Void

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.

· **Hazardous Air Pollutants**

50-00-0	formaldehyde

· **Proposition 65**

· **Chemicals known to cause cancer:**

50-00-0	formaldehyde

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

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· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

50-00-0	formaldehyde	B1

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

50-00-0	formaldehyde	A2

· **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).
· **Hazard pictograms**

GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
formaldehyde
· **Hazard statements**
Combustible liquid.
Harmful if swallowed, in contact with skin or if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
May cause cancer.
· **Precautionary statements**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from flames and hot surfaces. – No smoking.
Avoid breathing dust/fume/gas/mist/vapors/spray
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
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.
If swallowed: Call a poison center/doctor if you feel unwell.
Rinse mouth.
If on skin: Wash with plenty of water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see on this label).
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Wash contaminated clothing before reuse.
In case of fire: Use for extinction: CO2, powder or water spray.

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Trade name: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE

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Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

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

16 Other information

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

· **Date of preparation / last revision** 09/01/2021 / -
· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety **Health**
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flam. Liq. 4: Flammable liquids – Category 4
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
Muta. 2: Germ cell mutagenicity – Category 2
Carc. 1B: Carcinogenicity – Category 1B

Safety Data Sheet
according to WHS Regulations

Printing date 01.09.2021 Revision: 01.09.2021

1 Identification

· **Product identifier**

· **Trade name: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE**

· **Article number:** 15700
· **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

Muta. 2	H341	Suspected of causing genetic defects.
Carc. 1B	H350	May cause cancer.

GHS07

Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 4	H312	Harmful in contact with skin.
Acute Tox. 4	H332	Harmful if inhaled.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2A	H319	Causes serious eye irritation.

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

Flam. Liq. 4 H227 Combustible liquid.

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

GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**
formaldehyde
· **Hazard statements**
Combustible liquid.
Harmful if swallowed.
Harmful in contact with skin.
Harmful if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
May cause cancer.
· **Precautionary statements**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from flames and hot surfaces. – No smoking.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
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.
IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
Rinse mouth.
IF ON SKIN: Wash with plenty of water.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see on this label).
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Wash contaminated clothing before reuse.
In case of fire: Use for extinction: CO2, powder or water spray.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

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· ***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:***		
50-00-0	*formaldehyde*	*>10-≤25%*

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

4 First Aid Measures

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

5 Fire Fighting Measures

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

6 Accidental Release Measures

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

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Safety Data Sheet
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Trade name: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE

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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:**	
50-00-0 formaldehyde	
WES	*Short-term value: 2.5 mg/m³, 2 ppm* *Long-term value: 1.2 mg/m³, 1 ppm* *Sen*

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

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

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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:**	Colourless
· **Odour:**	Like aldehyde
· **Odour threshold:**	Not determined.
· **pH-value at 20 °C:**	2.8
· **Change in condition**	
· **Melting point/freezing point:**	Undetermined.
· **Initial boiling point and boiling range:**	>93 °C
· **Flash point:**	62 °C
· **Flammability (solid, gas):**	Not applicable.
· **Ignition temperature:**	~300 °C
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Not determined.
· **Explosion limits:**	
· **Lower:**	7 Vol %
· **Upper:**	73 Vol %
· **Vapour pressure at 20 °C:**	23 hPa
· **Density at 20 °C:**	1.04 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.

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· **Solubility in / Miscibility with**	
· **water:**	Fully miscible.
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
· **Dynamic:**	Not determined.
· **Kinematic:**	Not determined.
· **Solvent content:**	
· **Organic solvents:**	16.4 %
· **Water:**	83.5 %
· **VOC (EC)**	16.40 %
· **Solids content:**	0.0 %
· **Other information**	No further relevant information available.

10 Stability and Reactivity

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

11 Toxicological Information

· **Information on toxicological effects**
· **Acute toxicity**

· **LD/LC50 values relevant for classification:**		
50-00-0 formaldehyde		
Oral	LD50	>200 mg/kg (rat)

· **Primary irritant effect:**
· **Skin corrosion/irritation** Irritant to skin and mucous membranes.
· **Serious eye damage/irritation** Irritating effect.
· **Respiratory or skin sensitisation** Sensitisation possible through 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 (carcinogenity, mutagenicity and toxicity for reproduction)**
Muta. 2, Carc. 1B

12 Ecological Information

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

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

13 Disposal considerations

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

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

· **UN-Number**	
· **IMDG**	UN2209
· **UN proper shipping name**	
· **IMDG**	FORMALDEHYDE SOLUTION
· **Transport hazard class(es)**	
· **ADG**	
· **Label**	NOTREGULATED
· **IMDG**	
· **Class**	9 Miscellaneous dangerous substances and articles.
· **Label**	9
· **IATA**	
· **Label**	MISCELLANEOUS
· **Environmental hazards:**	Not applicable.
· **Special precautions for user**	Not applicable.
· **EMS Number:**	F-A,S-B
· **Stowage Category**	A

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· **Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **IMDG**	
· **Limited quantities (LQ)**	-
· **Excepted quantities (EQ)**	Code: -
· **UN "Model Regulation":**	not regulated

15 Regulatory information

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

· **Australian Inventory of Industrial Chemicals**

All ingredients are listed.

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

50-00-0	formaldehyde	S2, S6, S10

· **Australia: Priority Existing Chemicals**

50-00-0	formaldehyde

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

GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**
formaldehyde
· **Hazard statements**
Combustible liquid.
Harmful if swallowed.
Harmful in contact with skin.
Harmful if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
May cause cancer.
· **Precautionary statements**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from flames and hot surfaces. – No smoking.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
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.

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Trade name: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE

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IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
Rinse mouth.
IF ON SKIN: Wash with plenty of water.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see on this label).
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Wash contaminated clothing before reuse.
In case of fire: Use for extinction: CO2, powder or water spray.
Store in a well-ventilated place. Keep cool.
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
Flam. Liq. 4: Flammable liquids – Category 4
Acute Tox. 4: Acute toxicity - oral – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
Muta. 2: Germ cell mutagenicity – Category 2
Carc. 1B: Carcinogenicity – Category 1B

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1 Identification

· **Product identifier**

· **Trade name: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE**

· **Article number:** 15700
· **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

Germ Cell Mutagenicity - Category 2	H341 Suspected of causing genetic defects.
Carcinogenicity - Category 1B	H350 May cause cancer.

GHS07

Acute Toxicity (Oral) - Category 4	H302 Harmful if swallowed.
Acute Toxicity (Dermal) – Category 4	H312 Harmful in contact with skin.
Acute Toxicity (Inhalation) - Category 4	H332 Harmful if inhaled.
Skin Irritation - Category 2	H315 Causes skin irritation.
Eye Irritation - Category 2A	H319 Causes serious eye irritation.
Skin Sensitizer - Category 1	H317 May cause an allergic skin reaction.
Flammable Liquids - Category 4	H227 Combustible liquid.

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

GHS07 GHS08

· **Signal word** Danger

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

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· **Hazard statements**
Combustible liquid.
Harmful if swallowed, in contact with skin or if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
May cause cancer.
· **Precautionary statements**
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
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.
If swallowed: Call a poison center/doctor if you feel unwell.
Rinse mouth.
If on skin: Wash with plenty of water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
Specific measures (see on this label).
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off immediately all contaminated clothing.
Wash contaminated clothing before reuse.
In case of fire: Use for extinction: CO2, powder or water spray.
Store in a well-ventilated place.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 2
Fire = 2
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 2
Fire = 2
Reactivity = 0

CA

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3 Composition/Information on ingredients

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

· **Dangerous components:**		
50-00-0	formaldehyde	10-30% w/w *

* Actual concentration ranges are withheld as a trade secret.

4 First-aid measures

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

5 Fire-fighting measures

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

6 Accidental release measures

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

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See Section 13 for disposal information.

7 Handling and storage

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

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

8 Exposure controls/ Personal protection

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

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
50-00-0 formaldehyde	
EL	STEL: 0.3 ppm TWA: 0.1 ppm ACGIH A1; IARC 1; S(D), S(R)
EV	STEL: 1.0 ppm
Ceiling	1.5 ppm

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

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

Protective gloves

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

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Trade name: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE

(Contd. of page 4)

· **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:**	Colorless
· **Odor:**	Like aldehyde
· **Odor threshold:**	Not determined.
· **pH-value at 20 °C:**	2.8
· **Change in condition**	
· **Melting point/Melting range:**	Undetermined.
· **Boiling point/Boiling range:**	>93 °C
· **Flash point:**	62 °C
· **Flammability (solid, gaseous):**	Not flammable.
· **Ignition temperature:**	~300 °C
· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Not determined.
· **Explosion limits:**	
· **Lower:**	7 Vol %
· **Upper:**	73 Vol %
· **Vapor pressure at 20 °C:**	23 hPa
· **Density at 20 °C:**	1.04 g/cm³
· **Relative density**	Not determined.
· **Vapor density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with**	
· **Water:**	Fully miscible.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
· **Dynamic:**	Not determined.

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Trade name: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE

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· **Kinematic:**	Not determined.
· **Solvent content:**	
· **Organic solvents:**	16.4 %
· **Water:**	83.5 %
· **Solids content:**	0.0 %
· **Other information**	No further relevant information available.

10 Stability and reactivity

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

11 Toxicological information

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

· **LD/LC50 values that are relevant for classification:**		
50-00-0 formaldehyde		
Oral	LD50	>200 mg/kg (rat)

· **Primary irritant effect:**
· **on the skin:** Irritant to skin and mucous membranes.
· **on the eye:** Irritating effect.
· **Sensitization:** 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	1

· **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.

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according to HPR, Schedule 1

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Trade name: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE

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

13 Disposal considerations

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

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**	
· **IMDG**	UN2209
· **UN proper shipping name**	
· **IMDG**	FORMALDEHYDE SOLUTION
· **Transport hazard class(es)**	
· **DOT, ADR**	
· **Label**	NOTREGULATED
· **IMDG**	

· **Class**	9 Miscellaneous dangerous substances and articles
· **Label**	9
· **IATA**	
· **Label**	MISCELLANEOUS
· **Environmental hazards:**	Not applicable.
· **Special precautions for user**	Not applicable.
· **EMS Number:**	F-A,S-B
· **Stowage Category**	A
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.

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· **Transport/Additional information:**

· **IMDG**
· **Limited quantities (LQ)** -
· **Excepted quantities (EQ)** Code: -

· **UN "Model Regulation":** Void

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%)**
None of the ingredients is listed.

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

GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
formaldehyde
· **Hazard statements**
Combustible liquid.
Harmful if swallowed, in contact with skin or if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
May cause cancer.
· **Precautionary statements**
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Obtain special instructions before use.

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Trade name: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE

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Do not handle until all safety precautions have been read and understood.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
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.
If swallowed: Call a poison center/doctor if you feel unwell.
Rinse mouth.
If on skin: Wash with plenty of water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
Specific measures (see on this label).
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off immediately all contaminated clothing.
Wash contaminated clothing before reuse.
In case of fire: Use for extinction: CO2, powder or water spray.
Store in a well-ventilated place.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

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

16 Other information

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

· **Date of the latest revision of the safety data sheet** *09/01/2021 / -*
· **Abbreviations and acronyms:**
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative

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

· **Product identifier**

· **Trade name: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE**

· **Article number:** 15700
· **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

Muta. 2	H341	Suspected of causing genetic defects.
Carc. 1B	H350	May cause cancer.

Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 4	H312	Harmful in contact with skin.
Acute Tox. 4	H332	Harmful if inhaled.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2A	H319	Causes serious eye irritation.
Skin Sens. 1	H317	May cause an allergic skin reaction.
Flam. Liq. 4	H227	Combustible liquid.

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

GHS07 GHS08

· **Signal word** Danger

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· **Hazard-determining components of labelling:**
formaldehyde
· **Hazard statements**
Combustible liquid.
Harmful if swallowed, in contact with skin or if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
May cause cancer.
· **Precautionary statements**
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Keep away from flames and hot surfaces. No smoking.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

3 Composition/information on ingredients

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

· **Dangerous components:**		
50-00-0	formaldehyde Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Muta. 2, H341; Carc. 1B, H350; Skin Corr. 1B, H314; Skin Sens. 1, H317; Flam. Liq. 4, H227	>10-≤25%

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

4 First aid measures

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

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· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

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

6 Accidental release measures

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

7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
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.

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· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
50-00-0 formaldehyde	
TLV	Long-term value: 0.2 ppm Ceiling limit: 0.3 ppm

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

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

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**

Tightly sealed goggles

9 Physical and chemical properties

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

· **Form:**	Liquid
· **Colour:**	Colourless
· **Odour:**	Like aldehyde
· **Odour threshold:**	Not determined.

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· **pH-value at 20 °C:**	2.8
· **Change in condition**	
· **Melting point/freezing point:**	Undetermined.
· **Initial boiling point and boiling range:**	>93 °C
· **Flash point:**	62 °C
· **Flammability (solid, gas):**	Not applicable.
· **Ignition temperature:**	~300 °C
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Not determined.
· **Explosion limits:**	
· **Lower:**	7 Vol %
· **Upper:**	73 Vol %
· **Vapour pressure at 20 °C:**	23 hPa
· **Density at 20 °C:**	1.04 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with**	
· **water:**	Fully miscible.
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
· **Dynamic:**	Not determined.
· **Kinematic:**	Not determined.
· **Solvent content:**	
· **Organic solvents:**	16.4 %
· **Water:**	83.5 %
· **VOC (EC)**	16.40 %
· **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:		
50-00-0 formaldehyde		
Oral	LD50	>200 mg/kg (rat)

· **Primary irritant effect:**
· **Skin corrosion/irritation** Irritant to skin and mucous membranes.
· **Serious eye damage/irritation** Irritating effect.
· **Respiratory or skin sensitisation** Sensitisation possible through 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 (carcinogenity, mutagenicity and toxicity for reproduction)**
Muta. 2, Carc. 1B

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behaviour in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

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

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

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14 Transport information

· **UN-Number**	
· **IMDG**	UN2209
· **UN proper shipping name**	
· **IMDG**	FORMALDEHYDE SOLUTION
· **Transport hazard class(es)**	
· **ADR**	
· **Label**	NOTREGULATED
· **IMDG**	
· **Class**	9 Miscellaneous dangerous substances and articles.
· **Label**	9
· **IATA**	
· **Label**	MISCELLANEOUS
· **Environmental hazards:**	Not applicable.
· **Special precautions for user**	Not applicable.
· **EMS Number:**	F-A,S-B
· **Stowage Category**	A
· **Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **IMDG**	
· **Limited quantities (LQ)**	-
· **Excepted quantities (EQ)**	Code: -
· **UN "Model Regulation":**	not regulated

15 Regulatory information

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

GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**
formaldehyde
· **Hazard statements**
Combustible liquid.

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Harmful if swallowed, in contact with skin or if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
May cause cancer.

· ***Precautionary statements***
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Keep away from flames and hot surfaces. No smoking.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· ***Directive 2012/18/EU***
· ***Named dangerous substances - ANNEX I*** *None of the ingredients is listed.*

· ***National regulations:***

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

16 Other information

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

· ***Relevant phrases***
H227 Combustible liquid.
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H331 Toxic if inhaled.
H341 Suspected of causing genetic defects.
H350 May cause cancer.

· ***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. 4: Acute toxicity - oral – Category 4
Skin Corr. 1B: Skin corrosion/irritation – Category 1B

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Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
Muta. 2: Germ cell mutagenicity – Category 2
Carc. 1B: Carcinogenicity – Category 1B

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

· **1.1 Product identifier**

· **Trade name: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE**

· **Article number:** 15700
· **UFI:** WS81-H0AU-U00Q-33E8
· **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

Muta. 2	H341	Suspected of causing genetic defects.
Carc. 1B	H350	May cause cancer.

GHS07

Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 4	H312	Harmful in contact with skin.
Acute Tox. 4	H332	Harmful if inhaled.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2	H319	Causes serious eye irritation.
Skin Sens. 1	H317	May cause an allergic skin reaction.
STOT SE 3	H335	May cause respiratory irritation.

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

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· ***Hazard pictograms***

GHS07 GHS08

· ***Signal word*** *Danger*

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

H302+H312+H332	*Harmful if swallowed, in contact with skin or if inhaled.*
H315	*Causes skin irritation.*
H319	*Causes serious eye irritation.*
H317	*May cause an allergic skin reaction.*
H341	*Suspected of causing genetic defects.*
H350	*May cause cancer.*
H335	*May cause respiratory irritation.*

· ***Precautionary statements***

P101	*If medical advice is needed, have product container or label at hand.*
P102	*Keep out of reach of children.*
P103	*Read label before use.*
P261	*Avoid breathing dust/fume/gas/mist/vapours/spray.*
P280	*Wear protective gloves/protective clothing/eye protection/face protection.*
P301+P312	*IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.*
P305+P351+P338	*IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
P405	*Store locked up.*
P501	*Dispose of contents/container in accordance with local/regional/national/international regulations.*

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

SECTION 3: Composition/information on ingredients

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

· ***Dangerous components:***

CAS: 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*	*>10-≤25%*

· ***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.

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· **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing:** Call for a doctor immediately.
· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:**
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
· **5.3 Advice for firefighters**
· **Protective equipment:** Mouth respiratory protective device.

SECTION 6: Accidental release measures

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

SECTION 7: Handling and storage

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

· **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.

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

SECTION 8: Exposure controls/personal protection

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

· ***8.1 Control parameters***

· ***Ingredients with limit values that require monitoring at the workplace:***	
50-00-0 formaldehyde	
WEL	*Short-term value: 2.5 mg/m³, 2 ppm* *Long-term value: 2.5 mg/m³, 2 ppm* *Carc*

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

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

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· ***Material of gloves***
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· ***Penetration time of glove material***
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· ***Eye protection:***

Tightly sealed goggles

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SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
· **Form:**	Liquid
· **Colour:**	Colourless
· **Odour:**	Like aldehyde
· **Odour threshold:**	Not determined.
· **pH-value at 20 °C:**	2.8
· **Change in condition**	
· **Melting point/freezing point:**	Undetermined.
· **Initial boiling point and boiling range:**	>93 °C
· **Flash point:**	62 °C
· **Flammability (solid, gas):**	Not applicable.
· **Ignition temperature:**	~300 °C
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Not determined.
· **Explosion limits:**	
· **Lower:**	7 Vol %
· **Upper:**	73 Vol %
· **Vapour pressure at 20 °C:**	23 hPa
· **Density at 20 °C:**	1.04 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with**	
· **water:**	Fully miscible.
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
· **Dynamic:**	Not determined.
· **Kinematic:**	Not determined.
· **Solvent content:**	
· **Organic solvents:**	16.4 %
· **Water:**	83.5 %
· **VOC (EC)**	16.40 %
· **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.

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· ***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 swallowed, in contact with skin or if inhaled.

· ***LD/LC50 values relevant for classification:***		
50-00-0 formaldehyde		
Oral	*LD50*	*>200 mg/kg (rat)*

· ***Primary irritant effect:***
· ***Skin corrosion/irritation***
Causes skin irritation.
· ***Serious eye damage/irritation***
Causes serious eye irritation.
· ***Respiratory or skin sensitisation***
May cause an allergic skin reaction.
· ***CMR effects (carcinogenity, 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.*
· ***Additional ecological information:***
· ***General notes:***
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
· ***12.5 Results of PBT and vPvB assessment***
· ***PBT:*** *Not applicable.*
· ***vPvB:*** *Not applicable.*
· ***12.6 Other adverse effects*** *No further relevant information available.*

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SECTION 13: Disposal considerations

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

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· **14.1 UN-Number**	
· **IMDG**	UN2209
· **14.2 UN proper shipping name**	
· **IMDG**	FORMALDEHYDE SOLUTION
· **14.3 Transport hazard class(es)**	
· **ADR**	
· **Label**	NOTREGULATED
· **IMDG**	
· **Class**	9 Miscellaneous dangerous substances and articles.
· **Label**	9
· **IATA**	
· **Label**	MISCELLANEOUS
· **14.5 Environmental hazards:**	Not applicable.
· **14.6 Special precautions for user**	Not applicable.
· **EMS Number:**	F-A,S-B
· **Stowage Category**	A
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **IMDG**	
· **Limited quantities (LQ)**	-
· **Excepted quantities (EQ)**	Code: -
· **UN "Model Regulation":**	not regulated

SECTION 15: Regulatory information

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

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

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

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

None of the ingredients is listed.

· **National regulations:**

· **Information about limitation of use:**
Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.
Exceptions can be made by the authorities in certain cases.

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

SECTION 16: Other information

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

· **Relevant phrases**
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H331 Toxic if inhaled.
H341 Suspected of causing genetic defects.
H350 May cause cancer.

· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 3: Acute toxicity - oral – Category 3
Acute Tox. 4: Acute toxicity - oral – Category 4
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
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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PUNKT 1: Identifikation af stoffet/blandingen og af selskabet/virksomheden

· **1.1 Produktidentifikator**

· **Handelsnavn: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE**

· **Artikelnummer:** 15700
· **UFI:** WS81-H0AU-U00Q-33E8
· **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

Muta. 2	H341	Mistænkt for at forårsage genetiske defekter.
Carc. 1B	H350	Kan fremkalde kræft.

GHS07

Acute Tox. 4	H302	Farlig ved indtagelse.
Acute Tox. 4	H312	Farlig ved hudkontakt.
Acute Tox. 4	H332	Farlig ved indånding.
Skin Irrit. 2	H315	Forårsager hudirritation.
Eye Irrit. 2	H319	Forårsager alvorlig øjenirritation.
Skin Sens. 1	H317	Kan forårsage allergisk hudreaktion.
STOT SE 3	H335	Kan forårsage irritation af luftvejene.

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

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· **Farepiktogrammer**

GHS07 GHS08

· **Signalord** Fare

· **Farebestemmende komponent(er) til etikettering:**
formaldehyd
· **Faresætninger**

H302+H312+H332	Farlig ved indånding, hudkontakt eller indånding.
H315	Forårsager hudirritation.
H319	Forårsager alvorlig øjenirritation.
H317	Kan forårsage allergisk hudreaktion.
H341	Mistænkt for at forårsage genetiske defekter.
H350	Kan fremkalde kræft.
H335	Kan forårsage irritation af luftvejene.

· **Sikkerhedssætninger**

P101	Hvis der er brug for lægehjælp, medbring da beholderen eller etiketten.
P102	Opbevares utilgængeligt for børn.
P103	Læs etiketten før brug.
P261	Undgå indånding af pulver/røg/gas/tåge/damp/spray.
P280	Bær beskyttelseshandsker/beskyttelsestøj/øjenbeskyttelse/ansigtsbeskyttelse.
P301+P312	I TILFÆLDE AF INDTAGELSE: Kontakt GIFTLINJEN/læge i tilfælde af ubehag.
P305+P351+P338	VED KONTAKT MED ØJNENE: Skyl forsigtigt med vand i flere minutter. Fjern eventuelle kontaktlinser, hvis dette kan gøres let. Fortsæt skylning.
P405	Opbevares under lås.
P501	Bortskaffelse af indholdet/beholderen i henhold til de lokale/regionale/nationale/internationale forskrifter.

· **2.3 Andre farer**
· **Resultater af PBT- og vPvB-vurdering**
· **PBT:** Ikke relevant.
· **vPvB:** Ikke relevant.

PUNKT 3: Sammensætning af/oplysning om indholdsstoffer

· **3.2 Kemisk betegnelse: Blandinger**
· **Beskrivelse:** Blanding med nedenstående stoffer med ufarlige tilsætningsstoffer.

· **Farlige indholdsstoffer:**

CAS: 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	>10-≤25%

· **Yderligere anvisninger:** Teksten til de anførte farehenvisninger 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.

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· **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. Søg læge, hvis problemerne er vedvarende.
· **Efter indtagelse:** Søg læge.
· **4.2 Vigtigste symptomer og virkninger, både akutte og forsinkede**
Der står ingen yderligere, relevante informationer til rådighed.
· **4.3 Angivelse af om øjeblikkelig lægehjælp og særlig behandling er nødvendig**
Der står ingen yderligere, relevante informationer til rådighed.

PUNKT 5: Brandbekæmpelse

· **5.1 Slukningsmidler**
· **Egnede slukningsmidler:**
CO2, slukningspulver eller vandspraystråle. Større brande bekæmpes med vandspraystråle eller alkoholbestandigt skum.
· **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:**
Må ikke udledes i kloaksystemet eller i vandløb.
I tilfælde af indtrængen i vandløb eller kloaksystem skal de pågældende myndigheder underrettes.
Fortynd med rigeligt vand.
Må ikke udledes i kloaksystemet/overfladevand/grundvand.
· **6.3 Metoder og udstyr til inddæmning og oprensning:**
Opsamles med væskebindende materiale (sand, kiselgur, syrebindemiddel, universalbindemiddel, savsmuld).
Kontamineret materiale skal bortskaffes som affald ifølge punkt 13.
Sørg for tilstrækkelig udluftning.
· **6.4 Henvisning til andre punkter**
Information om sikker håndtering se kapitel 7.
Informationer vedrørende personlige værnemidler se kapitel 8.
Informationer om bortskaffelse se kapitel 13.

PUNKT 7: Håndtering og opbevaring

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

· **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.

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· **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:**	
50-00-0 formaldehyd	
GV	Loftværdi: 0,4 mg/m³, 0,3 ppm LK

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

· **8.2 Eksponeringskontrol**
· **Personlige værnemidler:**
· **Generelle forholdsregler vedrørende beskyttelse og hygiejne:**
Skal holdes borte fra føde- og drikkevarer og foderstoffer.
Forurenet, gennemvædet tøj skal det tages af med det samme.
Vask hænder inden der holdes pause og ved arbejdsophør.
Adskilt opbevaring af beskyttelsesklædning.
Undgå kontakt med øjne og hud.
· **Åndedrætsværn:**
Ved kortvarig eller ringe belastning skal der benyttes åndedrætsværn med filter, ved intensiv eller længere eksponering skal der benyttes luftforsynet åndedrætsværn.
· **Håndbeskyttelse:**

Beskyttelseshandsker

Handskematerialet skal være uigennemtrængeligt og kunne tåle produktet/stoffet/præparatet.
På grund af manglende tests kan der ikke anbefales noget handskemateriale til produktet/præparatet/kemikalieblandingen.
Ved valg af handskematerialet skal der tages højde for gennemtrængningstider, permeabilitetstal og nedbrydning.
· **Handskemateriale:**
Valg af en egnet handske afhænger ikke blot af materialet, men også af yderligere kvalitetskriterier og er forskelligt fra den ene fabrikant til den anden. Da produktet er et præparat af flere forskellige stoffer, kan handskematerialernes bestandighed ikke beregnes på forhånd og skal derfor efterprøves inden brugen.
· **Handskematerialets gennemtrængningstid**
Hos handskefabrikanten skal man forespørge om den nøjagtige gennemtrængningstid og overholde denne.
· **Øjenbeskyttelse:**

Tætsluttende beskyttelsesbriller

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PUNKT 9: Fysiske og kemiske egenskaber

· **9.1 Oplysninger om grundlæggende fysiske og kemiske egenskaber**	
· **Generelle oplysninger**	
· **Udseende:**	
· **Form:**	Væske
· **Farve:**	Farveløs
· **Lugt:**	Aldehydagtig
· **Lugttærskel:**	Ikke bestemt.
· **pH-værdi ved 20 °C:**	2,8
· **Tilstandsændring**	
· **Smeltepunkt/frysepunkt:**	Ikke bestemt.
· **Begyndelseskogepunkt og kogepunktsinterval:**	>93 °C
· **Flammepunkt:**	62 °C
· **Antændelighed (fast stof, luftart):**	Ikke relevant.
· **Antændelsespunkt:**	~300 °C
· **Dekomponeringstemperatur:**	Ikke bestemt.
· **Selvantændelsestemperatur:**	Produktet er ikke selvantændeligt.
· **Eksplosive egenskaber:**	Ikke bestemt.
· **Eksplosionsgrænser:**	
· **Nedre:**	7 Vol %
· **Øvre:**	73 Vol %
· **Damptryk ved 20 °C:**	23 hPa
· **Densitet ved 20 °C:**	1,04 g/cm³
· **Relativ massefylde:**	Ikke bestemt.
· **Dampmassefylde:**	Ikke bestemt.
· **Fordampningshastighed**	Ikke bestemt.
· **Opløselighed i/blandbarhed med**	
· **vand:**	Fuldt blandbar.
· **Fordelingskoefficient: n-oktanol/vand:**	Ikke bestemt.
· **Viskositet:**	
· **dynamisk:**	Ikke bestemt.
· **kinematisk:**	Ikke bestemt.
· **Opløsningsmiddelindhold:**	
· **Organiske opløsningsmidler:**	16,4 %
· **Vand**	83,5 %
· **VOC (EU)**	16,40 %
· **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.

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· **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, hudkontakt eller indånding.

· **Klassificeringsrelevante LD/LC50-værdier:**		
50-00-0 formaldehyd		
Oral	LD50	>200 mg/kg (rat)

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

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.
· **Yderligere økologiske oplysninger:**
· **Generelle anvisninger:**
Fareklasse for vand 2 (Selvklassificering): vandforurenende
Må ikke udledes i grundvandet, vandløb eller kloaksystemet.
Risiko for forurening af drikkevandet allerede ved udslip af små mængder i undergrunden.
· **12.5 Resultater af PBT- og vPvB-vurdering**
· **PBT:** Ikke relevant.
· **vPvB:** Ikke relevant.

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· **12.6 Andre negative virkninger** Der står ingen yderligere, relevante informationer til rådighed.

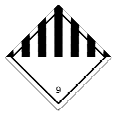
PUNKT 13: Bortskaffelse

· **13.1 Metoder til affaldsbehandling**
· **Anbefaling:** Må ikke bortskaffes sammen med husholdningsaffald. Må ikke udledes i kloaksystemet.

· **Urensede emballager:**
· **Anbefaling:** Bortskaffes i overensstemmelse med myndighedernes forskrifter.
· **Anbefalet rengøringsmiddel:** Vand, eventuelt tilsat rengøringsmidler.

PUNKT 14: Transportoplysninger

· **14.1 UN-nummer**	
· **IMDG**	UN2209
· **14.2 UN-forsendelsesbetegnelse (UN proper shipping name)**	
· **IMDG**	FORMALDEHYDE SOLUTION
· **14.3 Transportfareklasse(r)**	
· **ADR**	
· **Faremærkat**	NOTREGULATED
· **IMDG**	



· **Class**	9 Forskellige farlige stoffer og genstande
· **Label**	9
· **IATA**	
· **Label**	MISCELLANEOUS
· **14.5 Miljøfarer:**	Ikke relevant.
· **14.6 Særlige forsigtighedsregler for brugeren**	Ikke relevant.
· **EMS-nummer:**	F-A,S-B
· **Stowage Category**	A
· **14.7 Bulktransport i henhold til bilag II til MARPOL og IBC-koden**	Ikke relevant.
· **Transport/yderligere oplysninger:**	
· **IMDG**	
· **Limited quantities (LQ)**	-
· **Excepted quantities (EQ)**	Code: -
· **UN "Model Regulation":**	Ikke relevant

(Fortsættes på side 8)

Sikkerhedsdatablad
ifølge 1907/2006/EF, Artikel 31

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(Fortsat fra side 7)

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

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

Ingen af indholdsstofferne er optaget i listen.

· **Nationale forskrifter:**

· **Oplysninger vedrørende beskæftigelsesbegrænsning:**
Arbejdstagere må ikke udsættes for de kræftfremkaldende farestoffer som dette præparat indeholder. I enkelte tilfælde kan myndighederne bevillige undtagelser.
· **MAL-Code:** 5-6
· **15.2 Kemikaliesikkerhedsvurdering:** Der er ikke udført kemikaliesikkerhedsvurdering.

PUNKT 16: Andre oplysninger

Alle ovenstående angivelser er baseret på vores aktuelle viden, udgør dog ikke nogen tilsikring af produktegenskaber 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.
H331 Giftig ved indånding.
H341 Mistænkt for at forårsage genetiske defekter.
H350 Kan fremkalde kræft.
· **Forkortelser og akronymer:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
Måleteknisk Arbejdshygiejnisk Luftbehov
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 3: Akut toksicitet - oral – Kategori 3
Acute Tox. 4: Akut toksicitet - oral – Kategori 4
Skin Corr. 1B: Hudætsning/hudirritation – Kategori 1B
Skin Irrit. 2: Hudætsning/hudirritation – Kategori 2
Eye Irrit. 2: Alvorlige øjenskader/øjenirritation – Kategori 2
Skin Sens. 1: Hudsensibilisering – Kategori 1
Muta. 2: Kimcellemutagenicitet – Kategori 2
Carc. 1B: Carcinogenicitet – Kategori 1B
STOT SE 3: Specifik målorgantoksicitet (enkelt eksponering) – Kategori 3

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

· **1.1 Productidentificatie**

· **Handelsnaam:** **PARAFORMALDEHYDE 16% SOLUTION, EM GRADE**

· **Artikelnummer:** 15700
· **UFI:** WS81-H0AU-U00Q-33E8
· **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** Laboratoriumchemcaliën

· **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

Muta. 2	H341	Verdacht van het veroorzaken van genetische schade.
Carc. 1B	H350	Kan kanker veroorzaken.

GHS07

Acute Tox. 4	H302	Schadelijk bij inslikken.
Acute Tox. 4	H312	Schadelijk bij contact met de huid.
Acute Tox. 4	H332	Schadelijk bij inademing.
Skin Irrit. 2	H315	Veroorzaakt huidirritatie.
Eye Irrit. 2	H319	Veroorzaakt ernstige oogirritatie.
Skin Sens. 1	H317	Kan een allergische huidreactie veroorzaken.
STOT SE 3	H335	Kan irritatie van de luchtwegen veroorzaken.

(Vervolg op blz. 2)

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

GHS07 GHS08

· **Signaalwoord** Gevaar

· **Gevaaraanduidende componenten voor de etikettering:**
formaldehyde
· **Gevarenaanduidingen**
H302+H312+H332 Schadelijk bij inslikken, bij contact met de huid en bij inademing.
H315 Veroorzaakt huidirritatie.
H319 Veroorzaakt ernstige oogirritatie.
H317 Kan een allergische huidreactie veroorzaken.
H341 Verdacht van het veroorzaken van genetische schade.
H350 Kan kanker veroorzaken.
H335 Kan irritatie van de luchtwegen veroorzaken.
· **Veiligheidsaanbevelingen**
P101 Bij het inwinnen van medisch advies, de verpakking of het etiket ter beschikking houden.
P102 Buiten het bereik van kinderen houden.
P103 Alvorens te gebruiken, het etiket lezen.
P261 Inademing van stof/rook/gas/nevel/damp/spuitnevel vermijden.
P280 Beschermende handschoenen/beschermende kleding/oogbescherming/gelaatsbescherming dragen.
P301+P312 NA INSLIKKEN: bij onwel voelen een ANTIGIFCENTRUM/arts raadplegen.
P305+P351+P338 BIJ CONTACT MET DE OGEN: voorzichtig afspoelen met water gedurende een aantal minuten; contactlenzen verwijderen, indien mogelijk; blijven spoelen.
P405 Achter slot bewaren.
P501 De inhoud en de verpakking verwerken volgens de plaatselijke/regionale/nationale/internationale voorschriften.
· **2.3 Andere gevaren**
· **Resultaten van PBT- en zPzB-beoordeling**
· **PBT:** Niet bruikbaar.
· **zPzB:** Niet bruikbaar.

RUBRIEK 3: Samenstelling en informatie over de bestanddelen

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

· **Gevaarlijke inhoudstoffen:**		
CAS: 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	>10-≤25%

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

(Vervolg op blz. 3)

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RUBRIEK 4: Eerstehulpmaatregelen

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

RUBRIEK 5: Brandbestrijdingsmaatregelen

· **5.1 Blusmiddelen**
· **Geschikte blusmiddelen:**
CO2, bluspoeder of waterstraal. Grotere brand met waterstraal bestrijden of met schuim, dat tegen alcohol bestand is.
· **5.2 Speciale gevaren die door de stof of het mengsel worden veroorzaakt**
Geen verdere relevante informatie verkrijgbaar.
· **5.3 Advies voor brandweerlieden**
· **Speciale beschermende kleding:** Ademhalingstoestel aantrekken.

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

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

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 vorzichtig openen en behandelen.

(Vervolg op blz. 4)

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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/m³, 0,4 ppm Lange termijn waarde: 0,15 mg/m³, 0,1 ppm

· ***Aanvullende gegevens:*** *Als basis dienden lijsten die bij opstelling geldig waren.*

· ***8.2 Maatregelen ter beheersing van blootstelling***
· ***Persoonlijke beschermingsvoorzieningen:***
· ***Algemene beschermings- en gezondheidsmaatregelen:***
Verwijderd houden van eet- en drinkwaren.
Verontreinigde kleding onmiddellijk uittrekken.
Vóór de pauze en aan het einde van werktijd handen wassen.
Beschermende kleding afzonderlijk bewaren.
Aanraking met de ogen en de huid vermijden.
· ***Ademhalingsbescherming:***
Bij korte of geringe belasting ademfiltertoestel; bij intensieve resp. langdurige expositie een van de omringende lucht onafhankelijk ademhalingstoestel gebruiken.
· ***Handbescherming:***

Veiligheidshandschoenen

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

(Vervolg op blz. 5)

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· **Oogbescherming:**

Nauw aansluitende veiligheidsbril

RUBRIEK 9: Fysische en chemische eigenschappen

· **9.1 Informatie over fysische en chemische basiseigenschappen**	
· **Algemene gegevens**	
· **Voorkomen:**	
· **Vorm:**	Vloeistof
· **Kleur:**	Kleurloos
· **Geur:**	Aldehydeachtig
· **Geurdrempelwaarde:**	Niet bepaald.
· **pH-waarde bij 20 °C:**	2,8
· **Toestandsverandering**	
· **Smelt-/vriespunt:**	Niet bepaald.
· **Beginkookpunt en kooktraject:**	>93 °C
· **Vlampunt:**	62 °C
· **Ontvlambaarheid (vast, gas):**	Niet bruikbaar.
· **Ontstekingstemperatuur:**	~300 °C
· **Ontledingstemperatuur:**	Niet bepaald.
· **Zelfontbrandingstemperatuur:**	Het produkt ontbrandt niet uit zichzelf.
· **Ontploffingseigenschappen:**	Niet bepaald.
· **Ontploffingsgrenzen:**	
· **Onderste:**	7 Vol %
· **Bovenste:**	73 Vol %
· **Dampspanning bij 20 °C:**	23 hPa
· **Dichtheid bij 20 °C:**	1,04 g/cm³
· **Relatieve dichtheid**	Niet bepaald.
· **Dampdichtheid**	Niet bepaald.
· **Verdampingssnelheid**	Niet bepaald.
· **Oplosbaarheid in/mengbaarheid met**	
· **Water:**	Volledig mengbaar.
· **Verdelingscoëfficiënt: n-octanol/water:**	Niet bepaald.
· **Viscositeit**	
· **Dynamisch:**	Niet bepaald.
· **Kinematisch:**	Niet bepaald.
· **Oplosmiddelgehalte:**	
· **Organisch oplosmiddel:**	16,4 %
· **Water:**	83,5 %
· **VOC (EG)**	16,40 %
· **Gehalte aan vaste bestanddelen:**	0,0 %

(Vervolg op blz. 6)

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· **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 ontbindingsprodukten bekend.

RUBRIEK 11: Toxicologische informatie

· **11.1 Informatie over toxicologische effecten**
· **Acute toxiciteit**
Schadelijk bij inslikken, bij contact met de huid en bij inademing.

· **Indelingsrelevantie LD/LC50-waarden:**		
50-00-0 formaldehyde		
Oraal	LD50	>200 mg/kg (rat)

· **Primaire aandoening:**
· **Huidcorrosie/-irritatie**
Veroorzaakt huidirritatie.
· **Ernstig oogletsel/oogirritatie**
Veroorzaakt ernstige oogirritatie.
· **Sensibilisatie van de luchtwegen/de huid**
Kan 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.
· **Verdere ecologische informatie:**
· **Algemene informatie:**
Waterbezwaarlijkheid (NL): Z(1) niet afbreekbare stoffen met gevaarlijke eigenschappen voor mens en milieu (carcinogeniteit/mutageniteit/ reprotoxiciteit/bioacumulerend vermogen/ toxiciteit of persistentie)

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Gevaar voor water klasse 2 (D) (Zelfclassificatie): gevaar voor water
Niet lozen in grondwater, in oppervlaktewater of in riolering.
Gevaar voor drinkwater zelfs bij uitlopen van geringe hoeveelheden in de ondergrond.
· **12.5 Resultaten van PBT- en zPzB-beoordeling**
· **PBT:** Niet bruikbaar.
· **zPzB:** Niet bruikbaar.
· **12.6 Andere schadelijke effecten** Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 13: Instructies voor verwijdering

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

· **Niet gereinigde verpakkingen:**
· **Aanbeveling:** Afvalverwijdering volgens overheidsbepalingen.
· **Aanbevolen reinigingsmiddel:** Water, eventueel met toevoeging van reinigingsmiddelen.

RUBRIEK 14: Informatie met betrekking tot het vervoer

· **14.1 VN-nummer**	
· **IMDG**	UN2209
· **14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN**	
· **IMDG**	FORMALDEHYDE SOLUTION
· **14.3 Transportgevarenklasse(n)**	
· **ADR**	
· **Etiket**	NOTREGULATED
· **IMDG**	

· **Class**	9 Diverse gevaarlijke stoffen en voorwerpen
· **Label**	9
· **IATA**	
· **Label**	MISCELLANEOUS
· **14.5 Milieugevaren:**	Niet bruikbaar.
· **14.6 Bijzondere voorzorgen voor de gebruiker**	Niet bruikbaar.
· **EMS-nummer:**	F-A,S-B
· **Stowage Category**	A
· **14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code**	Niet bruikbaar.
· **Transport/verdere gegevens:**	
· **IMDG**	
· **Limited quantities (LQ)**	-
· **Excepted quantities (EQ)**	Code: -

(Vervolg op blz. 8)

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· **VN "Model Regulation":** Niet van toepassing

RUBRIEK 15: Regelgeving

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

· **SZW-lijst van kankerverwekkende stoffen**

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**

geen der bestanddelen staat op de lijst.

· **Richtlijn 2012/18/EU**
· **Gevaarlijke stoffen die met naam genoemd worden - BIJLAGE I** geen der bestanddelen staat op de lijst.
· **Verordening (EG) nr. 1907/2006 BIJLAGE XVII** Beperkingsvoorwaarden: 3, 28, 72

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

geen der bestanddelen staat op de lijst.

· **Nationale voorschriften:**

· **Aanwijzingen m.b.t. tewerkstellingsbeperking:**
Werknemers mogen aan de kankerverwekkende gevaarlijke stoffen van deze toebereiding niet blootgesteld worden. In uitzonderingsgevallen kan de overheid speciale vergunningen afgeven.

· **Gevaarklasse v. water:**
Waterbezwaarlijkheid (NL): Z(1) niet afbreekbare stoffen met gevaarlijke eigenschappen voor mens en milieu (carcinogeniteit/mutageniteit/ reprotoxiciteit/bioacumulerend vermogen/ toxiciteit of persistentie)
· **15.2 Chemischeveiligheidsbeoordeling:** Een chemische veiligheidsbeoordeling is niet uitgevoerd.

RUBRIEK 16: Overige informatie

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

· **Relevante zinnen**
H301 Giftig bij inslikken.
H311 Giftig bij contact met de huid.
H314 Veroorzaakt ernstige brandwonden en oogletsel.
H317 Kan een allergische huidreactie veroorzaken.
H331 Giftig bij inademing.

(Vervolg op blz. 9)

Veiligheidsinformatieblad
volgens 1907/2006/EG, Artikel 31

datum van de druk: 01.09.2021 *Herziening van: 01.09.2021*

Handelsnaam: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE

(Vervolg van blz. 8)

H341 Verdacht van het veroorzaken van genetische schade.
H350 Kan kanker veroorzaken.

· **Afkortingen en acroniemen:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 3: Acute toxiciteit - oraal – Categorie 3
Acute Tox. 4: Acute toxiciteit - oraal – Categorie 4
Skin Corr. 1B: Huidcorrosie/-irritatie – Categorie 1B
Skin Irrit. 2: Huidcorrosie/-irritatie – Categorie 2
Eye Irrit. 2: Ernstig oogletsel/oogirritatie – Categorie 2
Skin Sens. 1: Sensibilisatie van de huid – Categorie 1
Muta. 2: Mutageniteit in geslachtscellen – Categorie 2
Carc. 1B: Kankerverwekkendheid – Categorie 1B
STOT SE 3: Specifieke doelorgaantoxiciteit bij eenmalige blootstelling – Categorie 3

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

· **1.1 Identificateur de produit**

· **Nom du produit: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE**

· **Code du produit:** 15700
· **UFI:** WS81-H0AU-U00Q-33E8
· **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

Muta. 2	H341	Susceptible d'induire des anomalies génétiques.
Carc. 1B	H350	Peut provoquer le cancer.

GHS07

Acute Tox. 4	H302	Nocif en cas d'ingestion.
Acute Tox. 4	H312	Nocif par contact cutané.
Acute Tox. 4	H332	Nocif par inhalation.
Skin Irrit. 2	H315	Provoque une irritation cutanée.
Eye Irrit. 2	H319	Provoque une sévère irritation des yeux.
Skin Sens. 1	H317	Peut provoquer une allergie cutanée.
STOT SE 3	H335	Peut irriter les voies respiratoires.

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

GHS07 GHS08

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· **Mention d'avertissement** Danger

· **Composants dangereux déterminants pour l'étiquetage:**
Formaldéhyde
· **Mentions de danger**
H302+H312+H332 Nocif en cas d'ingestion, de contact cutané ou d'inhalation.
H315 Provoque une irritation cutanée.
H319 Provoque une sévère irritation des yeux.
H317 Peut provoquer une allergie cutanée.
H341 Susceptible d'induire des anomalies génétiques.
H350 Peut provoquer le cancer.
H335 Peut irriter les voies respiratoires.
· **Conseils de prudence**
P101 En cas de consultation d'un médecin, garder à disposition le récipient ou l'étiquette.
P102 Tenir hors de portée des enfants.
P103 Lire l'étiquette avant utilisation.
P261 Éviter de respirer les poussières/fumées/gaz/brouillards/vapeurs/aérosols.
P280 Porter des gants de protection/des vêtements de protection/un équipement de protection des yeux/du visage.
P301+P312 EN CAS D'INGESTION: Appeler un CENTRE ANTIPOISON/un médecin en cas de malaise.
P305+P351+P338 EN CAS DE CONTACT AVEC LES YEUX: Rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.
P405 Garder sous clef.
P501 Éliminer le contenu/récipient conformément à la réglementation locale/régionale/nationale/internationale.
· **2.3 Autres dangers**
· **Résultats des évaluations PBT et vPvB**
· **PBT:** Non applicable.
· **vPvB:** Non applicable.

RUBRIQUE 3: Composition/informations sur les composants

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

· **Composants dangereux:**

CAS: 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	>10-≤25%

· **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.

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· **Après contact avec les yeux:**
Rincer les yeux, pendant plusieurs minutes, sous l'eau courante en écartant bien les paupières. Si les troubles persistent, consulter un médecin.
· **Après ingestion:** Consulter immédiatement un médecin.
· **4.2 Principaux symptômes et effets, aigus et différés** Pas d'autres informations importantes disponibles.
· **4.3 Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires**
Pas d'autres informations importantes disponibles.

RUBRIQUE 5: Mesures de lutte contre l'incendie

· **5.1 Moyens d'extinction**
· **Moyens d'extinction:**
CO2, poudre d'extinction ou eau pulvérisée. Combattre les foyers importants avec de l'eau pulvérisée ou de la mousse résistant à l'alcool.
· **5.2 Dangers particuliers résultant de la substance ou du mélange**
Pas d'autres informations importantes disponibles.
· **5.3 Conseils aux pompiers**
· **Equipement 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:**
Ne pas rejeter à l'égout, ni dans le milieu naturel.
En cas de pénétration dans les eaux ou les égouts, avertir les autorités compétentes.
Diluer avec beaucoup d'eau.
Ne pas rejeter dans les canalisations, dans les eaux de surface et dans les nappes d'eau souterraines.
· **6.3 Méthodes et matériel de confinement et de nettoyage:**
Recueillir les liquides à l'aide d'un produit absorbant (sable, kieselguhr, neutralisant d'acide, liant universel, sciure).
Evacuer les matériaux contaminés en tant que déchets conformément au point 13.
Assurer une aération suffisante.
· **6.4 Référence à d'autres rubriques**
Afin d'obtenir des informations pour une manipulation sûre, consulter le chapitre 7.
Afin d'obtenir des informations sur les équipements de protection personnels, consulter le chapitre 8.
Afin d'obtenir des informations sur l'élimination, consulter le chapitre 13.

RUBRIQUE 7: Manipulation et stockage

· **7.1 Précautions à prendre pour une manipulation sans danger**
Veiller à une bonne ventilation/aspiration du poste de travail.
Ouvrir et manipuler les récipients avec précaution.
Eviter la formation d'aérosols.
· **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.

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· **7.3 Utilisation(s) finale(s) particulière(s)** Pas d'autres informations importantes disponibles.

RUBRIQUE 8: Contrôles de l'exposition/protection individuelle

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

· **8.1 Paramètres de contrôle**

· **Composants présentant des valeurs-seuil à surveiller par poste de travail:**	
50-00-0 Formaldéhyde	
VLEP	Valeur momentanée: 1 ppm Valeur à long terme: 0,5 ppm C1B, M2, (7)

· **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 les yeux et avec la peau.
· **Protection respiratoire:**
En cas d'exposition faible ou de courte durée, utiliser un filtre respiratoire; en cas d'exposition intense ou durable, utiliser un appareil de respiration indépendant de l'air ambiant.
· **Protection des mains:**

Gants de protection

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

Lunettes de protection hermétiques

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RUBRIQUE 9: Propriétés physiques et chimiques

· **9.1 Informations sur les propriétés physiques et chimiques essentielles**	
· **Indications générales**	
· **Aspect:**	
· **Forme:**	Liquide
· **Couleur:**	Incolore
· **Odeur:**	Aldéhydique
· **Seuil olfactif:**	Non déterminé.
· **valeur du pH à 20 °C:**	2,8
· **Changement d'état**	
· **Point de fusion/point de congélation:**	Non déterminé.
· **Point initial d'ébullition et intervalle d'ébullition:**	>93 °C
· **Point d'éclair**	62 °C
· **Inflammabilité (solide, gaz):**	Non applicable.
· **Température d'inflammation:**	~300 °C
· **Température de décomposition:**	Non déterminé.
· **Température d'auto-inflammabilité:**	Le produit ne s'enflamme pas spontanément.
· **Propriétés explosives:**	Non déterminé.
· **Limites d'explosion:**	
· **Inférieure:**	7 Vol %
· **Supérieure:**	73 Vol %
· **Pression de vapeur à 20 °C:**	23 hPa
· **Densité à 20 °C:**	1,04 g/cm³
· **Densité relative**	Non déterminé.
· **Densité de vapeur:**	Non déterminé.
· **Taux d'évaporation:**	Non déterminé.
· **Solubilité dans/miscibilité avec**	
· **l'eau:**	Entièrement miscible
· **Coefficient de partage: n-octanol/eau:**	Non déterminé.
· **Viscosité:**	
· **Dynamique:**	Non déterminé.
· **Cinématique:**	Non déterminé.
· **Teneur en solvants:**	
· **Solvants organiques:**	16,4 %
· **Eau:**	83,5 %
· **VOC (CE)**	16,40 %
· **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.

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· **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 en cas d'ingestion, de contact cutané ou d'inhalation.

· **Valeurs LD/LC50 déterminantes pour la classification:**		
50-00-0 Formaldéhyde		
Oral	LD50	>200 mg/kg (rat)

· **Effet primaire d'irritation:**
· **Corrosion cutanée/irritation cutanée**
Provoque une irritation cutanée.
· **Lésions oculaires graves/irritation oculaire**
Provoque une sévère irritation des yeux.
· **Sensibilisation respiratoire ou cutanée**
Peut provoquer 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.
· **Autres indications écologiques:**
· **Indications générales:**
Catégorie de pollution des eaux 2 (D) (Classification propre): polluant
Ne pas laisser pénétrer dans la nappe phréatique, les eaux ou les canalisations.
Danger pour l'eau potable dès fuite d'une petite quantité dans le sous-sol.
· **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.

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RUBRIQUE 13: Considérations relatives à l'élimination

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

· **Emballages non nettoyés:**
· **Recommandation:** Evacuation conformément aux prescriptions légales.
· **Produit de nettoyage recommandé:** Eau, éventuellement avec des produits de nettoyage

RUBRIQUE 14: Informations relatives au transport

· **14.1 Numéro ONU**	
· **IMDG**	UN2209
· **14.2 Désignation officielle de transport de l'ONU**	
· **IMDG**	FORMALDEHYDE SOLUTION
· **14.3 Classe(s) de danger pour le transport**	
· **ADR**	
· **Étiquette**	NOTREGULATED
· **IMDG**	
· **Class**	9 Matières et objets dangereux divers.
· **Label**	9
· **IATA**	
· **Label**	MISCELLANEOUS
· **14.5 Dangers pour l'environnement:**	Non applicable.
· **14.6 Précautions particulières à prendre par l'utilisateur**	Non applicable.
· **No EMS:**	F-A,S-B
· **Stowage Category**	A
· **14.7 Transport en vrac conformément à l'annexe II de la convention Marpol et au recueil IBC**	Non applicable.
· **Indications complémentaires de transport:**	
· **IMDG**	
· **Limited quantities (LQ)**	-
· **Excepted quantities (EQ)**	Code: -
· **"Règlement type" de l'ONU:**	néant

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RUBRIQUE 15: Informations relatives à la réglementation

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

· **Directive 2012/18/UE**
· **Substances dangereuses désignées - ANNEXE I** Aucun des composants n'est compris.
· **RÈGLEMENT (CE) N° 1907/2006 ANNEXE XVII** Conditions de limitation: 3, 28, 72

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

Aucun des composants n'est compris.

· **Prescriptions nationales:**

· **Indications sur les restrictions de travail:**
Le personnel ne doit pas être exposé aux substances dangereuses cancérigènes contenues dans cette préparation.
Les autorités peuvent autoriser des exceptions dans des cas particuliers.
· **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.
H331 Toxique par inhalation.
H341 Susceptible d'induire des anomalies génétiques.
H350 Peut provoquer le cancer.
· **Acronymes et abréviations:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 3: Toxicité aiguë - voie orale – Catégorie 3
Acute Tox. 4: Toxicité aiguë - voie orale – Catégorie 4
Skin Corr. 1B: Corrosion cutanée/irritation cutanée – Catégorie 1B
Skin Irrit. 2: Corrosion cutanée/irritation cutanée – Catégorie 2
Eye Irrit. 2: Lésions oculaires graves/irritation oculaire – Catégorie 2
Skin Sens. 1: Sensibilisation cutanée – Catégorie 1
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

Sicherheitsdatenblatt
gemäß 1907/2006/EG, Artikel 31

Druckdatum: 01.09.2021 überarbeitet am: 01.09.2021

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

· **1.1 Produktidentifikator**

· **Handelsname: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE**

· **Artikelnummer:** 15700
· **UFI:** WS81-H0AU-U00Q-33E8
· **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**
Keine weiteren relevanten Informationen verfügbar.
· **Verwendung des Stoffes / des Gemisches** Laborchemikalien

· **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**
· **Hersteller/Lieferant:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com

Science Services GmbH
Unterhachinger Str. 75
81737 München Germany

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

Deutschland: +49 (0)89 19240, 24h Giftnotruf Munchen, www toxinfo.org
Osterreich: +43 1406 43 43, Gesundheit Osterreich GmbH, 24 h

· **Auskunftgebender Bereich:** Product safety department
· **1.4 Notrufnummer:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

ABSCHNITT 2: Mögliche Gefahren

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

GHS08 Gesundheitsgefahr

Muta. 2	H341	Kann vermutlich genetische Defekte verursachen.
Carc. 1B	H350	Kann Krebs erzeugen.

GHS07

Acute Tox. 4	H302	Gesundheitsschädlich bei Verschlucken.
Acute Tox. 4	H312	Gesundheitsschädlich bei Hautkontakt.
Acute Tox. 4	H332	Gesundheitsschädlich bei Einatmen.
Skin Irrit. 2	H315	Verursacht Hautreizungen.
Eye Irrit. 2	H319	Verursacht schwere Augenreizung.

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Skin Sens. 1 H317 Kann allergische Hautreaktionen verursachen.
STOT SE 3 H335 Kann die Atemwege reizen.

· **2.2 Kennzeichnungselemente**
· **Kennzeichnung gemäß Verordnung (EG) Nr. 1272/2008**
Das Produkt ist gemäß CLP-Verordnung eingestuft und gekennzeichnet.
· **Gefahrenpiktogramme**

GHS07 GHS08

· **Signalwort** Gefahr

· **Gefahrbestimmende Komponenten zur Etikettierung:**
Formaldehyd
· **Gefahrenhinweise**
H302+H312+H332 Gesundheitsschädlich bei Verschlucken, Hautkontakt oder Einatmen.
H315 Verursacht Hautreizungen.
H319 Verursacht schwere Augenreizung.
H317 Kann allergische Hautreaktionen verursachen.
H341 Kann vermutlich genetische Defekte verursachen.
H350 Kann Krebs erzeugen.
H335 Kann die Atemwege reizen.
· **Sicherheitshinweise**
P101 Ist ärztlicher Rat erforderlich, Verpackung oder Kennzeichnungsetikett bereithalten.
P102 Darf nicht in die Hände von Kindern gelangen.
P103 Vor Gebrauch Kennzeichnungsetikett lesen.
P261 Einatmen von Staub/Rauch/Gas/Nebel/Dampf/Aerosol vermeiden.
P280 Schutzhandschuhe/Schutzkleidung/Augenschutz/Gesichtsschutz tragen.
P301+P312 BEI VERSCHLUCKEN: Bei Unwohlsein GIFTINFORMATIONSZENTRUM/Arzt anrufen.
P305+P351+P338 BEI KONTAKT MIT DEN AUGEN: Einige Minuten lang behutsam mit Wasser spülen. Eventuell vorhandene Kontaktlinsen nach Möglichkeit entfernen. Weiter spülen.
P405 Unter Verschluss aufbewahren.
P501 Entsorgung des Inhalts / des Behälters gemäß den örtlichen / regionalen / nationalen/ internationalen Vorschriften.
· **Zusätzliche Angaben:**
Nur für gewerbliche Anwender.
· **2.3 Sonstige Gefahren**
· **Ergebnisse der PBT- und vPvB-Beurteilung**
· **PBT:** Nicht anwendbar.
· **vPvB:** Nicht anwendbar.

ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

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

· **Gefährliche Inhaltsstoffe:**

CAS: 50-00-0 EINECS: 200-001-8	Formaldehyd Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Muta. 2, H341; Carc. 1B, H350; Skin Corr. 1B, H314; Skin Sens. 1, H317	>10-≤25%

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

ABSCHNITT 4: Erste-Hilfe-Maßnahmen

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

ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

· **5.1 Löschmittel**
· **Geeignete Löschmittel:**
CO2, Löschpulver oder Wassersprühstrahl. Größeren Brand mit Wassersprühstrahl oder alkoholbeständigem Schaum bekämpfen.
· **5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren**
Keine weiteren relevanten Informationen verfügbar.
· **5.3 Hinweise für die Brandbekämpfung**
· **Besondere Schutzausrüstung:** Atemschutzgerät anlegen.

ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

· **6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren**
Nicht erforderlich.
· **6.2 Umweltschutzmaßnahmen:**
Nicht in die Kanalisation oder in Gewässer gelangen lassen.
Bei Eindringen in Gewässer oder Kanalisation zuständige Behörden benachrichtigen.
Mit viel Wasser verdünnen.
Nicht in die Kanalisation/Oberflächenwasser/Grundwasser gelangen lassen.
· **6.3 Methoden und Material für Rückhaltung und Reinigung:**
Mit flüssigkeitsbindendem Material (Sand, 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.

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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:**	
50-00-0 Formaldehyd	
AGW	Langzeitwert: 0,37 mg/m³, 0,3 ml/m³ 2(I);AGS, Sh, Y, X

· **Zusätzliche Hinweise:** Als Grundlage dienten die bei der Erstellung gültigen Listen.

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

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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:**	Farblos
· **Geruch:**	Aldehydartig
· **Geruchsschwelle:**	Nicht bestimmt.
· **pH-Wert bei 20 °C:**	2,8
· **Zustandsänderung**	
· **Schmelzpunkt/Gefrierpunkt:**	Nicht bestimmt.
· **Siedebeginn und Siedebereich:**	>93 °C
· **Flammpunkt:**	62 °C
· **Entzündbarkeit (fest, gasförmig):**	Nicht anwendbar.
· **Zündtemperatur:**	~300 °C
· **Zersetzungstemperatur:**	Nicht bestimmt.
· **Selbstentzündungstemperatur:**	Das Produkt ist nicht selbstentzündlich.
· **Explosive Eigenschaften:**	Nicht bestimmt.
· **Explosionsgrenzen:**	
· **Untere:**	7 Vol %
Obere:	73 Vol %
· **Dampfdruck bei 20 °C:**	23 hPa
· **Dichte bei 20 °C:**	1,04 g/cm³
· **Relative Dichte**	Nicht bestimmt.
· **Dampfdichte**	Nicht bestimmt.
· **Verdampfungsgeschwindigkeit**	Nicht bestimmt.
· **Löslichkeit in / Mischbarkeit mit**	
· **Wasser:**	Vollständig mischbar.
· **Verteilungskoeffizient: n-Octanol/Wasser:**	Nicht bestimmt.
· **Viskosität:**	
· **Dynamisch:**	Nicht bestimmt.
Kinematisch:	Nicht bestimmt.
· **Lösemittelgehalt:**	
· **Organische Lösemittel:**	16,4 %

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Wasser:	83,5 %
· **VOC (EU)**	16,40 %
· **Festkörpergehalt:**	0,0 %
· **9.2 Sonstige Angaben**	Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 10: Stabilität und Reaktivität

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

ABSCHNITT 11: Toxikologische Angaben

· **11.1 Angaben zu toxikologischen Wirkungen**
· **Akute Toxizität**
Gesundheitsschädlich bei Verschlucken, Hautkontakt oder Einatmen.

· **Einstufungsrelevante LD/LC50-Werte:**		
50-00-0 Formaldehyd		
Oral	LD50	>200 mg/kg (rat)

· **Primäre Reizwirkung:**
· **Ätz-/Reizwirkung auf die Haut**
Verursacht Hautreizungen.
· **Schwere Augenschädigung/-reizung**
Verursacht schwere Augenreizung.
· **Sensibilisierung der Atemwege/Haut**
Kann 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.

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· **12.4 Mobilität im Boden** Keine weiteren relevanten Informationen verfügbar.
· **Weitere ökologische Hinweise:**
· **Allgemeine Hinweise:**
Wassergefährdungsklasse 2 (Selbsteinstufung): deutlich wassergefährdend
Nicht in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen.
Trinkwassergefährdung bereits beim Auslaufen geringer Mengen in den Untergrund.
· **12.5 Ergebnisse der PBT- und vPvB-Beurteilung**
· **PBT:** Nicht anwendbar.
· **vPvB:** Nicht anwendbar.
· **12.6 Andere schädliche Wirkungen** Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 13: Hinweise zur Entsorgung

· **13.1 Verfahren der Abfallbehandlung**
· **Empfehlung:** Darf nicht zusammen mit Hausmüll entsorgt werden. Nicht in die Kanalisation gelangen lassen.

· **Ungereinigte Verpackungen:**
· **Empfehlung:** Entsorgung gemäß den behördlichen Vorschriften.
· **Empfohlenes Reinigungsmittel:** Wasser, gegebenenfalls mit Zusatz von Reinigungsmitteln.

ABSCHNITT 14: Angaben zum Transport

· **14.1 UN-Nummer**	
· **IMDG**	UN2209
· **14.2 Ordnungsgemäße UN-Versandbezeichnung**	
· **IMDG**	FORMALDEHYDE SOLUTION
· **14.3 Transportgefahrenklassen**	
· **ADR**	
· **Gefahrzettel**	NOTREGULATED
· **IMDG**	
· **Class**	9 Verschiedene gefährliche Stoffe und Gegenstände
· **Label**	9
· **IATA**	
· **Label**	MISCELLANEOUS
· **14.5 Umweltgefahren:**	Nicht anwendbar.
· **14.6 Besondere Vorsichtsmaßnahmen für den Verwender**	Nicht anwendbar.
· **EMS-Nummer:**	F-A,S-B
· **Stowage Category**	A
· **14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens und gemäß IBC-Code**	Nicht anwendbar.

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· **Transport/weitere Angaben:**

· **IMDG**
· **Limited quantities (LQ)** -
· **Excepted quantities (EQ)** Code: -

· **UN "Model Regulation":** entfällt

ABSCHNITT 15: Rechtsvorschriften

· **15.1 Vorschriften zu Sicherheit, Gesundheits- und Umweltschutz/spezifische Rechtsvorschriften für den Stoff oder das Gemisch**

· **Richtlinie 2012/18/EU**
· **Namentlich aufgeführte gefährliche Stoffe - ANHANG I** Keiner der Inhaltsstoffe ist enthalten.
· **VERORDNUNG (EG) Nr. 1907/2006 ANHANG XVII** Beschränkungsbedingungen: 3, 28, 72

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

Keiner der Inhaltsstoffe ist enthalten.

· **Nationale Vorschriften:**

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

· **Technische Anleitung Luft:**

Klasse	Anteil in %
Wasser	83,5
I	16,4

· **Wassergefährdungsklasse:** WGK 2 (Selbsteinstufung): deutlich wassergefährdend.

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

ABSCHNITT 16: Sonstige Angaben

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

· **Relevante Sätze**
H301 Giftig bei Verschlucken.
H311 Giftig bei Hautkontakt.
H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.
H317 Kann allergische Hautreaktionen verursachen.
H331 Giftig bei Einatmen.
H341 Kann vermutlich genetische Defekte verursachen.
H350 Kann Krebs erzeugen.
· **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

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IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 3: Akute Toxizität - oral – Kategorie 3
Acute Tox. 4: Akute Toxizität - oral – Kategorie 4
Skin Corr. 1B: Hautreizende/-ätzende Wirkung – Kategorie 1B
Skin Irrit. 2: Hautreizende/-ätzende Wirkung – Kategorie 2
Eye Irrit. 2: Schwere Augenschädigung/Augenreizung – Kategorie 2
Skin Sens. 1: Sensibilisierung der Haut – Kategorie 1
Muta. 2: Keimzellmutagenität – Kategorie 2
Carc. 1B: Karzinogenität – Kategorie 1B
STOT SE 3: Spezifische Zielorgan-Toxizität (einmalige Exposition) – Kategorie 3

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

Stampato il: 01.09.2021 Revisione: 01.09.2021

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

· **1.1 Identificatore del prodotto**

· **Denominazione commerciale: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE**

· **Articolo numero:** 15700
· **UFI:** WS81-H0AU-U00Q-33E8
· **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

Muta. 2	H341	Sospettato di provocare alterazioni genetiche.
Carc. 1B	H350	Può provocare il cancro.

GHS07

Acute Tox. 4	H302	Nocivo se ingerito.
Acute Tox. 4	H312	Nocivo per contatto con la pelle.
Acute Tox. 4	H332	Nocivo se inalato.
Skin Irrit. 2	H315	Provoca irritazione cutanea.
Eye Irrit. 2	H319	Provoca grave irritazione oculare.
Skin Sens. 1	H317	Può provocare una reazione allergica cutanea.
STOT SE 3	H335	Può irritare le vie respiratorie.

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

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· **Pittogrammi di pericolo**

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· **Avvertenza** Pericolo

· **Componenti pericolosi che ne determinano l'etichettatura:**
formaldeide
· **Indicazioni di pericolo**

H302+H312+H332	Nocivo se ingerito, a contatto con la pelle o se inalato.
H315	Provoca irritazione cutanea.
H319	Provoca grave irritazione oculare.
H317	Può provocare una reazione allergica cutanea.
H341	Sospettato di provocare alterazioni genetiche.
H350	Può provocare il cancro.
H335	Può irritare le vie respiratorie.

· **Consigli di prudenza**

P101	In caso di consultazione di un medico, tenere a disposizione il contenitore o l'etichetta del prodotto.
P102	Tenere fuori dalla portata dei bambini.
P103	Leggere l'etichetta prima dell'uso.
P261	Evitare di respirare la polvere/i fumi/i gas/la nebbia/i vapori/gli aerosol.
P280	Indossare guanti/indumenti protettivi/Proteggere gli occhi/il viso.
P301+P312	IN CASO DI INGESTIONE: in presenza di malessere, contattare un CENTRO ANTIVELENI/ un medico.
P305+P351+P338	IN CASO DI CONTATTO CON GLI OCCHI: sciacquare accuratamente per parecchi minuti. Togliere le eventuali lenti a contatto se è agevole farlo. Continuare a sciacquare.
P405	Conservare sotto chiave.
P501	Smaltire il prodotto/recipiente in conformità con le disposizioni locali / regionali / nazionali / internazionali.

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

SEZIONE 3: Composizione/informazioni sugli ingredienti

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

· **Sostanze pericolose:**

CAS: 50-00-0 EINECS: 200-001-8	formaldeide Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Muta. 2, H341; Carc. 1B, H350; Skin Corr. 1B, H314; Skin Sens. 1, H317	>10-≤25%

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

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SEZIONE 4: Misure di primo soccorso

· **4.1 Descrizione delle misure di primo soccorso**
· **Indicazioni generali:**
I sintomi di avvelenamento possono comparire dopo molte ore, per tale motivo è necessaria la sorveglianza di un medico nelle 48 ore successive all'incidente.
· **Inalazione:**
Portare il soggetto in zona molto ben areata e per sicurezza consultare un medico.
Se il soggetto è svenuto provvedere a tenerlo durante il trasporto in posizione stabile su un fianco.
· **Contatto con la pelle:** Lavare immediatamente con acqua e sapone sciacquando accuratamente.
· **Contatto con gli occhi:**
Lavare con acqua corrente per diversi minuti tenendo le palpebre ben aperte Se persiste il dolore consultare il medico.
· **Ingestione:** Chiamare subito il medico.
· **4.2 Principali sintomi ed effetti, sia acuti che ritardati** Non sono disponibili altre informazioni.
· **4.3 Indicazione dell'eventuale necessità di consultare immediatamente un medico e di trattamenti speciali**
Non sono disponibili altre informazioni.

SEZIONE 5: Misure antincendio

· **5.1 Mezzi di estinzione**
· **Mezzi di estinzione idonei:**
CO2, polvere o acqua nebulizzata. Estinguere gli incendi di grosse dimensioni con acqua nebulizzata o con schiuma resistente all'alcool.
· **5.2 Pericoli speciali derivanti dalla sostanza o dalla miscela** Non sono disponibili altre informazioni.
· **5.3 Raccomandazioni per gli addetti all'estinzione degli incendi**
· **Mezzi protettivi specifici:** 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:**
Impedire l'entrata del prodotto nelle fognature o nei corpi d'acqua.
In caso di infiltrazione nei corpi d'acqua o nelle fognature avvertire le autorità competenti.
Diluire abbondantemente con acqua.
Impedire infiltrazioni nella fognatura/nelle acque superficiali/nelle acque freatiche.
· **6.3 Metodi e materiali per il contenimento e per la bonifica:**
Raccogliere il liquido con materiale assorbente (sabbia, tripoli, legante di acidi, legante universale, segatura).
Smaltimento del materiale contaminato conformemente al punto 13.
Provvedere ad una sufficiente areazione.
· **6.4 Riferimento ad altre sezioni**
Per informazioni relative ad un manipolazione sicura, vedere capitolo 7.
Per informazioni relative all'equipaggiamento protettivo ad uso personale vedere Capitolo 8.
Per informazioni relative allo smaltimento vedere Capitolo 13.

SEZIONE 7: Manipolazione e immagazzinamento

· **7.1 Precauzioni per la manipolazione sicura**
Accurata ventilazione/aspirazione nei luoghi di lavoro.
Aprire e manipolare i recipienti con cautela.
Evitare la formazione di aerosol.

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

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

SEZIONE 8: Controllo dell'esposizione/protezione individuale

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

· **8.1 Parametri di controllo**

· **Componenti i cui valori limite devono essere tenuti sotto controllo negli ambienti di lavoro:**	
50-00-0 formaldeide	
TWA	Limite Ceiling: 0,37 mg/m³, 0,3 ppm sen, A2

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

· **8.2 Controlli dell'esposizione**
· **Mezzi protettivi individuali:**
· **Norme generali protettive e di igiene del lavoro:**
Tenere lontano da cibo, bevande e foraggi.
Togliere immediatamente gli abiti contaminati.
Lavarsi le mani prima dell'intervallo o a lavoro terminato.
Custodire separatamente l'equipaggiamento protettivo.
Evitare il contatto con gli occhi e la pelle.
· **Maschera protettiva:**
Nelle esposizioni brevi e minime utilizzare la maschera; nelle esposizioni più intense e durature indossare l'autorespiratore.
· **Guanti protettivi:**

Guanti protettivi

Il materiale dei guanti deve essere impermeabile e stabile contro il prodotto/ la sostanza/ la formulazione.
A causa della mancanza di tests non può essere consigliato alcun tipo di materiale per i guanti con cui manipolare il prodotto / la formulazione / la miscela di sostanze chimiche.
Scelta del materiale dei guanti in considerazione dei tempi di passaggio, dei tassi di permeazione e della degradazione.
· **Materiale dei guanti**
La scelta dei guanti adatti non dipende soltanto dal materiale bensí anche da altre caratteristiche di qualità variabili da un produttore a un altro. Poiché il prodotto rappresenta una formulazione di più sostanze, la stabilità dei materiali dei guanti non è calcolabile in anticipo e deve essere testata prima dell'impiego
· **Tempo di permeazione del materiale dei guanti**
Richiedere dal fornitore dei guanti il tempo di passaggio preciso il quale deve essere rispettato.

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· **Occhiali protettivi:**

Occhiali protettivi a tenuta

SEZIONE 9: Proprietà fisiche e chimiche

· **9.1 Informazioni sulle proprietà fisiche e chimiche fondamentali**	
· **Indicazioni generali**	
· **Aspetto:**	
· **Forma:**	Liquido
· **Colore:**	Incolore
· **Odore:**	Aldeidico
· **Soglia olfattiva:**	Non definito.
· **valori di pH a 20 °C:**	2,8
· **Cambiamento di stato**	
· **Punto di fusione/punto di congelamento:**	Non definito.
· **Punto di ebollizione iniziale e intervallo di ebollizione:**	>93 °C
· **Punto di infiammabilità:**	62 °C
· **Infiammabilità (solidi, gas):**	Non applicabile.
· **Temperatura di accensione:**	~300 °C
· **Temperatura di decomposizione:**	Non definito.
· **Temperatura di autoaccensione:**	Prodotto non autoinfiammabile.
· **Proprietà esplosive:**	Non definito.
· **Limiti di infiammabilità:**	
· **Inferiore:**	7 Vol %
· **Superiore:**	73 Vol %
· **Tensione di vapore a 20 °C:**	23 hPa
· **Densità a 20 °C:**	1,04 g/cm³
· **Densità relativa**	Non definito.
· **Densità di vapore:**	Non definito.
· **Velocità di evaporazione**	Non definito.
· **Solubilità in/Miscibilità con**	
· **acqua:**	Completamente miscibile.
· **Coefficiente di ripartizione: n-ottanolo/acqua:**	Non definito.
· **Viscosità:**	
· **Dinamica:**	Non definito.
· **Cinematica:**	Non definito.
· **Tenore del solvente:**	
· **Solventi organici:**	16,4 %
· **Acqua:**	83,5 %
· **VOC (CE)**	16,40 %
· **Contenuto solido:**	0,0 %

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· **9.2 Altre informazioni** Non sono disponibili altre informazioni.

SEZIONE 10: Stabilità e reattività

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

SEZIONE 11: Informazioni tossicologiche

· **11.1 Informazioni sugli effetti tossicologici**
· **Tossicità acuta**
Nocivo se ingerito, a contatto con la pelle o se inalato.

· **Valori LD/LC50 rilevanti per la classificazione:**		
50-00-0 formaldeide		
Orale	LD50	>200 mg/kg (rat)

· **Irritabilità primaria:**
· **Corrosione/irritazione cutanea**
Provoca irritazione cutanea.
· **Lesioni oculari gravi/irritazioni oculari gravi**
Provoca grave irritazione oculare.
· **Sensibilizzazione respiratoria o cutanea**
Può provocare 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.
· **Ulteriori indicazioni in materia ambientale:**
· **Ulteriori indicazioni:**
Pericolosità per le acque classe 2 (D) (Autoclassificazione): pericoloso

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Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature.
Pericolo per le acque potabili anche in caso di perdite nel sottosuolo di piccole quantità di prodotto.

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

SEZIONE 13: Considerazioni sullo smaltimento

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

· **Imballaggi non puliti:**
· **Consigli:** Smaltimento in conformità con le disposizioni amministrative.
· **Detergente consigliato:** Acqua eventualmente con l'aggiunta di detersivi.

SEZIONE 14: Informazioni sul trasporto

· **14.1 Numero ONU**	
· **IMDG**	UN2209
· **14.2 Nome di spedizione dell'ONU**	
· **IMDG**	FORMALDEHYDE SOLUTION
· **14.3 Classi di pericolo connesso al trasporto**	
· **ADR**	
· **Etichetta**	NOTREGULATED
· **IMDG**	

· **Class**	9 Materie ed oggetti pericolosi diversi
· **Label**	9
· **IATA**	
· **Label**	MISCELLANEOUS
· **14.5 Pericoli per l'ambiente:**	Non applicabile.
· **14.6 Precauzioni speciali per gli utilizzatori**	Non applicabile.
· **Numero EMS:**	F-A,S-B
· **Stowage Category**	A
· **14.7 Trasporto di rinfuse secondo l'allegato II di MARPOL ed il codice IBC**	Non applicabile.
· **Trasporto/ulteriori indicazioni:**	
· **IMDG**	
· **Limited quantities (LQ)**	-
· **Excepted quantities (EQ)**	Code: -

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· **UN "Model Regulation":** non applicabile

SEZIONE 15: Informazioni sulla regolamentazione

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

· **Direttiva 2012/18/UE**
· **Sostanze pericolose specificate - ALLEGATO I** Nessuno dei componenti è contenuto.
· **REGOLAMENTO (CE) n. 1907/2006 ALLEGATO XVII** Restrizioni: 3, 28, 72

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

Nessuno dei componenti è contenuto.

· **Disposizioni nazionali:**

· **Indicazioni relative alla limitazione delle attività lavorative:**
Il personale non deve essere esposto alle sostanze cancerogene contenute in questo preparato L'autorità può ammettere nei singoli casi delle eccezioni.

· **Istruzione tecnica aria:**

Classe	quota in %
NC	16,4

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

SEZIONE 16: Altre informazioni

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

· **Frasi rilevanti**
H301 Tossico se ingerito.
H311 Tossico per contatto con la pelle.
H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.
H317 Può provocare una reazione allergica cutanea.
H331 Tossico se inalato.
H341 Sospettato di provocare alterazioni genetiche.
H350 Può provocare il cancro.

· **Abbreviazioni e acronimi:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 3: Tossicità acuta per via orale – Categoria 3
Acute Tox. 4: Tossicità acuta per via orale – Categoria 4
Skin Corr. 1B: Corrosione/irritazione della pelle – Categoria 1B
Skin Irrit. 2: Corrosione/irritazione della pelle – Categoria 2

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Eye Irrit. 2: Gravi lesioni oculari/irritazione oculare – Categoria 2
Skin Sens. 1: Sensibilizzazione della pelle – Categoria 1
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

물질안전보건자료

GHS에 따라 작성

인쇄일자: 2021.09.01 개정: 2021.09.01

1 화학제품과 회사에 관한 정보

· **제품명:** PARAFORMALDEHYDE 16% SOLUTION, EM GRADE

· **상품번호:** 15700

· **물질 또는 혼합물의 관련 확인된 용도 및 사용금지용도** 추가적인 정보가 존재하지 않습니다.

· **제품의 권고 용도와 사용 상의 제한** 시험 실 화 학품

· **안전데이터표(Safety Data Sheet) 내 공급업체 정보**

· **제조자/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

· **추가 정보를 얻을 수 있는 부서:** product safety department

· **비상연락 전화번호:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 유해성·위험성

· **순물질 또는 혼합물의 분류**

건강에 위험

생식세포 변이원성 – 구분 2	H341 유전적인 결함을 일으킬 것으로 의심됨
발암성 – 구분 1B	H350 암을 일으킬 수 있음

급성 독성 - 경구 – 구분 4	H302 삼키면 유해함
급성 독성 - 경피 – 구분 4	H312 피부와 접촉하면 유해함
급성 독성 - 흡입 – 구분 4	H332 흡입하면 유해함
피부 부식성/피부 자극성 – 구분 2	H315 피부에 자극을 일으킴
심한 눈 손상성/눈 자극성 – 구분 2	H319 눈에 심한 자극을 일으킴

(2 쪽에계속)

물질안전보건자료

GHS에 따라 작성

인쇄일자: 2021.09.01 개정: 2021.09.01

제품명: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE

(1 쪽부터계속)

피부 과민성 – 구분 1 H317 알레르기성 피부 반응을 일으킬 수 있음

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

GHS07 GHS08

· **신호어** 위험

· **상표상에명확히위험성이표시된성분:**
포르말린
유해 유해성·위험 문구
삼키거나 피부에 접촉하거나 흡입하면 유해함.
피부에 자극을 일으킴
눈에 심한 자극을 일으킴
알레르기성 피부 반응을 일으킬 수 있음
유전적인 결함을 일으킬 것으로 의심됨
암을 일으킬 수 있음
· **예방 조치 문구**
의학적인 조치가 필요한 경우, 제품의 용기 또는 라벨을 보여주시오.
어린이 손이 닿지 않는 곳에 보관하시오.
사용 전에 라벨을 읽으시오.
분진·흄·가스·미스트·증기·스프레이의 흡입을 피하시오.
보호장갑·보호의·보안경·안면보호구를 착용하시오.
삼켰을 시: 몸에 이상이 있을 시 독성물질 센터/병원 연락 필요.
눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면 콘택트렌즈를 제거하시오. 계속 씻으시오.
밀봉하여 저장하시오.
(지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기하시오.
기타 유해성
· **PBT(잔류성, 생물농축성 및 독성물질 또는 vPvB(고 잔류성, 고 생물농축성 물질 및 고 생물축적성 결과**
· **PBT(잔류성, 생물농축성 및 독성물질 해당사항 없음.**
· **vPvB(고 잔류성, 고 생물농축성 물질 해당사항 없음.**

3 구성성분의 명칭 및 함유량

· **화학적 특성: 혼합물**
설명 설명 언급한 첨가물이 함유된 아래에 열거된 물질로만 들어진 혼합물.

· **위험 요소**

50-00-0	포르말린 급성 독성 - 경구 – 구분 3, H301; 급성 독성 - 경피 – 구분 3, H311; 급성 독성 - 흡입 – 구분 3, H331; 생식세포 변이원성 – 구분 2, H341; 발암성 – 구분 1B, H350; 피부 부식성/피부 자극성 – 구분 1, H314; 피부 과민성 – 구분 1, H317	>10-≤25%

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4 응급조치 요령

· **응급조치요령** 내용 내용
· **일반적 정보** 정보
중 독 증 상 은 몇 시 간이 지난 뒤에 발생할 수 있다. 따라서 사고가 발 생 한 후에 적 어 도 48 시 간동안은 의료진의 관찰을 받 아 야 한 다.
· **흡입했을 때:**
신 선 한 공 기 를 쐬고 나서 반드시 의 료진의 도움을 구한다.
환자가 의식을 잃었을 경우에는 안전한 자세에서 환자를 운반한다.
· **피부에 접촉했을 때:** 즉시물과비누로씻고잘헹군다.
눈에 눈에 들어갔을 때: 흐르는 물에 눈을 몇분동안 씻어내고나서, 증상이 지속될 경우에는 의사와 상담한 다
· **먹었을 때:** 즉 시 의사의 도움을 구한다.
기타 기타 의사의 주의사항:
가장 가장 중요한 급성 증상 및 영향 증후 추가적인 정보가 존재하지 않습니다.
· **즉각적인 의료처치 및 특별치료가 필요함을 시사하는 징후** 추가적인 정보가 존재하지 않습니다.

5 폭발·화재시 대처방법

· **소화제**
· **적절한 소화제:**
이 산 화 탄 소, 진 화 용 석 회 가 루 또 는 물 방 사를 사용하고, 더 큰 화재는 물 을 분 사 하 거 나 알 코 올 이 함 유 된 거 품 으 로 끈 다.
· **본 화학물질이나 혼합물에서 발생하는 특별 유해성** 추가적인 정보가 존재하지 않습니다.
· **소방관에 대한 권고사항**
화재 진압 시 착용할 보호구 및 예방조치: 호흡보호장비설치.

6 누출 사고 시 대처방법

· **개인적 예방조치, 보호장비 및 응급 절차** 절차 없음.
환경 환경 예방조치:
제품이 하 수 도 나 하 천 으 로 도 달 하 지 못하도록 한다.
하천이나하수도로유입되었을경우해당관청에보고한다.
많 은 물 로 희석 시킨다.
하수도망/해수면위의물/지하수로도달하지않게한다.
밀폐 밀폐 정화 방법과 소재:
액 체 가 혼 합 된 물 질 (모 래, 규 조 토, 산 성 결 합 물, 일 반 결 합 물, 톱 밥)에 흡입되도록 한다.
항목 13에 따라 오염된 물질을 쓰레기로 처분한다.
충분한 환기가 되도록 한다.
섹션 섹션 참조
안 전 관 리 에 대한 정보는 제7 장 을 참고하시오.
개 인 보 호 장 비에 대한 정보는 제8 장 을 참고하시 오.
쓰 레 기 처 리 에 대한 정보는 제13 장 을 참고하시 오.

7 취급 및 저장방법

취급 취급
안전 안전 취급을 위한 예방조치
작업장에서는통풍이잘되고/습기제거가잘되게주의한다.
조심스럽게용기를개봉하거나취급한다.
연무질이형성되는것을피한다.

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화재화재폭발폭발시 대처 방법에 관한 정보 호흡 보호장비를 항상 비치한다.

· **혼합 위험성을 포함한 안전한 저장 조건**

보관보관보관

· **안전한 저장 방법 특별 한 요구사항이 없음.**

· **호환 가능한 물질에 대한 정보** 요없음

· **보관 조건에 관한 추가 정보** 기를새지않게밀폐한채보관한다.

· **구체적 최종 사용자** 추가적인 정보가 존재하지 않습니다.

8 노출방지 및 개인보호구

· **첨단 시설 디자인에 대한 추가 정보:** 더 이 상 의 자료는 없음. 항 목 7 을 참고하시 오.

통제통제통제 변수

· **화학물질의 노출기준, 생물학적 노출기준 등:**	
50-00-0 포르말린	
TLV (KR)	장기간의값: 0.3 ppm 발암성1A,생식세포 변이원성2
BOELV (EU)	단기간의값: 0.74 mg/m³, 0.6 ppm 장기간의값: 0.37 (0.62)* mg/m³, 0.3 (0.5)* ppm Skin sens;*health/funeral/embalming till 11/7/24
PEL (US)	단기간의값: 2 ppm 장기간의값: 0.75 ppm see 29 CFR 1910.1048(c)
REL (US)	장기간의값: 0.016 ppm 최고노출기준: 0.1* ppm *15-min; See Pocket Guide App. A
TLV (US)	단기간의값: 0.37 mg/m³, 0.3 ppm 장기간의값: 0.12 mg/m³, 0.1 ppm DSEN; RSEN

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

노출 통제 통제

개인 개인 보호구

· **일반적 보호 조치 및 위생 조치:**

식 료 품, 음 료 수와 사 료 로 부 터 멀 리 떨 어 뜨 려 놓 는 다.

더 러 워 지 거 나 음 료 수 가 묻 은 옷 은 즉 시 탈의한다.

휴 식 전 이 나 작업이 끝날때마다 손을 씻는다.

방호복은따로보관한다.

눈 과 피 부와의 접 촉 은 피 한 다.

· **호흡기 보호 보호**

단 시 간 또 는 경 미 한 오 염 의 경 우에는 호 흡 여과 기 를 사 용 한 다. 심각한 또 는 장 기 간 노 출시에 는 호 흡 보 호 장 비 를 사 용 한 다.

보호 보호 보호

보 호용 장 갑

장갑재질은제품 / 원료 / 조제를투과시키지않아야하고, 내구성이있어야한다.

테 스 트 를 하 지 않 았기 때문에 제 품 / 조 제 / 화 학 혼 합 물에 적합한 장갑재질에 대한 추천이 없다.

투과 시 간, 침 투 율 과 저하를 고 려해서 장 갑 재 료를 선택한다.

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· **장갑의재료**
적합한장갑의선정은재질차이뿐아니라품질기준의차이도고려하여이루어져야하고제조업종에따라서도다르게선정되어야한다. 제품은다양한재료로부터의조제로이루어지는것이기때문에, 장갑재질의안정성은사전에예측되어질수있는것이아니고, 반드시사용전에 (그안전성이) 체크되어져야한다.
· **장 갑 재 료 의 투과시 간** 정확한관통시간은보호장갑제조자에의하여인지되고, 준수되어야한다.
보호 보호 보호

꽉조이는보안경

9 물리화학적 특성

기본기본기본 물리화학적 특성에 대한 정보
· **일반정보**
외형외형외형
· **물리적상태상태** 액체
· **색:** 색소가없는
냄새냄새냄새 알데히드성질의
· **후각역치** 알맞지않다.

· **pH 의경우 20 °C:** 2.8

· **상태변화**
· **녹는점/어는점:** 맞지않는
초기초기초기 끓는점과 끓는점 범위범위범위 >93 °C

· **인화점:** 62 °C

· **인화성 고체고체고체** 해당사항 없음.

· **점화온도:** ~300 °C

분해온도 분해온도 알맞지않다.

· **자기점화:** 이제품은자연발화성이없다.

· **폭발위험:** 알맞지않다.

인화인화인화 폭발폭발 폭발의 상한상한 하한
· **아래로:** 7 Vol %
위로위로위로 73 Vol %

· **증기압 의경우 20 °C:** 23 hPa

밀도밀도밀도 의경우 20 °C: 1.04 g/cm³
비중비중비중 알맞지않다.
· **증기밀도:** 알맞지않다.
증발증발증발 속도 알맞지않다.

· **용해도:**
· **물:** 완전히혼합할수있는

· **n 옥탄올/물 분배계수:** 알맞지않다.

점도점도점도
· **역학성:** 알맞지않다.
· **동점성:** 알맞지않다.

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· **용매내용물**	
· **유기용매:**	16.4 %
· **물:**	83.5 %
· **VOC (EU)**	16.40 %
· **고체의 함량함량**	0.0 %
기타 정보정보	추가적인 정보가 존재하지 않습니다.

10 안정성 및 반응성

· **반응성** 추가적인 정보가 존재하지 않습니다.
· **화학적 안정성**
· **화학적 안정성 및 유해반응의 가능성 / 피해야할 조건:** 규정에따라사용할경우해체는없다
· **유해반응 가능성** 위험한반응으로는알려지지않았다.
· **피해야할 조건** 추가적인 정보가 존재하지 않습니다.
혼합 혼합물질 물질 추가적인 정보가 존재하지 않습니다.
· **유해분해물질:** 위험성있는분해물들은알려지지않았다.

11 독성에 관한 정보

· **독성학적 영향에 대한 정보**
급성 독성독성
· **LD/LC50-수치에 분류분류**

50-00-0 포르말린		
구강의	LD50	>200 mg/kg (rat)

· **일차적 자극 효과**
피부 피부 자극 또는 자극성: 피부와점막을자극한다.
심한 심한 자극 또는 자극성: 자극
· **감각화:** 피부접촉을통하여감각화가능성이있다.
· **추 가 적 인 독성에 관한 정보**
이제품은유럽공동체의공동분류원칙의합법적인절차에근거하여최근에발효된원고에서아래위험들의사전준비에대하여제시하고있다.
건강에해로운
자극적인
암을유발하는
다음 다음 종류의 잠재적인 효과에 대한 정보
· **CMR 효과 유발, 돌연변이성 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.
· **환 경 시스템에서의 행 동:**
· **생물농축 잠재성** 추가적인 정보가 존재하지 않습니다.
· **토양내 이동성** 추가적인 정보가 존재하지 않습니다.

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· **추가적인 생태학 정보:** 정보

일반 특징:

수질오염등급 2 (자체등급분류): 수질오염이된
지하수나, 하천으로또는하수도망에도달하지않게한다.
지하수로경미한양이유입되었을경우엔이미식수오염상태이다

· **PBT(잔류성, 생물농축성, 독성물질) 및 vPvB(고 잔류성, 고 생물농축성, 독성물질) 평가결과**

· **PBT(잔류성, 생물농축성, 독성물질) 평가결과** 해당사항 없음.

· **vPvB(고 잔류성, 고 생물농축성, 독성물질) 평가결과** 해당사항 없음.

기타 부작용: 추가적인 정보가 존재하지 않습니다.

13 폐기시 주의사항

· **폐기물 처리방법**

권고: 생활쓰레기와함께처리되어서는안된다. 하수도망으로유입되서는안된다.

· **비위생적 포장:**

권고: 당국의지침에입각한쓰레기처리.

· **추 천 세정제:** 경우에따라서세제가첨가된물

14 운송에 필요한 정보

유엔 운송 번호	
· **IMDG**	UN2209
적정 선적명	
· **IMDG**	FORMALDEHYDE SOLUTION
교통 위험 유해 클래스	
· **ADR**	
· **위험물 라벨**	NOTREGULATED
· **IMDG**	
· **Class**	9 여러모로위험한물질과물체
· **Label**	9
· **IATA**	
· **Label**	MISCELLANEOUS
· **환경적 유해물질:**	해당사항 없음.
· **이용자 특별 예방조치**	해당사항 없음.
· **EMS 번호**	F-A,S-B
· **Stowage Category**	A
· **MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(운송)**	해당사항 없음.

(8 쪽에계속)

물질안전보건자료

GHS에 따라

인쇄일자: 2021.09.01 개정: 2021.09.01

제품명: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE

(7 쪽부터계속)

· **운송에 필요한 정보**

· **IMDG**

· **Limited quantities (LQ)**	-
· **Excepted quantities (EQ)**	Code: -

· **UN 모범규정** 누락되다

15 법적 규제현황

· **산업안전보건법에 의한 규제**

제조 금지물질:

어떠한내용물도목록화되어있지않다

· **허가대상물질:**

어떠한내용물도목록화되어있지않다

· **관리대상유해물질:**

50-00-0	포르말린

· **관리대상 유해물질의 종류** 화합물: 118

· **작업환경측정 대상 유해인자**

50-00-0	포르말린	1A105

· **특수건강진단 대상 유해인자**

50-00-0	포르말린	1A98

해당 화학물질 또는 혼합물에 대한 그 밖의 국내 및 외국 법률

· **Korean Existing Chemical Inventory**

7732-18-5	물	KE-35400
50-00-0	포르말린	KE-17074

· **화학물질관리법**

· **사고대비물질**

50-00-0	포르말린

· **금지물질**

어떠한내용물도목록화되어있지않다

· **제한물질**

50-00-0	포르말린

· **유독물질**

50-00-0	포르말린

· **허가물질**

50-00-0	포르말린

· **위험물안전관리법 (위험물 및 지정수량)** 제 4: 4,000 리터

등록 또는 신고 대상 화학물질

7732-18-5	물

· **'21년까지 등록하여야 할 암, 돌연변이, 생식능력 이상을 일으키거나 일으킬 우려가 있는 기존화학물질**

어떠한내용물도목록화되어있지않다

(9 쪽에계속)

물질안전보건자료

GHS에 따라라따

인쇄일자: 2021.09.01 개정: 2021.09.01

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(8 쪽부터계속)

· **중점관리물질에 지정지정**

· **표1 중점관리물질(제조 관련관련**	
50-00-0	포르말린

· **표2 중점관리물질(제조 관련관련**
어떠한내용물도목록화되어있지않다

· **라벨 요소**

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

· **그림문자**

GHS07 GHS08

· **신호어** 위험

· **상표상에명확히위험성이표시된성분:**

포르말린

유해 유해물질 문구

삼키거나 피부에 접촉하거나 흡입하면 유해함.
피부에 자극을 일으킴
눈에 심한 자극을 일으킴
알레르기성 피부 반응을 일으킬 수 있음
유전적인 결함을 일으킬 것으로 의심됨
암을 일으킬 수 있음

· **예방 조치 문구문구**

의학적인 조치가 필요한 경우, 제품의 용기 또는 라벨을 보여주시오.
어린이 손이 닿지 않는 곳에 보관하시오.
사용 전에 라벨을 읽으시오.
분진·흄·가스·미스트·증기·스프레이의 흡입을 피하시오.
보호장갑·보호의·보안경·안면보호구를 착용하시오.
삼켰을 시: 몸에 이상이 있을 시 독성물질 센터/병원 연락 필요.
눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면 콘택트렌즈를 제거하시오. 계속 씻으시오.
밀봉하여 저장하시오.
(지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기하시오.

· **국내규정:**

· **사용제한에 대한 권고사항 정보**

노동자들은이러한예방준비하에암을유발시키는성분을함유한위험물을버리지말아야한다. 개별적인경우에관청은예외를허가할수있다.

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

16 그 밖의 참고사항

이보고는우리지식에대한오늘날의상태에대하여평가하고있다, 하지만이보고서는생산특성에관한보증은기술하지않았으며계약적인법률관계에기반을두고있지도않다

최초최초 작성일자: 2021.09.01
개정개정 횟수 및 최종 개정일자: 1 / 2021.09.01

· **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

(10 쪽에계속)

물질안전보건자료

GHS에 따라 작성

인쇄일자: 2021.09.01 개정: 2021.09.01

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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

Sikkerhetsdatablad

iflg. forordning (EF) nr. 1907/2006, Artikkel 31

Trykkdato: 01.09.2021 revidert den: 01.09.2021

Avsnitt 1: Identifikasjon av stoffet/stoffblandingen og av selskapet/foretaket

· **1.1 Produktidentifikator**

· **Handelsnavn: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE**

· **Artikkelnummer:** 15700
· **UFI:** WS81-H0AU-U00Q-33E8
· **1.2 Relevante identifiserte bruksområder for stoffet eller stoffblandingen og bruk som frarådes**
Ikke noe mer relevant informasjon tilgjengelig.
· **Bruk av stoffet/ tilberedning** laboratoriekjemikalier

· **1.3 Opplysninger om leverandøren av sikkerhetsdatabladet**
· **Produsent/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

· **Avdeling for nærmere informasjoner:** Product safety department
· **1.4 Nødtelefonnummer**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

Avsnitt 2: Fareidentifikasjon

· **2.1 Klassifisering av stoffet eller stoffblandingen**
· **Klassifisering i henhold til EC-forskrift nr.1272/2008**

GHS08 Helsefare

Muta. 2	H341	Mistenkes for å kunne forårsake genetiske skader.
Carc. 1B	H350	Kan forårsake kreft.

GHS07

Acute Tox. 4	H302	Farlig ved svelging.
Acute Tox. 4	H312	Farlig ved hudkontakt.
Acute Tox. 4	H332	Farlig ved innånding.
Skin Irrit. 2	H315	Irriterer huden.
Eye Irrit. 2	H319	Gir alvorlig øyeirritasjon.
Skin Sens. 1	H317	Kan utløse en allergisk hudreaksjon.
STOT SE 3	H335	Kan forårsake irritasjon av luftveiene.

· **2.2 Merkingselementer**
· **Merking iht. bestemmelse (EC) Nr. 1272/2008**
Produktet er klassifisert og merket i henhold til CLP-forordningen.

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(fortsatt fra side 1)

· **Farepiktogrammer**

GHS07 GHS08

· **Varselord** Fare

· **Farebestemmende komponenter ved etikettering:**
formaldehyd
· **Faresetninger**

H302+H312+H332	Farlig ved svelging, hudkontakt eller innånding.
H315	Irriterer huden.
H319	Gir alvorlig øyeirritasjon.
H317	Kan utløse en allergisk hudreaksjon.
H341	Mistenkes for å kunne forårsake genetiske skader.
H350	Kan forårsake kreft.
H335	Kan forårsake irritasjon av luftveiene.

· **Sikkerhetssetninger**

P101	Dersom det er nødvendig med legehjelp, ha produktets beholder eller etikett for hånden.
P102	Oppbevares utilgjengelig for barn.
P103	Les etiketten før bruk.
P261	Unngå innånding av støv/røyk/gass/tåke/damp/aerosoler.
P280	Benytt vernehansker /verneklær/øyevern/ansiktsvern.
P301+P312	VED SVELGING: Kontakt et GIFTINFORMASJONSSENTER/en lege ved ubehag.
P305+P351+P338	VED KONTAKT MED ØYNENE: Skyll forsiktig med vann i flere minutter. Fjern eventuelle kontaktlinser dersom dette enkelt lar seg gjøre. Fortsett skyllingen.
P405	Oppbevares innelåst.
P501	Innholdet / emballasjen skal avhendes i henhold til de lokale / regionale / nasjonale / internasjonale forskrifter.

· **2.3 Andre farer**
· **Resultater av PBT- og vPvB-vurdering**
· **PBT:** Ikke brukbar.
· **vPvB:** Ikke brukbar.

Avsnitt 3: Sammensetning/opplysninger om bestanddeler

· **3.2 Kjemisk karakterisering: Stoffblandinger**
· **Beskrivelse:** Blanding av nedenstående oppførte stoffer med ufarlige tilsetninger.

· **Farlige innholdsstoffer:**

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	>10-≤25%

· **Ytterligere informasjoner:** Teksten til de fareangivelsene som er inkludert her, kan konsulteres i kapittel 16.

Avsnitt 4: Førstehjelpstiltak

· **4.1 Beskrivelse av førstehjelpstiltak**
· **Generelle informasjoner:**
Forgiftningssymptomer kan også oppstå etter mange timer. Personer må derfor ha legetilsyn i minst 48 timer etter en ulykke.

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· **Etter innånding:**
Rikelig friskluftilførsel, søk legehjelp for sikkerhets skyld.
Ved bevisstløshet lagring og transport i stabil sidestilling.
· **Etter hudkontakt:** Vask straks med vann og sepe og skyll godt etterpå.
· **Etter øyekontakt:**
Skyll øynene med åpne øyenlokk i flere minutter under rennende vann. Ved fortsatt besvær tilkall lege.
· **Etter svelging:** Søk lege straks.
· **4.2 De viktigste symptomene og virkningene, både akutte og forsinkede**
Ikke noe mer relevant informasjon tilgjengelig.
· **4.3 Angivelse av om umiddelbar legehjelp og spesialbehandling er nødvendig**
Ikke noe mer relevant informasjon tilgjengelig.

Avsnitt 5: Brannslokkingstiltak

· **5.1 Slokkingsmidler**
· **Egnede slukningsmidler:**
CO2, slukningspulver eller vann i spredt stråle. Større branner bekjempes med vann i spredt stråle eller med skum som er motstandsdyktig mot alkohol.
· **5.2 Særlige farer knyttet til stoffet eller stoffblandingen** Ikke noe mer relevant informasjon tilgjengelig.
· **5.3 Råd til brannmannskaper**
· **Spesielt verneutstyr:** Ta på egnet åndedrettsbeskyttelse.

Avsnitt 6: Tiltak ved utilsiktede utslipp

· **6.1 Personlige forsiktighetsregler, personlig verneutstyr og nødrutiner** Ikke nødvendig.
· **6.2 Forsiktighetsregler med hensyn til miljø**
Forhindre at produktet kommer ned i kloakk eller vassdrag.
Ansvarlige myndigheter varsles hvis produktet er kommet ned i vassdrag eller kloakk.
Fortynn med rikelig med vann.
La ikke produktet komme ned i kloakk/overflatevann/grunnvann.
· **6.3 Metoder og materialer for oppsamling og rensing**
Ta opp stoffet med væskebindende materiale (sand, kiselgur, syrebindemiddel, universalbindemiddel, sagflis).
Bortskaff kontaminert matereriale som avfall i.h.t. punkt 13.
Sørg for tilstrekkelig ventilasjon.
· **6.4 Henvisning til andre avsnitt**
Informasjoner om sikker håndtering, se kapittel 7.
Informasjoner om personlig beskyttelsesutstyr, se kapittel 8.
Informasjoner om bortskaffelse/deponering, se kapittel 13.

Avsnitt 7: Håndtering og lagring

· **7.1 Forsiktighetsregler for sikker håndtering**
Sørg for god ventilasjon/avsugning på arbeidsplassen.
Beholderne må åpnes og håndteres forsiktig.
Unngå aerosoldannelse.
· **Henvisninger om brann- og eksplosjonsvern:** Hold åndedrettsbeskyttelse i beredskap.

· **7.2 Vilkår for sikker lagring, herunder eventuelle uforenligheter**
· **Lagring:**
· **Krav til lagerrom og beholdere:** Ingen spesielle krav.
· **Informasjoner om felles lagring:** Ikke nødvendig.
· **Ytterligere informasjoner om lagervilkårene:** Hold beholderne tett tillukket.

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· **7.3 Særlig(e) sluttanvendelse(r)** Ikke noe mer relevant informasjon tilgjengelig.

Avsnitt 8: Eksponeringskontroll / personlig verneutstyr

· **Ytterligere informasjoner om utforming av tekniske anlegg:** Ingen ytterligere informasjoner, se punkt 7.

· **8.1 Kontrollparametrer**

· **Komponenter med grenseverdier for arbeidsplass som må overholdes:**	
50-00-0 formaldehyd	
AG	Langtidsverdi: 0,6 mg/m³, 0,5 ppm Takverdi: 1,2 mg/m³, 1 ppm A K

· **Ytterligere informasjoner:** Basis: listene som var gyldige ved oppstillingen.

· **8.2 Eksponeringskontroll**
· **Personlig verneutstyr:**
· **Generelle verne- og hygienetiltak:**
Holdes adskilt fra næringsmidler, drikkevarer og fórstoffer.
Fjern omgående forurensede, gjennomvætede klær.
Vask hendene før arbeidspauser og ved arbeidets slutt.
Beskyttelsesklær må oppbevares adskilt.
Unngå berøring med øyne og hud.
· **Åndedrettsvern:**
Ved korttidig eller liten belastning åndredrettsfilterapparat; ved intensiv eller lengre utsetting: bruk omluft-uavhengig åndedrettsbeskyttelsesapparat.
· **Håndvern:**

Beskyttelseshansker

Hanskematerialet må være ugjennomtrengelig og bestandig overfor produktet /stoffet /blandingen.
På grunn av manglende tester kan det ikke gis noen anbefaling om hanskemateriale for produktet / tilberedningsprosessen/kjemikalieblandingen.
Hanskematerialet velges under hensyntagen til holdbarhetstid, gjennomtrengelighet og degradering.
· **hanskemateriale**
Valget av egnet hanske er ikke bare avhengig av materiale, men også av andre kvalitetskjennetegn og er forskjellig fra produsent til produsent. Da produktet representerer en sammensetning av flere stoffer, kan holdbarheten av hanskematerialet ikke forhåndsberegnes, og denne må testes før bruk.
· **gjennomtrengingstid for hanskemateriale**
Den nøyaktige holdbarhetstiden må bringes på det rene hos hanskeprodusenten og overholdes.
· **Øyevern:**

Tettsittende vernebrille

(fortsatt på side 5)

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Avsnitt 9: Fysiske og kjemiske egenskaper

· **9.1 Opplysninger om grunnleggende fysiske og kjemiske egenskaper**	
· **alminnelige opplysninger**	
· **Utseende:**	
· **Form:**	Væske
· **Farge:**	Fargeløs
· **Lukt:**	Aldehydlignende
· **Luktterskel:**	Ikke bestemt.
· **pH-verdi ved 20 °C:**	2,8
· **Tilstandsendring**	
· **Smeltepunkt/frysepunkt:**	Ikke bestemt.
· **Startkokepunkt og kokeområde:**	>93 °C
· **Flammepunkt:**	62 °C
· **Antennelighet (fast stoff, gass):**	Ikke brukbar.
· **Antennelsestemperatur:**	~300 °C
· **Nedbrytingstemperatur:**	Ikke bestemt.
· **Selvantennelsestemperatur:**	Produktet er ikke selvantennelig.
· **Eksplosive egenskaper:**	Ikke bestemt.
· **Eksplosjonsgrenser:**	
· **Nedre:**	7 Vol %
· **Øvre**	73 Vol %
· **Damptrykk ved 20 °C:**	23 hPa
· **Tetthet ved 20 °C:**	1,04 g/cm³
· **Relativ tetthet:**	Ikke bestemt.
· **Damptetthet:**	Ikke bestemt.
· **Fordampingshastighet:**	Ikke bestemt.
· **Løslighet i / blandbarhet med**	
· **vann:**	Fullstendig blandbar.
· **Fordelingskoeffisient; n-oktanol/vann:**	Ikke bestemt.
· **Viskositet:**	
· **Dynamisk:**	Ikke bestemt.
· **Kinematisk:**	Ikke bestemt.
· **Løsningsmiddelandel:**	
· **Organiske løsningsmidler:**	16,4 %
· **Vann:**	83,5 %
· **VOC (EF)**	16,40 %
· **Andel faste stoffer:**	0,0 %
· **9.2 Andre opplysninger**	Ikke noe mer relevant informasjon tilgjengelig.

Avsnitt 10: Stabilitet og reaktivitet

· **10.1 Reaktivitet** Ikke noe mer relevant informasjon tilgjengelig.
· **10.2 Kjemisk stabilitet**
· **Termisk spaltning / vilkår som må unngås:** Ingen spaltning ved formålsriktig bruk.

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· **10.3 Risiko for farlige reaksjoner** Det kjennes ingen farlige reaksjoner.
· **10.4 Forhold som skal unngås** Ikke noe mer relevant informasjon tilgjengelig.
· **10.5 Uforenlige materialer** Ikke noe mer relevant informasjon tilgjengelig.
· **10.6 Farlige nedbrytingsprodukter** Ingen farlige spaltningsprodukter kjente.

Avsnitt 11: Toksikologiske opplysninger

· **11.1 Opplysninger om toksikologiske virkninger**
· **Akutt giftighet**
Farlig ved svelging, hudkontakt eller innånding.

· **Klassifiseringsrelevante LD/LC50-verdier:**		
50-00-0 formaldehyd		
Oral	LD50	>200 mg/kg (rat)

· **Primær irritasjonsvirkning:**
· **Hudetsing/hudirritasjon**
Irriterer huden.
· **Alvorlig øyeskade/øyeirritasjon**
Gir alvorlig øyeirritasjon.
· **Sensibilisering ved innånding eller hudkontakt**
Kan utløse en allergisk hudreaksjon.
· **Informasjon om følgende grupper med potensielle virkninger:**
· **CMR-virkninger (kreftfremkallende virkninger, arvestoffskadelige og reproduksjonsskadelige virkninger)**
· **Arvestoffskadelig virkning på kjønnsceller**
Mistenkes for å kunne forårsake genetiske skader.
· **Kreftframkallende egenskap**
Kan forårsake kreft.
· **Reproduksjonstoksisitet** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.
· **STOT – enkelteksponering**
Kan forårsake irritasjon av luftveiene.
· **STOT – gjentatt eksponering** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.
· **Aspirasjonsfare** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.

Avsnitt 12: Økologiske opplysninger

· **12.1 Giftighet**
· **Akvatisk toksisitet:** Ikke noe mer relevant informasjon tilgjengelig.
· **12.2 Persistens og nedbrytbarhet** Ikke noe mer relevant informasjon tilgjengelig.
· **12.3 Bioakkumuleringsevne** Ikke noe mer relevant informasjon tilgjengelig.
· **12.4 Mobilitet i jord** Ikke noe mer relevant informasjon tilgjengelig.
· **Ytterligere økologiske informasjoner:**
· **Generelle informasjoner:**
Vannfareklasse 2 (D) (Selvklassifisering): farlig for vann
Ikke la stoffet komme ned i grunnvannet, i vassdrag eller i kloakker.
Fare for drikkevann allerede ved utstrømning av små mengder i marken.
· **12.5 Resultater av PBT- og vPvB-vurdering**
· **PBT:** Ikke brukbar.
· **vPvB:** Ikke brukbar.
· **12.6 Andre skadevirkninger** Ikke noe mer relevant informasjon tilgjengelig.

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Avsnitt 13: Sluttbehandling

· **13.1 Avfallsbehandlingsmetoder**
· **Anbefaling:** Må ikke bortskaffes sammen med husholdningsavfall. Må ikke komme ned i kloakk.

· **Ikke rengjort emballasje:**
· **Anbefaling:** Deponering i henhold til myndighetenes forskrifter.
· **Anbefalt rengjøringsmiddel:** Vann, eventuelt med tilsetning av rengjøringsmidler.

Avsnitt 14: Transportopplysninger

· **14.1 FN-nummer**	
· **IMDG**	UN2209
· **14.2 FN-forsendelsesnavn**	
· **IMDG**	FORMALDEHYDE SOLUTION
· **14.3 Transportfareklasse(r)**	
· **ADR**	
· **Fareseddel**	NOTREGULATED
· **IMDG**	

· **Class**	9 Forskjellige farlige stoffer og gjenstander
· **Label**	9
· **IATA**	
· **Label**	MISCELLANEOUS
· **14.5 Miljøfarer**	Ikke brukbar.
· **14.6 Særlige forsiktighetsregler ved bruk**	Ikke brukbar.
· **EMS-nummer:**	F-A,S-B
· **Stowage Category**	A
· **14.7 Bulktransport i henhold til vedlegg II til MARPOL 73/78 og IBC-regelverket**	Ikke brukbar.
· **Transport/ytterligere informasjoner:**	
· **IMDG**	
· **Limited quantities (LQ)**	-
· **Excepted quantities (EQ)**	Code: -
· **UN "Model Regulation":**	bortfaller

Avsnitt 15: Opplysninger om regelverk

· **15.1 Særlige bestemmelser / særskilt lovgivning om sikkerhet, helse og miljø for stoffet eller stoffblandingen**

· **Direktiv 2012/18/EU**
· **Spesifiserte farlige stoffer - VEDLEGG I** ingen av innholdsstoffene er listet opp

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· **Forordning (EF) nr. 1907/2006 VEDLEGG XVII** Begrensninger: 3, 28, 72

· **Direktiv 2011/65/EF om begrensning av bruken av visse farlige stoffer i elektrisk og elektronisk utstyr - Vedlegg II**

ingen av innholdsstoffene er listet opp

· **Nasjonale forskrifter:**

· **Informasjoner om arbeidsinnskrenkning:**
Arbeidstagere må ikke utsettes for de kreftfremkallende farlige stoffer som er inneholdt i denne blandingen. I enkelte tilfeller kan myndighetene tillate unntak.

· **15.2 Vurdering av kjemikaliesikkerhet** En kjemisk sikkerhetsvurdering er ikke utført.

Avsnitt 16: Andre opplysninger

Opplysningene er basert på vårt kjennskap i dag. De utgjør dog ingen forsikring om produktegenskaper og er ikke grunnlag for noe kontraktsmessig rettsforhold.

· **Relevante satser**
H301 Giftig ved svelging.
H311 Giftig ved hudkontakt.
H314 Gir alvorlige etseskader på hud og øyne.
H317 Kan utløse en allergisk hudreaksjon.
H331 Giftig ved innånding.
H341 Mistenkes for å kunne forårsake genetiske skader.
H350 Kan forårsake kreft.

· **Forkortelser og akronymer:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 3: Akutt giftighet – Kategori 3
Acute Tox. 4: Akutt giftighet – Kategori 4
Skin Corr. 1B: Hudetsing/hudirritasjon – Kategori 1B
Skin Irrit. 2: Hudetsing/hudirritasjon – Kategori 2
Eye Irrit. 2: Alvorlig øyeskade/øyeirritasjon – Kategori 2
Skin Sens. 1: Hudsensibilisering – Kategori 1
Muta. 2: Skade på arvestoffet i kjønnsceller – Kategori 2
Carc. 1B: Kreftframkallende egenskaper – Kategori 1B
STOT SE 3: Giftvirkning på bestemte organer (enkelteksponering) – Kategori 3

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

· **1.1 Identificador do produto**

· **Nome comercial: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE**

· **Código do produto:** 15700
· **UFI:** WS81-H0AU-U00Q-33E8
· **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.° 1272/2008**

GHS08 perigo para a saúde

Muta. 2	H341	Suspeito de provocar anomalias genéticas.
Carc. 1B	H350	Pode provocar cancro.

GHS07

Acute Tox. 4	H302	Nocivo por ingestão.
Acute Tox. 4	H312	Nocivo em contacto com a pele.
Acute Tox. 4	H332	Nocivo por inalação.
Skin Irrit. 2	H315	Provoca irritação cutânea.
Eye Irrit. 2	H319	Provoca irritação ocular grave.
Skin Sens. 1	H317	Pode provocar uma reacção alérgica cutânea.
STOT SE 3	H335	Pode provocar irritação das vias respiratórias.

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

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· **Pictogramas de perigo**

GHS07 GHS08

· **Palavra-sinal** Perigo

· **Componentes determinantes para os perigos constantes do rótulo:**
formaldeído
· **Advertências de perigo**

H302+H312+H332	Nocivo por ingestão, contacto com a pele ou inalação.
H315	Provoca irritação cutânea.
H319	Provoca irritação ocular grave.
H317	Pode provocar uma reacção alérgica cutânea.
H341	Suspeito de provocar anomalias genéticas.
H350	Pode provocar cancro.
H335	Pode provocar irritação das vias respiratórias.

· **Recomendações de prudência**

P101	Se for necessário consultar um médico, mostre-lhe a embalagem ou o rótulo.
P102	Manter fora do alcance das crianças.
P103	Ler o rótulo antes da utilização.
P261	Evitar respirar as poeiras/fumos/gases/névoas/vapores/aerossóis.
P280	Usar luvas de protecção/vestuário de protecção/protecção ocular/protecção facial.
P301+P312	EM CASO DE INGESTÃO: caso sinta indisposição, contacte um CENTRO DE INFORMAÇÃO ANTIVENENOS/médico.
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.
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: 50-00-0 EINECS: 200-001-8	formaldeído 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	>10-≤25%

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

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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. Em caso de persistência dos sintomas, 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:**
CO2, pó extintor ou jacto de água. Um incêndio de grandes dimensões deve ser combatido com jacto de água ou espuma resistente ao álcool.
· **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 acidentais

· **6.1 Precauções individuais, equipamento de protecção e procedimentos de emergência** Não necessário.
· **6.2 Precauções a nível ambiental:**
Não permitir que a substância chegue à canalização ou à água.
Em caso de infiltrações nos leitos de água ou na canalização, comunicar aos serviços públicos competentes.
Diluir em bastante água.
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.
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.

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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/Proteção 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:**	
50-00-0 formaldeído	
VLE	Valor limite de exposição – concentração maxima: 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 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

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.

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· **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**	
· **Aspeto:**	
· **Forma:**	Líquido
· **Cor:**	Incolor
· **Odor:**	tipo aldeído
· **Limiar olfactivo:**	Não determinado.
· **valor pH em 20 °C:**	2,8
· **Mudança do estado:**	
· **Ponto de fusão/ponto de congelação:**	Não determinado.
· **Ponto de ebulição inicial e intervalo de ebulição:**	>93 °C
· **Ponto de inflamação:**	62 °C
· **Inflamabilidade (sólido, gás):**	Não aplicável.
· **Temperatura de ignição:**	~300 °C
· **Temperatura de decomposição:**	Não determinado.
· **Temperatura de autoignição:**	O produto não é auto-inflamável.
· **Propriedades explosivas:**	Não determinado.
· **Limites de explosão:**	
· **Inferior:**	7 Vol %
· **Superior:**	73 Vol %
· **Pressão de vapor em 20 °C:**	23 hPa
· **Densidade em 20 °C:**	1,04 g/cm³
· **Densidade relativa**	Não determinado.
· **Densidade de vapor**	Não determinado.
· **Taxa de evaporação:**	Não determinado.
· **Solubilidade em / miscibilidade com**	
· **água:**	Completamente misturável.
· **Coeficiente de partição: n-octanol/água**	Não determinado.
· **Viscosidade:**	
· **Dinâmico:**	Não determinado.
· **Cinemático:**	Não determinado.
· **Percentagem de solvente:**	
· **Solventes orgânicos:**	16,4 %
· **Água:**	83,5 %
· **VOC (UE)**	16,40 %
· **Percentagem de substâncias sólidas:**	0,0 %

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· **9.2 Outras informações** Não existe mais nenhuma informação relevante disponível.

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 reacções 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 ingestão, contacto com a pele ou inalação.

· **Valores LD/LC50 relevantes para a classificação:**		
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 irritação ocular grave.
· **Sensibilização respiratória ou cutânea**
Pode provocar uma reacção alérgica cutânea.
· **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.
· **Outras indicações ecológicas:**
· **Indicações gerais:**
Classe de perigo para a água 2 (D) (auto-classificação): perigoso para a água.

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Não deixar chegar às águas subterrâneas, aos cursos de água nem à canalização.
Perigo de poluição da água potável mesmo se forem derramadas quantidades muito pequenas no subsolo.
· **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.
· **Meio de limpeza recomendado:** Água, eventualmente com adição de produtos de limpeza

SECÇÃO 14: Informações relativas ao transporte

· **14.1 Número ONU**	
· **IMDG**	UN2209
· **14.2 Designação oficial de transporte da ONU**	
· **IMDG**	FORMALDEHYDE SOLUTION
· **14.3 Classes de perigo para efeitos de transporte**	
· **ADR**	
· **Rótulo**	NOTREGULATED
· **IMDG**	

· **Class**	9 Matérias e objectos perigosos diversos
· **Label**	9
· **IATA**	
· **Label**	MISCELLANEOUS
· **14.5 Perigos para o ambiente:**	Não aplicável.
· **14.6 Precauções especiais para o utilizador**	Não aplicável.
· **Nº EMS:**	F-A,S-B
· **Stowage Category**	A
· **14.7 Transporte a granel em conformidade com o anexo II da Convenção MARPOL e o Código IBC**	Não aplicável.
· **Transporte/outras informações:**	
· **IMDG**	
· **Limited quantities (LQ)**	-
· **Excepted quantities (EQ)**	Code: -

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· **UN "Model Regulation":** não aplicável

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

· **Directiva 2011/65/UE relativa à restrição do uso de determinadas substâncias perigosas em equipamentos eléctricos e electrónicos - Anexo II**

Nenhum dos componentes se encontra listado.

· **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 excepções.
· **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.
H331 Tóxico por inalação.
H341 Suspeito de provocar anomalias genéticas.
H350 Pode provocar cancro.
· **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. 4: Toxicidade aguda - via oral – Categoria 4
Skin Corr. 1B: Corrosão/irritação cutânea – Categoria 1B
Skin Irrit. 2: Corrosão/irritação cutânea – Categoria 2
Eye Irrit. 2: Lesões oculares graves/irritação ocular – Categoria 2
Skin Sens. 1: Sensibilização cutânea – Categoria 1
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

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

· **1.1 Identificador del producto**

· **Nombre comercial: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE**

· **Número del artículo:** 15700
· **UFI:** WS81-H0AU-U00Q-33E8
· **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

Muta. 2	H341	Se sospecha que provoca defectos genéticos.
Carc. 1B	H350	Puede provocar cáncer.

GHS07

Acute Tox. 4	H302	Nocivo en caso de ingestión.
Acute Tox. 4	H312	Nocivo en contacto con la piel.
Acute Tox. 4	H332	Nocivo en caso de inhalación.
Skin Irrit. 2	H315	Provoca irritación cutánea.
Eye Irrit. 2	H319	Provoca irritación ocular grave.
Skin Sens. 1	H317	Puede provocar una reacción alérgica en la piel.
STOT SE 3	H335	Puede irritar las vías respiratorias.

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

GHS07 GHS08

· **Palabra de advertencia** Peligro

· **Componentes peligrosos a indicar en el etiquetaje:**
formaldehído
· **Indicaciónes de peligro**
H302+H312+H332 Nocivo en caso de ingestión, contacto con la piel o inhalación.
H315 Provoca irritación cutánea.
H319 Provoca irritación ocular grave.
H317 Puede provocar una reacción alérgica en la piel.
H341 Se sospecha que provoca defectos genéticos.
H350 Puede provocar cáncer.
H335 Puede irritar las vías respiratorias.
· **Consejos de prudencia**
P101 Si se necesita consejo médico, tener a mano el envase o la etiqueta.
P102 Mantener fuera del alcance de los niños.
P103 Leer la etiqueta antes del uso.
P261 Evitar respirar el polvo/el humo/el gas/la niebla/los vapores/el aerosol.
P280 Llevar guantes/prendas/gafas/máscara de protección.
P301+P312 EN CASO DE INGESTIÓN: Llamar a un CENTRO DE TOXICOLOGÍA/médico si la persona se encuentra mal.
P305+P351+P338 EN CASO DE CONTACTO CON LOS OJOS: Enjuagar con agua cuidadosamente durante varios minutos. Quitar las lentes de contacto cuando estén presentes y pueda hacerse con facilidad. Proseguir con el lavado.
P405 Guardar bajo llave.
P501 Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional.
· **2.3 Otros peligros**
· **Resultados de la valoración PBT y mPmB**
· **PBT:** No aplicable.
· **mPmB:** No aplicable.

SECCIÓN 3: Composición/información sobre los componentes

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

· **Componentes peligrosos:**

CAS: 50-00-0 EINECS: 200-001-8	formaldehído Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Muta. 2, H341; Carc. 1B, H350; Skin Corr. 1B, H314; Skin Sens. 1, H317	>10-≤25%

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

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SECCIÓN 4: Primeros auxilios

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

SECCIÓN 5: Medidas de lucha contra incendios

· **5.1 Medios de extinción**
· **Sustancias extintoras apropiadas:**
CO2, polvo extintor o chorro de agua rociada. Combatir incendios mayores con chorro de agua rociada o espuma resistente al alcohol.
· **5.2 Peligros específicos derivados de la sustancia o la mezcla** No existen más datos relevantes disponibles.
· **5.3 Recomendaciones para el personal de lucha contra incendios**
· **Equipo especial de protección:** Colocarse la protección respiratoria.

SECCIÓN 6: Medidas en caso de vertido accidental

· **6.1 Precauciones personales, equipo de protección y procedimientos de emergencia** No es necesario.
· **6.2 Precauciones relativas al medio ambiente:**
No dejar que se introduzca en el alcantarillado ni que contamine las aguas.
Al penetrar en las aguas o en el alcantarillado, avisar a las autoridades pertinentes.
Diluir con mucha agua.
Evitar que penetre en la canalización /aguas de superficie /agua subterráneas.
· **6.3 Métodos y material de contención y de limpieza:**
Quitar con material absorbente (arena, kieselgur, aglutinante de ácidos, aglutinante universal, aserrín).
Desechar el material contaminado como vertido según item 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.

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· **Prevención de incendios y explosiones:** Tener preparados los aparatos respiratorios.

· **7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**
· **Almacenamiento:**
· **Exigencias con respecto al almacén y los recipientes:** No se requieren medidas especiales.
· **Normas en caso de un almacenamiento conjunto:** No es necesario.
· **Indicaciones adicionales sobre las condiciones de almacenamiento:**
Mantener el recipiente cerrado herméticamente.
· **7.3 Usos específicos finales** No existen más datos relevantes disponibles.

SECCIÓN 8: Controles de exposición/protección individual

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

· **8.1 Parámetros de control**

· **Componentes con valores límite admisibles que deben controlarse en el puesto de trabajo:**	
50-00-0 formaldehído	
LEP	Valor de corta duración: 0,74 mg/m³, 0,6 ppm Valor de larga duración: 0,37 mg/m³, 0,3 ppm C1B, Sen, s

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

· **8.2 Controles de la exposición**
· **Equipo de protección individual:**
· **Medidas generales de protección e higiene:**
Mantener alejado de alimentos, bebidas y alimentos para animales.
Quitarse de inmediato la ropa ensuciada o impregnada.
Lavarse las manos antes de las pausas y al final del trabajo.
Guardar la ropa protectora por separado.
Evitar el contacto con los ojos y la piel.
· **Protección respiratoria:**
Si la exposición va a ser breve o de poca intensidad, colocarse una máscara respiratoria. Para una exposición más intensa o de mayor duración, usar un aparato de respiración autónomo.
· **Protección de manos:**

Guantes de protección

El material del guante deberá ser impermeable y resistente al producto / substancia / preparado.
Ante la ausencia de tests específicos, no se puede recomendar ningún material específico para guantes de protección contra el producto / preparado / mezcla de substancias 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 avaluada de antemano, de modo que los guantes deberán ser controlados antes de su utilización.
· **Tiempo de penetración del material de los guantes**
El tiempo de resistencia a la penetración exacto deberá ser pedido al fabricante de los guantes. Este tiempo debe ser respetado.

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· **Protección de ojos:**

Gafas de protección herméticas

SECCIÓN 9: Propiedades físicas y químicas

· **9.1 Información sobre propiedades físicas y químicas básicas**	
· **Datos generales**	
· **Aspecto:**	
· **Forma:**	*Liquido*
· **Color:**	*Incoloro*
· **Olor:**	*Aldehídico*
· **Umbral olfativo:**	*No determinado.*
· **valor pH a 20 °C:**	*2,8*
· **Cambio de estado**	
· **Punto de fusión/punto de congelación:**	*Indeterminado.*
· **Punto inicial de ebullición e intervalo de ebullición:**	*>93 °C*
· **Punto de inflamación:**	*62 °C*
· **Inflamabilidad (sólido, gas):**	*No aplicable.*
· **Temperatura de ignición:**	*~300 °C*
· **Temperatura de descomposición:**	*No determinado.*
· **Temperatura de auto-inflamación:**	*El producto no es autoinflamable.*
· **Propiedades explosivas:**	*No determinado.*
· **Límites de explosión:**	
· **Inferior:**	*7 Vol %*
· **Superior:**	*73 Vol %*
· **Presión de vapor a 20 °C:**	*23 hPa*
· **Densidad a 20 °C:**	*1,04 g/cm³*
· **Densidad relativa**	*No determinado.*
· **Densidad de vapor**	*No determinado.*
· **Tasa de evaporación:**	*No determinado.*
· **Solubilidad en / miscibilidad con**	
· **agua:**	*Completamente mezclable.*
· **Coeficiente de reparto: n-octanol/agua:**	*No determinado.*
· **Viscosidad:**	
· **Dinámica:**	*No determinado.*
· **Cinemática:**	*No determinado.*
· **Concentración del disolvente:**	
· **Disolventes orgánicos:**	*16,4 %*
· **Agua:**	*83,5 %*
· **VOC (CE)**	*16,40 %*
· **Contenido de cuerpos sólidos:**	*0,0 %*

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· **9.2 Otros datos** No existen más datos relevantes disponibles.

SECCIÓN 10: Estabilidad y reactividad

· **10.1 Reactividad** No existen más datos relevantes disponibles.
· **10.2 Estabilidad química**
· **Descomposición térmica / condiciones que deben evitarse:** No se descompone al emplearse adecuadamente.
· **10.3 Posibilidad de reacciones peligrosas** No se conocen reacciones peligrosas.
· **10.4 Condiciones que deben evitarse** No existen más datos relevantes disponibles.
· **10.5 Materiales incompatibles:** No existen más datos relevantes disponibles.
· **10.6 Productos de descomposición peligrosos:** No se conocen productos de descomposición peligrosos.

SECCIÓN 11: Información toxicológica

· **11.1 Información sobre los efectos toxicológicos**
· **Toxicidad aguda**
Nocivo en caso de ingestión, contacto con la piel o inhalación.

· **Valores LD/LC50 (dosis letal /dosis letal = 50%) relevantes para la clasificación:**		
50-00-0 formaldehído		
Oral	LD50	>200 mg/kg (rat)

· **Efecto estimulante primario:**
· **Corrosión o irritación cutáneas**
Provoca irritación cutánea.
· **Lesiones o irritación ocular graves**
Provoca irritación ocular grave.
· **Sensibilización respiratoria o cutánea**
Puede provocar 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.
· **Indicaciones medioambientales adicionales:**
· **Indicaciones generales:**
Nivel de riesgo para el agua 2 (autoclasificación): peligroso para el agua

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No dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados.
Una cantidad mínima vertida en el subsuelo ya representa un peligro para el agua potable.

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

SECCIÓN 13: Consideraciones relativas a la eliminación

· **13.1 Métodos para el tratamiento de residuos**
· **Recomendación:** No debe desecharse con la basura doméstica. No debe llegar al alcantarillado.

· **Embalajes sin limpiar:**
· **Recomendación:** Eliminar conforme a las disposiciones oficiales.
· **Producto de limpieza recomendado:** Agua, eventualmente añadiendo productos de limpieza.

SECCIÓN 14: Información relativa al transporte

· **14.1 Número ONU**	
· **IMDG**	UN2209
· **14.2 Designación oficial de transporte de las Naciones Unidas**	
· **IMDG**	FORMALDEHYDE SOLUTION
· **14.3 Clase(s) de peligro para el transporte**	
· **ADR**	
· **Etiqueta**	NOTREGULATED
· **IMDG**	

· **Class**	9 Materias y objetos peligrosos diversos
· **Label**	9
· **IATA**	
· **Label**	MISCELLANEOUS
· **14.5 Peligros para el medio ambiente:**	No aplicable.
· **14.6 Precauciones particulares para los usuarios**	No aplicable.
· **Número EMS:**	F-A,S-B
· **Stowage Category**	A
· **14.7 Transporte a granel con arreglo al anexo II del Convenio MARPOL y el Código IBC**	No aplicable.
· **Transporte/datos adicionales:**	
· **IMDG**	
· **Limited quantities (LQ)**	-
· **Excepted quantities (EQ)**	Code: -

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· **"Reglamentación Modelo" de la UNECE:** suprimido

SECCIÓN 15: Información reglamentaria

· **15.1 Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla**

· **Directiva 2012/18/UE**
· **Sustancias peligrosas nominadas - ANEXO I** ninguno de los componentes está incluido en una lista
· **REGLAMENTO (CE) nº 1907/2006 ANEXO XVII** Restricciones: 3, 28, 72

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

ninguno de los componentes está incluido en una lista

· **Disposiciones nacionales:**

· **Indicaciones sobre las limitaciones de trabajo:**
Los empleados no deben exponerse a las sustancias cancerígenas contenidas en el producto. En casos aislados las autoridades pueden hacer excepciones.
· **15.2 Evaluación de la seguridad química:** Una evaluación de la seguridad química no se ha llevado a cabo.

SECCIÓN 16: Otra información

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

· **Frases relevantes**
H301 Tóxico en caso de ingestión.
H311 Tóxico en contacto con la piel.
H314 Provoca quemaduras graves en la piel y lesiones oculares graves.
H317 Puede provocar una reacción alérgica en la piel.
H331 Tóxico en caso de inhalación.
H341 Se sospecha que provoca defectos genéticos.
H350 Puede provocar cáncer.
· **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. 4: Toxicidad aguda - oral – Categoría 4
Skin Corr. 1B: Corrosión o irritación cutáneas – Categoría 1B
Skin Irrit. 2: Corrosión o irritación cutáneas – Categoría 2
Eye Irrit. 2: Lesiones oculares graves o irritación ocular – Categoría 2
Skin Sens. 1: Sensibilización cutánea – Categoría 1
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

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

Datum för utskrift: 01.09.2021 Omarbetad: 01.09.2021

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

· **1.1 Produktbeteckning**

· **Handelsnamn: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE**

· **Artikelnummer:** 15700
· **UFI:** WS81-H0AU-U00Q-33E8
· **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

Muta. 2	H341	Misstänks kunna orsaka genetiska defekter.
Carc. 1B	H350	Kan orsaka cancer.

GHS07

Acute Tox. 4	H302	Skadligt vid förtäring.
Acute Tox. 4	H312	Skadligt vid hudkontakt.
Acute Tox. 4	H332	Skadligt vid inandning.
Skin Irrit. 2	H315	Irriterar huden.
Eye Irrit. 2	H319	Orsakar allvarlig ögonirritation.
Skin Sens. 1	H317	Kan orsaka allergisk hudreaktion.
STOT SE 3	H335	Kan orsaka irritation i luftvägarna.

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

GHS07 GHS08

(Fortsättning på sida 2)

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Handelsnamn: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE

(Fortsättning från sida 1)

· **Signalord** Fara

· **Riskbestämmande komponenter för etikettering:**
formaldehyd
· **Faroangivelser**
H302+H312+H332 Skadligt vid förtäring, hudkontakt eller inandning.
H315 Irriterar huden.
H319 Orsakar allvarlig ögonirritation.
H317 Kan orsaka allergisk hudreaktion.
H341 Misstänks kunna orsaka genetiska defekter.
H350 Kan orsaka cancer.
H335 Kan orsaka irritation i luftvägarna.
· **Skyddsangivelser**
P101 Ha förpackningen eller etiketten till hands om du måste söka läkarvård.
P102 Förvaras oåtkomligt för barn.
P103 Läs etiketten före användning.
P261 Undvik att inandas damm/rök/gaser/dimma/ångor/sprej.
P280 Använd skyddshandskar/skyddskläder/ögonskydd/ansiktsskydd.
P301+P312 VID FÖRTÄRING: Vid obehag, kontakta GIFTINFORMATIONSCENTRALEN/läkare.
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.
P405 Förvaras inlåst.
P501 Innehållet / behållaren avfallshanteras enligt lokala / regionala / nationella / internationella föreskrifter.
· **2.3 Andra faror**
· **Resultat av PBT- och vPvB-bedömningen**
· **PBT:** Ej användbar.
· **vPvB:** Ej användbar.

AVSNITT 3: Sammansättning/information om beståndsdelar

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

· **Farliga ingredienser:**

CAS: 50-00-0 EINECS: 200-001-8	formaldehyd Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Muta. 2, H341; Carc. 1B, H350; Skin Corr. 1B, H314; Skin Sens. 1, H317	>10-≤25%

· **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. Om besvär kvarstår, kontakta läkare.
· **Vid förtäring:** Kontakta läkare omedelbart.

(Fortsättning på sida 3)

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(Fortsättning från sida 2)

· **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:**
CO2, släckningspulver eller spridd vattenstråle. Större bränder skall bekämpas med spridd vattenstråle eller alkoholbeständigt skum.
· **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:**
Hindra produkten från att tränga ner i avloppsnätet eller vattendrag.
När produkten kommit in i vattendrag eller avloppsnät, skall vederbörande myndigheter underrättas.
Blanda ut med mycket vatten.
Förhindra produkten att tränga ner i avloppsnät/ytvatten/grundvatten.
· **6.3 Metoder och material för inneslutning och sanering:**
Sug upp med vätskebindande material (sand, kiselgur, syrabindemedel, universalbindemedel, sågspån).
Omhänderta förorenat material som avfall enligt punkt 13.
Se till att ventilationen är tillräcklig.
· **6.4 Hänvisning till andra avsnitt**
Information beträffande säker hantering se kapitel 7.
Information beträffande personlig skyddsutrustning se kapitel 8.
Information beträffande avfallshantering se kapitel 13.

AVSNITT 7: Hantering och lagring

· **7.1 Försiktighetsmått för säker hantering**
Sörj för god ventilation/utsug på arbetsplatsen.
Öppna behållaren försiktigt och hantera den varsamt.
Undvik bildning av aerosol.
· **Hänvisningar beträffande brand- och explosionsskydd:** Håll andningsskyddsutrustning i beredskap.

· **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.

(Fortsättning på sida 4)

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Handelsnamn: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE

(Fortsättning från sida 3)

· **8.1 Kontrollparametrar**

· **Ämnen med yrkeshygieniska gränsvärden som bör övervakas:**	
50-00-0 formaldehyd	
OEL	Korttidsvärde: 0,74 mg/m³, 0,6 ppm Nivågränsvärde: 0,37 mg/m³, 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 ögonen och huden.
· **Andningsskydd:**
Vid kortvarig eller ringa belastning - använd andningsfilterutrustning; vid intensiv resp. längre exponering - använd andningsskyddsutrustning som är oberoende av omgivningsluften.
· **Handskydd:**

Skyddshandskar

Handskmaterialet måste vara tätt och beständigt mot produkt/ämne/tillredning.
Handskmaterialrekommendationer kan inte ges för produkt/tillredning/kemikalielösning, då inga tester genomförts.
Val av handskmaterial beaktande penetrationstider, permeationskvoter och degradation.
· **Handskmaterial**
Val av lämplig handske är inte enbart beroende av material utan även av andra kvalitetskriterier och varierar från en tillverkare till nästa. Då produkten bereds av flera material, kan handskmaterialets beständighet inte förutses och måste därför kontrolleras före användningen.
· **Handskmaterialets penetreringstid**
Exakt penetrationstid fastställs av skyddshandskarnas tillverkare och skall beaktas.
· **Ögonskydd:**

Tättslutande skyddsglasögon

AVSNITT 9: Fysikaliska och kemiska egenskaper

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

· **Form:**	Vätska
· **Färg:**	Färglös
· **Lukt:**	Aldehydaktig
· **Lukttröskel:**	Ej bestämd.

(Fortsättning på sida 5)

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(Fortsättning från sida 4)

· **pH-värde vid 20 °C:**	2,8
· **Tillståndsändring**	
· **Smältpunkt/fryspunkt:**	Ej bestämd.
· **Initial kokpunkt och kokpunktsintervall:**	>93 °C
· **Flampunkt:**	62 °C
· **Brandfarlighet (fast form, gas):**	Ej användbar.
· **Tändtemperatur:**	~300 °C
· **Sönderfallstemperatur:**	Ej bestämd.
· **Självantändningstemperatur:**	Produkten är ej självantändande.
· **Explosiva egenskaper:**	Ej bestämd.
· **Explosionsgränser:**	
· **Nedre:**	7 Vol %
· **Övre:**	73 Vol %
· **Ångtryck vid 20 °C:**	23 hPa
· **Densitet vid 20 °C:**	1,04 g/cm³
· **Relativ densitet**	Ej bestämd.
· **Ångdensitet**	Ej bestämd.
· **Avdunstningshastighet:**	Ej bestämd.
· **Löslighet i / blandbarhet med**	
· **Vatten:**	Fullständigt blandbar.
· **Fördelningskoefficient: n-oktanol/vatten:**	Ej bestämd.
· **Viskositet:**	
· **Dynamisk:**	Ej bestämd.
· **Kinematisk:**	Ej bestämd.
· **Lösningsmedelhalt:**	
· **Organiska lösningsmedel:**	16,4 %
· **Vatten:**	83,5 %
· **VOC (EG)**	16,40 %
· **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.

(Fortsättning på sida 6)

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Handelsnamn: PARAFORMALDEHYDE 16% SOLUTION, EM GRADE

(Fortsättning från sida 5)

AVSNITT 11: Toxikologisk information

· **11.1 Information om de toxikologiska effekterna**
· **Akut toxicitet**
Skadligt vid förtäring, hudkontakt eller inandning.

· **Klassificeringsrelevanta LD/LC50-värden:**		
50-00-0 formaldehyd		
Oral	LD50	>200 mg/kg (rat)

· **Primär retningseffekt:**
· **Frätande/irriterande på huden**
Irriterar huden.
· **Allvarlig ögonskada/ögonirritation**
Orsakar allvarlig ögonirritation.
· **Luftvägs-/hudsensibilisering**
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.
· **Ytterligare ekologiska hänvisningar:**
· **Allmänna hänvisningar:**
Vattenföroreningsklass 2 (Självutvärdering): risk för vattenförorening.
Låt ej tränga ner i grundvatten, vattendrag eller i avloppsnätet.
Risk för förorening av dricksvattnet redan när små mängder tränger ner i marken.
· **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 7)

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(Fortsättning från sida 6)

· **Ej rengjorda förpackningar:**
· **Rekommendation:** Avfallshanteras enligt myndigheters föreskrifter.
· **Rekommenderat rengöringsmedel:** Vatten, eventuellt med tillsats av rengöringsmedel.

AVSNITT 14: Transportinformation

· **14.1 UN-nummer**	
· **IMDG**	UN2209
· **14.2 Officiell transportbenämning**	
· **IMDG**	FORMALDEHYDE SOLUTION
· **14.3 Faroklass för transport**	
· **ADR**	
· **Etikett**	NOTREGULATED
· **IMDG**	

· **Class**	9 Övriga farliga ämnen och föremål
· **Label**	9
· **IATA**	
· **Label**	MISCELLANEOUS
· **14.5 Miljöfaror:**	Ej användbar.
· **14.6 Särskilda skyddsåtgärder**	Ej användbar.
· **EMS-nummer:**	F-A,S-B
· **Stowage Category**	A
· **14.7 Bulktransport enligt bilaga II till Marpol 73/78 och IBC-koden**	Ej användbar.
· **Transport / ytterligare uppgifter:**	
· **IMDG**	
· **Limited quantities (LQ)**	-
· **Excepted quantities (EQ)**	Code: -
· **UN "Model Regulation":**	Utgår

AVSNITT 15: Gällande föreskrifter

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

· **Direktiv 2012/18/EU**
· **Namngivna farliga ämnen - BILAGA I** Inga beståndsdelar är listade.
· **Förordning (EG) nr 1907/2006 BILAGA XVII** Villkor: 3, 28, 72

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

Inga beståndsdelar är listade.

(Fortsättning på sida 8)

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(Fortsättning från sida 7)

· **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 produktegenskaper 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.
H331 Giftigt vid inandning.
H341 Misstänks kunna orsaka genetiska defekter.
H350 Kan orsaka cancer.

· **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
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vPvB: very Persistent and very Bioaccumulative
Acute Tox. 3: Akut toxicitet - oral – Kategori 3
Acute Tox. 4: Akut toxicitet - oral – Kategori 4
Skin Corr. 1B: Frätande eller irriterande på huden – Kategori 1B
Skin Irrit. 2: Frätande eller irriterande på huden – Kategori 2
Eye Irrit. 2: Allvarlig ögonskada eller ögonirritation – Kategori 2
Skin Sens. 1: Hudsensibilisering – Kategori 1
Muta. 2: Mutagenitet i könsceller – Kategori 2
Carc. 1B: Cancerogenitet – Kategori 1B
STOT SE 3: Specifik organtoxicitet (enstaka exponering) – Kategori 3

แผ่นข้อมูลความปลอดภัย
มาตตามมGHS

วันที่พิมพ์ 2021.09.01 การปรับปรุงใหม่ : 2021.09.01

1 การบ่งชี้สารเดี่ยวหรือสารผสม และผู้ผลิต

· **1.1 ลักษณะเฉพาะของผลิตภัณฑ์**

· **ชื่อทางการค้า** PARAFORMALDEHYDE 16% SOLUTION, EM GRADE

· **เลขที่รายชื่อ** 15700
· **1.2 สารหรือสารผสมที่เกี่ยวข้องที่ระบุให้ใช้และที่ไม่ควรให้ใช้** ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
· **การประยุกต์ใช้สาร/ การทำ** เคมีภัณฑ์ห้องทดลอง

· **1.3 รายละเอียดของผู้จัดหาข้อมูลด้านความปลอดภัย**
· **ผู้ผลิต/ ผู้จัดหา**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com

· **ข้อมูลรายละเอียดเพิ่มเติมหาได้จาก** Product safety department
· **1.4 หมายเลขโทรศัพท์ฉุกเฉิน:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 การบ่งชี้ความเป็นอันตราย

· **2.1 การจำแนกประเภทของสารหรือสารผสม**
· **การแบ่งประเภทตามข้อบังคับอีซีอีซีเลขที่ 1272/2008**

สิ่งอันตรายต่อสุขภาพ

Muta. 2	H341	สงสัยว่าจะเป็นสาเหตุให้เกิดข้อบกพร่องทางพันธุกรรม
Carc. 1B	H350	อาจเป็นเหตุให้เกิดมะเร็ง

Acute Tox. 4	H302	เป็นอันตรายหากกลืนเข้าไป
Acute Tox. 4	H312	เป็นอันตรายหากสัมผัสกับผิวหนัง
Acute Tox. 4	H332	ให้โทษหากสูดหายใจเข้า
Skin Irrit. 2	H315	เป็นสาเหตุให้เกิดการระคายเคืองผิวหนัง
Eye Irrit. 2	H319	เป็นสาเหตุให้เกิดการระคายเคืองอย่างร้ายแรงที่ตา
Skin Sens. 1	H317	อาจเป็นสาเหตุให้ผิวหนังแสดงอาการแพ้
STOT SE 3	H335	อาจเป็นสาเหตุให้เกิดการระคายเคืองต่อระบบหายใจ

· **2.2 องค์ประกอบของฉลาก**
· **ฉลากตามระเบียบ (EC) เลขที่ 1272/2008** ผลิตภัณฑ์ได้รับการจัดประเภทและติดฉลากตามข้อบังคับของ CLP
· **ภาพสัญลักษณ์สิ่งที่เป็นอันตราย**

GHS07 GHS08

· **สัญญาณคำ** อันตราย

(ต่อที่หน้า 2)

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ชื่อทางการค้า PARAFORMALDEHYDE 16% SOLUTION, EM GRADE

(ต่อที่หน้า 1)

· **ส่วนประกอบที่ระบุอันตรายบนฉลาก**
ฟอร์มัลดีไฮด์
· **ประกาศสิ่งที่เป็นอันตราย**
H302+H312+H332 อันตรายหากมีการกลืนกิน , มีการสัมผัสกับผิวหนัง หรือ มีการสูดดม.
H315 เป็นสาเหตุให้เกิดการระคายเคืองผิวหนัง
H319 เป็นสาเหตุให้เกิดการระคายเคืองอย่างร้ายแรงที่ตา
H317 อาจเป็นสาเหตุให้ผิวหนังแสดงอาการแพ้
H341 สงสัยว่าจะเป็นสาเหตุให้เกิดข้อบกพร่องทางพันธุกรรม
H350 อาจเป็นเหตุให้เกิดมะเร็ง
H335 อาจเป็นสาเหตุให้เกิดการระคายเคืองต่อระบบหายใจ
· **ประกาศการป้องกันระมัดระวังภัย**
P101 ถ้าต้องการคำแนะนำจากแพทย์ให้นำภาชนะบรรจุผลิตภัณฑ์หรือฉลากติดมือไว้
P102 เก็บให้ห่างจากเด็ก
P103 อ่านฉลากก่อนใช้
P261 หลีกเลี่ยงการสูดหายใจเอาฝุ่น/ ไอสาร/ แกส/ หมอก/ไอ/ ละอองฟน
P280 สวมถุงมือป้องกัน/เสื้อผ้าป้องกัน/ที่ป้องกันตา/ที่ป้องกันหน้า
P301+P312 หากกลืนลงไป: โทรศัพท์ถึงศูนย์พิษวิทยา/แพทย์ หากท่านรู้สึกไม่สบาย
P305+P351+P338 หากเข้าตา : ชะด้วยน้ำอย่างระมัดระวังเป็นเวลาหลายๆนาทีถอดคอนแทกซ์เลนซ์ถ้ายังอยู่ที่เดิมและสะดวกที่จะทำก็ให้ชะล้างต่อไป
P405 เก็บในที่ใส่กุญแจปิด
P501 ทิ้งสิ่งที่บรรจุ/ภาชนะที่บรรจุตามกฎหมายของท้องถิ่น/แคว้น/ในประเทศ/ระหว่างประเทศ
· **2.3 อันตรายอื่นๆ**
· **ผลของ PBT และการประเมิน vPvB**
· **PBT:** ไม่สามารถใช้ได้
· **vPvB:** ไม่สามารถใช้ได้

3 องค์ประกอบและข้อมูลเกี่ยวกับส่วนผสม

· **3.2 คุณลักษณะทางเคมี: ส่วนผสม**
· **คำอธิบาย** ส่วนผสมของสารในรายการข้างล่างพร้อมสารเติมแต่งที่ไม่เป็นอันตราย

· **ส่วนประกอบที่มีอันตราย**

CAS: 50-00-0 EINECS: 200-001-8	ฟอร์มัลดีไฮด์ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Muta. 2, H341; Carc. 1B, H350; Skin Corr. 1, H314; Skin Sens. 1, H317	>10-≤25%

· **ข้อมูลรายละเอียดเสริม** สำหรับข้อความที่ระบุในรายการวลีความเสี่ยงที่อ้างอิงถึงในส่วนที่ 16

4 มาตรการปฐมพยาบาล

· **4.1 คำอธิบายถึงมาตรการปฐมพยาบาล**
· **ข้อมูลรายละเอียดทั่วไป**
อาการจากพิษอาจเกิดขึ้นหลังจากนั้นหลายชั่วโมงดังนั้นจะต้องเฝ้าติดตามดูอาการทางการแพทย์อย่างน้อย 48 ชั่วโมงหลังจากอุบัติเหตุ
· **หลังจากการสูดหายใจเข้าไป**
หาบริเวณที่มีอากาศบริสุทธิ์และเพื่อให้มั่นใจติดต่อแพทย์
ในกรณีที่คนไข้ไม่รู้สึกตัวให้ขนย้ายคนไข้อย่างมั่นคงในท่าตะแคงด้านข้าง
· **หลังจากการสัมผัสถูกผิว** ล้างด้วยน้ำและสบู่แล้วฟอกให้ทั่วทันที
· **หลังจากการสัมผัสถูกตา** ชะตาที่เปิดอยู่ใต้น้ำที่กำลังไหลเป็นเวลาหลายนาทีถ้าอาการไม่ดีขึ้นให้ปรึกษาแพทย์
· **หลังจากการกลืนเข้าไป:** พบแพทย์โดยทันที
· **4.2 อาการสำคัญส่วนใหญ่และผลกระทบ ทั้งชนิดเฉียบพลันและค่อยๆ แสดงอาการ**
ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

(ต่อที่หน้า 3)

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(ต่อที่หน้า 2)

· **4.3 ข้อบ่งชี้ของอาการที่ต้องเข้ารับการรักษาจากแพทย์ทันทีและการบำบัดพิเศษที่จำเป็น**
ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

5 มาตรการผจญเพลิง

· **5.1 สารที่ใช้ดับเพลิง**
· **สารดับเพลิงที่เหมาะสม**
คาร์บอนไดออกไซด์สเปรย์ผงหรือน้ำดับเพลิงขนาดใหญ่ด้วยการฉีดน้ำหรือโฟมแอลกอฮอล์ที่ทนทาน
· **5.2 อันตรายเฉพาะอย่างที่เกิดจากสารหรือส่วนผสม** ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
· **5.3 คำแนะนำสำหรับพนักงานดับเพลิง**
· **อุปกรณ์ป้องกันภัย** อุปกรณ์ป้องกันซึ่งเหมาะสำหรับการหายใจทางปาก

6 มาตรการจัดการเมื่อมีการหกรั่วไหลของสาร

· **6.1 การป้องกันส่วนบุคคล อุปกรณ์ป้องกัน และขั้นตอนดำเนินการเมื่อเกิดกรณีฉุกเฉิน** ไม่ได้กำหนด
· **6.2 การให้ความคุ้มครองสิ่งแวดล้อมล่วงหน้า:**
อย่าปล่อยให้ผลิตภัณฑ์เข้าสู่ระบบระบายน้ำหรือลำน้ำ
แจ้งผู้มีอำนาจที่เกี่ยวข้องในกรณีที่เกิดการไหลซึมเข้าลำน้ำหรือระบบระบายน้ำ
ทำให้เจือจางด้วยน้ำมากๆ
อย่าปล่อยให้เข้าไปในท่อน้ำทิ้ง/ น้ำบนดินหรือใต้ดิน
· **6.3 วิธีดำเนินการและวัสดุสำหรับการบรรจุและการทำความสะอาด:**
ดูดซับด้วยวัสดุที่สามารถยึดของเหลวไว้ (ทรายไดอะโตไมท์ตัวยึดเกาะกรดตัวยึดทั่วๆไปขี้เลื่อย)
ทิ้งวัสดุที่ปนเปื้อนเป็นของเสียตามรายการในบัญชี 13
ตรวจให้แน่ใจว่ามีการระบายอากาศที่ดีพอ
· **6.4 การอ้างอิงถึงส่วนอื่น**
ดูข้อมูลรายละเอียดเรื่องความปลอดภัยในการขนถ่ายจากส่วนที่ 7
ดูข้อมูลรายละเอียดเรื่องอุปกรณ์ป้องกันส่วนบุคคลจากส่วนที่ 8
ดูข้อมูลรายละเอียดเรื่องการกำจัดจากส่วนที่ 13

7 การขนถ่าย เคลื่อนย้าย ใช้งาน และเก็บรักษา

· **7.1 การป้องกันล่วงหน้าสำหรับการจัดการด้านความปลอดภัย**
ทำให้แน่ใจว่าสถานที่ทำงานมีการระบายอากาศ/ ไอเสียที่ดี
เปิดและถือภาชนะรองรับอย่างระมัดระวัง
ป้องกันการเกิดละอองสารฟุ้ง
· **ข้อมูลรายละเอียดเกี่ยวกับการป้องกันอัคคีภัยและการระเบิด**
เก็บอุปกรณ์ป้องกันสำหรับการช่วยหายใจให้มีพร้อมใช้งาน

· **7.2 เงื่อนไขในการเก็บรักษาอย่างปลอดภัย, รวมถึงสิ่งที่เข้ากันไม่ได้ใดๆ**
· **การจัดเก็บ**
· **ข้อกำหนดที่ต้องปฏิบัติตามสำหรับห้องเก็บและภาชนะบรรจุ** ไม่มีข้อกำหนดพิเศษ
· **ข้อมูลรายละเอียดด้านการจัดเก็บในสถานที่จัดเก็บร่วม** ไม่ได้กำหนด
· **ข้อมูลรายละเอียดเพิ่มด้านสภาพการจัดเก็บ** เก็บโดยปิดผนึกอย่างแน่นหนา
· **7.3 การระบุถึงการสิ้นสุดการใช้** ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

8 การควบคุมการรับสัมผัสและการป้องกันส่วนบุคคล

· **ข้อมูลรายละเอียดเสริมสำหรับการออกแบบสิ่งอำนวยความสะดวกทางเทคนิค** ไม่มีข้อมูลนอกเหนือจากนี้ดูรายการ 7

(ต่อที่หน้า 4)

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(ต่อที่หน้า 3)

· **8.1 การควบคุมตัวแปร**

· **ส่วนผสมพร้อมค่าขอบเขตที่ต้องเฝ้าดูในสถานที่ปฏิบัติงาน**	
50-00-0 ฟอร์มัลดีไฮด์	
PEL (US)	ค่าระยะสั้น: 2 ppm ค่าระยะยาว: 0.75 ppm see 29 CFR 1910.1048(c)
REL (US)	ค่าระยะยาว: 0.016 ppm Ceiling limit value: 0.1* ppm *15-min; See Pocket Guide App. A
TLV (US)	ค่าระยะสั้น: 0.37 mg/m³, 0.3 ppm ค่าระยะยาว: 0.12 mg/m³, 0.1 ppm DSEN; RSEN

· **ข้อมูลรายละเอียดเสริม** รายการถูกต้องระหว่างที่จัดทำโดยอาศัยการใช้งานเป็นหลัก

· **8.2 การควบคุมการสัมผัส**
· **อุปกรณ์ป้องกันภัยส่วนบุคคล**
· **มาตรการการป้องกันและสุขอนามัยทั่วไป**
เก็บให้ห่างจากสิ่งของที่เป็นอาหารเครื่องดื่มและอาหารสัตว์
ให้ถอดเสื้อผ้าที่เปื้อนและเจือปนออกทันที
ล้างมือก่อนที่จะหยุดพักและเมื่อสิ้นสุดเวลาทำงาน
เก็บชุดป้องกันแยกต่างหาก
หลีกเลี่ยงการสัมผัสถูกตาและผิวหนัง
· **การป้องกันการสูดหายใจเข้าไป**
ในกรณีที่อยู่เป็นเวลาสั้นหรืออากาศเป็นพิษระดับต่ำใช้หน้ากากกรองเพื่อช่วยหายใจในกรณีที่มีความเข้มข้นสูงหรืออยู่เป็นเวลานานให้ใช้เครื่องป้องกันที่มีอุปกรณ์ช่วยหายใจในตัว
· **การป้องกันมือ**

ถุงมือป้องกัน

วัสดุของถุงมือจะต้องไม่ให้อากาศผ่านเข้าออกและทนทานต่อผลิตภัณฑ์/ สาร/ การผลิต
เนื่องจากขาดการทดสอบจึงไม่มีคำแนะนำสำหรับวัสดุที่ใช้ทำถุงมือสำหรับผลิตภัณฑ์/ การผลิต/ ของผสมเคมี
เลือกวัสดุสำหรับถุงมือโดยพิจารณาจากเวลาที่ใช้ในการซึมผ่านอัตราการแพร่และการเสื่อม
· **วัสดุที่ใช้ทำถุงมือ**
การเลือกใช้ถุงมือที่เหมาะสมไม่เพียงแต่ขึ้นอยู่กับวัสดุแต่ยังขึ้นกับมาตรฐานด้านคุณภาพและข้อแตกต่างระหว่างผู้ผลิตแต่ละแห่งโดยที่ผลิตภัณฑ์เตรียมมาจากสารหลายชนิดความทนทานของวัสดุถุงมือไม่สามารถที่จะคำนวณล่วงหน้าดังนั้นจึงต้องตรวจสอบกับการใช้งาน
· **เวลาที่ใช้ในการทะลุผ่านวัสดุที่ใช้ทำถุงมือ**
ผู้ผลิตถุงมือป้องกันจะต้องทดสอบหาเวลาแน่นอนที่ใช้ในการทะลุผ่านและจะต้องมีการตรวจสอบติดตาม
· **การป้องกันตา**

แว่นตาที่ขอบปิดสนิท

(ต่อที่หน้า 5)

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9 คุณสมบัติทางกายภาพและทางเคมี

· **9.1 ข้อมูลคุณสมบัติพื้นฐานทางกายภาพและเคมี**	
· **ข้อมูลรายละเอียดทั่วไป**	
· **ลักษณะ :**	
· **รูปสัณฐาน**	ของเหลว
· **สี**	ไม่มีสี
กลิ่นกลิ่นกลิ่น	คล้ายอัลดีไฮด์
· **เกณฑ์กลิ่น :**	ไม่ได้กำหนดไว้.
ค่าค่าค่า**pH ที่ 20 °C**	2.8
· **การเปลี่ยนสภาวะ**	
· **จุดหลอมเหลว/ ขอบเขตการหลอมละลาย**	ไม่ได้กำหนด
· **จุดเดือด/ ขอบเขตการเดือด**	>93 °C
· **จุดวาบไฟ**	62 °C
· **ความสามารถติดไฟ (ของแข็งแกส)**	ไม่สามารถใช้ได้
· **อุณหภูมิจุดระเบิด**	~300 °C
· **อุณหภูมิสลายตัว**	ไม่ได้กำหนดไว้.
· **การเผาไหม้ด้วยตัวเอง**	ผลิตภัณฑ์ไม่เป็นสารจุดไฟติดด้วยตัวเอง
· **อันตรายจากการระเบิด**	ไม่ได้กำหนดไว้.
· **ขอบเขตการระเบิด**	
· **ขั้นต่ำ**	7 Vol %
· **ขั้นสูง**	73 Vol %
· **ความดันไอ ที่ 20 °C**	23 hPa
· **ความหนาแน่น ที่ 20 °C**	1.04 g/cm³
· **ความหนาแน่นสัมพัทธ์**	ไม่ได้กำหนดไว้.
· **ความหนาแน่นของไอ**	ไม่ได้กำหนดไว้.
· **อัตราการระเหย**	ไม่ได้กำหนดไว้.
· **ความสามารถในการละลายใน / ความสามารถผสมเป็นสารละลายเนื้อเดียวทุกส่วนผสมกับ**	
น้ำน้ำน้ำ	ผสมกันได้อย่างเต็มที่
· **สัมประสิทธิ์การแยกตัวอ็นเอ็นเอ็กตานอล/น้ำน้ำ**	ไม่ได้กำหนดไว้.
· **ความหนืด**	
· **(ไดนามิค) พลศาสตร์**	ไม่ได้กำหนดไว้.
· **(คิเนเมติค) จลนศาสตร์**	ไม่ได้กำหนดไว้.
· **ปริมาณส่วนประกอบตัวทำละลาย**	
· **ตัวทำละลายอินทรีย์**	16.4 %
น้ำน้ำน้ำ	83.5 %
· **VOC (EC)**	16.40 %
· **ส่วนประกอบที่เป็นของแข็ง**	0.0 %
· **9.2 ข้อมูลอื่นๆ**	ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

10 ความเสถียรและการเกิดปฏิกิริยา

· **10.1 ปฏิกิริยาโต้ตอบ** ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

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· **10.2 เสถียรภาพทางเคมี**
· **การสลายตัวด้วยความร้อน / เงื่อนไขที่ต้องหลีกเลี่ยง** ไม่มีการสลายตัวถ้าใช้ตามรายละเอียดที่ระบุไว้
· **10.3 ความเป็นไปได้ของการเกิดปฏิกิริยาอันตราย** ไม่มีปฏิกริยาเป็นอันตรายที่รู้จัก
· **10.4 เงื่อนไขเพื่อการหลีกเลี่ยง** ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
· **10.5 วัสดุที่เข้ากันไม่ได้:** ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
· **10.6 อันตรายจากการสลายตัวของผลิตภัณฑ์:** ไม่มีสารจากการสลายตัวที่เป็นอันตรายที่รู้จัก

11 ข้อมูลด้านพิษวิทยา

· **11.1 ข้อมูลเกี่ยวกับผลกระทบทางพิษวิทยา**
· **ความเป็นพิษอย่างสาหัส:**
อันตรายหากมีการกลืนกิน , มีการสัมผัสกับผิวหนัง หรือ มีการสูดดม.

· **การจัดแบ่งตามค่า LD/LC50**		
50-00-0 ฟอร์มัลดีไฮด์		
ทางปาก	LD50	>200 mg/kg (rat)

· **อาการระคายเคืองเบื้องต้น**
· **บนผิวหนัง**
เป็นสาเหตุให้เกิดการระคายเคืองผิวหนัง
· **ที่ดวงตา**
เป็นสาเหตุให้เกิดการระคายเคืองอย่างร้ายแรงที่ตา
· **การทำให้แพ้**
อาจเป็นสาเหตุให้ผิวหนังแสดงอาการแพ้
· **ผลกระทบ CMR (การทำให้เกิดมะเร็งการผ่าเหล่าและพิษต่อการสืบพันธุ์)**
· **การผ่าเหล่าในเซลล์สืบพันธุ์**
สงสัยว่าจะเป็นสาเหตุให้เกิดข้อบกพร่องทางพันธุกรรม
· **การกระตุ้นให้เกิดมะเร็ง**
อาจเป็นเหตุให้เกิดมะเร็ง
· **พิษต่อระบบสืบพันธุ์**
· **ความเป็นพิษต่ออวัยวะเป้าหมายเฉพาะ – การสัมผัสในครั้**
อาจเป็นสาเหตุให้เกิดการระคายเคืองต่อระบบหายใจ
· **ความเป็นพิษต่ออวัยวะเป้าหมายเฉพาะ – การสัมผัสซ้ำหลา**
· **อันตรายต่อระบบหายใจ**

12 ข้อมูลด้านนิเวศวิทยา

· **12.1 ความเป็นพิษ**
· **ความเป็นพิษที่เกี่ยวกับน้ำ** ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
· **12.2 การคงอยู่และการย่อยสลาย** ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
· **12.3 การสะสมทางชีวภาพที่อาจเกิดขึ้น** ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
· **12.4 การเปลี่ยนแปลงในดิน** ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
· **ข้อมูลรายละเอียดเสริมเกี่ยวกับนิเวศวิทยา**
· **หมายเหตุทั่วไป**
เป็นอันตรายต่อน้ำขั้น 2 (กฎข้อบังคับของเยอรมัน)(การประเมินค่าด้วยตัวเอง):เป็นอันตรายกับน้ำ
อย่าปล่อยให้ผลิตภัณฑ์ไปถึงน้ำผิวดินเส้นทางน้ำหรือระบบระบายน้ำเสีย
เป็นอันตรายต่อน้ำดื่มแม้จะรั่วลงในพื้นดินเป็นปริมาณน้อย
· **12.5 ผลของ PBT และการประเมิน vPvB**
· **PBT:** ไม่สามารถใช้ได้
· **vPvB:** ไม่สามารถใช้ได้
· **12.6 ผลข้างเคียงอื่นๆ** ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

(ต่อที่หน้า 7)

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13 ข้อพิจารณาในการกำจัด

· **13.1 วิธีการกำจัดของเสีย**
· **คำแนะนำ** ต้องไม่ทิ้งไปพร้อมกับขยะจากบ้านเรือนอย่าปล่อยให้ผลิตภัณฑ์เข้าถึงระบบระบายน้ำเสีย

· **ภาชนะบรรจุที่ยังไม่ได้ล้างทำความสะอาด**
· **คำแนะนำ** การกำจัดจะต้องทำตามกฎระเบียบที่เป็นทางการ
· **สารทำความสะอาดที่แนะนำ** น้ำถ้าจำเป็นใช้คู่กับสารทำความสะอาด

14 ข้อมูลการขนส่ง

· **14.1 เลขที่ UN**	
· **IMDG**	UN2209
· **14.2 ชื่อการจัดส่งสินค้าที่เหมาะสมของ UN**	
· **IMDG**	FORMALDEHYDE SOLUTION
· **14.3 ชั้นเรียนอันตรายจากการขนส่ง**	
· **ADR**	
· **ฉลากสิ่งที่เป็นอันตราย**	NOTREGULATED
· **IMDG**	
· **Class**	9 สารอันตรายและสิ่งของเบ็ดเตล็ด
· **Label**	9
· **IATA**	
· **Label**	MISCELLANEOUS
· **14.5 สิ่งที่เป็นอันตรายต่อสภาพแวดล้อม**	ไม่สามารถใช้ได้
· **14.6 การป้องกันพิเศษล่วงหน้าสำหรับผู้ใช้**	ไม่สามารถใช้ได้
· **หมายเลข EMS**	F-A,S-B
· **Stowage Category**	A
· **14.7 การขนส่งขนาดใหญ่ตามภาคผนวกของของ MARPOL73/78 และรหัส IBC**	ไม่สามารถใช้ได้
· **การขนส่ง/ข้อมูลรายละเอียดเสริม**	
· **IMDG**	
· **Limited quantities (LQ)**	-
· **Excepted quantities (EQ)**	Code: -
· **"กฎระเบียบต้นแบบ" ของ UN**	ยกเลิก

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15 ข้อมูลด้านกฎข้อบังคับ

· **15.1 ความปลอดภัย สุขภาพและระเบียบ/กฎหมายสิ่งแวดล้อมโดยเฉพาะของสารหรือสารผสม**
· **บัญชีรายชื่อวัตถุอันตราย**

· **กรมวิชาการเกษตร**
ไม่มีส่วนผสมใดอยู่ในรายการ

· **กรมประมง**

50-00-0	ฟอร์มัลดีไฮด์	ชนิดที่ 2

· **กรมปศุสัตว์**

50-00-0	ฟอร์มัลดีไฮด์	ชนิดที่ 3

· **อาหารและยา**

50-00-0	ฟอร์มัลดีไฮด์	ชนิดที่ 4

· **กรมโรงงานอุตสาหกรรม**

50-00-0	ฟอร์มัลดีไฮด์	ชนิดที่ 2

· **กรมธุรกิจพลังงาน**
ไม่มีส่วนผสมใดอยู่ในรายการ

· **ทำเนียบสารเคมีที่มีอยู่แล้วของประเทศไทย (กรมโรงงานอุตสาหกรรม)**
ส่วนผสมทั้งหมดอยู่ในรายการ

· **กฎหมายของประเทศ**

· **ข้อมูลรายละเอียดเกี่ยวกับขอบเขตการใช้งาน**
ไม่อนุญาตให้คนงานเข้าไปสัมผัสกับวัตถุอันตรายที่ทำให้เกิดมะเร็งซึ่งมีอยู่ในการผลิตข้อยกเว้นอาจทำได้เมื่อได้รับอนุญาตจากผู้มีอำนาจในบางกรณี
· **15.2 การประเมินความปลอดภัยของสารเคมี:** ไม่ได้ดำเนินการตามการประเมินความปลอดภัยของสารเคมี

16 ข้อมูลอื่นๆ

ข้อมูลรายละเอียดนี้ใช้ความรู้ปัจจุบันของเราเป็นหลักอย่างไรก็ตามข้อมูลนี้ไม่ใช่การรับประกันจากสถาบันต่อคุณสมบัติเฉพาะของผลิตภัณฑ์และไม่สามารถยืนยันการบังคับใช้ตามกฎหมายที่เกี่ยวพันกับสัญญา

· **วลีที่เกี่ยวข้องกับ**
H301 มีพิษหากกลืนเข้าไป
H311 มีพิษโดยการสัมผัสกับผิวหนัง
H314 เป็นสาเหตุให้ผิวหนังไหม้อย่างสาหัสและทำอันตรายต่อดวงตา
H317 อาจเป็นสาเหตุให้ผิวหนังแสดงอาการแพ้
H331 มีพิษหากสูดหายใจเข้า
H341 สงสัยว่าจะเป็นสาเหตุให้เกิดข้อบกพร่องทางพันธุกรรม
H350 อาจเป็นเหตุให้เกิดมะเร็ง
· **คำย่อและชื่อย่อที่ผสมขึ้น**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 3: Acute toxicity – Category 3

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Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1: Skin corrosion/irritation – Category 1
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
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