

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/22/2018

Reviewed on 08/22/2018

## 1 Identification

- **Product identifier**
- **Trade name:** FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION
- **Article number:** 15740, 15740-01, 15740-04
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Muta. 2 H341 Suspected of causing genetic defects.  
Carc. 1B H350 May cause cancer.  
STOT SE 2 H371 May cause damage to organs.



GHS07

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  
Methyl Alcohol
- **Hazard statements**  
Combustible liquid.  
May cause an allergic skin reaction.  
Suspected of causing genetic defects.

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*May cause cancer.*

*May cause damage to organs.*

**· 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.*

*Do not breathe dust/fume/gas/mist/vapors/spray.*

*Wash thoroughly after handling.*

*Do not eat, drink or smoke when using this product.*

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

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

*If on skin: Wash with plenty of water.*

*IF exposed or concerned: Get medical advice/attention.*

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

*Specific treatment (see on this label).*

*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 = 3

Fire = 2

Reactivity = 0

**· HMIS-ratings (scale 0 - 4)**



Health = 3

Fire = 2

Reactivity = 0

**· Other hazards**

**· Results of PBT and vPvB assessment**

**· PBT:** Not applicable.

**· vPvB:** Not applicable.

### 3 Composition/information on ingredients

**· Chemical characterization: Mixtures**

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

**· Dangerous components:**

50-00-0	formaldehyde	>2.5-≤10%
67-56-1	Methyl Alcohol	>2.5-≤10%

### 4 First-aid measures

**· Description of first aid measures**

**· General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

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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.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, 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 to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

50-00-0	formaldehyde	0.90 ppm
67-56-1	Methyl Alcohol	530 ppm

· **PAC-2:**

50-00-0	formaldehyde	14 ppm
67-56-1	Methyl Alcohol	2,100 ppm

· **PAC-3:**

50-00-0	formaldehyde	56 ppm
67-56-1	Methyl Alcohol	7200* ppm

## 7 Handling and storage

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

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- 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/m <sup>3</sup> , 0.3 ppm Long-term value: 0.12 mg/m <sup>3</sup> , 0.1 ppm DSEN; RSEN

**67-56-1 Methyl Alcohol**

PEL	Long-term value: 260 mg/m <sup>3</sup> , 200 ppm
REL	Short-term value: 325 mg/m <sup>3</sup> , 250 ppm Long-term value: 260 mg/m <sup>3</sup> , 200 ppm Skin
TLV	Short-term value: 328 mg/m <sup>3</sup> , 250 ppm Long-term value: 262 mg/m <sup>3</sup> , 200 ppm Skin; BEI

· **Ingredients with biological limit values:**

**67-56-1 Methyl Alcohol**

BEI	15 mg/L Medium: urine Time: end of shift Parameter: Methanol (background, nonspecific)
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- **Additional information:** The lists that were valid during the creation were used as basis.

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

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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:** Clear

· **Odor:** Characteristic

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

**Melting point/Melting range:** Undetermined.

**Boiling point/Boiling range:** 100 °C (212 °F)

· **Flash point:** 85 °C (185 °F)

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

· **Decomposition temperature:** Not determined.

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

· **Danger of explosion:** Not determined.

· **Explosion limits:**

**Lower:** Not determined.

**Upper:** Not determined.

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· <b>Vapor pressure at 20 °C (68 °F):</b>	23 hPa (17.3 mm Hg)
· <b>Density at 20 °C (68 °F):</b>	0.98817 g/cm <sup>3</sup> (8.24628 lbs/gal)
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	6.0 %
<b>Water:</b>	84.0 %
· <b>VOC content:</b>	6.00 %
	348.9 g/l / 2.91 lb/gal
· <b>Solids content:</b>	0.0 %
· <b>Other information</b>	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)
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**67-56-1 Methyl Alcohol**

Oral	LD50	5,628 mg/kg (rat)
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Dermal	LD50	15,800 mg/kg (rabbit)
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- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** No 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

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Irritant  
Carcinogenic.

· **Carcinogenic categories**

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

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

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

50-00-0	formaldehyde	
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## 12 Ecological information

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

## 13 Disposal considerations

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

## 14 Transport information

- |                                  |                           |
|----------------------------------|---------------------------|
| · <b>UN-Number</b>               |                           |
| · <b>DOT</b>                     | NA1993                    |
| · <b>ADR, ADN, IMDG, IATA</b>    | Void                      |
|                                  |                           |
| · <b>UN proper shipping name</b> |                           |
| · <b>DOT</b>                     | NA1993                    |
|                                  | COMBUSTIBLE LIQUID, N.O.S |
| · <b>ADR, ADN, IMDG, IATA</b>    | Void                      |

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- |  |                 |
|--|-----------------|
| <b>· Transport hazard class(es)</b>  |                 |
| <b>· DOT, ADR, ADN, IMDG, IATA</b>   |                 |
| <b>· Class</b>   | Void            |
| <b>· Packing group</b>   |                 |
| <b>· DOT</b>   | III             |
| <b>· ADR, IMDG, IATA</b>   | Void            |
| <b>· Environmental hazards:</b>  | Not applicable. |
| <b>· Special precautions for user</b>  | Not applicable. |
| <b>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |
| <b>· UN "Model Regulation":</b>  | 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
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- **Section 313 (Specific toxic chemical listings):**

50-00-0	formaldehyde
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67-56-1	Methyl Alcohol
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- **TSCA (Toxic Substances Control Act):**

All ingredients are listed.
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- **Proposition 65**

- **Chemicals known to cause cancer:**

50-00-0	formaldehyde
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- **Chemicals known to cause reproductive toxicity for females:**

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

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

67-56-1	Methyl Alcohol
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- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

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

50-00-0	formaldehyde	A2
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- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

50-00-0	formaldehyde
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- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

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· **Hazard pictograms**



GHS07 GHS08

· **Signal word** *Danger*

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

*formaldehyde*

*Methyl Alcohol*

· **Hazard statements**

*Combustible liquid.*

*May cause an allergic skin reaction.*

*Suspected of causing genetic defects.*

*May cause cancer.*

*May cause damage to organs.*

· **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.*

*Do not breathe dust/fume/gas/mist/vapors/spray.*

*Wash thoroughly after handling.*

*Do not eat, drink or smoke when using this product.*

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

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

*If on skin: Wash with plenty of water.*

*IF exposed or concerned: Get medical advice/attention.*

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

*Specific treatment (see on this label).*

*Wash contaminated clothing before reuse.*

*In case of fire: Use for extinction: CO<sub>2</sub>, 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.*

· **National regulations:**

· **Information about limitation of use:**

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

*Exceptions can be made by the authorities in certain cases.*

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

## 16 Other information

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

· **Date of preparation / last revision** 08/22/2018 / -

· **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*

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*EINECS: European Inventory of Existing Commercial Chemical Substances*  
*ELINCS: European List of Notified Chemical Substances*  
*CAS: Chemical Abstracts Service (division of the American Chemical Society)*  
*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***  
***BEI: Biological Exposure Limit***  
***Flam. Liq. 4: Flammable liquids – Category 4***  
***Skin Sens. 1: Skin sensitisation – Category 1***  
***Muta. 2: Germ cell mutagenicity – Category 2***  
***Carc. 1B: Carcinogenicity – Category 1B***  
***STOT SE 2: Specific target organ toxicity (single exposure) – Category 2***

US

# Safety Data Sheet

## according to WHS Regulations

Printing date 22.08.2018

Revision: 22.08.2018

### 1 Identification

- **Product identifier**
- **Trade name:** FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION
- **Article number:** 15740, 15740-01, 15740-04
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- ProSciTech Pty Ltd  
11 Carlton Street, Kirwan QLD 4817 Australia  
Telephone Number: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)  
Emergency Contact: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)  
Website: ems.proscitech.com
- Emgrid Australia Pty. Ltd.  
P.O. Box 118  
The Patch VIC 3792  
Australia  
Tel: 03 9752 1785  
Fax: 03 9752 1784  
Website: www.emgrid.com.au
- **Further information obtainable from:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### 2 Hazard(s) Identification

- **Classification of the substance or mixture**



GHS08 health hazard

Muta. 2 H341 Suspected of causing genetic defects.  
 Carc. 1B H350 May cause cancer.  
 STOT SE 2 H371 May cause damage to organs.



GHS07

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).

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· **Hazard pictograms**



GHS07 GHS08

· **Signal word** *Danger*

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

*formaldehyde*

*Methyl Alcohol*

· **Hazard statements**

*Combustible liquid.*

*May cause an allergic skin reaction.*

*Suspected of causing genetic defects.*

*May cause cancer.*

*May cause damage to organs.*

· **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.*

*Do not breathe dust/fume/gas/mist/vapours/spray.*

*Wash thoroughly after handling.*

*Do not eat, drink or smoke when using this product.*

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

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

*IF ON SKIN: Wash with plenty of water.*

*IF exposed or concerned: Get medical advice/attention.*

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

*Specific treatment (see on this label).*

*Wash contaminated clothing before reuse.*

*In case of fire: Use for extinction: CO<sub>2</sub>, 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.*

· **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	>2.5-≤10%
67-56-1	Methyl Alcohol	>2.5-≤10%

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

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**Trade name: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

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### 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.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, 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 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.

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# Safety Data Sheet

## according to WHS Regulations

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**Trade name: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

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- **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

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

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

#### 67-56-1 Methyl Alcohol

NES Short-term value: 328 mg/m<sup>3</sup>, 250 ppm  
Long-term value: 262 mg/m<sup>3</sup>, 200 ppm  
Sk

WES Short-term value: 328 mg/m<sup>3</sup>, 250 ppm  
Long-term value: 262 mg/m<sup>3</sup>, 200 ppm  
Sk

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

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

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

- **Respiratory protection:**

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

- **Protection of hands:**



Protective gloves

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

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

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

- **Material of gloves**

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

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# Safety Data Sheet

## according to WHS Regulations

Printing date 22.08.2018

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**Trade name: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

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· **Penetration time of glove material**

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

· **Eye protection:**



Tightly sealed goggles

### 9 Physical and Chemical Properties

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

· **General Information**

· **Appearance:**

· <b>Form:</b>	Liquid
· <b>Colour:</b>	Clear
· <b>Odour:</b>	Characteristic
· <b>Odour threshold:</b>	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

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

· **Flash point:** 85 °C

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

· **Decomposition temperature:** Not determined.

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

· **Explosive properties:** Not determined.

· **Explosion limits:**

· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.

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

· <b>Density at 20 °C:</b>	0.98817 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

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

· **Viscosity:**

· <b>Dynamic:</b>	Not determined.
· <b>Kinematic:</b>	Not determined.

· **Solvent content:**

· <b>Organic solvents:</b>	6.0 %
· <b>Water:</b>	84.0 %

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## according to WHS Regulations

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<b>VOC (EC)</b>	6.00 %
<b>Solids content:</b>	0.0 %
<b>Other information</b>	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**

· <b>LD/LC50 values relevant for classification:</b>		
<b>50-00-0 formaldehyde</b>		
Oral	LD50	>200 mg/kg (rat)
<b>67-56-1 Methyl Alcohol</b>		
Oral	LD50	5,628 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** No 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

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## Safety Data Sheet according to WHS Regulations

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**Trade name: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(Contd. of page 6)

- Do not allow product to reach ground water, water course or sewage system.
- Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

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

### 14 Transport information

· <b>UN-Number</b>	
· <b>ADG, ADN, IMDG, IATA</b>	not regulated
· <b>UN proper shipping name</b>	
· <b>ADG, ADN, IMDG, IATA</b>	not regulated
· <b>Transport hazard class(es)</b>	
· <b>ADG, ADN, IMDG, IATA</b>	
· <b>Class</b>	not regulated
· <b>Packing group</b>	
· <b>ADG, IMDG, IATA</b>	not regulated
· <b>Environmental hazards:</b>	Not applicable.
· <b>Special precautions for user</b>	Not applicable.
· <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>UN "Model Regulation":</b>	not regulated

### 15 Regulatory information

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

· <b>Australian Inventory of Chemical Substances</b>		
All ingredients are listed.		
· <b>Standard for the Uniform Scheduling of Medicines and Poisons</b>		
50-00-0	formaldehyde	S2, S6, S10
67-56-1	Methyl Alcohol	S5, S6

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

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# Safety Data Sheet

## according to WHS Regulations

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**Trade name: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

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· **Hazard pictograms**



GHS07 GHS08

· **Signal word** *Danger*

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

*formaldehyde*

*Methyl Alcohol*

· **Hazard statements**

*Combustible liquid.*

*May cause an allergic skin reaction.*

*Suspected of causing genetic defects.*

*May cause cancer.*

*May cause damage to organs.*

· **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.*

*Do not breathe dust/fume/gas/mist/vapours/spray.*

*Wash thoroughly after handling.*

*Do not eat, drink or smoke when using this product.*

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

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

*IF ON SKIN: Wash with plenty of water.*

*IF exposed or concerned: Get medical advice/attention.*

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

*Specific treatment (see on this label).*

*Wash contaminated clothing before reuse.*

*In case of fire: Use for extinction: CO<sub>2</sub>, 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*

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**Safety Data Sheet**  
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*EINECS: European Inventory of Existing Commercial Chemical Substances*  
*ELINCS: European List of Notified Chemical Substances*  
*CAS: Chemical Abstracts Service (division of the American Chemical Society)*  
*VOC: Volatile Organic Compounds (USA, EU)*  
*LC50: Lethal concentration, 50 percent*  
*LD50: Lethal dose, 50 percent*  
*PBT: Persistent, Bioaccumulative and Toxic*  
*vPvB: very Persistent and very Bioaccumulative*  
*Flam. Liq. 4: Flammable liquids – Category 4*  
*Skin Sens. 1: Skin sensitisation – Category 1*  
*Muta. 2: Germ cell mutagenicity – Category 2*  
*Carc. 1B: Carcinogenicity – Category 1B*  
*STOT SE 2: Specific target organ toxicity (single exposure) – Category 2*

AU

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/22/2018

Reviewed on 08/22/2018

## 1 Identification

- **Product identifier**
- **Trade name:** FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION
- **Article number:** 15740, 15740-01, 15740-04
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Germ Cell Mutagenicity - Category 2

H341 Suspected of causing genetic defects.

Carcinogenicity - Category 1B

H350 May cause cancer.

Specific Target Organ Toxicity - Single Exposure -  
Category 2

H371 May cause damage to organs.



GHS07

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  
Methyl Alcohol
- **Hazard statements**  
Combustible liquid.  
May cause an allergic skin reaction.

(Contd. on page 2)

CA

# Safety Data Sheet

## acc. to OSHA HCS

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**Trade name: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(Contd. of page 1)

*Suspected of causing genetic defects.*

*May cause cancer.*

*May cause damage to organs.*

**· Precautionary statements**

*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.*

*Do not breathe dust/fume/gas/mist/vapours/spray.*

*Wash thoroughly after handling.*

*Do not eat, drink or smoke when using this product.*

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

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

*If on skin: Wash with plenty of water.*

*IF exposed or concerned: Get medical advice/attention.*

*Take off contaminated clothing and wash it before reuse.*

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

*Specific treatment (see on this label).*

*In case of fire: Use for extinction: CO<sub>2</sub>, 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 = 3

Fire = 2

Reactivity = 0

**· HMIS-ratings (scale 0 - 4)**



HEALTH 3 Health = 3

FIRE 2 Fire = 2

REACTIVITY 0 Reactivity = 0

### 3 Composition/information on ingredients

**· Chemical characterization: Mixtures**

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

**· Dangerous components:**

50-00-0	formaldehyde	1-5% w/w *
67-56-1	Methyl Alcohol	1-5% w/w *

\* Actual concentration ranges are withheld as a trade secret.

### 4 First-aid measures

**· Description of first aid measures**

**· General information:**

*Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.*

**· After inhalation:**

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

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(Contd. of page 2)

- 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.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, 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 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 protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

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

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**Trade name: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(Contd. of page 3)

· **Control parameters**

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

**50-00-0 formaldehyde**

**EL** Long-term value: 0.3 ppm  
Ceiling limit value: 1 ppm  
ACGIH A1; IARC 1; S(D), S(R)

**EV** Short-term value: 1.0 ppm  
Ceiling limit value 1.5 ppm

**67-56-1 Methyl Alcohol**

**EL** Short-term value: 250 ppm  
Long-term value: 200 ppm  
Skin

**EV** Short-term value: 325 mg/m<sup>3</sup>, 250 ppm  
Long-term value: 260 mg/m<sup>3</sup>, 200 ppm  
Skin

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

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

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

· **Breathing equipment:**

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

· **Protection of hands:**



Protective gloves

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

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

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

· **Material of gloves**

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

· **Penetration time of glove material**

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

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**Trade name: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(Contd. of page 4)

**· Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

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

**· General Information**

**· Appearance:**

<b>Form:</b>	Liquid
<b>Color:</b>	Clear
<b>· Odor:</b>	Characteristic
<b>· Odor threshold:</b>	Not determined.

**· pH-value:** Not determined.

**· Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	100 °C

**· Flash point:** 85 °C

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

**· Decomposition temperature:** Not determined.

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

**· Danger of explosion:** Not determined.

**· Explosion limits:**

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.

**· Vapor pressure at 20 °C:** 23 hPa

<b>· Density at 20 °C:</b>	0.98817 g/cm <sup>3</sup>
<b>· Relative density</b>	Not determined.
<b>· Vapor density</b>	Not determined.
<b>· Evaporation rate</b>	Not determined.

**· Solubility in / Miscibility with**

**Water:** Not miscible or difficult to mix.

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

**· Viscosity:**

<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.

**· Solvent content:**

<b>Organic solvents:</b>	6.0 %
<b>Water:</b>	84.0 %

**Solids content:** 0.0 %

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CA



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(Contd. of page 5)

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

## 10 Stability and reactivity

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

## 11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

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

**50-00-0 formaldehyde**

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

**67-56-1 Methyl Alcohol**

Oral	LD50	5,628 mg/kg (rat)
------	------	-------------------

Dermal	LD50	15,800 mg/kg (rabbit)
--------	------	-----------------------

· **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** No 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	I
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· **NTP (National Toxicology Program)**

50-00-0	formaldehyde	K
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## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.

(Contd. on page 7)

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# Safety Data Sheet

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**Trade name: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(Contd. of page 6)

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

## 13 Disposal considerations

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

## 14 Transport information

· <b>UN-Number</b>	
· <b>DOT</b>	NA1993
· <b>TDG, ADN, IMDG, IATA</b>	Void
· <b>UN proper shipping name</b>	
· <b>DOT</b>	COMBUSTIBLE LIQUID, N.O.S
· <b>TDG, ADN, IMDG, IATA</b>	Void
· <b>Transport hazard class(es)</b>	
· <b>DOT, TDG, ADN, IMDG, IATA</b>	
· <b>Class</b>	Void
· <b>Packing group</b>	
· <b>DOT</b>	III
· <b>TDG, IMDG, IATA</b>	Void
· <b>Environmental hazards:</b>	Not applicable.
· <b>Special precautions for user</b>	Not applicable.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>UN "Model Regulation":</b>	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
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# Safety Data Sheet

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**Trade name: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

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

50-00-0 formaldehyde

67-56-1 Methyl Alcohol

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

All ingredients are listed.

· **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%)**

67-56-1 Methyl Alcohol

· **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

Methyl Alcohol

· **Hazard statements**

Combustible liquid.

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause cancer.

May cause damage to organs.

· **Precautionary statements**

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.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

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

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

If on skin: Wash with plenty of water.

IF exposed or concerned: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

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

Specific treatment (see on this label).

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.

(Contd. on page 9)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/22/2018

Reviewed on 08/22/2018

**Trade name: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(Contd. of page 8)

**· National regulations:****· Information about limitation of use:**

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

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

## 16 Other information

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

**· Date of the latest revision of the safety data sheet 08/22/2018 / -****· Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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

Printing date 22.08.2018

Revision: 22.08.2018

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

- **1.1 Product identifier**
- **Trade name:** FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION
- **Article number:** 15740, 15740-01, 15740-04
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Further information obtainable from:** Product safety department
- **1.4 Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 1B H350 May cause cancer.

STOT SE 2 H371 May cause damage to organs.



GHS07

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

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



GHS07 GHS08

- **Signal word** *Danger*
- **Hazard-determining components of labelling:**  
*formaldehyde*  
*Methyl Alcohol*
- **Hazard statements**  
*H317 May cause an allergic skin reaction.*

(Contd. on page 2)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 22.08.2018

Revision: 22.08.2018

**Trade name: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(Contd. of page 1)

H341 Suspected of causing genetic defects.

H350 May cause cancer.

H371 May cause damage to organs.

**Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

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	formaldehyde	>2.5-≤10%
EINECS: 200-001-8	 Acute Tox. 3, H301;  Acute Tox. 3, H311;  Acute Tox. 3, H331;  Muta. 2, H341;  Carc. 1B, H350;  Skin Corr. 1B, H314;  Skin Sens. 1, H317	
CAS: 67-56-1	Methyl Alcohol	>2.5-≤10%
EINECS: 200-659-6	 Flam. Liq. 2, H225;  STOT SE 1, H370;  Acute Tox. 4, H302;  Acute Tox. 4, H312;  Acute Tox. 4, H332;  Skin Irrit. 2, H315	

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

### SECTION 4: First aid measures

**4.1 Description of first aid measures**

**General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

**After inhalation:**

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

In case of unconsciousness place patient stably in side position for transportation.

**After skin contact:** Immediately wash with water and soap and rinse thoroughly.

**After eye contact:** Rinse opened eye for several minutes under running water.

**After swallowing:** If symptoms persist consult doctor.

**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

**4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

### SECTION 5: Firefighting measures

**5.1 Extinguishing media**

**Suitable extinguishing agents:**

CO<sub>2</sub>, 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.

(Contd. on page 3)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 22.08.2018

Revision: 22.08.2018

**Trade name: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(Contd. of page 2)

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

## SECTION 8: Exposure controls/personal protection

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

### 8.1 Control parameters

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

#### 50-00-0 formaldehyde

WEL	Short-term value: 2.5 mg/m <sup>3</sup> , 2 ppm
	Long-term value: 2.5 mg/m <sup>3</sup> , 2 ppm

#### 67-56-1 Methyl Alcohol

WEL	Short-term value: 333 mg/m <sup>3</sup> , 250 ppm
	Long-term value: 266 mg/m <sup>3</sup> , 200 ppm
Sk	

- **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

(Contd. on page 4)

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

Printing date 22.08.2018

Revision: 22.08.2018

**Trade name: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(Contd. of page 3)

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

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

· **Protection of hands:**



Protective gloves

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

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

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

· **Material of gloves**

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

· **Penetration time of glove material**

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

· **Eye protection:**



Tightly sealed goggles

## SECTION 9: Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form: Liquid

Colour: Clear

· **Odour:** Characteristic

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/freezing point: Undetermined.

Initial boiling point and boiling range: 100 °C

· **Flash point:** 85 °C

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

· **Decomposition temperature:** Not determined.

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

· **Explosive properties:** Not determined.

(Contd. on page 5)



**Safety data sheet**  
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**Trade name: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(Contd. of page 4)

· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapour pressure at 20 °C:</b>	23 hPa
· <b>Density at 20 °C:</b>	0.98817 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient: n-octanol/water:</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	6.0 %
<b>Water:</b>	84.0 %
<b>VOC (EC)</b>	6.00 %
· <b>Solids content:</b>	0.0 %
· <b>9.2 Other information</b>	No further relevant information available.

### SECTION 10: Stability and reactivity

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

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· <b>LD/LC50 values relevant for classification:</b>		
<b>50-00-0 formaldehyde</b>		
Oral	LD50	>200 mg/kg (rat)
<b>67-56-1 Methyl Alcohol</b>		
Oral	LD50	5,628 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation**  
May cause an allergic skin reaction.

(Contd. on page 6)

**Safety data sheet**  
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**Trade name: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(Contd. of page 5)

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity**  
Suspected of causing genetic defects.
- **Carcinogenicity**  
May cause cancer.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**  
May cause damage to organs.
- **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.

### SECTION 13: Disposal considerations

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

### SECTION 14: Transport information

- |  |               |
|--|---------------|
| · <b>14.1 UN-Number</b>                  |               |
| · <b>ADR, ADN, IMDG, IATA</b>            | not regulated |
| · <b>14.2 UN proper shipping name</b>    |               |
| · <b>ADR, ADN, IMDG, IATA</b>            | not regulated |
| · <b>14.3 Transport hazard class(es)</b> |               |
| · <b>ADR, ADN, IMDG, IATA</b>            |               |
| · <b>Class</b>                           | not regulated |
| · <b>14.4 Packing group</b>              |               |
| · <b>ADR, IMDG, IATA</b>                 | not regulated |

(Contd. on page 7)

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

Printing date 22.08.2018

Revision: 22.08.2018

**Trade name: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(Contd. of page 6)

- |  |                 |
|--|-----------------|
| · <b>14.5 Environmental hazards:</b>   | Not applicable. |
| · <b>14.6 Special precautions for user</b>                                       | Not applicable. |
| · <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b> | Not applicable. |
| · <b>UN "Model Regulation":</b>  | 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.
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 28, 69
- **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**

- H225 Highly flammable liquid and vapour.
- H301 Toxic if swallowed.
- H302 Harmful if swallowed.
- H311 Toxic in contact with skin.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H331 Toxic if inhaled.
- H332 Harmful if inhaled.
- H341 Suspected of causing genetic defects.
- H350 May cause cancer.
- H370 Causes damage to organs.

- **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
- Flam. Liq. 2: Flammable liquids – Category 2

(Contd. on page 8)

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

Printing date 22.08.2018

Revision: 22.08.2018

**Trade name: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(Contd. of page 7)

*Acute Tox. 3: Acute toxicity – Category 3*  
*Acute Tox. 4: Acute toxicity – Category 4*  
*Skin Corr. 1B: Skin corrosion/irritation – Category 1B*  
*Skin Irrit. 2: Skin corrosion/irritation – Category 2*  
*Skin Sens. 1: Skin sensitisation – Category 1*  
*Muta. 2: Germ cell mutagenicity – Category 2*  
*Carc. 1B: Carcinogenicity – Category 1B*  
*STOT SE 1: Specific target organ toxicity (single exposure) – Category 1*  
*STOT SE 2: Specific target organ toxicity (single exposure) – Category 2*

GB

# 化学品安全技术说明书

根据 GB/T 16483-2008, GB/T 17519-2013

打印日期 2018.08.22

在 2018.08.22 审核

## 1 化学品及企业标识

- 产品识别者
- 化学品中文(英文)名称, 化学品俗名或商品名: **FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**
- 商品编号: 15740, 15740-01, 15740-04
- 相应纯物质或者混合物的相关下位用途及禁止用途 无相关详细资料。
- 原材料的应用/准备工作进行 实验室化学物
- 安全技术说明书内供应商详细信息
- 企业名称:  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- 可获取更多资料的部门: Product safety department
- 紧急联系电话号码:  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 危险性概述

### · 紧急情况概述:

纯净的, 液体, 可燃液体。吸入可能有害。造成轻微皮肤刺激。可能导致皮肤过敏反应。怀疑会导致遗传性缺陷。可能致癌。可能对器官造成损害。

### · GHS危险性类别



健康危害

生殖细胞致突变性 第2类	H341 怀疑会导致遗传性缺陷
致癌性 第1B类	H350 可能致癌
特定靶器官系统毒性 ( 单次接触 ) 第2类	H371 可能对器官造成损害



敏化(皮肤) 第1类	H317 可能导致皮肤过敏反应
------------	-----------------

易燃液体 第4类	H227 可燃液体
急性毒性(吸入) 第5类	H333 吸入可能有害
皮肤腐蚀/刺激 第3类	H316 造成轻微皮肤刺激

### · 标签因素

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

### · 图示



GHS07 GHS08

(在 2 页继续)

# 化学品安全技术说明书

## 根据 GB/T 16483-2008, GB/T 17519-2013

打印日期 2018.08.22

在 2018.08.22 审核

化学品中文(英文)名称, 化学品俗名或商品名: **FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(在 1 页继续)

- **名称** 危险
- **标签上辨别危险的成份:**  
福尔马林溶液  
木精
- **危险字句**  
可燃液体  
吸入可能有害  
造成轻微皮肤刺激  
可能导致皮肤过敏反应  
怀疑会导致遗传性缺陷  
可能致癌  
可能对器官造成损害
- **警戒字句**
- **预防措施**  
规定远离火焰和热表面。禁止吸烟  
不要吸入粉尘/烟/气体/烟雾/蒸气/喷雾  
戴防护手套/穿防护服/戴防护眼罩/戴防护面具
- **事故响应**  
如误吸入:如感觉不适,呼叫急救中心/医生
- **安全储存**  
存放处须加锁
- **废弃处置**  
处置内装物/容器按照地方/区域/国家/国际规章
- **其他有害性**
- **PBT(残留性、生物浓缩性、毒性物质) 及 vPvB(高残留性、高生物浓缩性物质)评价结果**
- **PBT(残留性、生物浓缩性、毒性物质)** 不适用的
- **vPvB(高残留性、高生物浓缩性物质):** 不适用的

### 3 成分/组成信息

- **混合物**
- **描述:** 由以下含有无害添加剂的成分组成的混合物

#### · 危险的成分:

50-00-0	福尔马林溶液 ⚠ 急性毒性(经口) 第3类, H301; 急性毒性(经皮肤) 第3类, H311; 急性毒性(吸入) 第3类, H331; ⚠ 生殖细胞致突变性 第2类, H341; 致癌性 第1B类, H350; ⚠ 皮肤腐蚀/刺激 第1B类, H314; ⚠ 敏化(皮肤) 第1类, H317	>2.5-≤10%
67-56-1	木精 ⚠ 易燃液体 第2类, H225; ⚠ 特定靶器官系统毒性(单次接触) 第1类, H370; ⚠ 急性毒性(经口) 第4类, H302; 急性毒性(经皮肤) 第4类, H312; 急性毒性(吸入) 第4类, H332; 皮肤腐蚀/刺激 第3类, H316; 严重眼损伤/眼刺激 类别2B, H320	>2.5-≤10%

### 4 急救措施

- **应急措施要领**
- **总说明:** 中毒的症状可能会在几个小时以后才出现;因此在发生事故之后起码要有 48 小时的医疗观察.
- **吸入:**  
供给新鲜空气并且确保会叫医生.  
万一病人不清醒时,请让病人侧躺以便移动.
- **皮肤接触:** 马上用水和肥皂进行彻底的冲洗.

(在 3 页继续)

# 化学品安全技术说明书

## 根据 GB/T 16483-2008, GB/T 17519-2013

打印日期 2018.08.22

在 2018.08.22 审核

化学品中文(英文)名称, 化学品俗名或商品名 : **FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(在 2 页继续)

- **眼睛接触:** 张开眼睛在流水下冲洗数分钟.
- **食入:** 如果症状仍然持续, 请咨询医生.
- **给医生的资料:**
- **最重要的急慢性症状及其影响** 无相关详细资料.
- **需要及时的医疗处理及特别处理的症状** 无相关详细资料.

## 5 消防措施

- **灭火方法**
- **灭火的方法和灭火剂:** 二氧化碳 (CO<sub>2</sub>)、灭火粉末或洒水. 使用洒水或抗酒精泡沫灭火剂扑灭较大的火种.
- **特别危险性** 无相关详细资料.
- **特殊灭火方法**
- **消防人员特殊的防护装备:** 口腔呼吸保护装置.

## 6 泄漏应急处理

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

## 7 操作处置与储存

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

## 8 接触控制和个体防护

- **工程控制方法:** 没有进一步数据; 见第 7 项.

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## · 控制变数

### · 在工作场需要监控的限值成分

#### 50-00-0 福尔马林溶液

OEL (CN) 最高容许浓度: 0.5 mg/m<sup>3</sup>PEL (TW) PC-TWA: 1.2 mg/m<sup>3</sup>, 1 ppm

#### 67-56-1 木精

OEL (CN) PC-STEL: 50 mg/m<sup>3</sup>PC-TWA: 25 mg/m<sup>3</sup>PEL (TW) PC-TWA: 262 mg/m<sup>3</sup>, 200 ppm

· **额外的资料:** 制作期间有效的清单将作为基础来使用.

## · 泄漏控制

### · 个人防护设备:

#### · 一般保护和卫生措施:

远离食品、饮料和饲料.

立即除去所有的不洁的和被污染的衣服.

在休息之前和工作完毕后请清洗双手.

分开储存保护性衣服.

避免和皮肤接触.

避免和眼睛及皮肤接触.

### · 呼吸系统防护:

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

### · 手防护:



保护手套

手套的物料必须是不渗透性的, 且能抵抗该产品/物质/添加剂.

基于缺乏测试, 对于产品/制剂/化学混合物, 并不会提供手套材料的建议

选择手套材料时, 请注意材料的渗透时间, 渗透率和降解参数

### · 手套材料

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

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

### · 眼睛防护:



密封的护目镜

## 9 理化特性

### · 有关基本物理及化学特性的信息

#### · 一般说明

#### · 外观:

形状: 液体

颜色: 纯净的

(在 5 页继续)



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(在 4 页继续)

· 气味:	有特性的
· 嗅觉阈限	未决定.
· pH值:	未决定.
· 条件的更改	
· 熔点:	未确定的
· 沸点/初沸点和沸程:	100 °C
· 闪点:	85 °C
· 可燃性 (固体、气体):	不适用的
· 分解温度:	未决定.
· 自燃温度:	该产品是不自燃的
· 爆炸的危险性:	未决定.
· 爆炸极限:	
· 较低:	未决定.
· 较高:	未决定.
· 蒸气压 在 20 °C:	23 hPa
· 密度 在 20 °C:	0.98817 g/cm <sup>3</sup>
· 相对密度	未决定.
· 蒸气密度	未决定.
· 蒸发速率	未决定.
· 溶解性	
· 水:	不能拌和的或难以拌和
· n-辛醇/水分配系数:	未决定.
· 黏性:	
· 动态:	未决定.
· 运动学的:	未决定.
· 溶剂成份:	
· 有机溶剂:	6.0 %
· 水:	84.0 %
· 固体成份:	0.0 %
· 其他信息	无相关详细资料。

## 10 稳定性和反应性

- 反应性 无相关详细资料。
- 稳定性
- 热分解/要避免的情况: 如果遵照规格使用则不会分解.
- 有害反应可能性 未有已知的危险反应.
- 应避免的条件 无相关详细资料。
- 不相容的物质: 无相关详细资料。
- 危险的分解产物: 未知有危险的分解产品.

CN

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## 11 毒理学信息

- 对毒性学影响的信息
- 急性毒性:

- 与分类相关的 LD/ LC50 值:

**50-00-0 福尔马林溶液**

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

**67-56-1 木精**

口腔	LD50	5,628 mg/kg (rat)
----	------	-------------------

皮肤	LD50	15,800 mg/kg (rabbit)
----	------	-----------------------

- 主要的刺激性影响:

- 皮肤: 刺激皮肤和粘膜.
- 在眼睛上面: 没有刺激的影响.
- 致敏作用: 通过皮肤接触可能造成敏化作用.

- 更多毒物的资料:

根据有关配制的一般欧盟分类指南的计算方法 (刊印在最新版本), 该产品显示以下的危险:

- 有害的
- 刺激性的
- 致癌的.

- 对以下组别可能产生影响的数据:

- CMR作用 (致癌、导致基因突变、对生殖系统有害)
- 生殖细胞致突变性 第2类, 致癌性 第1B类

## 12 生态学信息

- 生态毒性

- 水生毒性: 无相关详细资料。
- 持久性和降解性 无相关详细资料。
- 环境系统习性:
- 潜在的生物累积性 无相关详细资料。
- 土壤内移动性 无相关详细资料。

- 额外的生态学资料:

- 总括注解:

水危害级别 2 (德国规例) (通过名单进行自我评估): 对水是危害的

不要让该产品接触地下水、水道或污水系统.

即使是少量的产品渗入地下也会对饮用水造成危险.

- PBT(残留性、生物浓缩性、毒性物质) 及 vPvB(高残留性、高生物浓缩性物质) 评价结果
- PBT(残留性、生物浓缩性、毒性物质) 不适用的
- vPvB(高残留性、高生物浓缩性物质): 不适用的
- 其他副作用 无相关详细资料。

## 13 废弃处置

- 废弃处置方法

- 建议: 不能将该产品和家居垃圾一起丢弃. 不要让该产品接触污水系统.

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(在 6 页继续)

- **受污染的容器和包装:**
- **建议:** 必须根据官方的规章来丢弃.

## 14 运输信息

· <b>联合国危险货物编号(UN号)</b> · ADR, ADN, IMDG, IATA	无效
· <b>UN适当装船名</b> · ADR, ADN, IMDG, IATA	无效
· <b>运输危险等级</b> · ADR, ADN, IMDG, IATA · <b>级别</b>	无效
· <b>包装组别</b> · ADR, IMDG, IATA	无效
· <b>危害环境:</b>	不适用的
· <b>用户特别预防措施</b>	不适用的
· <b>MARPOL73/78(针对船舶引起的海洋污染预防公约)附件书2及根据IBC Code(国际装船货物编码)的大量运送</b>	不适用的
· <b>UN "标准规定":</b>	无效

## 15 法规信息

- **对相应纯物质或者混合物的安全、保健及环境法规/法律**
- **危险化学品安全管理条例**

· <b>危险化学品目录</b>
50-00-0   福尔马林溶液
67-56-1   木精

- **新化学物质环境管理办法**

· <b>中国现有化学物质名录</b>
列出所有成分

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



GHS07 GHS08

- **名称** 危险
- **标签上辨别危险的成份:**  
福尔马林溶液  
木精

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(在 7 页继续)

**· 危险字句**

可燃液体  
吸入可能有害  
造成轻微皮肤刺激  
可能导致皮肤过敏反应  
怀疑会导致遗传性缺陷  
可能致癌  
可能对器官造成损害

**· 警戒字句****· 预防措施**

规定远离火焰和热表面。禁止吸烟  
不要吸入粉尘/烟/气体/烟雾/蒸气/喷雾  
戴防护手套/穿防护服/戴防护眼罩/戴防护面具

**· 事故响应**

如误吸入:如感觉不适,呼叫急救中心/医生

**· 安全储存**

存放处须加锁

**· 废弃处置**

处置内装物/容器按照地方/区域/国家/国际规章

**· 国家的规章:**

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

## 16 其他信息

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

**· 缩写:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: 持久性生物累积性有毒物质  
vPvB: very Persistent and very Bioaccumulative  
易燃液体 第2类: Flammable liquids – Category 2  
易燃液体 第4类: Flammable liquids – Category 4  
急性毒性(径口) 第3类: Acute toxicity – Category 3  
急性毒性(径口) 第4类: Acute toxicity – Category 4  
急性毒性(吸入) 第5类: Acute toxicity – Category 5  
皮肤腐蚀/刺激 第1B类: Skin corrosion/irritation – Category 1B  
皮肤腐蚀/刺激 第3类: Skin corrosion/irritation – Category 3  
严重眼损伤/眼刺激 类别2B: Serious eye damage/eye irritation – Category 2B  
敏化(皮肤) 第1类: Skin sensitisation – Category 1  
生殖细胞致突变性 第2类: Germ cell mutagenicity – Category 2  
致癌性 第1B类: Carcinogenicity – Category 1B  
特定靶器官系统毒性(单次接触) 第1类: Specific target organ toxicity (single exposure) – Category 1  
特定靶器官系统毒性(单次接触) 第2类: Specific target organ toxicity (single exposure) – Category 2

CN

# Bezpečnostní list

## podle 1907/2006/ES, Článek 31

Datum vydání: 22.08.2018

Revize: 22.08.2018

### ODDÍL 1: Identifikace látky/směsi a společnosti/podniku

- **1.1 Identifikátor výrobku**
- **Obchodní označení:** FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION
- **Číslo výrobku:** 15740, 15740-01, 15740-04
- **1.2 Příslušná určená použití látky nebo směsi a nedoporučená použití**  
Další relevantní informace nejsou k dispozici.
- **Použití látky / přípravku** Laboratorní chemikálie
- **1.3 Podrobné údaje o dodavateli bezpečnostního listu**
- **Identifikace výrobce/dovozce:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Obor poskytující informace:** Product safety department
- **1.4 Telefonní číslo pro naléhavé situace:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### ODDÍL 2: Identifikace nebezpečnosti

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



GHS08 nebezpečnost pro zdraví

Muta. 2 H341 Podezření na genetické poškození.

Carc. 1B H350 Může vyvolat rakovinu.

STOT SE 2 H371 Může způsobit poškození orgánů.



GHS07

Skin Sens. 1 H317 Může vyvolat alergickou kožní reakci.

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



GHS07 GHS08

- **Signální slovo** Nebezpečí
- **Nebezpečné komponenty k etiketování:**  
Formaldehyd  
methanol
- **Standardní věty o nebezpečnosti**  
H317 Může vyvolat alergickou kožní reakci.  
H341 Podezření na genetické poškození.

(pokračování na straně 2)

# Bezpečnostní list

## podle 1907/2006/ES, Článek 31

Datum vydání: 22.08.2018

Revize: 22.08.2018

**Obchodní označení: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(pokračování strany 1)

H350 Může vyvolat rakovinu.

H371 Může způsobit poškození orgánů.

**• Pokyny pro bezpečné zacházení**

P260 Nevdechujte prach/dým/plyn/mlhu/páry/aerosoly.

P280 Používejte ochranné rukavice/ochranný oděv/ochranné brýle/obličejový štít.

P308+P313 PŘI expozici nebo podezření na ni: Vyhledejte lékařskou pomoc/ošetření.

P333+P313 Při podráždění kůže nebo vyrážce: Vyhledejte lékařskou pomoc/ošetření.

P405 Skladujte uzamčené.

P501 Obsah/nádobu likvidujte v souladu s místními/regionálními/národními/mezinárodními předpisy.

**• 2.3 Další nebezpečnost**

**• Výsledky posouzení PBT a vPvB**

• **PBT:** Nedá se použít.

• **vPvB:** Nedá se použít.

### ODDÍL 3: Složení/informace o složkách

**• 3.2 Chemická charakteristika: Směsi**

• **Popis:** Směs obsahuje následné látky bez nebezpečných příměsí.

• **Výrobek obsahuje tyto nebezpečné látky:**

CAS: 50-00-0	Formaldehyd	>2,5-≤10%
EINECS: 200-001-8	Acute Tox. 3, H301;  Acute Tox. 3, H311;  Acute Tox. 3, H331;  Muta. 2, H341;  Carc. 1B, H350;  Skin Corr. 1B, H314;  Skin Sens. 1, H317	
CAS: 67-56-1	methanol	>2,5-≤10%
EINECS: 200-659-6	Flam. Liq. 2, H225;  STOT SE 1, H370;  Acute Tox. 4, H302;  Acute Tox. 4, H312;  Acute Tox. 4, H332;  Skin Irrit. 2, H315	

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

### ODDÍL 4: Pokyny pro první pomoc

**• 4.1 Popis první pomoci**

**• Všeobecné pokyny:**

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

**• Při nadýchání:**

Bohatý přívod čerstvého vzduchu a pro jistotu vyhledat lékaře.

Při bezvědomí uložit a přepravit ve stabilní poloze na boku.

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

• **Při zasažení očí:** Oči s otevřenými víčky několik minut vyplachovat proudem tekoucí vody.

• **Při požití:** Při přetrvávajících potížích konzultovat s lékařem.

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

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

Další relevantní informace nejsou k dispozici.

### ODDÍL 5: Opatření pro hašení požáru

**• 5.1 Hasiva**

**• Vhodná hasiva:**

CO<sub>2</sub>, hasící prášek nebo rozestříkované vodní paprsky. Větší ohně zdotat rozestříkovanými vodními paprsky nebo pěnou odolnou vůči alkoholu.

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

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- **5.3 Pokyny pro hasiče**
- **Zvláštní ochranné prostředky pro hasiče:** Použít ochranný dýchací přístroj.

### ODDÍL 6: Opatření v případě náhodného úniku

- **6.1 Opatření na ochranu osob, ochranné prostředky a nouzové postupy** Není nutné.
- **6.2 Opatření na ochranu životního prostředí:**  
Nenechat proniknout do kanalizace/povrchových vod/podzemních vod.
- **6.3 Metody a materiál pro omezení úniku a pro čištění:**  
Sebrat s materiály, vázícími kapaliny (písek, štěrkový písek, pojidla kyselin, universální pojidla, piliny).  
Kontaminovaný materiál odstranit jako odpad podle bodu 13.  
Zajistit dostatečné větrání.
- **6.4 Odkaz na jiné oddíly**  
Informace o bezpečnému zacházení viz kapitola 7.  
Informace o osobní ochranné výstroji viz kapitola 8.  
Informace k odstranění viz kapitola 13.

### ODDÍL 7: Zacházení a skladování

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

### ODDÍL 8: Omezování expozice / osobní ochranné prostředky

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

<b>· Kontrolní parametry:</b>	
<b>50-00-0 Formaldehyd</b>	
NPK	Krátkodobá hodnota: 1 mg/m <sup>3</sup> Dlouhodobá hodnota: 0,5 mg/m <sup>3</sup> I, S
<b>67-56-1 methanol</b>	
NPK	Krátkodobá hodnota: 1000 mg/m <sup>3</sup> Dlouhodobá hodnota: 250 mg/m <sup>3</sup> D

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(pokračování strany 3)

**· Složky s biologických mezních hodnot:**

**67-56-1 methanol**

BEH	15 mg/l
	Biologického materiálu: moči
	Doba odběru: Konec směny
	Ukazatel: Methanol

· **Další upozornění:** Jako podklad sloužily při zhotovení platné listiny.

**· 8.2 Omezování expozice**

**· Osobní ochranné prostředky:**

**· Všeobecná ochranná a hygienická opatření:**

Zdržovat od potravin, nápojů a krmiv.

Zašpiněné, nasáknuté šaty ihned vysvléci.

Před přestávkami a po práci umýt ruce.

Ochranný oděv odděleně přechovávat.

Zabránit styku s pokožkou.

Zamezit styku s pokožkou a zrakem.

**· Ochrana dýchacích orgánů:**

Při krátkodobém nebo nízkém zatížení použít dýchací přístroj s filtrem, při intenzivním nebo delším zatížení se musí použít dýchací přístroj nezávislý na okolním vzduchu.

**· Ochrana rukou:**



Ochranné rukavice

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

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

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

**· Materiál rukavic**

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

**· Doba průniku materiálem rukavic**

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

**· Ochrana očí:**



Uzavřené ochranné brýle

## ODDÍL 9: Fyzikální a chemické vlastnosti

**· 9.1 Informace o základních fyzikálních a chemických vlastnostech**

**· Všeobecné údaje**

**· Vzhled:**

**Skupenství:** Tekutina

**Barva:** Jasná

**· Zápach:** Charakteristický

**· Prahová hodnota zápachu:** Není určeno.

**· Hodnota pH:** Není určeno.

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· <b>Změna stavu</b> Bod tání/bod tuhnutí:	Není určeno.
Počáteční bod varu a rozmezí bodu varu:	100 °C
· <b>Bod vzplanutí:</b>	85 °C
· <b>Hořlavost (pevné látky, plyny):</b>	Nedá se použít.
· <b>Teplota rozkladu:</b>	Není určeno.
· <b>Teplota samovznícení:</b>	Produkt není samozápalný.
· <b>Výbušné vlastnosti:</b>	Není určeno.
· <b>Meze výbušnosti:</b> Dolní mez:	Není určeno.
Horní mez:	Není určeno.
· <b>Tlak páry při 20 °C:</b>	23 hPa
· <b>Hustota při 20 °C:</b>	0,98817 g/cm <sup>3</sup>
· <b>Relativní hustota</b>	Není určeno.
· <b>Hustota páry:</b>	Není určeno.
· <b>Rychlost odpařování</b>	Není určeno.
· <b>Rozpuštěnost ve / směšitelnost s vodě:</b>	Vůbec nemísitelná nebo jen málo mísitelná.
· <b>Rozdělovací koeficient: n-oktanol/voda:</b>	Není určeno.
· <b>Viskozita:</b> Dynamicky:	Není určeno.
Kinematicky:	Není určeno.
· <b>Obsah ředidel:</b> Organická ředidla:	6,0 %
Voda:	84,0 %
VOC (EC)	6,00 %
· <b>Obsah netěkavých složek:</b>	0,0 %
· <b>9.2 Další informace</b>	Další relevantní informace nejsou k dispozici.

### ODDÍL 10: Stálost a reaktivita

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

### ODDÍL 11: Toxikologické informace

- **11.1 Informace o toxikologických účincích**
- **Akutní toxicita** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.

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· <b>Zařazení relevantní hodnoty LD/LC 50:</b>		
<b>50-00-0 Formaldehyd</b>		
Orálně	LD50	>200 mg/kg (rat)
<b>67-56-1 methanol</b>		
Orálně	LD50	5.628 mg/kg (rat)
Pokožkou	LD50	15.800 mg/kg (rabbit)

- **Primární dráždivé účinky:**
- **Žíravost/dráždivost pro kůži** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Vážné poškození očí / podráždění očí** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Senzibilizace dýchacích cest / senzibilizace kůže**  
Může vyvolat alergickou kožní reakci.
- **Účinky CMR (karcinogenita, mutagenita a toxicita pro reprodukci)**
- **Mutagenita v zárodečných buňkách**  
Podezření na genetické poškození.
- **Karcinogenita**  
Může vyvolat rakovinu.
- **Toxicita pro reprodukci** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Toxicita pro specifické cílové orgány – jednorázová expozice**  
Může způsobit poškození orgánů.
- **Toxicita pro specifické cílové orgány – opakovaná expozice**  
Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Nebezpečnost při vdechnutí** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.

### ODDÍL 12: Ekologické informace

- **12.1 Toxicita**
- **Aquatická toxicita:** Další relevantní informace nejsou k dispozici.
- **12.2 Perzistence a rozložitelnost** Další relevantní informace nejsou k dispozici.
- **12.3 Bioakumulační potenciál** Další relevantní informace nejsou k dispozici.
- **12.4 Mobilita v půdě** Další relevantní informace nejsou k dispozici.
- **Další ekologické údaje:**
- **Všeobecná upozornění:**  
Třída ohrožení vody 2 (Samozářazení): ohrožuje vodu  
Nesmí vniknout do spodní vody, povodí nebo kanalizace.  
Ohrožuje pitnou vodu už při proniknutí malého množství do zeminy.
- **12.5 Výsledky posouzení PBT a vPvB**
- **PBT:** Nedá se použít.
- **vPvB:** Nedá se použít.
- **12.6 Jiné nepříznivé účinky** Další relevantní informace nejsou k dispozici.

### ODDÍL 13: Pokyny pro odstraňování

- **13.1 Metody nakládání s odpady**
- **Doporučení:** Nesmí se odstraňovat společně s odpady z domácnosti. Nepřipustit únik do kanalizace.
- **Kontaminované obaly:**
- **Doporučení:** Odstranění podle příslušných předpisů.

CZ

(pokračování na straně 7)

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(pokračování strany 6)

### ODDÍL 14: Informace pro přepravu

- |  |                 |
|--|-----------------|
| · 14.1 UN číslo  |                 |
| · ADR, ADN, IMDG, IATA   | odpadá          |
| · 14.2 Oficiální (OSN) pojmenování pro přepravu                        |                 |
| · ADR, ADN, IMDG, IATA   | odpadá          |
| · 14.3 Třída/třídy nebezpečnosti pro přepravu                          |                 |
| · ADR, ADN, IMDG, IATA   |                 |
| · třída  | odpadá          |
| · 14.4 Obalová skupina   |                 |
| · ADR, IMDG, IATA  | odpadá          |
| · 14.5 Nebezpečnost pro životní prostředí:                             | Nedá se použít. |
| · 14.6 Zvláštní bezpečnostní opatření pro uživatele                    | Nedá se použít. |
| · 14.7 Hromadná přeprava podle přílohy II úmluvy MARPOL a předpisu IBC | Nedá se použít. |
| · UN "Model Regulation":   | odpadá          |

### ODDÍL 15: Informace o předpisech

- 15.1 Předpisy týkající se bezpečnosti, zdraví a životního prostředí/specifické právní předpisy týkající se látky nebo směsi
- Rady 2012/18/EU
- Nebezpečné látky jmenovitě uvedené - **PŘÍLOHA I** Žádná z obsažených látek není na seznamu.
- Rady (ES) č. 1907/2006 **PŘÍLOHA XVII** Omezující podmínky: 3, 28, 69
- Národní předpisy:
- **Upozornění na omezení práce:**  
Pracovníci nesmí přijít do styku s nebezpečnými látkami způsobujícími rakovinu, obsaženými v tomto přípravku. V jednotlivých případech mohou úřady povolit výjimku.
- 15.2 **Posouzení chemické bezpečnosti:** Posouzení chemické bezpečnosti nebylo provedeno.

### ODDÍL 16: Další informace

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

- **Relevantní věty**
- H225 Vysoce hořlavá kapalina a páry.
- H301 Toxický při požití.
- H302 Zdraví škodlivý při požití.
- H311 Toxický při styku s kůží.
- H312 Zdraví škodlivý při styku s kůží.
- H314 Způsobuje těžké poleptání kůže a poškození očí.
- H315 Dráždí kůži.
- H317 Může vyvolat alergickou kožní reakci.
- H331 Toxický při vdechování.
- H332 Zdraví škodlivý při vdechování.
- H341 Podezření na genetické poškození.

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(pokračování strany 7)

*H350 Může vyvolat rakovinu.**H370 Způsobuje poškození orgánů.***Zkratky a akronymy:***ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**IATA: International Air Transport Association**GHS: Globally Harmonised System of Classification and Labelling of Chemicals**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Flam. Liq. 2: Hořlavé kapaliny – Kategorie 2**Acute Tox. 3: Akutní toxicita – Kategorie 3**Acute Tox. 4: Akutní toxicita – Kategorie 4**Skin Corr. 1B: Žíravost/dráždivost pro kůži – Kategorie 1B**Skin Irrit. 2: Žíravost/dráždivost pro kůži – Kategorie 2**Skin Sens. 1: Senzibilizace kůže – Kategorie 1**Muta. 2: Mutagenita v zárodečných buňkách – Kategorie 2**Carc. 1B: Karcinogenita – Kategorie 1B**STOT SE 1: Toxicita pro specifické cílové orgány (jednorázová expozice) – Kategorie 1**STOT SE 2: Toxicita pro specifické cílové orgány (jednorázová expozice) – Kategorie 2*

CZ

# Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 22.08.2018

Herziening van: 22.08.2018

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

- **1.1 Productidentificatie**
- **Handelsnaam:** FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION
- **Artikelnummer:** 15740, 15740-01, 15740-04
- **1.2 Relevant geïdentificeerd gebruik van de stof of het mengsel en ontraden gebruik**  
Geen verdere relevante informatie verkrijgbaar.
- **Toepassing van de stof / van de bereiding** Laboratoriumchemicaliën
- **1.3 Details betreffende de verstrekker van het veiligheidsinformatieblad**
- **Fabrikant/leverancier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Aurion**  
Binnenhaven 5  
6709 PD Wageningen  
The Netherlands  
Tel: 31 317 415094  
Fax: 31 317 415955  
email: info@aurion.nl
- **Inlichtingengevende sector:** Product safety department
- **1.4 Telefoonnummer voor noodgevallen:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## RUBRIEK 2: Identificatie van de gevaren

- **2.1 Indeling van de stof of het mengsel**
- **Indeling overeenkomstig Verordening (EG) nr. 1272/2008**



GHS08 gezondheidsgevaar

Muta. 2 H341 Verdacht van het veroorzaken van genetische schade.  
Carc. 1B H350 Kan kanker veroorzaken.  
STOT SE 2 H371 Kan schade aan organen veroorzaken.



GHS07

Skin Sens. 1 H317 Kan een allergische huidreactie veroorzaken.

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

(Vervolg op blz. 2)

# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

datum van de druk: 22.08.2018

Herziening van: 22.08.2018

**Handelsnaam: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(Vervolg van blz. 1)

**· Gevarenpictogrammen**


GHS07 GHS08

**· Signaalwoord Gevaar**
**· Gevaaraanduidende componenten voor de etikettering:**

formaldehyde  
methanol

**· Gevarenaanduidingen**

H317 Kan een allergische huidreactie veroorzaken.  
H341 Verdacht van het veroorzaken van genetische schade.  
H350 Kan kanker veroorzaken.  
H371 Kan schade aan organen veroorzaken.

**· Veiligheidsaanbevelingen**

P260 Stoff/rook/gas/nevel/damp/spuitnevel niet inademen.  
P280 Beschermende handschoenen/beschermende kleding/oogbescherming/gelaatsbescherming dragen.  
P308+P313 NA (mogelijke) blootstelling: een arts raadplegen.  
P333+P313 Bij huidirritatie of uitslag: een arts raadplegen.  
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	>2,5-≤10%
CAS: 67-56-1 EINECS: 200-659-6	methanol ☠ Flam. Liq. 2, H225; ☠ STOT SE 1, H370; ☠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	>2,5-≤10%

**· Aanvullende gegevens:**

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

### RUBRIEK 4: Eerstehulpmaatregelen

**· 4.1 Beschrijving van de eerstehulpmaatregelen**
**· Algemene informatie:**

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

**· Na het inademen:**

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

(Vervolg op blz. 3)

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(Vervolg van blz. 2)

- Bij bewusteloosheid ligging en vervoer in stabiele zijligging.*
- **Na huidcontact:** Onmiddellijk met water en zeep afwassen en goed naspoelen.
- **Na oogcontact:** Ogen bij geopend ooglid meerdere minuten met stromend water spoelen
- **Na inslikken:** Als de klachten niet minderen, een arts raadplegen
- **4.2 Belangrijkste acute en uitgestelde symptomen en effecten** Geen verdere relevante informatie verkrijgbaar.
- **4.3 Vermelding van de vereiste onmiddellijke medische verzorging en speciale behandeling**  
Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 5: Brandbestrijdingsmaatregelen

- **5.1 Blusmiddelen**
- **Geschikte blusmiddelen:**  
CO<sub>2</sub>, 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, beschermde uitrusting en noodprocedures** Niet nodig.
- **6.2 Milieuvorzorgsmaatregelen:** Niet in de riolering/het oppervlaktewater/het grondwater laten terechtkomen.
- **6.3 Insluitings- en reinigingsmethoden en -materiaal:**  
Met vloeistofbindend materiaal (zand, bergmeel, zuurbinder, universele binder, zaagmeel) opnemen.  
Besmet materiaal zoals afval volgens punt 13 verwijderen.  
Voor voldoende ventilatie zorgen.
- **6.4 Verwijzing naar andere rubrieken**  
Informatie inzake veilig gebruik - zie hoofdstuk 7.  
Informatie inzake persoonlijke beschermingsuitrusting - zie hoofdstuk 8.  
Informatie inzake berging - zie hoofdstuk 13.

### RUBRIEK 7: Hantering en opslag

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

(Vervolg op blz. 4)

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### · 8.1 Controleparameters

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

#### 50-00-0 formaldehyde

WGW Korte termijn waarde: 0,5 mg/m<sup>3</sup>, 0,4 ppm  
Lange termijn waarde: 0,15 mg/m<sup>3</sup>, 0,1 ppm

#### 67-56-1 methanol

WGW Lange termijn waarde: 133 mg/m<sup>3</sup>, 100 ppm

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

### · 8.2 Maatregelen ter beheersing van blootstelling

#### · Persoonlijke beschermingsvoorzieningen:

#### · Algemene beschermings- en gezondheidsmaatregelen:

- Verwijderd houden van eet- en drinkwaren.
- Verontreinigde kleding onmiddellijk uittrekken.
- Vóór de pauze en aan het einde van werktijd handen wassen.
- Beschermende kleding afzonderlijk bewaren.
- Aanraking met de huid vermijden.
- Aanraking met de ogen en de huid vermijden.

#### · Ademhalingsbescherming:

Bij korte of geringe belasting ademfiltertoestel; bij intensieve resp. langdurige expositie een van de omringende lucht onafhankelijk ademhalingsstoestel gebruiken.

#### · Handbescherming:



Veiligheidshandschoenen

Het handschoenmateriaal moet ondoorlatend en bestand zijn tegen het product / de stof / de bereiding.

Op grond van falende testen kan geen aanbeveling voor handschoenmateriaal voor het product / de bereiding / het chemicaliënmengsel afgegeven worden.

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

#### · Handschoenmateriaal

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

#### · Doordringingstijd van het handschoenmateriaal

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

#### · Oogbescherming:



Nauw aansluitende veiligheidsbril

## RUBRIEK 9: Fysische en chemische eigenschappen

### · 9.1 Informatie over fysische en chemische basiseigenschappen

#### · Algemene gegevens

#### · Voorkomen:

Vorm: Vloeistof  
Kleur: Helder

(Vervolg op blz. 5)



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(Vervolg van blz. 4)

· <b>Geur:</b>	Karakteristiek
· <b>Geurdrempelwaarde:</b>	Niet bepaald.
· <b>pH-waarde:</b>	Niet bepaald.
· <b>Toestandsverandering</b>	
<b>Smelt-/vriespunt:</b>	Niet bepaald.
<b>Beginkookpunt en kooktraject:</b>	100 °C
· <b>Vlampunt:</b>	85 °C
· <b>Ontvlambaarheid (vast, gas):</b>	Niet bruikbaar.
· <b>Ontledingstemperatuur:</b>	Niet bepaald.
· <b>Zelfontbrandingstemperatuur:</b>	Het produkt ontbrandt niet uit zichzelf.
· <b>Ontploffingseigenschappen:</b>	Niet bepaald.
· <b>Ontploffingsgrenzen:</b>	
<b>Onderste:</b>	Niet bepaald.
<b>Bovenste:</b>	Niet bepaald.
· <b>Dampspanning bij 20 °C:</b>	23 hPa
· <b>Dichtheid bij 20 °C:</b>	0,98817 g/cm <sup>3</sup>
· <b>Relatieve dichtheid</b>	Niet bepaald.
· <b>Dampdichtheid</b>	Niet bepaald.
· <b>Verdampingssnelheid</b>	Niet bepaald.
· <b>Oplosbaarheid in/mengbaarheid met Water:</b>	Niet resp. gering mengbaar.
· <b>Verdelingscoëfficiënt: n-octanol/water:</b>	Niet bepaald.
· <b>Viscositeit</b>	
<b>Dynamisch:</b>	Niet bepaald.
<b>Kinematisch:</b>	Niet bepaald.
· <b>Oplosmiddelgehalte:</b>	
<b>Organisch oplosmiddel:</b>	6,0 %
<b>Water:</b>	84,0 %
<b>VOC (EG)</b>	6,00 %
<b>Gehalte aan vaste bestanddelen:</b>	0,0 %
· <b>9.2 Overige informatie</b>	Geen verdere relevante informatie verkrijgbaar.

### **RUBRIEK 10: Stabiliteit en reactiviteit**

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

NL

(Vervolg op blz. 6)

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### RUBRIEK 11: Toxicologische informatie

- **11.1 Informatie over toxicologische effecten**
- **Acute toxiciteit** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

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

#### 50-00-0 formaldehyde

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

#### 67-56-1 methanol

Oraal	LD50	5.628 mg/kg (rat)
-------	------	-------------------

Dermaal	LD50	15.800 mg/kg (rabbit)
---------	------	-----------------------

- **Primaire aandoening:**
- **Huidcorrosie/-irritatie** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Ernstig oogletsel/oogirritatie** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **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 schade aan organen 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/bioaccumulerend vermogen/ toxiciteit of persistentie)  
Gevaar voor water klasse 2 (D) (Zelfclassificatie): gevaar voor water  
Niet lozen in grondwater, in oppervlaktewater of in riolering.  
Gevaar voor drinkwater zelfs bij uitlopen van geringe hoeveelheden in de ondergrond.
- **12.5 Resultaten van PBT- en zPzB-beoordeling**
- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.
- **12.6 Andere schadelijke effecten** Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 13: Instructies voor verwijdering

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

(Vervolg op blz. 7)

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(Vervolg van blz. 6)

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

### RUBRIEK 14: Informatie met betrekking tot het vervoer

- |   |                     |
|---|---------------------|
| · <b>14.1 VN-nummer</b>   |                     |
| · <b>ADR, ADN, IMDG, IATA</b>   | Niet van toepassing |
| · <b>14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN</b>      |                     |
| · <b>ADR, ADN, IMDG, IATA</b>   | Niet van toepassing |
| · <b>14.3 Transportgevarenklasse(n)</b>   |                     |
| · <b>ADR, ADN, IMDG, IATA</b>   |                     |
| · <b>klasse</b>   | Niet van toepassing |
| · <b>14.4 Verpakkingsgroep:</b>   |                     |
| · <b>ADR, IMDG, IATA</b>  | Niet van toepassing |
| · <b>14.5 Milieugevaren:</b>  | Niet bruikbaar.     |
| · <b>14.6 Bijzondere voorzorgen voor de gebruiker</b>                             | Niet bruikbaar.     |
| · <b>14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code</b> | Niet bruikbaar.     |
| · <b>VN "Model Regulation":</b>   | 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**

67-56-1 methanol

1B

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

geen der bestanddelen staat op de lijst.

- **Richtlijn 2012/18/EU**

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

- **Verordening (EG) nr. 1907/2006 BIJLAGE XVII** Beperkingsvoorwaarden: 3, 28, 69

- **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.

(Vervolg op blz. 8)

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(Vervolg van blz. 7)

· **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**

H225 Licht ontvlambare vloeistof en damp.

H301 Giftig bij inslikken.

H302 Schadelijk bij inslikken.

H311 Giftig bij contact met de huid.

H312 Schadelijk bij contact met de huid.

H314 Veroorzaakt ernstige brandwonden en oogletsel.

H315 Veroorzaakt huidirritatie.

H317 Kan een allergische huidreactie veroorzaken.

H331 Giftig bij inademing.

H332 Schadelijk bij inademing.

H341 Verdacht van het veroorzaken van genetische schade.

H350 Kan kanker veroorzaken.

H370 Veroorzaakt schade aan organen.

· **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

Flam. Liq. 2: Ontvlambare vloeistoffen – Categorie 2

Acute Tox. 3: Acute toxiciteit – Categorie 3

Acute Tox. 4: Acute toxiciteit – Categorie 4

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

Skin Irrit. 2: Huidcorrosie/irritatie – 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 1: Specifieke doelorgaantoxiciteit bij eenmalige blootstelling – Categorie 1

STOT SE 2: Specifieke doelorgaantoxiciteit bij eenmalige blootstelling – Categorie 2

# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

Date d'impression : 22.08.2018

Révision: 22.08.2018

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

- **1.1 Identificateur de produit**
- **Nom du produit:** FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION
- **Code du produit:** 15740, 15740-01, 15740-04
- **1.2 Utilisations identifiées pertinentes de la substance ou du mélange et utilisations déconseillées**  
Pas d'autres informations importantes disponibles.
- **Emploi de la substance / de la préparation** Produits chimiques pour laboratoires
- **1.3 Renseignements concernant le fournisseur de la fiche de données de sécurité**
- **Producteur/fournisseur:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Service chargé des renseignements:** Product safety department
- **1.4 Numéro d'appel d'urgence:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### RUBRIQUE 2: Identification des dangers

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



GHS08 danger pour la santé

Muta. 2 H341 Susceptible d'induire des anomalies génétiques.

Carc. 1B H350 Peut provoquer le cancer.

STOT SE 2 H371 Risque présumé d'effets graves pour les organes.



GHS07

Skin Sens. 1 H317 Peut provoquer une allergie cutanée.

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



GHS07



GHS08

- **Mention d'avertissement** Danger
- **Composants dangereux déterminants pour l'étiquetage:**  
Formaldéhyde  
méthanol
- **Mentions de danger**  
H317 Peut provoquer une allergie cutanée.  
H341 Susceptible d'induire des anomalies génétiques.

(suite page 2)

# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

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Révision: 22.08.2018

**Nom du produit: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(suite de la page 1)

H350 Peut provoquer le cancer.

H371 Risque présumé d'effets graves pour les organes.

· **Conseils de prudence**

P260 Ne pas 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.

P308+P313 EN CAS d'exposition prouvée ou suspectée: consulter un médecin.

P333+P313 En cas d'irritation ou d'éruption cutanée: consulter un médecin.

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	Formaldéhyde	>2,5-≤10%
EINECS: 200-001-8	 Acute Tox. 3, H301;  Acute Tox. 3, H311;  Acute Tox. 3, H331;  Muta. 2, H341;  Carc. 1B, H350;  Skin Corr. 1B, H314;  Skin Sens. 1, H317	
CAS: 67-56-1	méthanol	>2,5-≤10%
EINECS: 200-659-6	 Flam. Liq. 2, H225;  STOT SE 1, H370;  Acute Tox. 4, H302;  Acute Tox. 4, H312;  Acute Tox. 4, H332;  Skin Irrit. 2, H315	

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

### RUBRIQUE 4: Premiers secours

· **4.1 Description des premiers secours**

· **Remarques générales:**

Les symptômes d'intoxication peuvent apparaître après de nombreuses heures seulement; une surveillance médicale est donc nécessaire au moins 48 heures après un accident.

· **Après inhalation:**

Donner de l'air frais en abondance et consulter un médecin pour plus de sécurité.

En cas d'inconscience, coucher et transporter la personne en position latérale stable.

· **Après contact avec la peau:** Laver immédiatement à l'eau et au savon et bien rincer.

· **Après contact avec les yeux:**

Rincer les yeux, sous l'eau courante, pendant plusieurs minutes, en écartant bien les paupières.

· **Après ingestion:** Si les troubles persistent, consulter un médecin.

· **4.2 Principaux symptômes et effets, aigus et différés** Pas d'autres informations importantes disponibles.

· **4.3 Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires**

Pas d'autres informations importantes disponibles.

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### RUBRIQUE 5: Mesures de lutte contre l'incendie

- **5.1 Moyens d'extinction**
- **Moyens d'extinction:**  
CO<sub>2</sub>, poudre d'extinction ou eau pulvérisée. Combattre les foyers importants avec de l'eau pulvérisée ou de la mousse résistant à l'alcool.
- **5.2 Dangers particuliers résultant de la substance ou du mélange**  
Pas d'autres informations importantes disponibles.
- **5.3 Conseils aux pompiers**
- **Équipement spécial de sécurité:** 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 dans les canalisations, dans les eaux de surface et dans les nappes d'eau souterraines.
- **6.3 Méthodes et matériel de confinement et de nettoyage:**  
Recueillir les liquides à l'aide d'un produit absorbant (sable, kieselguhr, neutralisant d'acide, liant universel, sciure).  
Évacuer les matériaux contaminés en tant que déchets conformément au point 13.  
Assurer une aération suffisante.
- **6.4 Référence à d'autres rubriques**  
Afin d'obtenir des informations pour une manipulation sûre, consulter le chapitre 7.  
Afin d'obtenir des informations sur les équipements de protection personnels, consulter le chapitre 8.  
Afin d'obtenir des informations sur l'élimination, consulter le chapitre 13.

### RUBRIQUE 7: Manipulation et stockage

- **7.1 Précautions à prendre pour une manipulation sans danger**  
Veiller à une bonne ventilation/aspiration du poste de travail.  
Ouvrir et manipuler les récipients avec précaution.  
Éviter la formation d'aérosols.
- **Préventions des incendies et des explosions:** Tenir des appareils de protection respiratoire prêts.
- **7.2 Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités**
- **Stockage:**
- **Exigences concernant les lieux et conteneurs de stockage:** Aucune exigence particulière.
- **Indications concernant le stockage commun:** Pas nécessaire.
- **Autres indications sur les conditions de stockage:** Tenir les emballages hermétiquement fermés.
- **7.3 Utilisation(s) finale(s) particulière(s)** Pas d'autres informations importantes disponibles.

### RUBRIQUE 8: Contrôles de l'exposition/protection individuelle

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

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

#### 50-00-0 Formaldéhyde

VME	Valeur momentanée: 1 ppm Valeur à long terme: 0,5 ppm
C1B, M2	

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### 67-56-1 méthanol

VME	Valeur momentanée: 1300 mg/m <sup>3</sup> , 1000 ppm Valeur à long terme: 260 mg/m <sup>3</sup> , 200 ppm risque de pénétration percutanée, (11)
-----	--

· **Remarques supplémentaires:**

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

· **8.2 Contrôles de l'exposition**

· **Equipement de protection individuel:**

· **Mesures générales de protection et d'hygiène:**

Tenir à l'écart des produits alimentaires, des boissons et de la nourriture pour animaux.

Retirer immédiatement les vêtements souillés ou humectés.

Se laver les mains avant les pauses et en fin de travail.

Conserver à part les vêtements de protection.

Eviter tout contact avec la peau.

Eviter tout contact avec les yeux et avec la peau.

· **Protection respiratoire:**

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

· **Protection des mains:**



Gants de protection

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

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

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

· **Matériau des gants**

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

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

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

· **Protection des yeux:**



Lunettes de protection hermétiques

## RUBRIQUE 9: Propriétés physiques et chimiques

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

· **Indications générales**

· **Aspect:**

Forme:

Liquide

Couleur:

Transparent

· **Odeur:**

Caractéristique

· **Seuil olfactif:**

Non déterminé.

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· valeur du pH:	Non déterminé.
· <b>Changement d'état</b> Point de fusion/point de congélation:	Non déterminé.
Point initial d'ébullition et intervalle d'ébullition:	100 °C
· Point d'éclair	85 °C
· <b>Inflammabilité (solide, gaz):</b>	Non applicable.
· <b>Température de décomposition:</b>	Non déterminé.
· <b>Température d'auto-inflammabilité:</b>	Le produit ne s'enflamme pas spontanément.
· <b>Propriétés explosives:</b>	Non déterminé.
· <b>Limites d'explosion:</b> Inférieure:	Non déterminé.
Supérieure:	Non déterminé.
· <b>Pression de vapeur à 20 °C:</b>	23 hPa
· <b>Densité à 20 °C:</b>	0,98817 g/cm <sup>3</sup>
· <b>Densité relative</b>	Non déterminé.
· <b>Densité de vapeur:</b>	Non déterminé.
· <b>Taux d'évaporation:</b>	Non déterminé.
· <b>Solubilité dans/miscibilité avec l'eau:</b>	Pas ou peu miscible
· <b>Coefficient de partage: n-octanol/eau:</b>	Non déterminé.
· <b>Viscosité:</b> Dynamique:	Non déterminé.
Cinématique:	Non déterminé.
· <b>Teneur en solvants:</b> Solvants organiques:	6,0 %
Eau:	84,0 %
VOC (CE)	6,00 %
· <b>Teneur en substances solides:</b>	0,0 %
· <b>9.2 Autres informations</b>	Pas d'autres informations importantes disponibles.

### **RUBRIQUE 10: Stabilité et réactivité**

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

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### RUBRIQUE 11: Informations toxicologiques

- **11.1 Informations sur les effets toxicologiques**
- **Toxicité aiguë** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

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

#### 50-00-0 Formaldéhyde

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

#### 67-56-1 méthanol

Oral	LD50	5.628 mg/kg (rat)
Dermique	LD50	15.800 mg/kg (lapin)

- **Effet primaire d'irritation:**
- **Corrosion cutanée/irritation cutanée**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Lésions oculaires graves/irritation oculaire**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **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**  
Risque présumé d'effets graves pour les organes.
- **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.

### RUBRIQUE 14: Informations relatives au transport

· <b>14.1 Numéro ONU</b> · <b>ADR, ADN, IMDG, IATA</b>	néant
· <b>14.2 Désignation officielle de transport de l'ONU</b> · <b>ADR, ADN, IMDG, IATA</b>	néant
· <b>14.3 Classe(s) de danger pour le transport</b> · <b>ADR, ADN, IMDG, IATA</b> · <b>Classe</b>	néant
· <b>14.4 Groupe d'emballage</b> · <b>ADR, IMDG, IATA</b>	néant
· <b>14.5 Dangers pour l'environnement:</b>	Non applicable.
· <b>14.6 Précautions particulières à prendre par l'utilisateur</b>	Non applicable.
· <b>14.7 Transport en vrac conformément à l'annexe II de la convention Marpol et au recueil IBC</b>	Non applicable.
· <b>"Règlement type" de l'ONU:</b>	néant

### 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, 69
- **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**  
H225 Liquide et vapeurs très inflammables.

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*H301 Toxique en cas d'ingestion.**H302 Nocif en cas d'ingestion.**H311 Toxique par contact cutané.**H312 Nocif par contact cutané.**H314 Provoque des brûlures de la peau et des lésions oculaires graves.**H315 Provoque une irritation cutanée.**H317 Peut provoquer une allergie cutanée.**H331 Toxique par inhalation.**H332 Nocif par inhalation.**H341 Susceptible d'induire des anomalies génétiques.**H350 Peut provoquer le cancer.**H370 Risque avéré d'effets graves pour les organes.***· 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**Flam. Liq. 2: Liquides inflammables – Catégorie 2**Acute Tox. 3: Toxicité aiguë – Catégorie 3**Acute Tox. 4: Toxicité aiguë – Catégorie 4**Skin Corr. 1B: Corrosion cutanée/irritation cutanée – Catégorie 1B**Skin Irrit. 2: Corrosion cutanée/irritation cutanée – 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 1: Toxicité spécifique pour certains organes cibles (exposition unique) – Catégorie 1**STOT SE 2: Toxicité spécifique pour certains organes cibles (exposition unique) – Catégorie 2*

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 22.08.2018

überarbeitet am: 22.08.2018

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

- **1.1 Produktidentifikator**
- **Handelsname:** FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION
- **Artikelnummer:** 15740, 15740-01, 15740-04
- **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**  
Keine weiteren relevanten Informationen verfügbar.
- **Verwendung des Stoffes / des Gemisches** Laborchemikalien
- **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**
- **Hersteller/Lieferant:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com  
  
Science Services GmbH  
Unterhachinger Str. 75  
81737 München Germany  
  
Tel: +49(0)89 18 93 668-0  
safety@scienceservices.de  
  
Deutschland: +49 (0)89 19240, 24h Giftnotruf Munchen, www.toxinfo.org  
Osterreich: +43 1406 43 43, Gesundheit Osterreich GmbH, 24 h
- **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.  
STOT SE 2   H371 Kann die Organe schädigen.



GHS07

- Skin Sens. 1   H317 Kann allergische Hautreaktionen verursachen.

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

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**Handelsname: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(Fortsetzung von Seite 1)

**· Gefahrenpiktogramme**


GHS07 GHS08

**· Signalwort Gefahr**
**· Gefahrbestimmende Komponenten zur Etikettierung:**

Formaldehyd

Methanol

**· Gefahrenhinweise**

H317 Kann allergische Hautreaktionen verursachen.

H341 Kann vermutlich genetische Defekte verursachen.

H350 Kann Krebs erzeugen.

H371 Kann die Organe schädigen.

**· Sicherheitshinweise**

P260 Staub/Rauch/Gas/Nebel/Dampf/Aerosol nicht einatmen.

P280 Schutzhandschuhe/Schutzkleidung/Augenschutz/Gesichtsschutz tragen.

P308+P313 BEI Exposition oder falls betroffen: Ärztlichen Rat einholen/ärztliche Hilfe hinzuziehen.

P333+P313 Bei Hautreizung oder -ausschlag: Ärztlichen Rat einholen/ärztliche Hilfe hinzuziehen.

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	>2,5-≤10%
CAS: 67-56-1 EINECS: 200-659-6	Methanol ☠ Flam. Liq. 2, H225; ☠ STOT SE 1, H370; ☠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	>2,5-≤10%

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

### ABSCHNITT 4: Erste-Hilfe-Maßnahmen

**· 4.1 Beschreibung der Erste-Hilfe-Maßnahmen**
**· Allgemeine Hinweise:**

Vergiftungssymptome können erst nach vielen Stunden auftreten, deshalb ärztliche Überwachung mindestens 48 Stunden nach einem Unfall.

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(Fortsetzung von Seite 2)

- **Nach Einatmen:**  
Reichlich Frischluftzufuhr und sicherheitshalber Arzt aufsuchen.  
Bei Bewußtlosigkeit Lagerung und Transport in stabiler Seitenlage.
- **Nach Hautkontakt:** Sofort mit Wasser und Seife abwaschen und gut nachspülen.
- **Nach Augenkontakt:** Augen bei geöffnetem Lidspalt mehrere Minuten mit fließendem Wasser spülen.
- **Nach Verschlucken:** Bei anhaltenden Beschwerden Arzt konsultieren.
- **4.2 Wichtigste akute und verzögert auftretende Symptome und Wirkungen**  
Keine weiteren relevanten Informationen verfügbar.
- **4.3 Hinweise auf ärztliche Soforthilfe oder Spezialbehandlung**  
Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

- **5.1 Löschmittel**
- **Geeignete Löschmittel:**  
CO<sub>2</sub>, 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/Oberflächenwasser/Grundwasser gelangen lassen.
- **6.3 Methoden und Material für Rückhaltung und Reinigung:**  
Mit flüssigkeitsbindendem Material (Sand, Kieselgur, Säurebinder, Universalbinder, Sägemehl) aufnehmen.  
Kontaminiertes Material als Abfall nach Abschnitt 13 entsorgen.  
Für ausreichende Lüftung sorgen.
- **6.4 Verweis auf andere Abschnitte**  
Informationen zur sicheren Handhabung siehe Abschnitt 7.  
Informationen zur persönlichen Schutzausrüstung siehe Abschnitt 8.  
Informationen zur Entsorgung siehe Abschnitt 13.

### ABSCHNITT 7: Handhabung und Lagerung

- **7.1 Schutzmaßnahmen zur sicheren Handhabung**  
Für gute Belüftung/Absaugung am Arbeitsplatz sorgen.  
Behälter mit Vorsicht öffnen und handhaben.  
Aerosolbildung vermeiden.
- **Hinweise zum Brand- und Explosionsschutz:** Atemschutzgeräte bereithalten.
- **7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten**
- **Lagerung:**
- **Anforderung an Lagerräume und Behälter:** Keine besonderen Anforderungen.
- **Zusammenlagerungshinweise:** Nicht erforderlich.
- **Weitere Angaben zu den Lagerbedingungen:** Behälter dicht geschlossen halten.
- **Lagerklasse:**
- **Klassifizierung nach Betriebssicherheitsverordnung (BetrSichV):** -

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# Sicherheitsdatenblatt

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· **7.3 Spezifische Endanwendungen** Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 8: Begrenzung und Überwachung der Exposition/Persönliche Schutzausrüstungen

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

· **8.1 Zu überwachende Parameter**

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

**50-00-0 Formaldehyd**

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

**67-56-1 Methanol**

AGW Langzeitwert: 270 mg/m<sup>3</sup>, 200 ml/m<sup>3</sup>  
4(II);DFG, EU, H, Y

· **Bestandteile mit biologischen Grenzwerten:**

**67-56-1 Methanol**

BGW 30 mg/l  
Untersuchungsmaterial: Urin  
Probennahmezeitpunkt: bei Langzeitexposition: am Schichtende nach mehreren vorangegangenen Schichten, Expositionsende bzw. Schichtende  
Parameter: Methanol

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

· **8.2 Begrenzung und Überwachung der Exposition**

· **Persönliche Schutzausrüstung:**

· **Allgemeine Schutz- und Hygienemaßnahmen:**

Von Nahrungsmitteln, Getränken und Futtermitteln fernhalten.

Beschmutzte, getränkte Kleidung sofort ausziehen.

Vor den Pausen und bei Arbeitsende Hände waschen.

Getrennte Aufbewahrung der Schutzkleidung.

Berührung mit der Haut vermeiden.

Berührung mit den Augen und der Haut vermeiden.

· **Atemschutz:**

Bei kurzzeitiger oder geringer Belastung Atemfiltergerät; bei intensiver bzw. längerer Exposition 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 Handschuhmaterialien nicht vorausberechenbar und muß deshalb vor dem Einsatz überprüft werden.

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- **Durchdringungszeit des Handschuhmaterials**  
Die genaue Durchbruchzeit ist beim Schutzhandschuhhersteller zu erfahren und einzuhalten.
- **Augenschutz:**



Dichtschließende Schutzbrille

### ABSCHNITT 9: Physikalische und chemische Eigenschaften

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

##### · Allgemeine Angaben

##### · Aussehen:

**Form:** Flüssigkeit

**Farbe:** Klar

· **Geruch:** Charakteristisch

· **Geruchsschwelle:** Nicht bestimmt.

· **pH-Wert:** Nicht bestimmt.

##### · Zustandsänderung

**Schmelzpunkt/Gefrierpunkt:** Nicht bestimmt.

**Siedebeginn und Siedebereich:** 100 °C

· **Flammpunkt:** 85 °C

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

· **Zersetzungstemperatur:** Nicht bestimmt.

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

· **Explosive Eigenschaften:** Nicht bestimmt.

##### · Explosionsgrenzen:

**Untere:** Nicht bestimmt.

**Obere:** Nicht bestimmt.

· **Dampfdruck bei 20 °C:** 23 hPa

· **Dichte bei 20 °C:** 0,98817 g/cm<sup>3</sup>

· **Relative Dichte** Nicht bestimmt.

· **Dampfdichte** Nicht bestimmt.

· **Verdampfungsgeschwindigkeit** Nicht bestimmt.

##### · Löslichkeit in / Mischbarkeit mit

**Wasser:** Nicht bzw. wenig mischbar.

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

##### · Viskosität:

**Dynamisch:** Nicht bestimmt.

**Kinematisch:** Nicht bestimmt.

##### · Lösemittelgehalt:

**Organische Lösemittel:** 6,0 %

**Wasser:** 84,0 %

**VOC (EU)** 6,00 %

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<b>Festkörpergehalt:</b>	0,0 %
<b>9.2 Sonstige Angaben</b>	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** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

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

**50-00-0 Formaldehyd**

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

**67-56-1 Methanol**

Oral	LD50	5.628 mg/kg (rat)
Dermal	LD50	15.800 mg/kg (rabbit)

- **Primäre Reizwirkung:**
- **Ätz-/Reizwirkung auf die Haut** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Schwere Augenschädigung/-reizung** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **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 Organe schädigen.
- **Spezifische Zielorgan-Toxizität bei wiederholter Exposition**  
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Aspirationsgefahr** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

### ABSCHNITT 12: Umweltbezogene Angaben

- **12.1 Toxizität**
- **Aquatische Toxizität:** Keine weiteren relevanten Informationen verfügbar.
- **12.2 Persistenz und Abbaubarkeit** Keine weiteren relevanten Informationen verfügbar.
- **12.3 Bioakkumulationspotenzial** Keine weiteren relevanten Informationen verfügbar.
- **12.4 Mobilität im Boden** Keine weiteren relevanten Informationen verfügbar.

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- **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.

### ABSCHNITT 14: Angaben zum Transport

- |   |                  |
|---|------------------|
| · <b>14.1 UN-Nummer</b>   |                  |
| · <b>ADR, ADN, IMDG, IATA</b>   | entfällt         |
| · <b>14.2 Ordnungsgemäße UN-Versandbezeichnung</b>  |                  |
| · <b>ADR, ADN, IMDG, IATA</b>   | entfällt         |
| · <b>14.3 Transportgefahrenklassen</b>  |                  |
| · <b>ADR, ADN, IMDG, IATA</b>   |                  |
| · <b>Klasse</b>   | entfällt         |
| · <b>14.4 Verpackungsgruppe</b>   |                  |
| · <b>ADR, IMDG, IATA</b>  | entfällt         |
| · <b>14.5 Umweltgefahren:</b>   | Nicht anwendbar. |
| · <b>14.6 Besondere Vorsichtsmaßnahmen für den Verwender</b>                                    | Nicht anwendbar. |
| · <b>14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens und gemäß IBC-Code</b> | Nicht anwendbar. |
| · <b>UN "Model Regulation":</b>   | 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, 69

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- **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 | 84,0        |
| I      | 6,0         |
- **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**  
H225 Flüssigkeit und Dampf leicht entzündbar.  
H301 Giftig bei Verschlucken.  
H302 Gesundheitsschädlich bei Verschlucken.  
H311 Giftig bei Hautkontakt.  
H312 Gesundheitsschädlich bei Hautkontakt.  
H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.  
H315 Verursacht Hautreizungen.  
H317 Kann allergische Hautreaktionen verursachen.  
H331 Giftig bei Einatmen.  
H332 Gesundheitsschädlich bei Einatmen.  
H341 Kann vermutlich genetische Defekte verursachen.  
H350 Kann Krebs erzeugen.  
H370 Schädigt die Organe.
- **Abkürzungen und Akronyme:**  
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
VOC: Volatile Organic Compounds (USA, EU)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
Flam. Liq. 2: Entzündbare Flüssigkeiten – Kategorie 2  
Acute Tox. 3: Akute Toxizität – Kategorie 3  
Acute Tox. 4: Akute Toxizität – Kategorie 4  
Skin Corr. 1B: Hautreizende/-ätzende Wirkung – Kategorie 1B  
Skin Irrit. 2: Hautreizende/-ätzende Wirkung – Kategorie 2  
Skin Sens. 1: Sensibilisierung der Haut – Kategorie 1  
Muta. 2: Keimzellmutagenität – Kategorie 2  
Carc. 1B: Karzinogenität – Kategorie 1B

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STOT SE 1: Spezifische Zielorgan-Toxizität (einmalige Exposition) – Kategorie 1  
STOT SE 2: Spezifische Zielorgan-Toxizität (einmalige Exposition) – Kategorie 2

(Fortsetzung von Seite 8)

DE

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

Stampato il: 22.08.2018

Revisione: 22.08.2018

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

· **1.1 Identificatore del prodotto**

· **Denominazione commerciale:** FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION

· **Articolo numero:** 15740, 15740-01, 15740-04

· **1.2 Usi identificati pertinenti della sostanza o della miscela e usi sconsigliati**  
Non sono disponibili altre informazioni.

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

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

· **Produttore/fornitore:**

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

Societa Italiana Chimici  
Via Rio Nell Ellba 140  
00138 Rome, Italy  
Tel: 39 06 8800211  
Fax: 39 30 06 8815313  
Web: www.sichim.com

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

· **1.4 Numero telefonico di emergenza:**

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

### SEZIONE 2: Identificazione dei pericoli

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

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



GHS08 pericolo per la salute

Muta. 2 H341 Sospettato di provocare alterazioni genetiche.

Carc. 1B H350 Può provocare il cancro.

STOT SE 2 H371 Può provocare danni agli organi.



GHS07

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

· **2.2 Elementi dell'etichetta**

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

Il prodotto è classificato ed etichettato conformemente al regolamento CLP.

· **Pittogrammi di pericolo**



GHS07



GHS08

(continua a pagina 2)

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

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(Segue da pagina 1)

· **Avvertenza Pericolo**

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

formaldeide  
 metanolo

· **Indicazioni di pericolo**

H317 Può provocare una reazione allergica cutanea.

H341 Sospettato di provocare alterazioni genetiche.

H350 Può provocare il cancro.

H371 Può provocare danni agli organi.

· **Consigli di prudenza**

P260 Non respirare la polvere/i fumi/i gas/la nebbia/i vapori/gli aerosol.

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

P308+P313 IN CASO di esposizione o di possibile esposizione, consultare un medico.

P333+P313 In caso di irritazione o eruzione della pelle: consultare un medico.

P405 Conservare sotto chiave.

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

· **2.3 Altri pericoli**

· **Risultati della valutazione PBT e vPvB**

· **PBT:** Non applicabile.














· **vPvB:** Non applicabile.

**SEZIONE 3: Composizione/informazioni sugli ingredienti**

· **3.2 Caratteristiche chimiche: Miscela**

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

· **Sostanze pericolose:**

CAS: 50-00-0 EINECS: 200-001-8	formaldeide  Acute Tox. 3, H301;  Acute Tox. 3, H311;  Acute Tox. 3, H331;  Muta. 2, H341;  Carc. 1B, H350;  Skin Corr. 1B, H314;  Skin Sens. 1, H317	>2,5-≤10%
CAS: 67-56-1 EINECS: 200-659-6	metanolo  Flam. Liq. 2, H225;  STOT SE 1, H370;  Acute Tox. 4, H302;  Acute Tox. 4, H312;  Acute Tox. 4, H332;  Skin Irrit. 2, H315	>2,5-≤10%

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

**SEZIONE 4: Misure di primo soccorso**

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

· **Indicazioni generali:**

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

· **Inalazione:**

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

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

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

· **Contatto con gli occhi:** Lavare con acqua corrente per alcuni minuti tenendo le palpebre ben aperte.

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

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

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**Scheda di dati di sicurezza**  
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- **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:**  
CO<sub>2</sub>, 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 infiltrazioni nella fognatura/nelle acque superficiali/nelle acque freatiche.
- **6.3 Metodi e materiali per il contenimento e per la bonifica:**  
Raccogliere il liquido con materiale assorbente (sabbia, tripoli, legante di acidi, legante universale, segatura).  
Smaltimento del materiale contaminato conformemente al punto 13.  
Provvedere ad una sufficiente areazione.
- **6.4 Riferimento ad altre sezioni**  
Per informazioni relative ad un manipolazione sicura, vedere capitolo 7.  
Per informazioni relative all'equipaggiamento protettivo ad uso personale vedere Capitolo 8.  
Per informazioni relative allo smaltimento vedere Capitolo 13.

### SEZIONE 7: Manipolazione e immagazzinamento

- **7.1 Precauzioni per la manipolazione sicura**  
Accurata ventilazione/aspirazione nei luoghi di lavoro.  
Aprire e manipolare i recipienti con cautela.  
Evitare la formazione di aerosol.
- **Indicazioni in caso di incendio ed esplosione:** Tener pronto il respiratore.
- **7.2 Condizioni per 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/m <sup>3</sup> , 0,3 ppm sen, A2
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**67-56-1 metanolo**

TWA	Valore a breve termine: 328 mg/m <sup>3</sup> , 250 ppm Valore a lungo termine: 262 mg/m <sup>3</sup> , 200 ppm Cute, IBE
VL	Valore a lungo termine: 260 mg/m <sup>3</sup> , 200 ppm Pelle

· **Componenti con valori limite biologici:****67-56-1 metanolo**

IBE	15 mg/l Campioni: urine Momento del prelievo: a fine turno Indicatore biologico: metanolo
-----	--

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

· **8.2 Controlli dell'esposizione**· **Mezzi protettivi individuali:**· **Norme generali protettive e di igiene del lavoro:**

- Tenere lontano da cibo, bevande e foraggi.
- Togliere immediatamente gli abiti contaminati.
- Lavarsi le mani prima dell'intervallo o a lavoro terminato.
- Custodire separatamente l'equipaggiamento protettivo.
- Evitare il contatto con la pelle.
- Evitare il contatto con gli occhi e la pelle.

· **Maschera protettiva:**

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

· **Guanti protettivi:**

Guanti protettivi

Il materiale dei guanti deve essere impermeabile e stabile contro il prodotto/ la sostanza/ la formulazione.

A causa della mancanza di tests non può essere consigliato alcun tipo di materiale per i guanti con cui manipolare il prodotto / la formulazione / la miscela di sostanze chimiche.

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

· **Materiale dei guanti**

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

· **Tempo di permeazione del materiale dei guanti**

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

· **Occhiali protettivi:**

Occhiali protettivi a tenuta

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### SEZIONE 9: Proprietà fisiche e chimiche

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

· **Indicazioni generali**

· **Aspetto:**

**Forma:** Liquido

**Colore:** Chiaro

· **Odore:** Caratteristico

· **Soglia olfattiva:** Non definito.

· **valori di pH:** Non definito.

· **Cambiamento di stato**

**Punto di fusione/punto di congelamento:** Non definito.

**Punto di ebollizione iniziale e intervallo di ebollizione:** 100 °C

· **Punto di infiammabilità:** 85 °C

· **Infiammabilità (solidi, gas):** Non applicabile.

· **Temperatura di decomposizione:** Non definito.

· **Temperatura di autoaccensione:** Prodotto non autoinfiammabile.

· **Proprietà esplosive:** Non definito.

· **Limiti di infiammabilità:**

**Inferiore:** Non definito.

**Superiore:** Non definito.

· **Tensione di vapore a 20 °C:** 23 hPa

· **Densità a 20 °C:** 0,98817 g/cm<sup>3</sup>

· **Densità relativa** Non definito.

· **Densità di vapore:** Non definito.

· **Velocità di evaporazione** Non definito.

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

Poco e/o non miscibile.

· **Coefficiente di ripartizione: n-ottanolo/acqua:** Non definito.

· **Viscosità:**

**Dinamica:** Non definito.

**Cinematica:** Non definito.

· **Tenore del solvente:**

**Solventi organici:** 6,0 %

**Acqua:** 84,0 %

**VOC (CE)** 6,00 %

**Contenuto solido:** 0,0 %

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

### SEZIONE 10: Stabilità e reattività

· **10.1 Reattività** Non sono disponibili altre informazioni.

· **10.2 Stabilità chimica**

· **Decomposizione termica/ condizioni da evitare:** Il prodotto non si decompone se utilizzato secondo le norme.

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- **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** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

- **Valori LD/LC50 rilevanti per la classificazione:**

#### 50-00-0 formaldeide

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

#### 67-56-1 metanolo

Orale	LD50	5.628 mg/kg (rat)
Cutaneo	LD50	15.800 mg/kg (rabbit)

- **Irritabilità primaria:**
- **Corrosione/irritazione cutanea** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Lesioni oculari gravi/irritazioni oculari gravi**  
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **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 provocare danni agli organi.
- **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  
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.

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· **12.6 Altri effetti avversi** Non sono disponibili altre informazioni.

### SEZIONE 13: Considerazioni sullo smaltimento

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

### SEZIONE 14: Informazioni sul trasporto

- |   |                  |
|---|------------------|
| · <b>14.1 Numero ONU</b>  |                  |
| · <b>ADR, ADN, IMDG, IATA</b>   | non applicabile  |
| · <b>14.2 Nome di spedizione dell'ONU</b>   |                  |
| · <b>ADR, ADN, IMDG, IATA</b>   | non applicabile  |
| · <b>14.3 Classi di pericolo connesso al trasporto</b>                              |                  |
| · <b>ADR, ADN, IMDG, IATA</b>   |                  |
| · <b>Classe</b>   | non applicabile  |
| · <b>14.4 Gruppo di imballaggio</b>   |                  |
| · <b>ADR, IMDG, IATA</b>  | non applicabile  |
| · <b>14.5 Pericoli per l'ambiente:</b>  | Non applicabile. |
| · <b>14.6 Precauzioni speciali per gli utilizzatori</b>                             | Non applicabile. |
| · <b>14.7 Trasporto di rinfuse secondo l'allegato II di MARPOL ed il codice IBC</b> | Non applicabile. |
| · <b>UN "Model Regulation":</b>   | 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, 69
  - **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     | 6,0        |
- **15.2 Valutazione della sicurezza chimica:** Una valutazione della sicurezza chimica non è stata effettuata.

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**Scheda di dati di sicurezza**  
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### **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**

- H225 Liquido e vapori facilmente infiammabili.
- H301 Tossico se ingerito.
- H302 Nocivo se ingerito.
- H311 Tossico per contatto con la pelle.
- H312 Nocivo per contatto con la pelle.
- H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.
- H315 Provoca irritazione cutanea.
- H317 Può provocare una reazione allergica cutanea.
- H331 Tossico se inalato.
- H332 Nocivo se inalato.
- H341 Sospettato di provocare alterazioni genetiche.
- H350 Può provocare il cancro.
- H370 Provoca danni agli organi.

· **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
- Flam. Liq. 2: Liquidi infiammabili – Categoria 2
- Acute Tox. 3: Tossicità acuta – Categoria 3
- Acute Tox. 4: Tossicità acuta – Categoria 4
- Skin Corr. 1B: Corrosione/irritazione della pelle – Categoria 1B
- Skin Irrit. 2: Corrosione/irritazione della pelle – 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 1: Tossicità specifica per organi bersaglio (esposizione singola) – Categoria 1
- STOT SE 2: Tossicità specifica per organi bersaglio (esposizione singola) – Categoria 2

# 물질안전보건자료 GHS에 따라

기압점: 2018.08.22

개정: 2018.08.22

## 1 화학제품과 회사에 관한 정보

- **제품 식별자**
- **제품명: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**
- **상품번호: 15740, 15740-01, 15740-04**
- **해당 순물질이나 혼합물의 관련 하위용도 및 사용금지용도** 추가적인 정보가 존재하지 않습니다.
- **제품의 권고 용도와 사용상의 제한: 실험실 화학품**
- **안전데이터표(Safety Data Sheet)내 공급업체 관련 상세 정보**
- **제조사/수입자/유통업자 정보:**  
 Electron Microscopy Sciences  
 1560 Industry Road  
 USA-Hatfield, PA 19440  
 Tel: 215-412-8400 Fax: 215-412-8450  
 email: sgkcck@aol.com  
 www.emsdiasum.com  
  
 Samchang Commercial Co., Ltd.  
 Yeo Eui Do  
 PO Box 1110  
 Seoul, Korea  
 Tel: 82 2 703 3040  
 Fax: 82 2 717 3298  
  
 -----  
 Daedok Science, Co. Ltd.  
 34141 E10 Korea Advanced Institute of Science  
 Guseong-Dong, Yuseong-gu, Daejeon,  
 Korea  
 Phone: 82 42 710 2091  
 Fax: 82 42 367 0005  
 Website: www.labsmro.com
- **추가적인 정보 획득 가능: Product safety department**
- **비상연락 전화번호:**  
 ChemTrec 1-800-424-9300 Contract CCN7661  
 1-703-527-3887

## 2 유해성·위험성

- **순물질 또는 혼합물의 분류**



건강에 위험

생식세포 변이원성 - 구분 2                      H341 유전적인 결함을 일으킬 것으로 의심됨  
 발암성 - 구분 1B                                      H350 암을 일으킬 수 있음  
 특정표적장기 독성 - 1회 노출 - 구분 2 H371 신체 중에 손상을 일으킬 수 있음



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

- **라벨표기 요소**
- **GHS 라벨 요소**  
 본 제품은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.

(2 쪽에 계속)

# 물질안전보건자료

## GHS에 따라

기압점: 2018.08.22

개정: 2018.08.22

**제품명: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(1 쪽부터계속)

· **그림문자**



GHS07 GHS08

· **신호어 위험**

· **상표상에명확히위험성이표시된성분:**

포르말린  
메틸알코올

· **유해.위험 문구**

알레르기성 피부 반응을 일으킬 수 있음  
유전적인 결함을 일으킬 것으로 의심됨  
암을 일으킬 수 있음  
신체 중에 손상을 일으킬 수 있음

· **예방조치 문구**

(분진·흙·가스·미스트·증기·스프레이)를(을) 흡입하지 마시오.  
(보호장갑·보호의·보안경·안면보호구)를(을) 착용하십시오.  
노출되거나 노출이 우려되면 의학적인 조치·조언을 구하십시오.  
피부자극성 또는 홍반이 나타나면 의학적인 조치·조언을 구하십시오.  
잠금장치가 있는 저장장소에 저장하십시오.  
현지/지역/국가/국제 규정에 따라서 내용물/용기 노출

· **기타 유해성**

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

### 3 구성성분의 명칭 및 함유량

· **화학적 특성: 혼합물**

· **설명:** 무해한 첨가물이 함유된 아래에 열거된 물질로 만들어진 혼합물.

· **위험요소:**

50-00-0	포르말린 ⚠ 급성 독성 - 경구 - 구분 3, H301; ⚠ 급성 독성 - 경피 - 구분 3, H311; ⚠ 급성 독성 - 흡입 - 구분 3, H331; ⚠ 생식세포 변이원성 - 구분 2, H341; ⚠ 발암성 - 구분 1B, H350; ⚠ 피부 부식성/피부 자극성 - 구분 1, H314; ⚠ 피부 과민성 - 구분 1, H317	>2.5-≤10%
67-56-1	메틸알코올 ⚠ 인화성 액체 - 구분 2, H225; ⚠ 특정표적장기 독성 - 1회 노출 - 구분 1, H370; ⚠ 급성 독성 - 경구 - 구분 4, H302; ⚠ 급성 독성 - 경피 - 구분 4, H312; ⚠ 급성 독성 - 흡입 - 구분 4, H332; ⚠ 심한 눈 손상성/눈 자극성 - 구분 2, H319	>2.5-≤10%

### 4 응급조치 요령

· **응급조치요령 내용**

· **일반적 정보:**

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

· **흡입했을 때:**

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

(3 쪽에계속)

# 물질안전보건자료

## GHS에 따라

기압점: 2018.08.22

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(2 쪽부터계속)

- **피부에 접촉했을 때:** 즉시물과비누로씻고잘헹군다.
- **눈에 들어갔을 때:** 흐르는 물에 눈을 몇분동안 씻어낸다.
- **먹었을 때:** 증상이 지속될 경우에는 의사와 상 담 한 다.
- **기타 의사의 주의사항:**
- **가장 중요한 급·만성 증상 및 영향** 추가적인 정보가 존재하지 않습니다.
- **즉각적인 의료처치 및 특별치료가 필요함을 시사하는 징후** 추가적인 정보가 존재하지 않습니다.

### 5 폭발·화재시 대처방법

- 소화제
- **적절한 소화제:**  
이산화탄소, 진화용 석회 가루 또는 물 방사를 사용하고, 더 큰 화재는 물을 분사 하 거 나 알 코 올 이 함유된 거품으로 끈다.
- **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 응급처치 절차** 필요없음.
- **환경 관련 예방조치:** 하수도망/해수면위의물/지하수로도달하지않게한다.
- **밀폐 및 정화 방법과 소재:**  
액체가 혼합된 물질(모래, 규조토, 산성 결합 물, 일반 결합 물, 톱밥)에 흡입되도록 한다.  
항목 13에 따라 오염된 물질을 쓰레기로 처분한다.  
충분한 환기가 되도록 한다.
- **타 섹션 참조**  
안전 관리에 대한 정보는 제7 장 을 참고하시오.  
개인 보호 장 비에 대한 정보는 제8 장 을 참고하시오.  
쓰레기 처리에 대한 정보는 제13 장 을 참고하시오.

### 7 취급 및 저장방법

- 취급:
- **안전 취급을 위한 예방조치**  
작업장에서는통풍이잘되고/습기제거가잘되게주의한다.  
조심스럽게용기를 개봉하거나취급한다.  
연무질이형성되는것을피한다.
- **화재 및 폭발 사고 예방대책에 관한 정보:** 호흡보호장비를항상비치한다.
- **혼합위험성 등 안전 저장 조건**
- 보관:
- **안전한 저장 방법:** 특 별 한 요구사항이 없음.
- **하나의 공동 보관 시설에 대한 보관 관련 정보:** 필 요없음
- **보 관 조 건 에 관 한 추가적인 정보:** 용기를새지않게밀폐한채보관한다.
- **구체적 최종 사용자** 추가적인 정보가 존재하지 않습니다.

### 8 노출방지 및 개인보호구

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

(4 쪽에계속)



# 물질안전보건자료

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기압점: 2018.08.22

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**통제 변수**

**· 화학물질의 노출기준, 생물학적 노출기준 등:**

<b>50-00-0 포르말린</b>	
TLV (KR)	장기간의값: 0.3 ppm
PEL (US)	단기간의값: 2 ppm 장기간의값: 0.75 ppm see 29 CFR 1910.1048(c)
REL (US)	장기간의값: 0.016 ppm 최고노출기준: 0.1* ppm *15-min; See Pocket Guide App. A
TLV (US)	단기간의값: 0.37 mg/m <sup>3</sup> , 0.3 ppm 장기간의값: 0.12 mg/m <sup>3</sup> , 0.1 ppm DSEN; RSEN
<b>67-56-1 메틸알코올</b>	
TLV (KR)	단기간의값: 250 ppm 장기간의값: 200 ppm Skin
IOELV (EU)	장기간의값: 260 mg/m <sup>3</sup> , 200 ppm Skin
PEL (US)	장기간의값: 260 mg/m <sup>3</sup> , 200 ppm
REL (US)	단기간의값: 325 mg/m <sup>3</sup> , 250 ppm 장기간의값: 260 mg/m <sup>3</sup> , 200 ppm Skin
TLV (US)	단기간의값: 328 mg/m <sup>3</sup> , 250 ppm 장기간의값: 262 mg/m <sup>3</sup> , 200 ppm Skin; BEI

**· 추가 정보:** 제조할 당시에 유효한 목록을 기초로 사용했다.

**· 노출 통제**

**· 개인 보호구**

**· 일반적보호조치및위생조치:**

- 식료품, 음료수와 사료로부터 멀리 떨어져 두어 놓는다.
- 더러워지거나 음료수가 묻은 옷은 즉시 탈의한다.
- 휴식 전이나 작업이 끝날때마다 손을 씻는다.
- 방호복은 따로 보관한다.
- 피부와의 접촉을 피한다.
- 눈과 피부와의 접촉을 피한다.

**· 호흡기 보호:**

단시간 또는 경미한 오염의 경우에는 호흡여과기를 사용한다. 심각한 또는 장기간 노출시에는 호흡보호장비를 사용한다.

**· 손 보호:**



보호용 장갑

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

(5 쪽에계속)

# 물질안전보건자료

## GHS에 따라

기압점: 2018.08.22

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(4 쪽부터계속)

- **장갑 의재료**  
적합한장갑의선정은재질차이뿐만아니라품질기준의차이도고려하여이루어져야하고제조업종에따라서도다르게선정되어야한다. 제품은다양한재료로부터의조제로이루어지는것이기때문에, 장갑재질의안정성은사전에예측되어질수있는것이아니고, 반드시사용전에 (그안전성이) 체크되어야한다.
- **장갑 재료 의 투과시간** 정확한관통시간은보호장갑제조자에의하여인지되고, 준수되어야한다.
- **눈 보호:**



확조이는보안경

### 9 물리화학적 특성

· <b>기본 물리 및 화학적 특성에 대한 정보</b>	
· <b>일반정보</b>	
· <b>외형</b>	
· 물리적 상태:	액체
· 색:	밝은
· 냄새:	특색있는
· 후각역치	알맞지않다.
· pH:	알맞지않다.
· <b>상태변화</b>	
· 녹는점/어는점:	맞지않는
· 초기 끓는점과 끓는점 범위:	100 °C
· 인화점:	85 °C
· 인화성(고체, 기체):	해당사항 없음.
· 분해 온도:	알맞지않다.
· 자기점화:	이제품은자연발화성이없다.
· 폭발위험:	알맞지않다.
· <b>인화 또는 폭발 범위의 상한/하한</b>	
· 아래로:	알맞지않다.
· 위로:	알맞지않다.
· 증기압 의경우 20 °C:	23 hPa
· 밀도 의경우 20 °C:	0.98817 g/cm <sup>3</sup>
· 비중:	알맞지않다.
· 증기밀도:	알맞지않다.
· 증발 속도:	알맞지않다.
· <b>용해도:</b>	
· 물:	각각의경우에따라서는거의혼합할수없는
· n 옥탄올/물 분배계수:	알맞지않다.
· <b>점도:</b>	
· 역학성:	알맞지않다.
· 동점성:	알맞지않다.
· <b>용매내용물</b>	
· 유기용매:	6.0 %

(6 쪽에계속)

# 물질안전보건자료

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<b>물:</b>	84.0 %
<b>VOC (EU)</b>	6.00 %
<b>고체의 함량:</b>	0.0 %
<b>기타 정보</b>	추가적인 정보가 존재하지 않습니다.

### 10 안정성 및 반응성

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

### 11 독성에 관한 정보

- 독성학적 영향에 대한 정보
- 급성 독성:

<b>LD/LC50-수치에 따른 분류:</b>		
<b>50-00-0 포르말린</b>		
구강의	LD50	>200 mg/kg (rat)
<b>67-56-1 메틸알코올</b>		
구강의	LD50	5,628 mg/kg (rat)
피부의	LD50	15,800 mg/kg (rabbit)

- 일차적 자극 효과:
- 피부 부식성 또는 자극성: 피부와점막을자극한다.
- 심한 눈 손상 또는 자극성: 무자극.
- 감각화: 피부접촉을통하여감각화가능성이있다.
- 추가적인 독성에 관한 정보:  
이제품은유럽공동체의공동분류원칙의합법적인절차에근거하여최근에발효된원고에서아래위험들의사전 준비에대하여제시하고있다.  
건강에해로운  
자극적인  
암을유발하는
- 다음 종류의 잠재적인 효과에 대한 정보
- CMR-효과 (암 유발, 돌연변이성 그리고 생식 독성)  
생식세포 변이원성 - 구분 2, 발암성 - 구분 1B

### 12 환경에 미치는 영향

- 독성
- 수생독성: 추가적인 정보가 존재하지 않습니다.
- 지속성 및 분해성 추가적인 정보가 존재하지 않습니다.
- 환경 시스템에서의 행동:
- 생물농축 잠재성 추가적인 정보가 존재하지 않습니다.
- 토양내 이동성 추가적인 정보가 존재하지 않습니다.

(7 쪽에계속)

# 물질안전보건자료

## GHS에 따라

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(6 쪽부터계속)

- **추가적인 생태학 정보:**
- **일반 특징:**  
수질오염등급 2 (자체등급분류): 수질오염이된 지하수나, 하천으로또는 하수도망에도달하지않게한다. 지하수로경미한양이유입되었을경우엔이미식수오염상태이다
- **PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과**
- **PBT(잔류성, 생물농축성, 독성 물질):** 해당사항 없음.
- **vPvB(고 잔류성, 고 생물농축성 물질):** 해당사항 없음.
- **기타 부작용** 추가적인 정보가 존재하지 않습니다.

### 13 폐기시 주의사항

- **폐기물 처리 방법**
- **권고:** 생활쓰레기와함께처리되어서는안된다. 하수도망으로유입되어서는안된다.
- **비위생적 포장:**
- **권고:** 당국의지침에입각한쓰레기처리.

### 14 운송에 필요한 정보

· 유엔 번호	
· ADR, ADN, IMDG, IATA	누락되다
· UN 적정 선적명	
· ADR, ADN, IMDG, IATA	누락되다
· 교통 위험 클래스	
· ADR, ADN, IMDG, IATA	
· 등급	누락되다
· 용기등급	
· ADR, IMDG, IATA	누락되다
· 환경적 유해물질:	해당사항 없음.
· 이용자 특별 예방조치	해당사항 없음.
· MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(bulk) 운송	해당사항 없음.
· UN "모범 규제":	누락되다

### 15 법적 규제현황

- **산업안전보건법에 의한 규제:**

· <b>제조 등 금지물질:</b>	
어떠한내용물도목록화되어있지않다	
· <b>허가대상물질:</b>	
어떠한내용물도목록화되어있지않다	
· <b>관리대상유해물질:</b>	
50-00-0 포르말린	

(8 쪽에계속)

# 물질안전보건자료

## GHS에 따라

기압점: 2018.08.22

개정: 2018.08.22

**제품명: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(7 쪽부터계속)

67-56-1	메틸알코올	
· 해당 순물질 또는 혼합물에 대한 안전, 보건 및 환경 규제/법률		
· Korean Existing Chemical Inventory		
7558-79-4	disodium hydrogenorthophosphate	KE-12344
50-00-0	포르말린	KE-17074
67-56-1	메틸알코올	KE-23193
7732-18-5	Deionized Water, Reagent Grade A.C.S.	KE-35400

· 화학물질관리법		
· 사고대비물질		
50-00-0	포르말린	
67-56-1	메틸알코올	

· 금지물질		
어떠한내용물도목록화되어있지않다		

· 제한물질		
50-00-0	포르말린	

· 유독물질		
50-00-0	포르말린	
67-56-1	메틸알코올	

· 허가물질		
50-00-0	포르말린	
67-56-1	메틸알코올	

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



GHS07    GHS08

· **신호어 위험**

· **상표상에명확히위험성이표시된성분:**  
 포르말린  
 메틸알코올

· **유해.위험 문구**  
 알레르기성 피부 반응을 일으킬 수 있음  
 유전적인 결함을 일으킬 것으로 의심됨  
 암을 일으킬 수 있음  
 신체 중에 손상을 일으킬 수 있음

· **예방조치 문구**  
 (분진·흙·가스·미스트·증기·스프레이)를(을) 흡입하지 마시오.  
 (보호장갑·보호의·보안경·안면보호구)를(을) 착용하시오.  
 노출되거나 노출이 우려되면 의학적인 조치·조언을 구하시오.  
 피부자극성 또는 홍반이 나타나면 의학적인 조치·조언을 구하시오.  
 잠금장치가 있는 저장장소에 저장하시오.  
 현지/지역/국가/국제 규정에 따라서 내용물/용기 노출

(9 쪽에계속)

# 물질안전보건자료

## GHS에 따라

기압점: 2018.08.22

개정: 2018.08.22

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(8 쪽부터계속)

· **국내규정:**

· **사용제한에 대한 정보:**

노동자들은이러한예방준비하에암을유발시키는성분을함유한위험물을버리지말아야한다. 개별적인경우에관청은예외를허가할수있다.

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

### 16 그 밖의 참고사항

이보고는우리지식에대한오늘날의상태에대하여평가하고있다, 하지만이보고서는생산특성에관한보증은기술하지않았으며계약적인법률관계에기반을두고있지도않다

· **최초 작성일자:** 2018.08.22

· **개정 횟수 및 최종 개정일자:** 1 / 2018.08.22

· **약어와 두문자어:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

# 物質安全資料表

## 根據 GB/T 16483-2008, GB/T 17519-2013

打印日期 2018.08.22

在 2018.08.22 審核

### 1 化學品及企業標識

- 產品識別者
- 化學品中文(英文)名稱, 化學品俗名或商品名: FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION
- 商品編號: 15740, 15740-01, 15740-04
- 相應純物質或者混合物的相關下位用途及禁止用途 無相關詳細資料。
- 原材料的應用/準備工作進行 實驗室化學物
- 安全技術說明書內供應商詳細信息
- 企業名稱:  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- 可獲取更多資料的部門: Product safety department
- 緊急聯繫電話號碼:  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### 2 危險性概述

#### · 緊急情況概述:

純淨的, 液體, 可燃液體。吸入可能有害。造成輕微皮膚刺激。可能造成皮膚過敏。懷疑造成遺傳性缺陷。可能致癌。可能會對器官造成傷害。

#### · GHS危險性類別



健康危險

生殖細胞致突變性物質 第2級	H341 懷疑造成遺傳性缺陷
致癌物質 第1B級	H350 可能致癌
特定標的器官系統毒性物質(單一暴露) 第2級	H371 可能會對器官造成傷害



皮膚過敏物質 第1級	H317 可能造成皮膚過敏
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易燃液體 第4級	H227 可燃液體
急毒性物質(吸入) 第5級	H333 吸入可能有害
腐蝕/刺激皮膚物質 第3級	H316 造成輕微皮膚刺激

#### · 標籤因素

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

#### · 圖示



GHS07 GHS08

(在 2 頁繼續)

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(在 1 頁繼續)

## · 名稱 危險

## · 標籤上辨別危險的成份:

福爾馬林溶液  
木精

## · 危險字句

可燃液體  
吸入可能有害  
造成輕微皮膚刺激  
可能造成皮膚過敏  
懷疑造成遺傳性缺陷  
可能致癌  
可能會對器官造成傷害

## · 警戒字句

## · 預防措施

遠離明火/熱表面。—禁止吸煙。  
不要吸入粉塵/煙煙/氣體/霧滴/蒸氣/噴霧。  
穿戴防護手套/防護衣物/眼睛防護具/臉部防護具。

## · 事故響應

如誤吸入: 如感覺不適, 呼叫解毒中心/醫生

## · 安全貯存

加鎖存放。

## · 廢棄處置

按照地方/區域/國家/國際法規處理內容物之廢棄/容器。

## · 其他有害性

- PBT(殘留性、生物濃縮性、毒性物質) 及 vPvB(高殘留性、高生物濃縮性物質) 評價結果
- PBT(殘留性、生物濃縮性、毒性物質) 不適用的
- vPvB(高殘留性、高生物濃縮性物質): 不適用的

### 3 成分/組成資訊

## · 混合物

· 描述: 由以下含有無害添加劑的成分組成的混合物

## · 危險的成分:

50-00-0	福爾馬林溶液 ⚠ 急毒性物質(吞食) 第3級, H301; 急毒性物質(皮膚) 第3級, H311; 急毒性物質(吸入) 第3級, H331; ⚠ 生殖細胞致突變性物質 第2級, H341; 致癌物質 第1B級, H350; ⚠ 腐蝕/刺激皮膚物質 第1B級, H314; ⚠ 皮膚過敏物質 第1級, H317	>2.5-≤10%
67-56-1	木精 ⚠ 易燃液體 第2級, H225; ⚠ 特定標的器官系統毒性物質(單一暴露) 第1級, H370; ⚠ 急毒性物質(吞食) 第4級, H302; 急毒性物質(皮膚) 第4級, H312; 急毒性物質(吸入) 第4級, H332; 腐蝕/刺激皮膚物質 第3級, H316; 嚴重損傷/刺激眼睛物質 第2B級, H320	>2.5-≤10%

### 4 急救措施

## · 應急措施要領

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

## · 吸入:

供給新鮮空氣並且確保會叫醫生。  
萬一病人不清醒時, 請讓病人側躺以便移動。

(在 3 頁繼續)



# 物質安全資料表

根據 GB/T 16483-2008, GB/T 17519-2013

打印日期 2018.08.22

在 2018.08.22 審核

**化學品中文(英文)名稱, 化學品俗名或商品名 :** FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION

(在 2 頁繼續)

- **皮膚接觸:** 馬上用水和肥皂進行徹底的沖洗。
- **眼睛接觸:** 張開眼睛在流水下沖洗數分鐘。
- **食入:** 如果症狀仍然持續,請諮詢醫生。
- **給醫生的資料:**
- **最重要的急性性症狀及其影響** 無相關詳細資料。
- **需要及時的醫療處理及特別處理的症狀** 無相關詳細資料。

## 5 消防措施

- **滅火方法**
- **滅火的方法和滅火劑:** 二氧化碳 (CO<sub>2</sub>)、滅火粉末或灑水。使用灑水或抗酒精泡沫滅火劑撲滅較大的火種。
- **特別危險性** 無相關詳細資料。
- **特殊滅火方法**
- **消防人員特殊的防護裝備:** 口腔呼吸保護裝置。

## 6 洩漏應急處理

- **保護措施** 沒有要求。
- **環境保護措施:** 切勿讓其進入下水道/水面或地下水。
- **密封及淨化方法和材料:**  
吸收液體粘合原料 (沙粒、矽藻土、酸性粘合劑、通用粘合劑、鋸屑)。  
根據第 13 條條款棄置受汙染物。  
確保有足夠的通風裝置。
- **參照其他部分**  
有關安全處理的資料請參閱第 7 節。  
有關個人保護裝備的資料請參閱第 8 節。  
有關棄置的資料請參閱第 13 節。

## 7 操作處置與儲存

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

## 8 接觸控制和個體防護

- **工程控制方法:** 沒有進一步數據,見第 7 項。

(在 4 頁繼續)

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(在 3 頁繼續)

## · 控制變數

## · 在工作場需要監控的限值成分

**50-00-0 福爾馬林溶液**PEL (TW) PC-TWA: 1.2 mg/m<sup>3</sup>, 1 ppmOEL (CN) 上限值: 0.5 mg/m<sup>3</sup>**67-56-1 木精**PEL (TW) PC-TWA: 262 mg/m<sup>3</sup>, 200 ppmOEL (CN) PC-STEL: 50 mg/m<sup>3</sup>  
PC-TWA: 25 mg/m<sup>3</sup>· **額外的資料:** 制作期間有效的清單將作為基礎來使用。

## · 遺漏控制

## · 個人防護設備:

## · 一般保護和衛生措施:

遠離食品、飲料和飼料。

立即除去所有的不潔的和被汙染的衣服。

在休息之前和工作完畢後請清洗雙手。

分開儲存保護性衣服。

避免和皮膚接觸。

避免和眼睛及皮膚接觸。

## · 呼吸系統防護:

如果會短暫接觸或在低汙染的情況下,請使用呼吸過濾裝置。如果會深入或較長時間接觸,請使用獨立的呼吸保護裝置。

## · 手防護:



保護手套

手套的物料必須是不滲透性的,且能抵抗該產品/物質/添加劑。

基於缺乏測試,對於產品/制劑/化學混合物,並不會提供手套材料的建議

選擇手套材料時,請注意材料的滲透時間,滲濾率和降解參數

## · 手套材料

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

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

## · 眼睛防護:



密封的護目鏡

**9 理化特性**

## · 有關基本物理及化學特性的資訊

## · 一般說明

## · 外觀:

形狀: 液體

顏色: 純淨的

(在 5 頁繼續)

## 物質安全資料表

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(在 4 頁繼續)

· 氣味:	有特性的
· 嗅覺閾限	未決定.
· pH值:	未決定.
· 條件的更改	
熔點:	未確定的
沸點/初沸點和沸程:	100 °C
· 閃點:	85 °C
· 可燃性 (固體、氣體):	不適用的
· 分解溫度:	未決定.
· 自燃溫度:	該產品是不自燃的
· 爆炸的危險性:	未決定.
· 爆炸極限:	
較低:	未決定.
較高:	未決定.
· 蒸氣壓 在 20 °C:	23 hPa
· 密度 在 20 °C:	0.98817 g/cm <sup>3</sup>
· 相對密度	未決定.
· 蒸氣密度	未決定.
· 蒸發速率	未決定.
· 溶解性	
水:	不能拌和的或難以拌和
· n-辛醇/水分配係數:	未決定.
· 黏性:	
動態:	未決定.
運動學的:	未決定.
· 溶劑成份:	
有機溶劑:	6.0 %
水:	84.0 %
固體成份:	0.0 %
· 其他資訊	無相關詳細資料。

## 10 穩定性和反應性

- 反應性 無相關詳細資料。
- 穩定性
- 熱分解/要避免的情況: 如果遵照規格使用則不會分解.
- 有害反應可能性 未有已知的危險反應.
- 應避免的條件 無相關詳細資料。
- 不相容的物質: 無相關詳細資料。
- 危險的分解產物: 未知有危險的分解產品.

TW

(在 6 頁繼續)

## 物質安全資料表

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(在 5 頁繼續)

**11 毒理學資訊**

- 對毒性學影響的資訊
- 急性毒性:

- 與分類相關的 LD/LC50 值:

**50-00-0 福爾馬林溶液**

口腔	LD50	>200 mg/kg (rat)
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**67-56-1 木精**

口腔	LD50	5,628 mg/kg (rat)
----	------	-------------------

皮膚	LD50	15,800 mg/kg (rabbit)
----	------	-----------------------

- 主要的刺激性影響:

- 皮膚: 刺激皮膚和粘膜。
- 在眼睛上面: 沒有刺激的影響。
- 致敏作用: 通過皮膚接觸可能造成敏化作用。

- 更多毒物的資料:

根據有關配製的一般歐盟分類指南的計算方法 (刊印在最新版本), 該產品顯示以下的危險:

- 有害的
- 刺激性的
- 致癌的。

- 對以下組別可能產生影響的資料:

- CMR作用 (致癌、導致基因突變、對生殖系統有害)
- 生殖細胞致突變性物質 第2級, 致癌物質 第1B級

**12 生態學資訊**

- 生態毒性

- 水生毒性: 無相關詳細資料。
- 持久性和降解性 無相關詳細資料。
- 環境系統習性:
- 潛在的生物累積性 無相關詳細資料。
- 土壤內移動性 無相關詳細資料。

- 額外的生態學資料:

- 總括注解:

水危害級別 2 (德國規例) (通過名單進行自我評估): 對水是危害的

不要讓該產品接觸地下水、水道或汗水系統。

即使是少量的產品滲入地下也會對飲用水造成危險。

- PBT(殘留性、生物濃縮性、毒性物質) 及 vPvB(高殘留性、高生物濃縮性物質) 評價結果
- PBT(殘留性、生物濃縮性、毒性物質) 不適用的
- vPvB(高殘留性、高生物濃縮性物質): 不適用的
- 其他副作用 無相關詳細資料。

**13 廢棄處置**

- 廢棄處置方法

- 建議: 不能將該產品和家居垃圾一起丟棄。不要讓該產品接觸汗水系統。

(在 7 頁繼續)

## 物質安全資料表

根據 GB/T 16483-2008, GB/T 17519-2013

打印日期 2018.08.22

在 2018.08.22 審核

化學品中文(英文)名稱, 化學品俗名或商品名: **FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(在 6 頁繼續)

- 受污染的容器和包裝:
- 建議: 必須根據官方的規章來丟棄.

## 14 運輸資訊

· 聯合國危險貨物編號(UN號)	
· ADR, ADN, IMDG, IATA	無效
· UN適當裝船名	
· ADR, ADN, IMDG, IATA	無效
· 運輸危險等級	
· ADR, ADN, IMDG, IATA	
· 級別	無效
· 包裝組別	
· ADR, IMDG, IATA	無效
· 危害環境:	不適用的
· 用戶特別預防措施	不適用的
· MARPOL73/78(針對船舶引起的海洋污染預防協約)附件書2及根據IBC Code(國際裝船貨物編碼)的大量運送	不適用的
· UN "標準規定":	無效

## 15 法規資訊

- 對相應純物質或者混合物的安全、保健及環境法規/法律

- 中國現有化學物質名錄

列出所有成分

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

- 圖示



GHS07 GHS08

- 名稱 危險
- 標籤上辨別危險的成份:  
福爾馬林溶液  
木精
- 危險字句  
可燃液體  
吸入可能有害  
造成輕微皮膚刺激  
可能造成皮膚過敏  
懷疑造成遺傳性缺陷  
可能致癌

(在 8 頁繼續)

# 物質安全資料表

## 根據 GB/T 16483-2008, GB/T 17519-2013

打印日期 2018.08.22

在 2018.08.22 審核

**化學品中文(英文)名稱, 化學品俗名或商品名 : FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION**

(在 7 頁繼續)

可能會對器官造成傷害

· **警戒字句**

· **預防措施**

遠離明火/熱表面。 — 禁止吸煙。  
不要吸入粉塵/煙煙/氣體/霧滴/蒸氣/噴霧。  
穿戴防護手套/防護衣物/眼睛防護具/臉部防護具。

· **事故響應**

如誤吸入：如感覺不適，呼叫解毒中心/醫生

· **安全貯存**

加鎖存放。

· **廢棄處置**

按照地方/區域/國家/國際法規處理內容物之廢棄/容器。

· **國家的規章：**

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

## 16 其他資訊

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

· **縮寫：**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: 持久性生物累積性有毒物質

vPvB: very Persistent and very Bioaccumulative

易燃液體 第2級: Flammable liquids – Category 2

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

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

急毒性物質(吞食) 第4級: Acute toxicity – Category 4

急毒性物質(吸入) 第5級: Acute toxicity – Category 5

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

腐蝕/刺激皮膚物質 第3級: Skin corrosion/irritation – Category 3

嚴重損傷/刺激眼睛物質 第2B級: Serious eye damage/eye irritation – Category 2B

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

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

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

特定標的器官系統毒性物質(單一暴露) 第1級: Specific target organ toxicity (single exposure) – Category 1

特定標的器官系統毒性物質(單一暴露) 第2級: Specific target organ toxicity (single exposure) – Category 2

**Ficha de dados de segurança**  
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Revisão: 22.08.2018

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

- **1.1 Identificador do produto**
- **Nome comercial:** FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION
- **Código do produto:** 15740, 15740-01, 15740-04
- **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: sgkcck@aol.com  
www.emsdiasum.com
- **Entidade para obtenção de informações adicionais:** Product safety department
- **1.4 Número de telefone de emergência:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### SECÇÃO 2: Identificação dos perigos

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



GHS08 perigo para a saúde

Muta. 2 H341 Suspeito de provocar anomalias genéticas.

Carc. 1B H350 Pode provocar cancro.

STOT SE 2 H371 Pode afectar os órgãos.



GHS07

Skin Sens. 1 H317 Pode provocar uma reacção alérgica cutânea.

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



GHS07



GHS08

- **Palavra-sinal Perigo**
- **Componentes determinantes para os perigos constantes do rótulo:**  
formaldeído  
metanol
- **Advertências de perigo**  
H317 Pode provocar uma reacção alérgica cutânea.

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H341 Suspeito de provocar anomalias genéticas.

H350 Pode provocar cancro.

H371 Pode afectar os órgãos.

**· Recomendações de prudência**

P260 Não respirar as poeiras/fumos/gases/névoas/vapores/aerossóis.

P280 Usar luvas de protecção/vestuário de protecção/protecção ocular/protecção facial.

P308+P313 EM CASO DE exposição ou suspeita de exposição: consulte um médico.

P333+P313 Em caso de irritação ou erupção cutânea: consulte um médico.

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	formaldeído	>2,5-≤10%
EINECS: 200-001-8	☠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ☠ Muta. 2, H341; Carc. 1B, H350; ☠ Skin Corr. 1B, H314; ☠ Skin Sens. 1, H317	
CAS: 67-56-1	metanol	>2,5-≤10%
EINECS: 200-659-6	☠ Flam. Liq. 2, H225; ☠ STOT SE 1, H370; ☠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	

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

### SECÇÃO 4: Medidas de primeiros socorros

**· 4.1 Descrição das medidas de primeiros socorros**

**· Indicações gerais:**

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

**· Em caso de inalação:**

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

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

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

**· Em caso de contacto com os olhos:**

Enxaguar os olhos durante alguns minutos sob água corrente, mantendo as pálpebras abertas.

· **Em caso de ingestão:** Se os sintomas persistirem, consultar 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.

PT

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### **SECÇÃO 5: Medidas de combate a incêndios**

- **5.1 Meios de extinção**
- **Meios adequados de extinção:**  
CO<sub>2</sub>, 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:** 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.  
Abrir e manusear o recipiente com cuidado  
Evitar a formação de aerossóis.
- **Precauções para prevenir incêndios e explosões:** Manter uma máscara de respiração sempre preparada.
- **7.2 Condições de armazenagem segura, incluindo eventuais incompatibilidades**
- **Armazenagem:**
- **Requisitos para espaços ou contentores para armazenagem:** Sem requisitos especiais.
- **Avisos para armazenagem conjunta:** Não necessário.
- **Outros avisos sobre as condições de armazenagem:** Manter o recipiente hermeticamente fechado.
- **7.3 Utilização(ões) final(is) específica(s)** Não existe mais nenhuma informação relevante disponível.

### **SECÇÃO 8: Controlo da exposição/Protecção individual**

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

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

**50-00-0 formaldeído**

VLE	Valor limite de exposição – concentração máxima: 0,3 ppm (S); A2; Irritação ocular e do TRS
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(continuação na página 4)

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( continuação da página 3 )

**67-56-1 metanol**

VLE	Valor para exposição curta: 250 ppm Valor para exposição longa: 200 ppm P; IBE; Cefaleias; lesão ocular; tonturas; náuseas
-----	--

· **Componentes con valores-limite biológicos:****67-56-1 metanol**

IBE	15 mg/L Amostra: urina Momento da amostragem: Fim do turno Indicador biológico: Metanol
-----	--

· **Indicações adicionais:** Foram utilizadas como base as listas válidas à data da elaboração.· **8.2 Controlo da exposição**· **Equipamento de protecção individual:**· **Medidas gerais de protecção e higiene:**

Manter afastado de alimentos, bebidas e forragens.  
Despir imediatamente a roupa contaminada e embebida.  
Lavar as mãos antes das pausas e no fim do trabalho.  
Guardar o vestuário de protecção separadamente.  
Evitar o contacto com a pele.  
Evitar o contacto com os olhos e com a pele.

· **Protecção respiratória:**

Utilizar uma máscara respiratória se a exposição for reduzida ou durante um curto espaço de tempo; se esta for mais prolongada ou mais intensa, utilizar uma máscara respiratória independente do ar ambiente.

· **Protecção das mãos:**

Luvas de protecção

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, conseqüentemente, das luvas, sendo assim necessário proceder a uma verificação antes da sua utilização.

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

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

· **Protecção dos olhos:**

Óculos de protecção totalmente fechados

PT

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( continuação da página 4 )

### SECÇÃO 9: Propriedades físico-químicas

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

· **Informações gerais**

· **Aspeto:**

**Forma:** Líquido

**Cor:** Claro

· **Odor:** Característico

· **Limiar olfactivo:** Não classificado.

· **valor pH:** Não classificado.

· **Mudança do estado:**

**Ponto de fusão/ponto de congelação:** Não classificado.

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

· **Ponto de inflamação:** 85 °C

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

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

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

· **Propriedades explosivas:** Não classificado.

· **Limites de explosão:**

**Inferior:** Não classificado.

**Superior:** Não classificado.

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

· **Densidade em 20 °C:** 0,98817 g/cm<sup>3</sup>

· **Densidade relativa** Não classificado.

· **Densidade de vapor** Não classificado.

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

· **Solubilidade em / miscibilidade com água:**

Pouco misturável.

· **Coefficiente de partição: n-octanol/água** Não classificado.

· **Viscosidade:**

**Dinâmico:** Não classificado.

**Cinemático:** Não classificado.

· **Percentagem de solvente:**

**Solventes orgânicos:** 6,0 %

**Água:** 84,0 %

**VOC (UE)** 6,00 %

**Percentagem de substâncias sólidas:** 0,0 %

· **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 reações perigosas.

( continuação na página 6 )

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(continuação da página 5)

- **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** Com base nos dados disponíveis, os critérios de classificação não são preenchidos.

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

#### 50-00-0 formaldeído

por via oral	LD50	>200 mg/kg (rat)
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#### 67-56-1 metanol

por via oral	LD50	5.628 mg/kg (rat)
por via dérmica	LD50	15.800 mg/kg (rabbit)

- **Efeito de irritabilidade primário:**
- **Corrosão/irritação cutânea** Com base nos dados disponíveis, os critérios de classificação não são preenchidos.
- **Lesões oculares graves/irritação ocular**  
Com base nos dados disponíveis, os critérios de classificação não são preenchidos.
- **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 afectar os órgãos.
- **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.  
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.

PT

(continuação na página 7)

**Ficha de dados de segurança**  
em conformidade com 1907/2006/CE, Artigo 31º

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(continuação da página 6)

### **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.

### **SECÇÃO 14: Informações relativas ao transporte**

- |   |                |
|---|----------------|
| · <b>14.1 Número ONU</b>  |                |
| · <b>ADR, ADN, IMDG, IATA</b>   | não aplicável  |
| · <b>14.2 Designação oficial de transporte da ONU</b>   |                |
| · <b>ADR, ADN, IMDG, IATA</b>   | não aplicável  |
| · <b>14.3 Classes de perigo para efeitos de transporte</b>  |                |
| · <b>ADR, ADN, IMDG, IATA</b>   |                |
| · <b>Classe</b>   | não aplicável  |
| · <b>14.4 Grupo de embalagem</b>  |                |
| · <b>ADR, IMDG, IATA</b>  | não aplicável  |
| · <b>14.5 Perigos para o ambiente:</b>  | Não aplicável. |
| · <b>14.6 Precauções especiais para o utilizador</b>  | Não aplicável. |
| · <b>14.7 Transporte a granel em conformidade com o anexo II da Convenção MARPOL e o Código IBC</b> | Não aplicável. |
| · <b>UN "Model Regulation":</b>   | 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, 69**
- **Disposições nacionais:**
- **Avisos para limitação da exposição no local de trabalho:**  
Os trabalhadores não devem ser expostos às substâncias perigosas contidas nesta preparação que podem causar cancro. Em casos isolados os serviços públicos podem permitir exceções.
- **15.2 Avaliação da segurança química:** Não foi realizada nenhuma Avaliação de Segurança Química.

### **SECÇÃO 16: Outras informações**

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

- **Frases relevantes**
- H225 Líquido e vapor facilmente inflamáveis.
- H301 Tóxico por ingestão.

(continuação na página 8)

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H302 Nocivo por ingestão.  
 H311 Tóxico em contacto com a pele.  
 H312 Nocivo em contacto com a pele.  
 H314 Provoca queimaduras na pele e lesões oculares graves.  
 H315 Provoca irritação cutânea.  
 H317 Pode provocar uma reacção alérgica cutânea.  
 H331 Tóxico por inalação.  
 H332 Nocivo por inalação.  
 H341 Suspeito de provocar anomalias genéticas.  
 H350 Pode provocar cancro.  
 H370 Afecta os órgãos.

**· 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  
 Flam. Liq. 2: Líquidos inflamáveis – Categoria 2  
 Acute Tox. 3: Toxicidade aguda – Categoria 3  
 Acute Tox. 4: Toxicidade aguda – Categoria 4  
 Skin Corr. 1B: Corrosão/irritação cutânea – Categoria 1B  
 Skin Irrit. 2: Corrosão/irritação cutânea – Categoria 2  
 Skin Sens. 1: Sensibilização cutânea – Categoria 1  
 Muta. 2: Mutagenicidade em células germinativas – Categoria 2  
 Carc. 1B: Carcinogenicidade – Categoria 1B  
 STOT SE 1: Toxicidade para órgãos-alvo específicos (exposição única) – Categoria 1  
 STOT SE 2: Toxicidade para órgãos-alvo específicos (exposição única) – Categoria 2

-PT-

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

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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:** FORMALIN, FORMALDEHYDE, 10% BUFFERED SOLUTION
- **Número del artículo:** 15740, 15740-01, 15740-04
- **1.2 Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados**  
No existen más datos relevantes disponibles.
- **Utilización del producto / de la elaboración** Sustancias químicas de laboratorio
- **1.3 Datos del proveedor de la ficha de datos de seguridad**
- **Fabricante/distribuidor:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Aname**  
C/ Perez Galdos no. 2  
28693 Quijorna  
Madrid, Spain  
Tel: +34.91.816.89.50  
Fax: +34.91.816.85.94  
email: ventas@aname.es
- **Área de información:** Product safety department
- **1.4 Teléfono de emergencia:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### SECCIÓN 2: Identificación de los peligros

- **2.1 Clasificación de la sustancia o de la mezcla**
- **Clasificación con arreglo al Reglamento (CE) n° 1272/2008**



GHS08 peligro para la salud

Muta. 2 H341 Se sospecha que provoca defectos genéticos.

Carc. 1B H350 Puede provocar cáncer.

STOT SE 2 H371 Puede provocar daños en los órganos.



GHS07

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

- **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.

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**Pictogramas de peligro**


GHS07 GHS08

**Palabra de advertencia Peligro**
**Componentes peligrosos a indicar en el etiquetaje:**

formaldehído  
metanol

**Indicaciones de peligro**

H317 Puede provocar una reacción alérgica en la piel.  
H341 Se sospecha que provoca defectos genéticos.  
H350 Puede provocar cáncer.  
H371 Puede provocar daños en los órganos.

**Consejos de prudencia**

P260 No respirar el polvo/el humo/el gas/la niebla/los vapores/el aerosol.  
P280 Llevar guantes/prendas/gafas/máscara de protección.  
P308+P313 EN CASO DE exposición manifiesta o presunta: Consultar a un médico.  
P333+P313 En caso de irritación o erupción cutánea: Consultar a un médico.  
P405 Guardar bajo llave.  
P501 Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional.

**2.3 Otros peligros**
**Resultados de la valoración PBT y mPmB**

**PBT:** No aplicable.  
**mPmB:** No aplicable.

### SECCIÓN 3: Composición/información sobre los componentes

**3.2 Caracterización química: Mezclas**

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

**Componentes peligrosos:**

CAS: 50-00-0 EINECS: 200-001-8	formaldehído 	>2,5-≤10%
CAS: 67-56-1 EINECS: 200-659-6	metanol 	>2,5-≤10%

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

### SECCIÓN 4: Primeros auxilios

**4.1 Descripción de los primeros auxilios**
**Instrucciones generales:**

Los síntomas de intoxicación pueden presentarse después de muchas horas, por lo que se requiere una supervisión médica durante un mínimo de 48 horas después del accidente.

**En caso de inhalación del producto:**

Suministrar suficiente aire fresco y, para mayor seguridad, consultar el médico.

Las personas desmayadas deben tenderse y transportarse de lado con la suficiente estabilidad.

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- **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 ingestión:** Consultar un médico si los trastornos persisten.
- **4.2 Principales síntomas y efectos, agudos y retardados** No existen más datos relevantes disponibles.
- **4.3 Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente**  
No existen más datos relevantes disponibles.

### SECCIÓN 5: Medidas de lucha contra incendios

- **5.1 Medios de extinción**
- **Sustancias extintoras apropiadas:**  
CO<sub>2</sub>, 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:**  
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.
- **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.

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### · 8.1 Parámetros de control

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

##### 50-00-0 formaldehído

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

##### 67-56-1 metanol

LEP	Valor de larga duración: 266 mg/m <sup>3</sup> , 200 ppm vía dérmica, VLB, VLI
-----	---

#### · Componentes con valores límite biológicos:

##### 67-56-1 metanol

VLB	15 mg/l Muestra: orina Momento de Muestero: Final de la jornada laboral Indicador Biológico: Metanol
-----	---

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

### · 8.2 Controles de la exposición

#### · Equipo de protección individual:

#### · Medidas generales de protección e higiene:

Mantener alejado de alimentos, bebidas y alimentos para animales.

Quitarse de inmediato la ropa ensuciada o impregnada.

Lavarse las manos antes de las pausas y al final del trabajo.

Guardar la ropa protectora por separado.

Evitar el contacto con la piel.

Evitar el contacto con los ojos y la piel.

#### · Protección respiratoria:

Si la exposición va a ser breve o de poca intensidad, colocarse una máscara respiratoria. Para una exposición más intensa o de mayor duración, usar un aparato de respiración autónomo.

#### · Protección de manos:



Guantes de protección

El material del guante deberá ser impermeable y resistente al producto / sustancia / preparado.

Ante la ausencia de tests específicos, no se puede recomendar ningún material específico para guantes de protección contra el producto / preparado / mezcla de sustancias químicas.

Selección del material de los guantes en función de los tiempos de rotura, grado de permeabilidad y degradación.

#### · Material de los guantes

La elección del guante adecuado no depende únicamente del material, sino también de otras características de calidad, que pueden variar de un fabricante a otro. Teniendo en cuenta que el producto está fabricado a partir de diferentes materiales, su calidad no puede ser evaluada de antemano, de modo que los guantes deberán ser controlados antes de su utilización.

#### · Tiempo de penetración del material de los guantes

El tiempo de resistencia a la penetración exacto deberá ser pedido al fabricante de los guantes. Este tiempo debe ser respetado.

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· **Protección de ojos:**

Gafas de protección herméticas

### SECCIÓN 9: Propiedades físicas y químicas

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

##### · Datos generales

##### · Aspecto:

Forma: Líquido

Color: Claro

· Olor: Característico

· Umbral olfativo: No determinado.

· valor pH: No determinado.

##### · Cambio de estado

Punto de fusión/punto de congelación: Indeterminado.

Punto inicial de ebullición e intervalo de ebullición: 100 °C

· Punto de inflamación: 85 °C

· Inflamabilidad (sólido, gas): No aplicable.

· Temperatura de descomposición: No determinado.

· Temperatura de auto-inflamación: El producto no es autoinflamable.

· Propiedades explosivas: No determinado.

##### · Límites de explosión:

Inferior: No determinado.

Superior: No determinado.

· Presión de vapor a 20 °C: 23 hPa

· Densidad a 20 °C: 0,98817 g/cm<sup>3</sup>

· Densidad relativa: No determinado.

· Densidad de vapor: No determinado.

· Tasa de evaporación: No determinado.

##### · Solubilidad en / miscibilidad con agua:

Poco o no mezclable.

· Coeficiente de reparto: n-octanol/agua: No determinado.

##### · Viscosidad:

Dinámica: No determinado.

Cinemática: No determinado.

##### · Concentración del disolvente:

Disolventes orgánicos: 6,0 %

Agua: 84,0 %

VOC (CE) 6,00 %

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** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

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

#### 50-00-0 formaldehído

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

#### 67-56-1 metanol

Oral	LD50	5.628 mg/kg (rat)
Dermal	LD50	15.800 mg/kg (rabbit)

- **Efecto estimulante primario:**
- **Corrosión o irritación cutáneas** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Lesiones o irritación ocular graves**  
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **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 provocar daños en los órganos.
- **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.

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- **Indicaciones medioambientales adicionales:**
- **Indicaciones generales:**  
*Nivel de riesgo para el agua 2 (autoclasiación): peligroso para el agua*  
*No dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados.*  
*Una cantidad mínima vertida en el subsuelo ya representa un peligro para el agua potable.*
- **12.5 Resultados de la valoración PBT y mPmB**
- **PBT:** No aplicable.
- **mPmB:** No aplicable.
- **12.6 Otros efectos adversos** No existen más datos relevantes disponibles.

### SECCIÓN 13: Consideraciones relativas a la eliminación

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

### SECCIÓN 14: Información relativa al transporte

- |   |               |
|---|---------------|
| · <b>14.1 Número ONU</b>  |               |
| · <b>ADR, ADN, IMDG, IATA</b>   | suprimido     |
| · <b>14.2 Designación oficial de transporte de las Naciones Unidas</b>                        |               |
| · <b>ADR, ADN, IMDG, IATA</b>   | suprimido     |
| · <b>14.3 Clase(s) de peligro para el transporte</b>  |               |
| · <b>ADR, ADN, IMDG, IATA</b>   |               |
| · <b>Clase</b>  | suprimido     |
| · <b>14.4 Grupo de embalaje</b>   |               |
| · <b>ADR, IMDG, IATA</b>  | suprimido     |
| · <b>14.5 Peligros para el medio ambiente:</b>  | No aplicable. |
| · <b>14.6 Precauciones particulares para los usuarios</b>                                     | No aplicable. |
| · <b>14.7 Transporte a granel con arreglo al anexo II del Convenio MARPOL y el Código IBC</b> | No aplicable. |
| · <b>"Reglamentación Modelo" de la UNECE:</b>   | 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) n° 1907/2006 ANEXO XVII** Restricciones: 3, 28, 69

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

### SECCIÓN 16: Otra información

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

- **Frases relevantes**

- H225 Líquido y vapores muy inflamables.
- H301 Tóxico en caso de ingestión.
- H302 Nocivo en caso de ingestión.
- H311 Tóxico en contacto con la piel.
- H312 Nocivo en contacto con la piel.
- H314 Provoca quemaduras graves en la piel y lesiones oculares graves.
- H315 Provoca irritación cutánea.
- H317 Puede provocar una reacción alérgica en la piel.
- H331 Tóxico en caso de inhalación.
- H332 Nocivo en caso de inhalación.
- H341 Se sospecha que provoca defectos genéticos.
- H350 Puede provocar cáncer.
- H370 Provoca daños en los órganos.

- **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
- Flam. Liq. 2: Líquidos inflamables – Categoría 2
- Acute Tox. 3: Toxicidad aguda – Categoría 3
- Acute Tox. 4: Toxicidad aguda – Categoría 4
- Skin Corr. 1B: Corrosión o irritación cutáneas – Categoría 1B
- Skin Irrit. 2: Corrosión o irritación cutáneas – Categoría 2
- Skin Sens. 1: Sensibilización cutánea – Categoría 1
- Muta. 2: Mutagenicidad en células germinales – Categoría 2
- Carc. 1B: Carcinogenicidad – Categoría 1B
- STOT SE 1: Toxicidad específica en determinados órganos ( exposición única) – Categoría 1
- STOT SE 2: Toxicidad específica en determinados órganos ( exposición única) – Categoría 2