

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/07/2022

Reviewed on 07/07/2022

## 1 Identification

- **Product identifier**
- **Trade name:** FORMALIN SOLUTION, 50%
- **Article number:** 26698-03
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 Electron Microscopy Sciences  
 1560 Industry Road  
 USA-Hatfield, PA 19440  
 Tel: 215-412-8400 Fax: 215-412-8450  
 email: info@emsdiasum.com  
 www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
 ChemTrec 1-800-424-9300 Contract CCN7661  
 1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids 1                      H224 Extremely flammable liquid and vapor.



GHS08 Health hazard

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



GHS05 Corrosion

Skin Corrosion 1B                      H314 Causes severe skin burns and eye damage.  
 Eye Damage 1                              H318 Causes serious eye damage.



GHS07

Acute Toxicity - Oral 4                      H302 Harmful if swallowed.  
 Acute Toxicity - Dermal 4                H312 Harmful in contact with skin.  
 Acute Toxicity - Inhalation 4            H332 Harmful if inhaled.  
 Sensitization - Skin 1                      H317 May cause an allergic skin reaction.

- **Label elements**

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

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**Trade name: FORMALIN SOLUTION, 50%**

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· **Hazard pictograms**



· **Signal word** *Danger*

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

*formaldehyde*

*Ethyl alcohol*

· **Hazard statements**

*Extremely flammable liquid and vapor.*

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

*Causes severe skin burns and eye damage.*

*May cause an allergic skin reaction.*

*Suspected of causing genetic defects.*

*May cause cancer.*

· **Precautionary statements**

*Obtain special instructions before use.*

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

*Keep away from heat/sparks/open flames/hot surfaces. - No smoking.*

*Keep container tightly closed.*

*Ground/bond container and receiving equipment.*

*Use explosion-proof electrical/ventilating/lighting/equipment.*

*Use only non-sparking tools.*

*Take precautionary measures against static discharge.*

*Do not breathe dusts or mists.*

*Wash thoroughly after handling.*

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

*Use only outdoors or in a well-ventilated area.*

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

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

*If swallowed: Call a poison center/doctor if you feel unwell.*

*If swallowed: Rinse mouth. Do NOT induce vomiting.*

*If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*

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

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

*Continue rinsing.*

*Immediately call a poison center/doctor.*

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

*Specific treatment (see on this label).*

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

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

*Wash contaminated clothing before reuse.*

*In case of fire: Use CO<sub>2</sub>, powder or water spray to extinguish.*

*Store in a well-ventilated place. Keep cool.*

*Store locked up.*

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

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



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



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

### 3 Composition/information on ingredients

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

- **Dangerous components:**

50-00-0	formaldehyde	>25-≤50%
64-17-5	Ethyl alcohol	>2.5-≤10%

### 4 First-aid measures

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

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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- **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**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralizing agent.  
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
64-17-5	Ethyl alcohol	1,800 ppm

- **PAC-2:**

50-00-0	formaldehyde	14 ppm
64-17-5	Ethyl alcohol	3300* ppm

- **PAC-3:**

50-00-0	formaldehyde	56 ppm
64-17-5	Ethyl alcohol	15000* ppm

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect from heat.  
Protect against electrostatic charges.  
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.

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- **Further information about storage conditions:**  
 Keep receptacle tightly sealed.  
 Store in cool, dry conditions in well sealed receptacles.  
 Protect from heat and direct sunlight.
- **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: 0.3 ppm Long-term value: 0.1 ppm DSEN; RSEN, AI

### 64-17-5 Ethyl alcohol

PEL	Long-term value: 1900 mg/m <sup>3</sup> , 1000 ppm
REL	Long-term value: 1900 mg/m <sup>3</sup> , 1000 ppm
TLV	Short-term value: 1000 ppm A3

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



Protective gloves

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

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- **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:** Like aldehyde

- **Odor threshold:** Not determined.

- **pH-value:** Not determined.

- **Change in condition**

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

**Boiling point/Boiling range:** -21 °C (-5.8 °F)

- **Flash point:** 13 °C (55.4 °F)

- **Flammability (solid, gaseous):** Highly flammable.

- **Ignition temperature:** 300 °C (572 °F)

- **Decomposition temperature:** Not determined.

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

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

- **Explosion limits:**

**Lower:** 7 Vol %

**Upper:** 73 Vol %

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

- **Density at 20 °C (68 °F):** 0.8903 g/cm<sup>3</sup> (7.42955 lbs/gal)

- **Relative density** Not determined.

- **Vapor density** Not determined.

- **Evaporation rate** Not determined.

- **Solubility in / Miscibility with**

**Water:** Fully miscible.

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

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· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	55.0 %
<b>Water:</b>	45.0 %
<b>VOC content:</b>	55.00 %
	817.0 g/l / 6.82 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)
------	------	------------------

- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:**  
Strong caustic effect.  
Strong irritant with the danger of severe eye injury.
- **Sensitization:** Sensitization possible through skin contact.

- **Additional toxicological information:**

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

Harmful

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

Carcinogenic.

- **Carcinogenic categories**

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

50-00-0	formaldehyde	I
64-17-5	Ethyl alcohol	I

I

64-17-5 Ethyl alcohol

I

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· **NTP (National Toxicology Program)**

50-00-0 formaldehyde

K

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

50-00-0 formaldehyde

## 12 Ecological information

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

## 13 Disposal considerations

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

## 14 Transport information

- |                                  |                                       |
|----------------------------------|---------------------------------------|
| · <b>UN-Number</b>               |                                       |
| · <b>DOT, ADR, IMDG, IATA</b>    | UN1198                                |
| · <b>UN proper shipping name</b> |                                       |
| · <b>DOT</b>                     | Formaldehyde solutions, flammable     |
| · <b>ADR</b>                     | 1198 FORMALDEHYDE SOLUTION, FLAMMABLE |
| · <b>IMDG, IATA</b>              | FORMALDEHYDE SOLUTION, FLAMMABLE      |

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· **Transport hazard class(es)**

· **DOT**



· **Class** 3 Flammable liquids  
 · **Label** 3, 6.1, 8

· **ADR**



· **Class** 3 Flammable liquids  
 · **Label** 3+6.1+8

· **IMDG**



· **Class** 3 Flammable liquids  
 · **Label** 3/6.1/8

· **IATA**



· **Class** 3 Flammable liquids  
 · **Label** 3 (6.1, 8)

· **Packing group**

· **DOT, ADR, IMDG, IATA** I

· **Environmental hazards:** Not applicable.

· **Special precautions for user** Warning: Flammable liquids

· **Hazard identification number (Kemler code):** 368

· **EMS Number:** F-E,S-C

· **Stowage Category** E

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

· **Segregation Code** SG5 Segregation as for class 3  
 SG8 Stow "away from" class 4.1

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **DOT**

· **Quantity limitations** On passenger aircraft/rail: Forbidden  
 On cargo aircraft only: 2.5 L

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US

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· <b>ADR</b>	
· <b>Excepted quantities (EQ)</b>	Code: E0 Not permitted as Excepted Quantity
<hr style="border-top: 1px dashed black;"/>	
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	0
· <b>Excepted quantities (EQ)</b>	Code: E0 Not permitted as Excepted Quantity
· <b>UN "Model Regulation":</b>	UN 1198 FORMALDEHYDE SOLUTION, FLAMMABLE, 3 (6.1+8), I

## 15 Regulatory information

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

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

50-00-0 formaldehyde

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

50-00-0 formaldehyde

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

All components have the value ACTIVE.

- **Hazardous Air Pollutants**

50-00-0 formaldehyde

- **Proposition 65**

- **Chemicals known to cause cancer:**

50-00-0 formaldehyde

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

64-17-5 Ethyl alcohol

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

50-00-0 formaldehyde

B1

- **TLV (Threshold Limit Value)**

50-00-0 formaldehyde

A2

64-17-5 Ethyl alcohol

A3

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

50-00-0 formaldehyde

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

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· **Hazard pictograms**

GHS02   GHS05   GHS07   GHS08

· **Signal word** *Danger*· **Hazard-determining components of labeling:***formaldehyde**Ethyl alcohol*· **Hazard statements***Extremely flammable liquid and vapor.**Harmful if swallowed, in contact with skin or if inhaled.**Causes severe skin burns and eye damage.**May cause an allergic skin reaction.**Suspected of causing genetic defects.**May cause cancer.*· **Precautionary statements***Obtain special instructions before use.**Do not handle until all safety precautions have been read and understood.**Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**Keep container tightly closed.**Ground/bond container and receiving equipment.**Use explosion-proof electrical/ventilating/lighting/equipment.**Use only non-sparking tools.**Take precautionary measures against static discharge.**Do not breathe dusts or mists.**Wash thoroughly after handling.**Do not eat, drink or smoke when using this product.**Use only outdoors or in a well-ventilated area.**Contaminated work clothing must not be allowed out of the workplace.**Wear protective gloves/protective clothing/eye protection/face protection.**If swallowed: Call a poison center/doctor if you feel unwell.**If swallowed: Rinse mouth. Do NOT induce vomiting.**If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**IF INHALED: Remove person to fresh air and keep comfortable for breathing.**If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.**Continue rinsing.**Immediately call a poison center/doctor.**IF exposed or concerned: Get medical advice/attention.**Specific treatment (see on this label).**Take off contaminated clothing and wash it before reuse.**If skin irritation or rash occurs: Get medical advice/attention.**Wash contaminated clothing before reuse.**In case of fire: Use CO<sub>2</sub>, powder or water spray to extinguish.**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.*

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

### 16 Other information

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

· **Contact:**

· **Date of preparation / last revision** 07/07/2022 / -

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international 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

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**

**Flammable Liquids 1: Flammable liquids – Category 1**

**Acute Toxicity - Oral 4: Acute toxicity – Category 4**

**Skin Corrosion 1B: Skin corrosion/irritation – Category 1B**

**Eye Damage 1: Serious eye damage/eye irritation – Category 1**

**Sensitization - Skin 1: Skin sensitisation – Category 1**

**Germ Cell Mutagenicity 2: Germ cell mutagenicity – Category 2**

**Carcinogenicity 1A: Carcinogenicity – Category 1A**

# Safety Data Sheet

## according to WHS Regulations

Printing date 07.07.2022

Revision: 07.07.2022

### 1 Identification

- **Product identifier**
- **Trade name:** FORMALIN SOLUTION, 50%
- **Article number:** 26698-03
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: [info@emsdiasum.com](mailto:info@emsdiasum.com)  
[www.emsdiasum.com](http://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](http://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](http://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**



GHS02 flame

Flam. Liq. 1 H224 Extremely flammable liquid and vapour.



GHS08 health hazard

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 1A H350 May cause cancer.



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

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## according to WHS Regulations

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GHS07

- Acute Tox. 4 H302 Harmful if swallowed.  
 Acute Tox. 4 H312 Harmful in contact with skin.  
 Acute Tox. 4 H332 Harmful if inhaled.  
 Skin Sens. 1 H317 May cause an allergic skin reaction.

· **Label elements**

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

· **Hazard pictograms**



GHS02

GHS05

GHS07

GHS08

· **Signal word** Danger

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

formaldehyde

Ethyl alcohol

· **Hazard statements**

Extremely flammable liquid and vapour.

Harmful if swallowed.

Harmful in contact with skin.

Harmful if inhaled.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause cancer.

· **Precautionary statements**

Obtain special instructions before use.

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

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Do not breathe dusts or mists.

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

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

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

**IF SWALLOWED:** Call a POISON CENTER/doctor if you feel unwell.

**IF SWALLOWED:** rinse mouth. Do NOT induce vomiting.

**IF ON SKIN (or hair):** Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

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

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

Continue rinsing.

Immediately call a POISON CENTER/doctor.

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

*Specific treatment (see on this label).*

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

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

*Wash contaminated clothing before reuse.*

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

*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	>25-≤50%
64-17-5	Ethyl alcohol	>2.5-≤10%

· **SVHC**

64-17-5	Ethyl alcohol
---------	---------------

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

### 4 First Aid Measures

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

### 5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
  - CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.*

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- **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**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralising agent.  
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 ignition sources away - Do not smoke.  
Protect from heat.  
Protect against electrostatic charges.  
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.  
Protect from heat and direct sunlight.
- **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.

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- **Control parameters**

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

<b>50-00-0 formaldehyde</b>	
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
<b>64-17-5 Ethyl alcohol</b>	
WES	Long-term value: 1880 mg/m <sup>3</sup> , 1000 ppm

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

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

- **Respiratory protection:**

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

- **Protection of hands:**



Protective gloves

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

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

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

- **Material of gloves**

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

- **Penetration time of glove material**

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

- **Eye protection:**



Tightly sealed goggles

## 9 Physical and Chemical Properties

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

- **General Information**

- **Appearance:**

**Form:** Liquid

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· <b>Colour:</b>	Clear
· <b>Odour:</b>	Like aldehyde
· <b>Odour threshold:</b>	Not determined.
· <b>pH-value:</b>	Not determined.
· <b>Change in condition</b>	
<b>Melting point/freezing point:</b>	Undetermined.
<b>Initial boiling point and boiling range:</b>	-21 °C
· <b>Flash point:</b>	13 °C
· <b>Flammability (solid, gas):</b>	Highly flammable.
· <b>Ignition temperature:</b>	300 °C
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto-ignition temperature:</b>	Product is not selfigniting.
· <b>Explosive properties:</b>	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· <b>Explosion limits:</b>	
<b>Lower:</b>	7 Vol %
<b>Upper:</b>	73 Vol %
· <b>Vapour pressure at 20 °C:</b>	23 hPa
· <b>Density at 20 °C:</b>	0.8903 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>	Fully miscible.
· <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>	55.0 %
<b>Water:</b>	45.0 %
<b>VOC (EC)</b>	55.00 %
· <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.

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· **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological Information

· **Information on toxicological effects**· **Acute toxicity**· **LD/LC50 values relevant for classification:****50-00-0 formaldehyde**

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

· **Primary irritant effect:**· **Skin corrosion/irritation** Strong caustic effect on skin and mucous membranes.· **Serious eye damage/irritation**

Strong caustic effect.

Strong irritant with the danger of severe eye injury.

· **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

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

Carcinogenic.

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Muta. 2, Carc. 1A

### 12 Ecological Information

· **Toxicity**· **Aquatic toxicity:** No further relevant information available.· **Persistence and degradability** No further relevant information available.· **Behaviour in environmental systems:**· **Bioaccumulative potential** No further relevant information available.· **Mobility in soil** No further relevant information available.· **Ecotoxicological effects:**· **Remark:** Harmful to fish· **Additional ecological information:**· **General notes:**

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

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

Must not reach sewage water or drainage ditch undiluted or unneutralised.

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

Harmful to aquatic organisms

· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.· **Other adverse effects** No further relevant information available.

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## 13 Disposal considerations

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

## 14 Transport information

<ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>ADG, IMDG, IATA</b></li> </ul>	UN1198
<ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>ADG</b></li> <li>· <b>IMDG, IATA</b></li> </ul>	1198 FORMALDEHYDE SOLUTION, FLAMMABLE FORMALDEHYDE SOLUTION, FLAMMABLE
<ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>ADG</b></li> </ul>	<div style="display: flex; justify-content: space-around; align-items: center;">    </div>
<ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	3 Flammable liquids. 3+6.1+8
<ul style="list-style-type: none"> <li>· <b>IMDG</b></li> </ul>	<div style="display: flex; justify-content: space-around; align-items: center;">    </div>
<ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	3 Flammable liquids. 3/6.1/8
<ul style="list-style-type: none"> <li>· <b>IATA</b></li> </ul>	<div style="display: flex; justify-content: space-around; align-items: center;">    </div>
<ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	3 Flammable liquids. 3 (6.1, 8)
<ul style="list-style-type: none"> <li>· <b>Packing group</b></li> <li>· <b>ADG, IMDG, IATA</b></li> </ul>	I
<ul style="list-style-type: none"> <li>· <b>Environmental hazards:</b></li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· <b>Special precautions for user</b></li> <li>· <b>Hazard identification number (Kemler code):</b></li> <li>· <b>EMS Number:</b></li> <li>· <b>Stowage Category</b></li> </ul>	Warning: Flammable liquids. 368 F-E,S-C E

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· <b>Stowage Code</b>	SW2 Clear of living quarters.
· <b>Segregation Code</b>	SG5 Segregation as for class 3 SG8 Stow "away from" class 4.1
· <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADG</b>	
· <b>Limited quantities (LQ)</b>	0
· <b>Excepted quantities (EQ)</b>	Code: E0 Not permitted as Excepted Quantity
· <b>Transport category</b>	1
· <b>Tunnel restriction code</b>	C/E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	0
· <b>Excepted quantities (EQ)</b>	Code: E0 Not permitted as Excepted Quantity
· <b>UN "Model Regulation":</b>	UN 1198 FORMALDEHYDE SOLUTION, FLAMMABLE, 3 (6.1+8), I

### 15 Regulatory information

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

· **Australian Inventory of Industrial Chemicals**

All ingredients are listed.

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

50-00-0 formaldehyde

S2, S6, S10

· **Australia: Priority Existing Chemicals**

50-00-0 formaldehyde

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

· **Hazard pictograms**



GHS02 GHS05 GHS07 GHS08

· **Signal word** Danger

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

formaldehyde

Ethyl alcohol

· **Hazard statements**

Extremely flammable liquid and vapour.

Harmful if swallowed.

Harmful in contact with skin.

Harmful if inhaled.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Suspected of causing genetic defects.

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*May cause cancer.*

**· Precautionary statements**

*Obtain special instructions before use.*

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

*Keep away from heat/sparks/open flames/hot surfaces. No smoking.*

*Keep container tightly closed.*

*Ground/bond container and receiving equipment.*

*Use explosion-proof electrical/ventilating/lighting equipment.*

*Use only non-sparking tools.*

*Take precautionary measures against static discharge.*

*Do not breathe dusts or mists.*

*Wash thoroughly after handling.*

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

*Use only outdoors or in a well-ventilated area.*

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

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

*IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.*

*IF SWALLOWED: rinse mouth. Do NOT induce vomiting.*

*IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.*

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

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

*Continue rinsing.*

*Immediately call a POISON CENTER/doctor.*

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

*Specific treatment (see on this label).*

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

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

*Wash contaminated clothing before reuse.*

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

*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.

**· Seveso category P5a** FLAMMABLE LIQUIDS

**· Qualifying quantity (tonnes) for the application of lower-tier requirements** 10 t

**· Qualifying quantity (tonnes) for the application of upper-tier requirements** 50 t

**· 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.*

**· Other regulations, limitations and prohibitive regulations**

**· Substances of very high concern (SVHC) according to REACH, Article 57**

64-17-5	Ethyl alcohol
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**· Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

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

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**· Contact:****· Abbreviations and acronyms:**

*ADR: Accord relatif au transport international 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*

*SVHC: Substances of Very High Concern*

*vPvB: very Persistent and very Bioaccumulative*

*Flam. Liq. 1: Flammable liquids – Category 1*

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

*Skin Corr. 1B: Skin corrosion/irritation – Category 1B*

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

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

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

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

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# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 07/07/2022

Reviewed on 07/07/2022

### 1 Identification

- **Product identifier**
- **Trade name:** FORMALIN SOLUTION, 50%
- **Article number:** 26698-03
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 Electron Microscopy Sciences  
 1560 Industry Road  
 USA-Hatfield, PA 19440  
 Tel: 215-412-8400 Fax: 215-412-8450  
 email: info@emsdiasum.com  
 www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
 ChemTrec 1-800-424-9300 Contract CCN7661  
 1-703-527-3887

### 2 Hazard identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids - Category 1

H224 Extremely flammable liquid and vapour.



GHS08 Health hazard

Germ Cell Mutagenicity - Category 2

H341 Suspected of causing genetic defects.

Carcinogenicity - Category 1A

H350 May cause cancer.



GHS05 Corrosion

Skin Corrosion - Category 1B

H314 Causes severe skin burns and eye damage.

Serious Eye Damage - Category 1

H318 Causes serious eye damage.



GHS07

Acute Toxicity (Oral) - Category 4

H302 Harmful if swallowed.

Acute Toxicity (Dermal) - Category 4

H312 Harmful in contact with skin.

Acute Toxicity (Inhalation) - Category 4

H332 Harmful if inhaled.

Skin Sensitizer - Category 1

H317 May cause an allergic skin reaction.

- **Label elements**

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

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## according to HPR, Schedule 1

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Trade name: **FORMALIN SOLUTION, 50%**

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· **Hazard pictograms**

GHS02   GHS05   GHS07   GHS08

· **Signal word** *Danger*· **Hazard-determining components of labeling:***formaldehyde**Ethyl alcohol*· **Hazard statements***Extremely flammable liquid and vapour.**Harmful if swallowed, in contact with skin or if inhaled.**Causes severe skin burns and eye damage.**May cause an allergic skin reaction.**Suspected of causing genetic defects.**May cause cancer.*· **Precautionary statements***Obtain special instructions before use.**Do not handle until all safety precautions have been read and understood.**Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.**Keep container tightly closed.**Ground and bond container and receiving equipment.**Use explosion-proof [electrical/ventilating/lighting] equipment.**Use non-sparking tools.**Take actions to prevent static discharges.**Do not breathe dust/fume/gas/mist/vapours/spray.**Wash thoroughly after handling.**Do not eat, drink or smoke when using this product.**Use only outdoors or in a well-ventilated area.**Contaminated work clothing should not be allowed out of the workplace.**Wear protective gloves/protective clothing/eye protection/face protection.**If swallowed: Call a poison center/doctor if you feel unwell.**IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.**IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].**IF INHALED: Remove person to fresh air and keep comfortable for breathing.**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.**Continue rinsing.**Immediately call a poison center/doctor.**IF exposed or concerned: Get medical advice/attention.**Take off contaminated clothing and wash it before reuse.**Specific measures (see on this label).**If skin irritation or rash occurs: Get medical advice/attention.**Wash contaminated clothing before reuse.**In case of fire: Use CO<sub>2</sub>, powder or water spray to extinguish.**Store in a well-ventilated place. Keep cool.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.*

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



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



### 3 Composition/Information on ingredients

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

- **Dangerous components:**

50-00-0	formaldehyde	30-60% w/w *
64-17-5	Ethyl 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:**  
Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
Immediately call a doctor.  
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
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.

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# Safety Data Sheet

## according to HPR, Schedule 1

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**Trade name:** FORMALIN SOLUTION, 50%

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- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralizing agent.  
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 ignition sources away - Do not smoke.  
Protect from heat.  
Protect against electrostatic charges.  
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.  
Protect from heat and direct sunlight.
- **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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## Safety Data Sheet according to HPR, Schedule 1

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Trade name: **FORMALIN SOLUTION, 50%**

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- **Control parameters**

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

**50-00-0 formaldehyde**

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

**64-17-5 Ethyl alcohol**

EL	STEL: 1000 ppm
EV	TWA: 1,900 mg/m <sup>3</sup> , 1,000 ppm

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

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

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

- **Breathing equipment:**

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

- **Protection of hands:**



Protective gloves

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

- **Material of gloves**

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

- **Penetration time of glove material**

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

- **Eye protection:**



Tightly sealed goggles

CA

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## Safety Data Sheet according to HPR, Schedule 1

Printing date 07/07/2022

Reviewed on 07/07/2022

Trade name: FORMALIN SOLUTION, 50%

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### 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>	Like aldehyde
· <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>	-21 °C

· **Flash point:** 13 °C

· **Flammability (solid, gaseous):** Highly flammable.

· **Ignition temperature:** 300 °C

· **Decomposition temperature:** Not determined.

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

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· **Explosion limits:**

· <b>Lower:</b>	7 Vol %
· <b>Upper:</b>	73 Vol %

· **Vapor pressure at 20 °C:** 23 hPa

· <b>Density at 20 °C:</b>	0.8903 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:** Fully miscible.

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

· **Viscosity:**

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

· **Solvent content:**

· <b>Organic solvents:</b>	55.0 %
· <b>Water:</b>	45.0 %

· **Solids content:** 0.0 %

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

### 10 Stability and reactivity

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

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Trade name: FORMALIN SOLUTION, 50%

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- **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 &gt;200 mg/kg (rat)

- **Primary irritant effect:**

- **on the skin:** Strong caustic effect on skin and mucous membranes.

- **on the eye:**

Strong caustic effect.

Strong irritant with the danger of severe eye injury.

- **Sensitization:** Sensitization possible through skin contact.

- **Additional toxicological information:**

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

Harmful

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

Carcinogenic.

- **Carcinogenic categories**

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

50-00-0 formaldehyde

I

64-17-5 Ethyl alcohol

I

- **NTP (National Toxicology Program)**

50-00-0 formaldehyde

K

### 12 Ecological information

- **Toxicity**

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

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

- **Behavior in environmental systems:**

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

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

- **Ecotoxic effects:**

- **Remark:** Harmful to fish

- **Additional ecological information:**

- **General notes:**

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

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

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# Safety Data Sheet

## according to HPR, Schedule 1

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**Trade name: FORMALIN SOLUTION, 50%**

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*Must not reach bodies of water or drainage ditch undiluted or unneutralized.*

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

*Harmful to aquatic organisms*

**· Results of PBT and vPvB assessment**

**· PBT:** Not applicable.

**· vPvB:** Not applicable.

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

### 13 Disposal considerations

**· Waste treatment methods**

**· Recommendation:**

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

**· Uncleaned packagings:**

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

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

### 14 Transport information

**· UN-Number**

**· DOT/TDG, ADR, IMDG, IATA**

UN1198

**· UN proper shipping name**

**· DOT/TDG**

Formaldehyde solutions, flammable

**· ADR**

1198 Formaldehyde solutions, flammable

**· IMDG, IATA**

FORMALDEHYDE SOLUTION, FLAMMABLE

**· Transport hazard class(es)**

**· DOT/TDG (Transport dangerous goods):**



**· Class**

3 Flammable liquids

**· Label**

3, 6.1, 8

**· ADR**



**· Class**

3 Flammable liquids

**· Label**

3+6.1+8

**· IMDG**



**· Class**

3 Flammable liquids

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according to HPR, Schedule 1

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Trade name: FORMALIN SOLUTION, 50%

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· <b>Label</b>	3/6.1/8
· <b>IATA</b>	
	
· <b>Class</b>	3 Flammable liquids
· <b>Label</b>	3 (6.1, 8)
· <b>Packing group</b>	I
· <b>DOT/TDG, ADR, IMDG, IATA</b>	I
· <b>Environmental hazards:</b>	Not applicable.
· <b>Special precautions for user</b>	Warning: Flammable liquids
· <b>Hazard identification number (Kemler code):</b>	368
· <b>EMS Number:</b>	F-E,S-C
· <b>Stowage Category</b>	E
· <b>Stowage Code</b>	SW2 Clear of living quarters.
· <b>Segregation Code</b>	SG5 Segregation as for class 3 SG8 Stow "away from" class 4.1
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>DOT/TDG</b>	
· <b>Quantity limitations</b>	On passenger aircraft/rail: Forbidden On cargo aircraft only: 2.5 L
· <b>ADR</b>	
· <b>Excepted quantities (EQ)</b>	Code: E0 Not permitted as Excepted Quantity
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	0
· <b>Excepted quantities (EQ)</b>	Code: E0 Not permitted as Excepted Quantity
· <b>UN "Model Regulation":</b>	UN 1198 FORMALDEHYDE SOLUTION, FLAMMABLE, 3 (6.1+8), I

## 15 Regulatory information

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

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

50-00-0 formaldehyde

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

50-00-0 formaldehyde

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

All components have the value ACTIVE.

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· **Canadian substance listings:**

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

All ingredients are listed.

· **Canadian Non-Domestic Substances List (NDSL)**

None of the ingredients is listed.

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

50-00-0 formaldehyde

64-17-5 Ethyl alcohol

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

None of the ingredients is listed.

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

· **Hazard pictograms**



GHS02

GHS05

GHS07

GHS08

· **Signal word** *Danger*

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

formaldehyde

Ethyl alcohol

· **Hazard statements**

Extremely flammable liquid and vapour.

Harmful if swallowed, in contact with skin or if inhaled.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause cancer.

· **Precautionary statements**

Obtain special instructions before use.

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

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Keep container tightly closed.

Ground and bond container and receiving equipment.

Use explosion-proof [electrical/ventilating/lighting] equipment.

Use non-sparking tools.

Take actions to prevent static discharges.

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

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

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

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

If swallowed: Call a poison center/doctor if you feel unwell.

**IF SWALLOWED:** Rinse mouth. Do NOT induce vomiting.

**IF ON SKIN (or hair):** Take off immediately all contaminated clothing. Rinse skin with water [or shower].

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

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

Continue rinsing.

Immediately call a poison center/doctor.

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**Trade name: FORMALIN SOLUTION, 50%**

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

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

*Specific measures (see on this label).*

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

*Wash contaminated clothing before reuse.*

*In case of fire: Use CO<sub>2</sub>, powder or water spray to extinguish.*

*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.*

· **Contact:**

· **Date of the latest revision of the safety data sheet 07/07/2022 / -**

· **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 07.07.2022

Revision: 07.07.2022

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

- **1.1 Product identifier**
- **Trade name:** **FORMALIN SOLUTION, 50%**
- **Article number:** 26698-03
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: [info@emsdiasum.com](mailto:info@emsdiasum.com)  
[www.emsdiasum.com](http://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**



flame

Flam. Liq. 1 H224 Extremely flammable liquid and vapour.



health hazard

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 1B H350 May cause cancer.



corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

Acute Tox. 4 H332 Harmful if inhaled.

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

STOT SE 3 H335 May cause respiratory irritation.

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Trade name: **FORMALIN SOLUTION, 50%**

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## · 2.2 Label elements

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

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

### · Hazard pictograms



GHS02

GHS05

GHS07

GHS08

### · Signal word *Danger*

### · Hazard-determining components of labelling:

formaldehyde

### · Hazard statements

- H224 *Extremely flammable liquid and vapour.*  
 H302+H312+H332 *Harmful if swallowed, in contact with skin or if inhaled.*  
 H314 *Causes severe skin burns and eye damage.*  
 H317 *May cause an allergic skin reaction.*  
 H341 *Suspected of causing genetic defects.*  
 H350 *May cause cancer.*  
 H335 *May cause respiratory irritation.*

### · Precautionary statements

- P303+P361+P353 *IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].*  
 P305+P351+P338 *IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*  
 P310 *Immediately call a POISON CENTER/doctor.*  
 P321 *Specific treatment (see on this label).*  
 P362+P364 *Take off contaminated clothing and wash it before reuse.*  
 P405 *Store locked up.*  
 P501 *Dispose of contents/container in accordance with local/regional/national/international regulations.*

## · 2.3 Other hazards

### · Results of PBT and vPvB assessment

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

## SECTION 3: Composition/information on ingredients

### · 3.2 Chemical characterisation: Mixtures

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

#### · Dangerous components:

CAS: 50-00-0 EINECS: 200-001-8	formaldehyde ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ⚠ Muta. 2, H341; Carc. 1B, H350; ⚠ Skin Corr. 1B, H314; ⚠ Skin Sens. 1, H317	>25-≤50%
CAS: 64-17-5 EINECS: 200-578-6	Ethyl alcohol ⚠ Flam. Liq. 2, H225	>2.5-≤10%

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

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### SECTION 4: First aid measures

#### · 4.1 Description of first aid measures

##### · General information:

Immediately remove any clothing soiled by the product.

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

##### · After inhalation:

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

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

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

##### · After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.

##### · After swallowing:

Call for a doctor immediately.

Drink plenty of water and provide fresh air. Call for a doctor immediately.

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

#### · 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

### SECTION 5: Firefighting measures

#### · 5.1 Extinguishing media

##### · Suitable extinguishing agents:

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.

#### · 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

Wear protective equipment. Keep unprotected persons away.

#### · 6.2 Environmental precautions:

Inform respective authorities in case of seepage into water course or sewage system.

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

#### · 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralising agent.

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.

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- Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
  - Keep ignition sources away - Do not smoke.
  - Protect from heat.
  - Protect against electrostatic charges.
  - Keep respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
  - **Requirements to be met by storerooms and receptacles:** Store in a cool location.
  - **Information about storage in one common storage facility:** Not required.
  - **Further information about storage conditions:**
    - Keep container tightly sealed.
    - Store in cool, dry conditions in well sealed receptacles.
    - Protect from heat and direct sunlight.
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

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

#### · **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
	Carc

##### **64-17-5 Ethyl alcohol**

WEL	Long-term value: 1920 mg/m <sup>3</sup> , 1000 ppm
-----	--

- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
  - Keep away from foodstuffs, beverages and feed.
  - Immediately remove all soiled and contaminated clothing
  - Wash hands before breaks and at the end of work.
  - Store protective clothing separately.
  - Avoid contact with the eyes.
  - 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

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- **Material of gloves**

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

- **Penetration time of glove material**

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

- **Eye protection:**



Tightly sealed goggles

## SECTION 9: Physical and chemical properties

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

- **General Information**

- **Appearance:**

Form:	Liquid
Colour:	Clear
Odour:	Like aldehyde
Odour threshold:	Not determined.

- **pH-value:** Not determined.

- **Change in condition**

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	-21 °C

- **Flash point:** 13 °C

- **Flammability (solid, gas):** Highly flammable.

- **Ignition temperature:** 300 °C

- **Decomposition temperature:** Not determined.

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

- **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

- **Explosion limits:**

Lower:	7 Vol %
Upper:	73 Vol %

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

Density at 20 °C:	0.8903 g/cm <sup>3</sup>
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.

- **Solubility in / Miscibility with water:** Fully miscible.

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

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· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	55.0 %
<b>Water:</b>	45.0 %
<b>VOC (EC)</b>	55.00 %
· <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**  
Harmful if swallowed, in contact with skin or if inhaled.
- |  |      |                  |
|--|------|------------------|
| · <b>LD/LC50 values relevant for classification:</b> |      |                  |
| 50-00-0 formaldehyde                                 |      |                  |
| Oral   | LD50 | >200 mg/kg (rat) |
- **Primary irritant effect:**
  - **Skin corrosion/irritation**  
Causes severe skin burns and eye damage.
  - **Serious eye damage/irritation**  
Causes serious eye damage.
  - **Respiratory or skin sensitisation**  
May cause an allergic skin reaction.
  - **Additional toxicological information:**
  - **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
  - **Germ cell mutagenicity**  
Suspected of causing genetic defects.
  - **Carcinogenicity**  
May cause cancer.
  - **Reproductive toxicity** Based on available data, the classification criteria are not met.
  - **STOT-single exposure**  
May cause respiratory irritation.
  - **STOT-repeated exposure** Based on available data, the classification criteria are not met.
  - **Aspiration hazard** Based on available data, the classification criteria are not met.

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

### SECTION 13: Disposal considerations

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

### SECTION 14: Transport information

- |   |                                       |
|---|---------------------------------------|
| · <b>14.1 UN-Number</b>   | UN1198                                |
| · <b>ADR, IMDG, IATA</b>  |                                       |
| · <b>14.2 UN proper shipping name</b>   | 1198 FORMALDEHYDE SOLUTION, FLAMMABLE |
| · <b>ADR</b>  | FORMALDEHYDE SOLUTION, FLAMMABLE      |
| · <b>IMDG, IATA</b>   |                                       |
| · <b>14.3 Transport hazard class(es)</b>  |                                       |
| · <b>ADR</b>  |                                       |
|  |                                       |
| · <b>Class</b>  | 3 Flammable liquids.                  |

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· <b>Label</b>	3+6.1+8
· <b>IMDG</b>	
	
· <b>Class</b>	3 Flammable liquids.
· <b>Label</b>	3/6.1/8
· <b>IATA</b>	
	
· <b>Class</b>	3 Flammable liquids.
· <b>Label</b>	3 (6.1, 8)
· <b>14.4 Packing group</b>	I
· <b>ADR, IMDG, IATA</b>	
· <b>14.5 Environmental hazards:</b>	Not applicable.
· <b>14.6 Special precautions for user</b>	Warning: Flammable liquids.
· <b>Hazard identification number (Kemler code):</b>	368
· <b>EMS Number:</b>	F-E,S-C
· <b>Stowage Category</b>	E
· <b>Stowage Code</b>	SW2 Clear of living quarters.
· <b>Segregation Code</b>	SG5 Segregation as for class 3 SG8 Stow "away from" class 4.1
· <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR</b>	
· <b>Limited quantities (LQ)</b>	0
· <b>Excepted quantities (EQ)</b>	Code: E0 Not permitted as Excepted Quantity
· <b>Transport category</b>	1
· <b>Tunnel restriction code</b>	C/E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	0
· <b>Excepted quantities (EQ)</b>	Code: E0 Not permitted as Excepted Quantity
· <b>UN "Model Regulation":</b>	UN 1198 FORMALDEHYDE SOLUTION, FLAMMABLE, 3 (6.1+8), I

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- Directive 2012/18/EU
- Named dangerous substances - ANNEX I None of the ingredients is listed.

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- **Seveso category P5a FLAMMABLE LIQUIDS**
- **Qualifying quantity (tonnes) for the application of lower-tier requirements 10 t**
- **Qualifying quantity (tonnes) for the application of upper-tier requirements 50 t**
- **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.  
 H311 Toxic in contact with skin.  
 H314 Causes severe skin burns and eye damage.  
 H317 May cause an allergic skin reaction.  
 H331 Toxic if inhaled.  
 H341 Suspected of causing genetic defects.  
 H350 May cause cancer.*
- **Abbreviations and acronyms:**  
*ADR: Accord relatif au transport international 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. 1: Flammable liquids – Category 1  
 Flam. Liq. 2: Flammable liquids – Category 2  
 Acute Tox. 3: Acute toxicity – Category 3  
 Acute Tox. 4: Acute toxicity – Category 4  
 Skin Corr. 1B: Skin corrosion/irritation – Category 1B  
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
 Skin Sens. 1: Skin sensitisation – Category 1  
 Muta. 2: Germ cell mutagenicity – Category 2  
 Carc. 1B: Carcinogenicity – Category 1B  
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*

GB

# Veiligheidsinformatieblad volgens 1907/2006/EG, Artikel 31

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

- **1.1 Productidentificatie**
- **Handelsnaam:** FORMALIN SOLUTION, 50%
- **Artikelnummer:** 26698-03
- **UFI:** QJ43-40V0-Y00R-9UKP
- **1.2 Relevant geïdentificeerd gebruik van de stof of het mengsel en ontraden gebruik**  
Geen verdere relevante informatie verkrijgbaar.
- **Toepassing van de stof / van de bereiding** Laboratoriumchemicaliën
- **1.3 Details betreffende de verstreker van het veiligheidsinformatieblad**
- **Fabrikant/leverancier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: [info@emsdiasum.com](mailto:info@emsdiasum.com)  
[www.emsdiasum.com](http://www.emsdiasum.com)
- Aurion  
Binnenhaven 5  
6709 PD Wageningen  
The Netherlands  
Tel: 31 317 415094  
Fax: 31 317 415955  
email: [info@aurion.nl](mailto: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**



GHS02 vlam

Flam. Liq. 1 H224 Zeer licht ontvlambare vloeistof en damp.



GHS08 gezondheidsgevaar

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

Carc. 1B H350 Kan kanker veroorzaken.



GHS05 corrosie

Skin Corr. 1B H314 Veroorzaakt ernstige brandwonden en oogletsel.

Eye Dam. 1 H318 Veroorzaakt ernstig oogletsel.

(Vervolg op blz. 2)

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(Vervolg van blz. 1)



GHS07

- Acute Tox. 4 H302 Schadelijk bij inslikken.  
 Acute Tox. 4 H312 Schadelijk bij contact met de huid.  
 Acute Tox. 4 H332 Schadelijk bij inademing.  
 Skin Sens. 1 H317 Kan een allergische huidreactie veroorzaken.  
 STOT SE 3 H335 Kan irritatie van de luchtwegen veroorzaken.

### · 2.2 Etiketteringselementen

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

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

#### · Gevarenpictogrammen



GHS02 GHS05 GHS07 GHS08

#### · Signaalwoord Gevaar

#### · Gevaaraanduidende componenten voor de etikettering:

formaldehyde

#### · Gevarenaanduidingen

- H224 Zeer licht ontvlambare vloeistof en damp.  
 H302+H312+H332 Schadelijk bij inslikken, bij contact met de huid en bij inademing.  
 H314 Veroorzaakt ernstige brandwonden en oogletsel.  
 H317 Kan een allergische huidreactie veroorzaken.  
 H341 Verdacht van het veroorzaken van genetische schade.  
 H350 Kan kanker veroorzaken.  
 H335 Kan irritatie van de luchtwegen veroorzaken.

#### · Veiligheidsaanbevelingen

- P303+P361+P353 BIJ CONTACT MET DE HUID (of het haar): verontreinigde kleding onmiddellijk uittrekken.  
 Huid met water afspoelen [of afdouchen].  
 P305+P351+P338 BIJ CONTACT MET DE OGEN: voorzichtig afspoelen met water gedurende een aantal minuten; contactlenzen verwijderen, indien mogelijk; blijven spoelen.  
 P310 Onmiddellijk een ANTIGIFCENTRUM/arts raadplegen.  
 P321 Specifieke behandeling vereist (zie op dit etiket).  
 P362+P364 Verontreinigde kleding uittrekken en wassen alvorens deze opnieuw te gebruiken.  
 P405 Achter slot bewaren.  
 P501 De inhoud en de verpakking verwerken volgens de plaatselijke/regionale/nationale/internationale voorschriften.

#### · 2.3 Andere gevaren

#### · Resultaten van PBT- en zPzB-beoordeling

- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.

## RUBRIEK 3: Samenstelling en informatie over de bestanddelen

### · 3.2 Chemische karakterisering: Mengsels

- **Beschrijving:** Mengsel van na elkaar aangevoerde stoffen met ongevaarlijke bijmengingen.

(Vervolg op blz. 3)

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· <b>Gevaarlijke inhoudstoffen:</b>		
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	>25-≤50%
CAS: 64-17-5 EINECS: 200-578-6	ethanol Flam. Liq. 2, H225	>2,5-≤10%
· <b>SVHC</b>		
64-17-5	ethanol	

· **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:**

Verontreinigde kleding onmiddellijk uittrekken.

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

· **Na het inademen:**

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

Bij bewusteloosheid ligging en vervoer in stabiele zijligging.

· **Na huidcontact:** Onmiddellijk met water en zeep afwassen en goed naspoelen.· **Na oogcontact:** Ogen met open ooglid een aantal minuten onder stromend water afspoelen en dokter raadplegen.· **Na inslikken:**

Onmiddellijk arts raadplegen.

Drink zeer veel water en voer verse lucht aan. Onmiddellijk een dokter waarschuwen.

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

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

· **6.1 Persoonlijke voorzorgsmaatregelen, beschermingsmiddelen en noodprocedures**

Beschermende kleding aantrekken. Niet beschermde personen op afstand houden.

· **6.2 Milieuvoorzorgsmaatregelen:**

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

Met veel water verdunnen.

Niet in de riolering/het oppervlaktewater/het grondwater laten terechtkomen.

(Vervolg op blz. 4)

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- **6.3 Insluitings- en reinigingsmethoden en -materiaal:**  
Met vloeistofbindend materiaal (zand, bergmeel, zuurbinder, universele binder, zaagmeel) opnemen.  
Neutralisatiemiddel gebruiken.  
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:**  
Onststekingsbronnen op afstand houden - niet roken.  
Beschermen tegen hitte.  
Maatregelen treffen tegen ontlading van statische elektriciteit.  
Ademhalingsstoestellen gereedhouden.
- **7.2 Voorwaarden voor een veilige opslag, met inbegrip van incompatibele producten**
- **Opslag:**
- **Eisen ten opzichte van opslagruimte en tanks:** Op een koele plaats bewaren.
- **Informatie m.b.t. gezamenlijke opslag:** Niet noodzakelijk.
- **Verdere inlichtingen over eisen m.b.t. de opslag:**  
Tanks ondoordringbaar gesloten houden.  
Koel en droog bewaren in goed gesloten vaten.  
Tegen hitte en directe zonnestrallen beschermen.
- **7.3 Specifiek eindgebruik** Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 8: Maatregelen ter beheersing van blootstelling/persoonlijke bescherming

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

· **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 *Sensibilisatie van de huid
-----	---

#### 64-17-5 ethanol

WGW	Korte termijn waarde: 1900 mg/m <sup>3</sup> , 990 ppm Lange termijn waarde: 260 mg/m <sup>3</sup> , 35 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.

(Vervolg op blz. 5)



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Beschermende kleding afzonderlijk bewaren.

Aanraking met de ogen 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:**

<b>Vorm:</b>	Vloeistof
<b>Kleur:</b>	Helder
<b>Geur:</b>	Aldehydeachtig
<b>Geurdrempelwaarde:</b>	Niet bepaald.

· **pH-waarde:** Niet bepaald.

· **Toestandsverandering**

<b>Smelt-/vriespunt:</b>	Niet bepaald.
<b>Beginkookpunt en kooktraject:</b>	-21 °C

· **Vlampunt:** 13 °C

· **Ontvlambaarheid (vast, gas):** Licht ontvlambaar.

· **Ontstekingstemperatuur:** 300 °C

· **Ontledingstemperatuur:** Niet bepaald.

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

(Vervolg op blz. 6)



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· <b>Ontploffingseigenschappen:</b>	Het produkt is niet ontploffingsgevaarlijk, maar de vorming van ontploffingsgevaarlijke damp-/luchtmengsels is mogelijk.
· <b>Ontploffingsgrenzen:</b>	
Onderste:	7 Vol %
Bovenste:	73 Vol %
· <b>Dampspanning bij 20 °C:</b>	23 hPa
· <b>Dichtheid bij 20 °C:</b>	0,8903 g/cm <sup>3</sup>
· <b>Relatieve dichtheid</b>	Niet bepaald.
· <b>Dampdichtheid</b>	Niet bepaald.
· <b>Verdampingsnelheid</b>	Niet bepaald.
· <b>Oplosbaarheid in/mengbaarheid met Water:</b>	Volledig mengbaar.
· <b>Verdelingscoëfficiënt: n-octanol/water:</b>	Niet bepaald.
· <b>Viscositeit</b>	
Dynamisch:	Niet bepaald.
Kinematisch:	Niet bepaald.
· <b>Oplosmiddelgehalte:</b>	
Organisch oplosmiddel:	55,0 %
Water:	45,0 %
VOC (EG)	55,00 %
Gehalte aan vaste bestanddelen:	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.

## RUBRIEK 11: Toxicologische informatie

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

### Indelingsrelevantie LD/LC50-waarden:

#### 50-00-0 formaldehyde

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

- **Primaire aandoening:**
- **Huidcorrosie/-irritatie**  
Veroorzaakt ernstige brandwonden en oogletsel.

(Vervolg op blz. 7)

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

### RUBRIEK 12: Ecologische informatie

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

### RUBRIEK 13: Instructies voor verwijdering

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

NL

(Vervolg op blz. 8)

# Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31










datum van de druk: 07.07.2022

Herziening van: 07.07.2022

Handelsnaam: **FORMALIN SOLUTION, 50%**

(Vervolg van blz. 7)

## RUBRIEK 14: Informatie met betrekking tot het vervoer

<ul style="list-style-type: none"> <li>· <b>14.1 VN-nummer</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>	<p style="text-align: center;">UN1198</p>
<ul style="list-style-type: none"> <li>· <b>14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG, IATA</b></li> </ul>	<p>1198 FORMALDEHYDE, OPLOSSING, BRANDBAAR          FORMALDEHYDE SOLUTION, FLAMMABLE</p>
<ul style="list-style-type: none"> <li>· <b>14.3 Transportgevaarenklasse(n)</b></li> <li>· <b>ADR</b></li> </ul>	<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p>· <b>klasse</b> <span style="float: right;">3 Brandbare vloeistoffen</span>          · <b>Etiket</b> <span style="float: right;">3+6.1+8</span></p>
<ul style="list-style-type: none"> <li>· <b>IMDG</b></li> </ul>	<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p>· <b>Class</b> <span style="float: right;">3 Brandbare vloeistoffen</span>          · <b>Label</b> <span style="float: right;">3/6.1/8</span></p>
<ul style="list-style-type: none"> <li>· <b>IATA</b></li> </ul>	<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p>· <b>Class</b> <span style="float: right;">3 Brandbare vloeistoffen</span>          · <b>Label</b> <span style="float: right;">3 (6.1, 8)</span></p>
<ul style="list-style-type: none"> <li>· <b>14.4 Verpakkingsgroep:</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>	<p style="text-align: center;">I</p>
<ul style="list-style-type: none"> <li>· <b>14.5 Milieugevaren:</b></li> </ul>	<p style="text-align: center;">Niet bruikbaar.</p>
<ul style="list-style-type: none"> <li>· <b>14.6 Bijzondere voorzorgen voor de gebruiker</b></li> <li>· <b>Gevaarsidentificatienummer (Kemler-getal):</b></li> <li>· <b>EMS-nummer:</b></li> <li>· <b>Stowage Category</b></li> <li>· <b>Stowage Code</b></li> <li>· <b>Segregation Code</b></li> </ul>	<p>Waarschuwing: Brandbare vloeistoffen          368          F-E,S-C          E          SW2 Clear of living quarters.          SG5 Segregation as for class 3          SG8 Stow "away from" class 4.1</p>
<ul style="list-style-type: none"> <li>· <b>14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code</b></li> </ul>	<p style="text-align: center;">Niet bruikbaar.</p>
<ul style="list-style-type: none"> <li>· <b>Transport/verdere gegevens:</b></li> <li>· <b>ADR</b></li> <li>· <b>Beperkte hoeveelheden (LQ)</b></li> <li>· <b>Uitgezonderde hoeveelheden (EQ)</b></li> <li>· <b>Vervoerscategorie</b></li> </ul>	<p style="text-align: center;">0          Code: E0          Niet toegestaan als vrijgestelde hoeveelheid          1</p>

(Vervolg op blz. 9)

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· <b>Tunnelbeperkingscode</b>	C/E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	0
· <b>Excepted quantities (EQ)</b>	Code: E0 Not permitted as Excepted Quantity
· <b>VN "Model Regulation":</b>	UN 1198 FORMALDEHYDE, OPLOSSING, BRANDBAAR, 3 (6.1+8), I

## RUBRIEK 15: Regelgeving

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

#### · SZW-lijst van kankerverwekkende stoffen

50-00-0 formaldehyde

64-17-5 ethanol

#### · SZW-lijst van mutagene stoffen

geen der bestanddelen staat op de lijst.

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

64-17-5 ethanol

IA

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

64-17-5 ethanol

IA

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

64-17-5 ethanol

x

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

50-00-0 formaldehyde

#### · Lijst van Potentieel Zeer Zorgwekkende Stoffen

geen der bestanddelen staat op de lijst.

#### · Richtlijn 2012/18/EU

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

· **Seveso-categorie P5a ONTVLAMBARE VLOEISTOFFEN**

· **Drempelwaarde (ton) voor toepassing van voorschriften voor lagedrempelinrichtingen 10 t**

· **Drempelwaarde (ton) voor toepassing van voorschriften voor hogedrempelinrichtingen 50 t**

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

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

geen der bestanddelen staat op de lijst.

#### · VERORDENING (EU) 2019/1148

#### · Bijlage I - PRECURSOREN VOOR EXPLOSIEVEN WAARVOOR EEN BEPERKING GELDT (Bovengrenswaarde ten behoeve van vergunningverlening op grond van artikel 5, lid 3)

geen der bestanddelen staat op de lijst.

#### · Bijlage II - PRECURSOREN VOOR EXPLOSIEVEN DIE MOETEN WORDEN GEMELD

geen der bestanddelen staat op de lijst.

#### · Verordening (EG) nr. 273/2004 inzake drugsprecursoren

geen der bestanddelen staat op de lijst.

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· **Verordening (EG) Nr. 111/2005 houdende voorschriften voor het toezicht op de handel tussen de Gemeenschap en derde landen in drugsprecursoren**

geen der bestanddelen staat op de lijst.

· **Nationale voorschriften:**

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

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

· **Gevaarklasse v. water:**

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

· **Aanvullende voorschriften, beperkingen en verbodsverordeningen**

· **Zeer zorgwekkende stoffen (SVHC) volgens REACH, artikel 57**

64-17-5 ethanol

· **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.

H311 Giftig bij contact met de huid.

H314 Veroorzaakt ernstige brandwonden en oogletsel.

H317 Kan een allergische huidreactie veroorzaken.

H331 Giftig bij inademing.

H341 Verdacht van het veroorzaken van genetische schade.

H350 Kan kanker veroorzaken.

· **Afkortingen en acroniemen:**

ADR: Accord relatif au transport international 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

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 1: Ontvlambare vloeistoffen – Categorie 1

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

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

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

Muta. 2: Mutageniteit in geslachtscellen – Categorie 2

Carc. 1B: Kankerverwekkendheid – Categorie 1B

STOT SE 3: Specifieke doelorgaantoxiciteit bij eenmalige blootstelling – Categorie 3

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

- **1.1 Identificateur de produit**
- **Nom du produit:** FORMALIN SOLUTION, 50%
- **Code du produit:** 26698-03
- **UFI:** QJ43-40V0-Y00R-9UKP
- **1.2 Utilisations identifiées pertinentes de la substance ou du mélange et utilisations déconseillées**  
Pas d'autres informations importantes disponibles.
- **Emploi de la substance / de la préparation** Produits chimiques pour laboratoires
- **1.3 Renseignements concernant le fournisseur de la fiche de données de sécurité**
- **Producteur/fournisseur:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- **Service chargé des renseignements:** Product safety department
- **1.4 Numéro d'appel d'urgence:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### RUBRIQUE 2: Identification des dangers

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



GHS02 flamme

Flam. Liq. 1 H224 Liquide et vapeurs extrêmement inflammables.



GHS08 danger pour la santé

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

Carc. 1B H350 Peut provoquer le cancer.



GHS05 corrosion

Skin Corr. 1B H314 Provoque de graves brûlures de la peau et de graves lésions des yeux.

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



GHS07

Acute Tox. 4 H302 Nocif en cas d'ingestion.

Acute Tox. 4 H312 Nocif par contact cutané.

Acute Tox. 4 H332 Nocif par inhalation.

Skin Sens. 1 H317 Peut provoquer une allergie cutanée.

STOT SE 3 H335 Peut irriter les voies respiratoires.

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



GHS02   GHS05   GHS07   GHS08

- **Mention d'avertissement** Danger
- **Composants dangereux déterminants pour l'étiquetage:**  
Formaldéhyde
- **Mentions de danger**
  - H224            Liquide et vapeurs extrêmement inflammables.
  - H302+H312+H332    Nocif en cas d'ingestion, de contact cutané ou d'inhalation.
  - H314            Provoque de graves brûlures de la peau et de graves lésions des yeux.
  - H317            Peut provoquer une allergie cutanée.
  - H341            Susceptible d'induire des anomalies génétiques.
  - H350            Peut provoquer le cancer.
  - H335            Peut irriter les voies respiratoires.
- **Conseils de prudence**
  - P303+P361+P353    EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux): Enlever immédiatement tous les vêtements contaminés. Rincer la peau à l'eau [ou se doucher].
  - P305+P351+P338    EN CAS DE CONTACT AVEC LES YEUX: Rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.
  - P310            Appeler immédiatement un CENTRE ANTIPOISON/un médecin.
  - P321            Traitement spécifique (voir sur cette étiquette).
  - P362+P364        Enlever les vêtements contaminés et les laver avant réutilisation.
  - P405            Garder sous clef.
  - P501            Éliminer le contenu/récipient conformément à la réglementation locale/régionale/nationale/internationale.
- 2.3 Autres dangers
- **Résultats des évaluations PBT et vPvB**
- **PBT:** Non applicable.
- **vPvB:** Non applicable.

### RUBRIQUE 3: Composition/informations sur les composants

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

· **Composants dangereux:**

CAS: 50-00-0 EINECS: 200-001-8	Formaldéhyde ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ⚠ Muta. 2, H341; Carc. 1B, H350; ⚠ Skin Corr. 1B, H314; ⚠ Skin Sens. 1, H317	>25-≤50%
CAS: 64-17-5 EINECS: 200-578-6	éthanol ⚠ Flam. Liq. 2, H225	>2,5-≤10%

· **SVHC**

64-17-5	éthanol	
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· **Indications complémentaires:** Pour le libellé des phrases de risque citées, se référer au chapitre 16.

### RUBRIQUE 4: Premiers secours

· **4.1 Description des premiers secours**

· **Remarques générales:**

Enlever immédiatement les vêtements contaminés par le produit.

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

· **Après inhalation:**

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

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

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

· **Après contact avec les yeux:**

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

· **Après ingestion:**

Consulter immédiatement un médecin.

Boire de l'eau en abondance et donner de l'air frais. Consulter immédiatement un médecin.

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

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

Pas d'autres informations importantes disponibles.

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

· **5.1 Moyens d'extinction**

· **Moyens d'extinction:**

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**

Porter un équipement de sécurité. Eloigner les personnes non protégées.

· **6.2 Précautions pour la protection de l'environnement:**

En cas de pénétration dans les eaux ou les égouts, avertir les autorités compétentes.

Diluer avec beaucoup d'eau.

Ne pas rejeter dans les canalisations, dans les eaux de surface et dans les nappes d'eau souterraines.

· **6.3 Méthodes et matériel de confinement et de nettoyage:**

Recueillir les liquides à l'aide d'un produit absorbant (sable, kieselguhr, neutralisant d'acide, liant universel, sciure).

Utiliser un neutralisant.

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

Assurer une aération suffisante.

· **6.4 Référence à d'autres rubriques**

Afin d'obtenir des informations pour une manipulation sûre, consulter le chapitre 7.

Afin d'obtenir des informations sur les équipements de protection personnels, consulter le chapitre 8.

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

### RUBRIQUE 7: Manipulation et stockage

- **7.1 Précautions à prendre pour une manipulation sans danger**  
Veiller à une bonne ventilation/aspiration du poste de travail.  
Ouvrir et manipuler les récipients avec précaution.  
Eviter la formation d'aérosols.
- **Préventions des incendies et des explosions:**  
Tenir à l'abri des sources d'inflammation - ne pas fumer.  
Tenir à l'abri de la chaleur.  
Prendre des mesures contre les charges électrostatiques.  
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:** Stocker dans un endroit frais.
- **Indications concernant le stockage commun:** Pas nécessaire.
- **Autres indications sur les conditions de stockage:**  
Tenir les emballages hermétiquement fermés.  
Stocker au frais et au sec dans des fûts bien fermés.  
Protéger de la forte chaleur et du rayonnement direct du soleil.
- **7.3 Utilisation(s) finale(s) particulière(s)** Pas d'autres informations importantes disponibles.

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

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

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

#### 50-00-0 Formaldéhyde

<b>VLEP</b>	Valeur momentanée: 0,74 mg/m <sup>3</sup> , 0,6 ppm Valeur à long terme: 0,37 0,5* mg/m <sup>3</sup> , 0,3 0,62* ppm C1B, M2, *:jusqu'au 11.07.24 l'embaumement
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#### 64-17-5 éthanol

<b>VLEP</b>	Valeur momentanée: 9500 mg/m <sup>3</sup> , 5000 ppm Valeur à long terme: 1900 mg/m <sup>3</sup> , 1000 ppm
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- **Remarques supplémentaires:**  
Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.
- **8.2 Contrôles de l'exposition**
- **Equipement de protection individuel:**
- **Mesures générales de protection et d'hygiène:**  
Tenir à l'écart des produits alimentaires, des boissons et de la nourriture pour animaux.  
Retirer immédiatement les vêtements souillés ou humectés.  
Se laver les mains avant les pauses et en fin de travail.  
Conserver à part les vêtements de protection.  
Eviter tout contact avec les yeux.  
Eviter tout contact avec les yeux et avec la peau.
- **Protection respiratoire:**  
En cas d'exposition faible ou de courte durée, utiliser un filtre respiratoire; en cas d'exposition intense ou durable, utiliser un appareil de respiration indépendant de l'air ambiant.

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· **Protection des mains:**



Gants de protection

Le matériau des gants doit être imperméable et résistant au produit / à la substance / à la préparation.  
À cause du manque de tests, aucune recommandation pour un matériau de gants pour le produit / la préparation / le mélange de produits chimiques ne peut être donnée.

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

· **Matériau des gants**

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

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

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

· **Protection des yeux:**



Lunettes de protection hermétiques

### RUBRIQUE 9: Propriétés physiques et chimiques

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

· **Indications générales**

· **Aspect:**

<b>Forme:</b>	Liquide
<b>Couleur:</b>	Transparent
<b>Odeur:</b>	Aldéhydrique
<b>Seuil olfactif:</b>	Non déterminé.

· **valeur du pH:** Non déterminé.

· **Changement d'état**

<b>Point de fusion/point de congélation:</b>	Non déterminé.
<b>Point initial d'ébullition et intervalle d'ébullition:</b>	-21 °C

· **Point d'éclair** 13 °C

· **Inflammabilité (solide, gaz):** Facilement inflammable.

· **Température d'inflammation:** 300 °C

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

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

· **Propriétés explosives:** Le produit n'est pas explosif; toutefois, des mélanges explosifs vapeur-air peuvent se former.

· **Limites d'explosion:**

<b>Inférieure:</b>	7 Vol %
<b>Supérieure:</b>	73 Vol %

· **Pression de vapeur à 20 °C:** 23 hPa

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# Fiche de données de sécurité

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· <b>Densité à 20 °C:</b>	0,8903 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>	Entièrement miscible
· <b>Coefficient de partage: n-octanol/eau:</b>	Non déterminé.
· <b>Viscosité:</b>	
<b>Dynamique:</b>	Non déterminé.
<b>Cinématique:</b>	Non déterminé.
· <b>Teneur en solvants:</b>	
<b>Solvants organiques:</b>	55,0 %
<b>Eau:</b>	45,0 %
<b>VOC (CE)</b>	55,00 %
<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

### RUBRIQUE 11: Informations toxicologiques

- **11.1 Informations sur les effets toxicologiques**
- **Toxicité aiguë**  
Nocif en cas d'ingestion, de contact cutané ou d'inhalation.

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

**50-00-0 Formaldéhyde**

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

- **Effet primaire d'irritation:**
- **Corrosion cutanée/irritation cutanée**  
Provoque de graves brûlures de la peau et de graves lésions des yeux.
- **Lésions oculaires graves/irritation oculaire**  
Provoque de graves lésions des yeux.
- **Sensibilisation respiratoire ou cutanée**  
Peut provoquer une allergie cutanée.
- **Indications toxicologiques complémentaires:**
- **Effets CMR (cancérogène, mutagène et toxique pour la reproduction)**
- **Mutagénicité sur les cellules germinales**  
Susceptible d'induire des anomalies génétiques.

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- **Cancérogénicité**  
Peut provoquer le cancer.
- **Toxicité pour la reproduction**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité spécifique pour certains organes cibles - exposition unique**  
Peut irriter les voies respiratoires.
- **Toxicité spécifique pour certains organes cibles - exposition répétée**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Danger par aspiration** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

### RUBRIQUE 12: Informations écologiques

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

### RUBRIQUE 13: Considérations relatives à l'élimination

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

### RUBRIQUE 14: Informations relatives au transport

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>· <b>14.1 Numéro ONU</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>                       | <p>UN1198</p>  |
| <ul style="list-style-type: none"> <li>· <b>14.2 Désignation officielle de transport de l'ONU</b></li> <li>· <b>ADR</b></li> </ul> | <p>1198 FORMALDÉHYDE EN SOLUTION<br/>INFLAMMABLE</p> |
| <ul style="list-style-type: none"> <li>· <b>IMDG, IATA</b></li> </ul>  | <p>FORMALDEHYDE SOLUTION, FLAMMABLE</p>              |

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

· **ADR**



· **Classe** 3 Liquides inflammables.  
 · **Étiquette** 3+6.1+8

· **IMDG**



· **Class** 3 Liquides inflammables.  
 · **Label** 3/6.1/8

· **IATA**



· **Class** 3 Liquides inflammables.  
 · **Label** 3 (6.1, 8)

· **14.4 Groupe d'emballage**

· **ADR, IMDG, IATA** I

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

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

Attention: Liquides inflammables.

· **Numéro d'identification du danger (Indice Kemler):** 368

· **No EMS:** F-E,S-C

· **Stowage Category** E

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

· **Segregation Code** SG5 Segregation as for class 3

SG8 Stow "away from" class 4.1

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

Non applicable.

· **Indications complémentaires de transport:**

· **ADR**

· **Quantités limitées (LQ)** 0

· **Quantités exceptées (EQ)** Code: E0

Non autorisé en tant que quantité exceptée

· **Catégorie de transport** 1

· **Code de restriction en tunnels** C/E

· **IMDG**

· **Limited quantities (LQ)** 0

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· <b>Excepted quantities (EQ)</b>	Code: E0 Not permitted as Excepted Quantity
· <b>"Règlement type" de l'ONU:</b>	UN 1198 FORMALDÉHYDE EN SOLUTION INFLAMMABLE, 3 (6.1+8), I

### 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.
- Catégorie SEVESO P5a LIQUIDES INFLAMMABLES
- Quantité seuil (tonnes) pour l'application des exigences relatives au seuil bas 10 t
- Quantité seuil (tonnes) pour l'application des exigences relatives au seuil haut 50 t
- RÈGLEMENT (CE) N° 1907/2006 ANNEXE XVII Conditions de limitation: 3, 28, 72

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

Aucun des composants n'est compris.

· RÈGLEMENT (UE) 2019/1148

· Annexe I - PRÉCURSEURS D'EXPLOSIFS FAISANT L'OBJET DE RESTRICTIONS (Valeur limite maximale aux fins de l'octroi d'une licence en vertu de l'article 5, paragraphe 3)

Aucun des composants n'est compris.

· Annexe II - PRÉCURSEURS D'EXPLOSIFS DEVANT FAIRE L'OBJET D'UN SIGNALEMENT

Aucun des composants n'est compris.

· Règlement (CE) n° 273/2004 relatif aux précurseurs de drogues

Aucun des composants n'est compris.

· Règlement (CE) n° 111/2005 fixant des règles pour la surveillance du commerce des précurseurs des drogues entre la Communauté et les pays tiers

Aucun des composants n'est compris.

· Prescriptions nationales:

· Indications sur les restrictions de travail:

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

· Autres prescriptions, restrictions et règlements d'interdiction

· Substances extrêmement préoccupantes (SVHC) selon REACH, article 57

64-17-5 éthanol

· 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.

H301 Toxique en cas d'ingestion.

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*H311 Toxique par contact cutané.**H314 Provoque de graves brûlures de la peau et de graves lésions des yeux.**H317 Peut provoquer une allergie cutanée.**H331 Toxique par inhalation.**H341 Susceptible d'induire des anomalies génétiques.**H350 Peut provoquer le cancer.***· Acronymes et abréviations:***ADR: Accord relatif au transport international 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**SVHC: Substances of Very High Concern**vPvB: very Persistent and very Bioaccumulative**Flam. Liq. 1: Liquides inflammables – Catégorie 1**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**Eye Dam. 1: Lésions oculaires graves/irritation oculaire – Catégorie 1**Skin Sens. 1: Sensibilisation cutanée – Catégorie 1**Muta. 2: Mutagénicité sur les cellules germinales – Catégorie 2**Carc. 1B: Cancérogénicité – Catégorie 1B**STOT SE 3: Toxicité spécifique pour certains organes cibles (exposition unique) – Catégorie 3*



# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

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überarbeitet am: 07.07.2022

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

- **1.1 Produktidentifikator**
- **Handelsname:** FORMALIN SOLUTION, 50%
- **Artikelnummer:** 26698-03
- **UFI:** QJ43-40V0-Y00R-9UKP
- **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**  
Keine weiteren relevanten Informationen verfügbar.
- **Verwendung des Stoffes / des Gemisches** Laborchemikalien
- **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**
- **Hersteller/Lieferant:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: [info@emsdiasum.com](mailto:info@emsdiasum.com)  
[www.emsdiasum.com](http://www.emsdiasum.com)  
  
Science Services GmbH  
Unterhachinger Str. 75  
81737 München Germany  
  
Tel: +49(0)89 18 93 668-0  
[safety@scienceservices.de](mailto:safety@scienceservices.de)  
  
Deutschland: +49 (0)89 19240, 24h Giftnotruf Munchen, [www.toxinfo.org](http://www.toxinfo.org)  
Osterreich: +43 1406 43 43, Gesundheit Osterreich GmbH, 24 h
- **Auskunfteibereich:** 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**



GHS02 Flamme

Flam. Liq. 1 H224 Flüssigkeit und Dampf extrem entzündbar.



GHS08 Gesundheitsgefahr

Muta. 2 H341 Kann vermutlich genetische Defekte verursachen.

Carc. 1B H350 Kann Krebs erzeugen.



GHS05 Ätzwirkung

Skin Corr. 1B H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.

Eye Dam. 1 H318 Verursacht schwere Augenschäden.

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GHS07

- Acute Tox. 4 H302 Gesundheitsschädlich bei Verschlucken.  
 Acute Tox. 4 H312 Gesundheitsschädlich bei Hautkontakt.  
 Acute Tox. 4 H332 Gesundheitsschädlich bei Einatmen.  
 Skin Sens. 1 H317 Kann allergische Hautreaktionen verursachen.  
 STOT SE 3 H335 Kann die Atemwege reizen.

### · 2.2 Kennzeichnungselemente

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

Das Produkt ist gemäß CLP-Verordnung eingestuft und gekennzeichnet.

#### · Gefahrenpiktogramme



GHS02

GHS05

GHS07

GHS08

#### · Signalwort Gefahr

#### · Gefahrbestimmende Komponenten zur Etikettierung:

Formaldehyd

#### · Gefahrenhinweise

- H224 Flüssigkeit und Dampf extrem entzündbar.  
 H302+H312+H332 Gesundheitsschädlich bei Verschlucken, Hautkontakt oder Einatmen.  
 H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.  
 H317 Kann allergische Hautreaktionen verursachen.  
 H341 Kann vermutlich genetische Defekte verursachen.  
 H350 Kann Krebs erzeugen.  
 H335 Kann die Atemwege reizen.

#### · Sicherheitshinweise

- P303+P361+P353 BEI BERÜHRUNG MIT DER HAUT (oder dem Haar): Alle kontaminierten Kleidungsstücke sofort ausziehen. Haut mit Wasser abwaschen [oder duschen].  
 P305+P351+P338 BEI KONTAKT MIT DEN AUGEN: Einige Minuten lang behutsam mit Wasser spülen. Eventuell vorhandene Kontaktlinsen nach Möglichkeit entfernen. Weiter spülen.  
 P310 Sofort GIFTINFORMATIONSZENTRUM/Arzt anrufen.  
 P321 Besondere Behandlung (siehe auf diesem Kennzeichnungsetikett).  
 P362+P364 Kontaminierte Kleidung ausziehen und vor erneutem Tragen waschen.  
 P405 Unter Verschluss aufbewahren.  
 P501 Entsorgung des Inhalts / des Behälters gemäß den örtlichen / regionalen / nationalen / internationalen Vorschriften.

#### · Zusätzliche Angaben:

Nur für gewerbliche Anwender.

#### · 2.3 Sonstige Gefahren

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

- PBT: Nicht anwendbar.
- vPvB: Nicht anwendbar.

DE

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### 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	>25-≤50%
CAS: 64-17-5 EINECS: 200-578-6	Ethanol Flam. Liq. 2, H225	>2,5-≤10%

- **SVHC**

64-17-5	Ethanol
---------	---------

- **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:**  
Mit Produkt verunreinigte Kleidungsstücke unverzüglich entfernen.  
Vergiftungssymptome können erst nach vielen Stunden auftreten, deshalb ärztliche Überwachung mindestens 48 Stunden nach einem Unfall.
- **Nach Einatmen:**  
Reichlich Frischluftzufuhr und sicherheitshalber Arzt aufsuchen.  
Bei Bewusstlosigkeit Lagerung und Transport in stabiler Seitenlage.
- **Nach Hautkontakt:** Sofort mit Wasser und Seife abwaschen und gut nachspülen.
- **Nach Augenkontakt:**  
Augen bei geöffnetem Lidspalt mehrere Minuten unter fließendem Wasser abspülen und Arzt konsultieren.
- **Nach Verschlucken:**  
Sofort Arzt aufsuchen.  
Reichlich Wasser nachtrinken und Frischluftzufuhr. Unverzüglich Arzt hinzuziehen.
- **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**  
Schutzausrüstung tragen. Ungeschützte Personen fernhalten.

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- **6.2 Umweltschutzmaßnahmen:**  
Bei Eindringen in Gewässer oder Kanalisation zuständige Behörden benachrichtigen.  
Mit viel Wasser verdünnen.  
Nicht in die Kanalisation/Oberflächenwasser/Grundwasser gelangen lassen.
- **6.3 Methoden und Material für Rückhaltung und Reinigung:**  
Mit flüssigkeitsbindendem Material (Sand, Kieselgur, Säurebinder, Universalbinder, Sägemehl) aufnehmen.  
Neutralisationsmittel anwenden.  
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:**  
Zündquellen fernhalten - nicht rauchen.  
Vor Hitze schützen.  
Maßnahmen gegen elektrostatische Aufladung treffen.  
Atemschutzgeräte bereithalten.
- **7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten**
- **Lagerung:**
- **Anforderung an Lagerräume und Behälter:** An einem kühlen Ort lagern.
- **Zusammenlagerungshinweise:** Nicht erforderlich.
- **Weitere Angaben zu den Lagerbedingungen:**  
Behälter dicht geschlossen halten.  
In gut verschlossenen Gebinden kühl und trocken lagern.  
Vor Hitze und direkter Sonnenbestrahlung schützen.
- **Lagerklasse:**
- **Klassifizierung nach Betriebssicherheitsverordnung (BetrSichV):** Entzündbare Flüssigkeiten
- **7.3 Spezifische Endanwendungen** Keine weiteren relevanten Informationen verfügbar.

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

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

· **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
-----	--

**64-17-5 Ethanol**

AGW	Langzeitwert: 380 mg/m <sup>3</sup> , 200 ml/m <sup>3</sup> 4(II);DFG, Y
-----	---

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

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- **8.2 Begrenzung und Überwachung der Exposition**
- **Persönliche Schutzausrüstung:**
- **Allgemeine Schutz- und Hygienemaßnahmen:**  
*Von Nahrungsmitteln, Getränken und Futtermitteln fernhalten.  
 Beschmutzte, getränkte Kleidung sofort ausziehen.  
 Vor den Pausen und bei Arbeitsende Hände waschen.  
 Getrennte Aufbewahrung der Schutzkleidung.  
 Berührung mit den Augen 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.*
- **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:**

<b>Form:</b>	Flüssigkeit
<b>Farbe:</b>	Klar
- **Geruch:** Aldehydartig
- **Geruchsschwelle:** Nicht bestimmt.
- **pH-Wert:** Nicht bestimmt.
- **Zustandsänderung**

<b>Schmelzpunkt/Gefrierpunkt:</b>	Nicht bestimmt.
<b>Siedebeginn und Siedebereich:</b>	-21 °C
- **Flammpunkt:** 13 °C

(Fortsetzung auf Seite 6)

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

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(Fortsetzung von Seite 5)

· <b>Entzündbarkeit (fest, gasförmig):</b>	Leichtentzündlich.
· <b>Zündtemperatur:</b>	300 °C
· <b>Zersetzungstemperatur:</b>	Nicht bestimmt.
· <b>Selbstentzündungstemperatur:</b>	Das Produkt ist nicht selbstentzündlich.
· <b>Explosive Eigenschaften:</b>	Das Produkt ist nicht explosionsgefährlich, jedoch ist die Bildung explosionsgefährlicher Dampf-/Luftgemische möglich.
· <b>Explosionsgrenzen:</b>	
<b>Untere:</b>	7 Vol %
<b>Obere:</b>	73 Vol %
· <b>Dampfdruck bei 20 °C:</b>	23 hPa
· <b>Dichte bei 20 °C:</b>	0,8903 g/cm <sup>3</sup>
· <b>Relative Dichte</b>	Nicht bestimmt.
· <b>Dampfdichte</b>	Nicht bestimmt.
· <b>Verdampfungsgeschwindigkeit</b>	Nicht bestimmt.
· <b>Löslichkeit in / Mischbarkeit mit Wasser:</b>	Vollständig mischbar.
· <b>Verteilungskoeffizient: n-Octanol/Wasser:</b>	Nicht bestimmt.
· <b>Viskosität:</b>	
<b>Dynamisch:</b>	Nicht bestimmt.
<b>Kinematisch:</b>	Nicht bestimmt.
· <b>Lösemittelgehalt:</b>	
<b>Organische Lösemittel:</b>	55,0 %
<b>Wasser:</b>	45,0 %
<b>VOC (EU)</b>	55,00 %
<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**  
Gesundheitsschädlich bei Verschlucken, Hautkontakt oder Einatmen.

(Fortsetzung auf Seite 7)

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(Fortsetzung von Seite 6)

**· Einstufungsrelevante LD/LC50-Werte:**
**50-00-0 Formaldehyd**

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

**· Primäre Reizwirkung:**
**· Ätz-/Reizwirkung auf die Haut**

Verursacht schwere Verätzungen der Haut und schwere Augenschäden.

**· Schwere Augenschädigung/-reizung**

Verursacht schwere Augenschäden.

**· Sensibilisierung der Atemwege/Haut**

Kann allergische Hautreaktionen verursachen.

**· Zusätzliche toxikologische Hinweise:**
**· CMR-Wirkungen (krebserzeugende, erbgutverändernde und fortpflanzungsgefährdende Wirkung)**
**· Keimzell-Mutagenität**

Kann vermutlich genetische Defekte verursachen.

**· Karzinogenität**

Kann Krebs erzeugen.

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

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

Kann die Atemwege reizen.

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

Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

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

### ABSCHNITT 12: Umweltbezogene Angaben

**· 12.1 Toxizität**

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

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

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

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

**· Ökotoxische Wirkungen:**

· **Bemerkung:** Schädlich für Fische.

**· Weitere ökologische Hinweise:**
**· Allgemeine Hinweise:**

Wassergefährdungsklasse 2 (Selbsteinstufung): deutlich wassergefährdend

Nicht in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen.

Darf nicht unverdünnt bzw. unneutralisiert ins Abwasser bzw. in den Vorfluter gelangen.

Trinkwassergefährdung bereits beim Auslaufen geringer Mengen in den Untergrund.

schädlich für Wasserorganismen

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

· **PBT:** Nicht anwendbar.

· **vPvB:** Nicht anwendbar.

· **12.6 Andere schädliche Wirkungen** Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 13: Hinweise zur Entsorgung

**· 13.1 Verfahren der Abfallbehandlung**

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

**· Ungereinigte Verpackungen:**

· **Empfehlung:** Entsorgung gemäß den behördlichen Vorschriften.

(Fortsetzung auf Seite 8)

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(Fortsetzung von Seite 7)

· **Empfohlenes Reinigungsmittel:** Wasser, gegebenenfalls mit Zusatz von Reinigungsmitteln.

### ABSCHNITT 14: Angaben zum Transport

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

UN1198

· **14.2 Ordnungsgemäße UN-Versandbezeichnung**

· **ADR**  
· **IMDG, IATA**

1198 FORMALDEHYDLÖSUNG, ENTZÜNDBAR  
FORMALDEHYDE SOLUTION, FLAMMABLE

· **14.3 Transportgefahrenklassen**· **ADR**

· **Klasse**  
· **Gefahrzettel**

3 Entzündbare flüssige Stoffe  
3+6.1+8

· **IMDG**

· **Class**  
· **Label**

3 Entzündbare flüssige Stoffe  
3/6.1/8

· **IATA**

· **Class**  
· **Label**

3 Entzündbare flüssige Stoffe  
3 (6.1, 8)

· **14.4 Verpackungsgruppe**· **ADR, IMDG, IATA**

I

· **14.5 Umweltgefahren:**

Nicht anwendbar.

· **14.6 Besondere Vorsichtsmaßnahmen für den Verwender**

Achtung: Entzündbare flüssige Stoffe

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

368

· **EMS-Nummer:**

F-E,S-C

· **Stowage Category**

E

· **Stowage Code**

SW2 Clear of living quarters.

· **Segregation Code**

SG5 Segregation as for class 3

SG8 Stow "away from" class 4.1

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

(Fortsetzung auf Seite 9)



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(Fortsetzung von Seite 8)

· **Transport/weitere Angaben:**

· **ADR**

· **Begrenzte Menge (LQ)**

0

· **Freigestellte Mengen (EQ)**

Code: E0

In freigestellten Mengen nicht zugelassen

· **Beförderungskategorie**

1

· **Tunnelbeschränkungscode**

C/E

· **IMDG**

· **Limited quantities (LQ)**

0

· **Excepted quantities (EQ)**

Code: E0

Not permitted as Excepted Quantity

· **UN "Model Regulation":**

UN 1198 FORMALDEHYDLÖSUNG, ENTZÜNDBAR, 3  
(6.1+8), I

### 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.

· **Seveso-Kategorie P5a ENTZÜNDBARE FLÜSSIGKEITEN**

· **Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der unteren Klasse 10 t**

· **Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der oberen Klasse 50 t**

· **VERORDNUNG (EG) Nr. 1907/2006 ANHANG XVII** Beschränkungsbedingungen: 3, 28, 72

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

Keiner der Inhaltsstoffe ist enthalten.

· **VERORDNUNG (EU) 2019/1148**

· **Anhang I - BESCHRÄNKTE AUSGANGSSTOFFE FÜR EXPLOSIVSTOFFE (Oberer Konzentrationsgrenzwert für eine Genehmigung nach Artikel 5 Absatz 3)**

Keiner der Inhaltsstoffe ist enthalten.

· **Anhang II - MELDEPFLICHTIGE AUSGANGSSTOFFE FÜR EXPLOSIVSTOFFE**

Keiner der Inhaltsstoffe ist enthalten.

· **Verordnung (EG) Nr. 273/2004 betreffend Drogenausgangsstoffe**

Keiner der Inhaltsstoffe ist enthalten.

· **Verordnung (EG) Nr. 111/2005 zur Festlegung von Vorschriften für die Überwachung des Handels mit Drogenaustauschstoffen zwischen der Gemeinschaft und Drittländern**

Keiner der Inhaltsstoffe ist enthalten.

· **Nationale Vorschriften:**

· **Hinweise zur Beschäftigungsbeschränkung:**

Arbeitnehmer dürfen den in dieser Zubereitung enthaltenen krebserzeugenden Gefahrstoffen nicht ausgesetzt sein.  
Im Einzelfall kann die Behörde Ausnahmen zulassen.

(Fortsetzung auf Seite 10)

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(Fortsetzung von Seite 9)

**· Technische Anleitung Luft:**

Klasse	Anteil in %
Wasser	45,0
I	50,0
NK	5,0

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

**· Sonstige Vorschriften, Beschränkungen und Verbotserordnungen**

Das Produkt unterliegt der Anlage 2 der Chemikalienverbotsverordnung (ChemVerbotsV) - Anforderungen in Bezug auf die Abgabe

**· Besonders besorgniserregende Stoffe (SVHC) gemäß REACH, Artikel 57**

64-17-5 Ethanol

**· 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.

H311 Giftig bei Hautkontakt.

H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.

H317 Kann allergische Hautreaktionen verursachen.

H331 Giftig bei Einatmen.

H341 Kann vermutlich genetische Defekte verursachen.

H350 Kann Krebs erzeugen.

**· Abkürzungen und Akronyme:**

ADR: Accord relatif au transport international 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

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 1: Entzündbare Flüssigkeiten – Kategorie 1

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

Eye Dam. 1: Schwere Augenschädigung/Augenreizung – Kategorie 1

Skin Sens. 1: Sensibilisierung der Haut – Kategorie 1

Muta. 2: Keimzellmutagenität – Kategorie 2

Carc. 1B: Karzinogenität – Kategorie 1B

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

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

Stampato il: 07.07.2022

Revisione: 07.07.2022

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

· **1.1 Identificatore del prodotto**

· **Denominazione commerciale:** FORMALIN SOLUTION, 50%

· **Articolo numero:** 26698-03

· **UFI:** QJ43-40V0-Y00R-9UKP

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

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

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

· **Produttore/fornitore:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

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

email: [info@emsdiasum.com](mailto:info@emsdiasum.com)

[www.emsdiasum.com](http://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](http://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**



GHS02 fiamma

Flam. Liq. 1 H224 Liquido e vapori altamente infiammabili.



GHS08 pericolo per la salute

Muta. 2 H341 Sospettato di provocare alterazioni genetiche.

Carc. 1B H350 Può provocare il cancro.



GHS05 corrosione

Skin Corr. 1B H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.

Eye Dam. 1 H318 Provoca gravi lesioni oculari.



GHS07

(continua a pagina 2)

**Scheda di dati di sicurezza**  
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Acute Tox. 4 H302 Nocivo se ingerito.  
 Acute Tox. 4 H312 Nocivo per contatto con la pelle.  
 Acute Tox. 4 H332 Nocivo se inalato.  
 Skin Sens. 1 H317 Può provocare una reazione allergica cutanea.  
 STOT SE 3 H335 Può irritare le vie respiratorie.

**2.2 Elementi dell'etichetta****Etichettatura secondo il regolamento (CE) n. 1272/2008**

Il prodotto è classificato ed etichettato conformemente al regolamento CLP.

**Pittogrammi di pericolo**

GHS02

GHS05

GHS07

GHS08

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

H224 Liquido e vapori altamente infiammabili.  
 H302+H312+H332 Nocivo se ingerito, a contatto con la pelle o se inalato.  
 H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.  
 H317 Può provocare una reazione allergica cutanea.  
 H341 Sospettato di provocare alterazioni genetiche.  
 H350 Può provocare il cancro.  
 H335 Può irritare le vie respiratorie.

**Consigli di prudenza**

P303+P361+P353 IN CASO DI CONTATTO CON LA PELLE (o con i capelli): togliersi di dosso immediatamente tutti gli indumenti contaminati. Sciacquare la pelle [o fare una doccia].  
 P305+P351+P338 IN CASO DI CONTATTO CON GLI OCCHI: sciacquare accuratamente per parecchi minuti. Togliere le eventuali lenti a contatto se è agevole farlo. Continuare a sciacquare.  
 P310 Contattare immediatamente un CENTRO ANTIVELENI/un medico.  
 P321 Trattamento specifico (vedere su questa etichetta).  
 P362+P364 Togliere tutti gli indumenti contaminati e lavarli prima di indossarli nuovamente.  
 P405 Conservare sotto chiave.  
 P501 Smaltire il prodotto/recipiente in conformità con le disposizioni locali / regionali / nazionali / internazionali.

**2.3 Altri pericoli****Risultati della valutazione PBT e vPvB**

**PBT:** Non applicabile.  
**vPvB:** Non applicabile.

**SEZIONE 3: Composizione/informazioni sugli ingredienti****3.2 Caratteristiche chimiche: Miscela****Descrizione:** Miscela delle seguenti sostanze con additivi non pericolosi.**Sostanze pericolose:**

CAS: 50-00-0	formaldeide	>25-≤50%
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	

(continua a pagina 3)

**Scheda di dati di sicurezza**  
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**Denominazione commerciale: FORMALIN SOLUTION, 50%**

(Segue da pagina 2)

CAS: 64-17-5

etanolo

EINECS: 200-578-6

 Flam. Liq. 2, H225

&gt;2,5-≤10%

· SVHC

64-17-5 etanolo

· **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:**

Allontanare immediatamente gli abiti contaminati dal prodotto.

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

· **Inalazione:**

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

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

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

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

· **Ingestione:**

Chiamare subito il medico.

Bere abbondante acqua e sostare in zona ben areata. Richiedere immediatamente l'intervento del medico.

· **4.2 Principali sintomi ed effetti, sia acuti che ritardati** Non sono disponibili altre informazioni.· **4.3 Indicazione dell'eventuale necessità di consultare immediatamente un medico e di trattamenti speciali**

Non sono disponibili altre informazioni.

#### SEZIONE 5: Misure antincendio

· **5.1 Mezzi di estinzione**· **Mezzi di estinzione idonei:**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**

Indossare equipaggiamento protettivo. Allontanare le persone non equipaggiate.

· **6.2 Precauzioni ambientali:**

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

Diluire abbondantemente con acqua.

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

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

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

Utilizzare mezzi di neutralizzazione.

Smaltimento del materiale contaminato conformemente al punto 13.

Provvedere ad una sufficiente areazione.

(continua a pagina 4)

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

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**Denominazione commerciale: FORMALIN SOLUTION, 50%**

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**· 6.4 Riferimento ad altre sezioni**

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

**SEZIONE 7: Manipolazione e immagazzinamento**

**· 7.1 Precauzioni per la manipolazione sicura**

- Accurata ventilazione/aspirazione nei luoghi di lavoro.
- Aprire e manipolare i recipienti con cautela.
- Evitare la formazione di aerosol.

**· Indicazioni in caso di incendio ed esplosione:**

- Tenere lontano da fonti di calore, non fumare.
- Proteggere dal calore.
- Adottare provvedimenti contro cariche elettrostatiche.
- Tener pronto il respiratore.

**· 7.2 Condizioni per lo stoccaggio sicuro, comprese eventuali incompatibilità**

**· Stoccaggio:**

**· Requisiti dei magazzini e dei recipienti:** Conservare in ambiente fresco.

**· Indicazioni sullo stoccaggio misto:** Non necessario.

**· Ulteriori indicazioni relative alle condizioni di immagazzinamento:**

- Mantenere i recipienti ermeticamente chiusi.
- Conservare in luogo fresco e asciutto in fusti ben chiusi.
- Proteggere dal calore e dai raggi diretti del sole.

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

**SEZIONE 8: Controllo dell'esposizione/protezione individuale**

**· 8.1 Parametri di controllo**

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

**· 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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**64-17-5 etanolo**

TWA	Valore a breve termine: 1884 mg/m <sup>3</sup> , 1000 ppm A3
-----	---

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

**· 8.2 Controlli dell'esposizione**

**· Mezzi protettivi individuali:**

**· Norme generali protettive e di igiene del lavoro:**

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

**· Maschera protettiva:**

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

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· **Guanti protettivi:**



Guanti protettivi

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

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

*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

**SEZIONE 9: Proprietà fisiche e chimiche**

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

· **Indicazioni generali**

· **Aspetto:**

*Forma:* Liquido

*Colore:* Chiaro

· *Odore:* Aldeidico

· *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:* -21 °C

· *Punto di infiammabilità:* 13 °C

· *Infiammabilità (solidi, gas):* Facilmente infiammabile.

· *Temperatura di accensione:* 300 °C

· *Temperatura di decomposizione:* Non definito.

· *Temperatura di autoaccensione:* Prodotto non autoinfiammabile.

· *Proprietà esplosive:* Prodotto non è esplosivo, è tuttavia possibile la formazione di miscele di vapore/aria esplosive.

· **Limiti di infiammabilità:**

*Inferiore:* 7 Vol %

*Superiore:* 73 Vol %

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· <b>Tensione di vapore a 20 °C:</b>	23 hPa
· <b>Densità a 20 °C:</b>	0,8903 g/cm <sup>3</sup>
· <b>Densità relativa</b>	Non definito.
· <b>Densità di vapore:</b>	Non definito.
· <b>Velocità di evaporazione</b>	Non definito.
· <b>Solubilità in/Miscibilità con acqua:</b>	Completamente miscibile.
· <b>Coefficiente di ripartizione: n-ottanolo/acqua:</b>	Non definito.
· <b>Viscosità:</b>	
<b>Dinamica:</b>	Non definito.
<b>Cinematica:</b>	Non definito.
· <b>Tenore del solvente:</b>	
<b>Solventi organici:</b>	55,0 %
<b>Acqua:</b>	45,0 %
<b>VOC (CE)</b>	55,00 %
<b>Contenuto solido:</b>	0,0 %
· <b>9.2 Altre informazioni</b>	Non sono disponibili altre informazioni.

### SEZIONE 10: Stabilità e reattività

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

### SEZIONE 11: Informazioni tossicologiche

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

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

**50-00-0 formaldeide**

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

- **Irritabilità primaria:**
- **Corrosione/irritazione cutanea**  
Provoca gravi ustioni cutanee e gravi lesioni oculari.
- **Lesioni oculari gravi/irritazioni oculari gravi**  
Provoca gravi lesioni oculari.
- **Sensibilizzazione respiratoria o cutanea**  
Può provocare una reazione allergica cutanea.

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- **Ulteriori dati tossicologici:**
- **Effetti CMR (cancerogenicità, mutagenicità e tossicità per la riproduzione)**
- **Mutagenicità delle cellule germinali**  
Sospettato di provocare alterazioni genetiche.
- **Cancerogenicità**  
Può provocare il cancro.
- **Tossicità per la riproduzione** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione singola**  
Può irritare le vie respiratorie.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione ripetuta**  
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Pericolo in caso di aspirazione** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

### SEZIONE 12: Informazioni ecologiche

- **12.1 Tossicità**
- **Tossicità acquatica:** Non sono disponibili altre informazioni.
- **12.2 Persistenza e degradabilità** Non sono disponibili altre informazioni.
- **12.3 Potenziale di bioaccumulo** Non sono disponibili altre informazioni.
- **12.4 Mobilità nel suolo** Non sono disponibili altre informazioni.
- **Effetti tossici per l'ambiente:**
- **Osservazioni:** Nocivo per i pesci.
- **Ulteriori indicazioni in materia ambientale:**
- **Ulteriori indicazioni:**  
Pericolosità per le acque classe 2 (D) (Autoclassificazione): pericoloso  
Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature.  
Non immettere il prodotto non diluito o non neutralizzato nelle acque di scarico e nei canali di raccolta.  
Pericolo per le acque potabili anche in caso di perdite nel sottosuolo di piccole quantità di prodotto.  
nocivo per gli organismi acquatici
- **12.5 Risultati della valutazione PBT e vPvB**
- **PBT:** Non applicabile.
- **vPvB:** Non applicabile.
- **12.6 Altri effetti avversi** Non sono disponibili altre informazioni.

### SEZIONE 13: Considerazioni sullo smaltimento

- **13.1 Metodi di trattamento dei rifiuti**
- **Consigli:** Non smaltire il prodotto insieme ai rifiuti domestici Non immettere nelle fognature.
- **Imballaggi non puliti:**
- **Consigli:** Smaltimento in conformità con le disposizioni amministrative.
- **Detergente consigliato:** Acqua eventualmente con l'aggiunta di detersivi.

### SEZIONE 14: Informazioni sul trasporto

- |   |  |
|---|--|
| · <b>14.1 Numero ONU</b>                  |  |
| · <b>ADR, IMDG, IATA</b>                  | UN1198                                     |
| · <b>14.2 Nome di spedizione dell'ONU</b> |  |
| · <b>ADR</b>                              | 1198 FORMALDEIDE IN SOLUZIONE INFIAMMABILE |
| · <b>IMDG, IATA</b>                       | FORMALDEHYDE SOLUTION, FLAMMABLE           |

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· **14.3 Classi di pericolo connesso al trasporto**· **ADR**

· **Classe** 3 Liquidi infiammabili  
· **Etichetta** 3+6.1+8

· **IMDG**

· **Class** 3 Liquidi infiammabili  
· **Label** 3/6.1/8

· **IATA**

· **Class** 3 Liquidi infiammabili  
· **Label** 3 (6.1, 8)

· **14.4 Gruppo di imballaggio**· **ADR, IMDG, IATA** I· **14.5 Pericoli per l'ambiente:** Non applicabile.· **14.6 Precauzioni speciali per gli utilizzatori** Attenzione: Liquidi infiammabili· **N° identificazione pericolo (Numero Kemler):** 368· **Numero EMS:** F-E,S-C· **Stowage Category** E· **Stowage Code** SW2 Clear of living quarters.· **Segregation Code** SG5 Segregation as for class 3

SG8 Stow "away from" class 4.1

· **14.7 Trasporto di rinfuse secondo l'allegato II di****MARPOL ed il codice IBC** Non applicabile.· **Trasporto/ulteriori indicazioni:**· **ADR**· **Quantità limitate (LQ)** 0· **Quantità esenti (EQ)** Codice: E0

Vietato al trasporto in quantità esente

· **Categoria di trasporto** 1· **Codice di restrizione in galleria** C/E· **IMDG**· **Limited quantities (LQ)** 0· **Excepted quantities (EQ)** Code: E0

Not permitted as Excepted Quantity

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**Scheda di dati di sicurezza**  
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· UN "Model Regulation":	UN 1198 FORMALDEIDE IN SOLUZIONE INFIAMMABILE, 3 (6.1+8), I
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### 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.
- **Categoria Seveso P5a LIQUIDI INFIAMMABILI**
- **Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia inferiore 10 t**
- **Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia superiore 50 t**
- **REGOLAMENTO (CE) n. 1907/2006 ALLEGATO XVII** Restrizioni: 3, 28, 72

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

Nessuno dei componenti è contenuto.

· **REGOLAMENTO (UE) 2019/1148**

· **Allegato I - PRECURSORI DI ESPLOSIVI SOGGETTI A RESTRIZIONI (Valore limite superiore ai fini della concessione di licenze a norma dell'articolo 5, paragrafo 3)**

Nessuno dei componenti è contenuto.

· **Allegato II - PRECURSORI DI ESPLOSIVI SOGGETTI A SEGNALAZIONE**

Nessuno dei componenti è contenuto.

· **Regolamento (CE) n. 273/2004 relativo ai precursori di droghe**

Nessuno dei componenti è contenuto.

· **Regolamento (CE) N. 111/2005 recante norme per il controllo del commercio dei precursori di droghe tra la Comunità e i paesi terzi**

Nessuno dei componenti è contenuto.

· **Disposizioni nazionali:**

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

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

· **Istruzione tecnica aria:**

Classe	quota in %
NC	55,0

· **Ulteriori disposizioni, limitazioni e decreti proibitivi**

· **Sostanze estremamente preoccupanti (SVHC) ai sensi della regolamento REACH, articolo 57**

64-17-5 etanolo

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

### SEZIONE 16: Altre informazioni

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

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**· Frasi rilevanti**

- H225 Liquido e vapori facilmente infiammabili.*
- H301 Tossico se ingerito.*
- H311 Tossico per contatto con la pelle.*
- H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.*
- H317 Può provocare una reazione allergica cutanea.*
- H331 Tossico se inalato.*
- H341 Sospettato di provocare alterazioni genetiche.*
- H350 Può provocare il cancro.*

**· Abbreviazioni e acronimi:**

- ADR: Accord relatif au transport international 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*
- SVHC: Substances of Very High Concern*
- vPvB: very Persistent and very Bioaccumulative*
- Flam. Liq. 1: Liquidi infiammabili – Categoria 1*
- 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*
- Eye Dam. 1: Gravi lesioni oculari/irritazione oculare – Categoria 1*
- Skin Sens. 1: Sensibilizzazione della pelle – Categoria 1*
- Muta. 2: Mutagenicità sulle cellule germinali – Categoria 2*
- Carc. 1B: Cancerogenicità – Categoria 1B*
- STOT SE 3: Tossicità specifica per organi bersaglio (esposizione singola) – Categoria 3*

IT



# 물질안전보건자료 GHS에 따라라따

인쇄일자: 2022.07.07

개정: 2022.07.07

**제품명: FORMALIN SOLUTION, 50%**

(1 쪽부터계속)

피부 부식성/피부 자극성 - 구분1B H314 피부에 심한 화상과 눈에 손상을 일으킴  
심한 눈 손상성/눈 자극성 - 구분1 H318 눈에 심한 손상을 일으킴



급성 독성 - 경구 - 구분4 H302 삼키면 유해함  
피부 과민성은 - 구분1 H317 알레르기성 피부 반응을 일으킬 수 있음

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



GHS02 GHS05 GHS07 GHS08

- 신호어 위험
- **상표상에명확히위험성이표시된성분:**  
포르말린
- **유해위험문구**  
극산화성 액체 및 증기  
삼키면 유해함  
피부에 심한 화상과 눈에 손상을 일으킴  
알레르기성 피부 반응을 일으킬 수 있음  
유전적인 결함을 일으킬 것으로 의심됨  
암을 일으킬 수 있음
- **예방조치문구**  
피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗거나 제거하십시오. 피부를 물로 씻으시오/샤워하십시오
- 눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면 콘택트렌즈를 제거하십시오. 계속 씻으시오. 즉시 독성물질센터/병원 연락 필요.  
(라벨 참조) 처치를 하시오.  
오염된 의복은 벗고 다시 사용 전 세척하십시오.  
밀봉하여 저장하십시오.  
(지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기하십시오.
- **기타기타유해성**
  - PBT(잔류성, 생물농축성, 물질분해성) 및 vPvB(고 잔류성, 고 생물농축성, 물질분해성)에 해당하지 않음
  - PBT(잔류성, 생물농축성, 물질분해성)에 해당 없음.
  - vPvB(고 잔류성, 고 생물농축성, 물질분해성)에 해당 없음.

### 3 구성성분의 명칭 및 함유량

- **화학적 특성:** 혼합물
- 설명설명설명해한 첨가물이 함유된 아래에 열거된 물질로 만들어진 혼합물.

(3 쪽에계속)





# 물질안전보건자료 GHS에 따라라다

인쇄일자: 2022.07.07

개정: 2022.07.07

**제품명: FORMALIN SOLUTION, 50%**

(3 쪽부터계속)

### 색다른 색다른 색다른

안전 관리에 대한 정보는 제7 장 을 참고하시오.  
개인 보호 장 비에 대한 정보는 제8 장 을 참고하시오.  
쓰레기 처 리에 대한 정보는 제13 장 을 참고하시오.

## 7 취급 및 저장방법

취급 취급 취급

안전 안전 안전을 위한 예방 조치

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

화재 화재 화재 발생 시 대피 대책에 관한 정보

발 화 요소는 멀리 둔 다-급 연.  
열로부터 보호한다.  
정 전기 의 충 전 으로부터 보호한다.  
호흡 보호 장 비를 항상 비치한다.

· 혼합 위험성 혼합 위험성 조건

보관 보관 보관

- 안전 예방 방법 방법 가운 장소에 보관한다.
- 하 나 의 공 통 공 통 보 관 에 대 한 보 관 보 관 보 관 정보 없음
- 보 관 조 건 에 관 한 주 가 정 보 정보  
용기를 새지 않게 밀폐한 채 보관한다.  
밀폐된 용기 속에서 늘 하고 건조 하게 보관 한다.  
열이나 직사광선으로부터 보호한다.
- 구 체 적 최 종 최 종 자 추가적인 정보가 존재하지 않습니다.

## 8 노출방지 및 개인보호구

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

통제 통제 통제 변수

· 화학 물질의 노출 기준, 생물학적 노출 기준 등:

50-00-0 포르말린

OELV (KR)	장기간의 값: 0.3 ppm 발암성1A, 생식세포 변이원성2
BOELV (EU)	단기간의 값: 0.74 mg/m <sup>3</sup> , 0.6 ppm 장기간의 값: 0.37 (0.62)* mg/m <sup>3</sup> , 0.3 (0.5)* ppm Skin sens; *health/funeral/embalming till 11/7/24
PEL (US)	단기간의 값: 2 ppm 장기간의 값: 0.75 ppm see 29 CFR 1910.1048(c)
REL (US)	장기간의 값: 0.016 ppm 최고 노출 기준: 0.1* ppm *15-min; See Pocket Guide App. A
TLV (US)	단기간의 값: 0.3 ppm 장기간의 값: 0.1 ppm DSEN; RSEN, A1

(5 쪽에 계속)

# 물질안전보건자료

## GHS에 따라 라다

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(4 쪽부터 계속)

### 64-17-5 Ethyl alcohol

OELV (KR)	장기간 의값: 1000 ppm 발암성 1A
PEL (US)	장기간 의값: 1900 mg/m <sup>3</sup> , 1000 ppm
REL (US)	장기간 의값: 1900 mg/m <sup>3</sup> , 1000 ppm
TLV (US)	단기간 의값: 1000 ppm A3

· **추천정보** 정보 조 할 당시에 유효 한 목 록을 기초로 사용했다.

#### 노출 통제

##### 개인 보호구

##### · 일반적 보호 조치 및 위생 조치:

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

##### · 호흡기 보호 보호

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

##### · 눈 보호 보호



보호용 장갑

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

##### · 장갑의 재료

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

· **장갑 재료의 투과 시간** 정확한 관통 시간은 보호 장갑 제조자에 의 하여 인 지 되 고, 준 수 되 어 야 한 다.

##### · 눈 보호 보호



확조이는 보안경

## 9 물리화학적 특성

### 기본 물리화학적 특성에 대한 정보

#### · 일반 정보

#### 외형 외형의 형

· 물리적 상태 상태

액체

· 색:

밝은

#### · 냄새

알데히드 성질의

#### · 후각역치

알맞지 않다.

(6 쪽에 계속)

# 물질안전보건자료

## GHS에 따라라따

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(5 쪽부터계속)

· pH:	알맞지않다.
· 상태변화 · 녹는점/어는점: 초기초기 녹는 점과 끝 녹는 점	맞지않는 범위범위 -21 °C
· 인화점:	13 °C
· 인화성(고체)기체기체	쉽게발화하는
· 점화온도:	300 °C
분해온도	알맞지않다.
· 자기점화:	이제품은자연발화성이없다.
· 폭발위험:	이제품은폭발위험성이없지만, 폭발가능성이있는증기화합물/공기화합물의형성가능성이있다.
인화안화안정성폭발 위험의 상한/하한 아래로: 위로위로	하한 7 Vol % 73 Vol %
· 증기압 의경우 20 °C:	23 hPa
밀도 밀도 의경우 20 °C: 비중 비중 비중 · 증기밀도: 증발 증발 증발 속도	0.8903 g/cm <sup>3</sup> 알맞지않다. 알맞지않다. 알맞지않다.
· 용해도: 물:	완전히혼합할수있는
· n 옥탄올/물 분배계수:	알맞지않다.
점도 점도 점도 역학성: 동점성:	알맞지않다. 알맞지않다.
· 용매 내용물 · 유기용매: 물: VOC (EU)	55.0 % 45.0 % 55.00 %
고체 양 함량 함량	0.0 %
기타 정보 정보	추가적인 정보가 존재하지 않습니다.

### 10 안정성 및 반응성

- 반응성 추가적인 정보가 존재하지 않습니다.
- 화학적 안정성
- 화학적 안정성 유해 반응의 가능성 / 피해 야할 조건 조건에 따라 사용 할 경우 해체는 없다
- 유해 반응 가능성 위험한 반응으로 알려지지 않았다.
- 피해 야할 조건 조건에 대한 정보가 존재하지 않습니다.
- 혼합 혼합 혼합 혼합 물질 추가적인 정보가 존재하지 않습니다.
- 유해 분해 물질: 위험성 있는 분해물 들은 알려지지 않았다.

KR

(7 쪽에 계속)

# 물질안전보건자료 GHS에 따라라따

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**제품명: FORMALIN SOLUTION, 50%**

(6 쪽부터계속)

## 11 독성에 관한 정보

· **독성학적 영향에 대한 정보**  
급성독성독성독성

· LD/LC50-수 체에 대한 분류
<b>50-00-0 포르말린</b>
구강의 LD50 >200 mg/kg (rat)

· **일차적 자극효과**  
피부 피부 부식성 또는 자극성: 피부와점막에강한부식작용.

심한 심한 부식성 또는 자극성:  
강한부식작용

심각한안구상처의위험이있는강한자극

· **감각화:** 피부접촉을통하여감각화가가능성이있다.

· **추가적인 독성에 관한 정보**

이제 품은 유럽공동체의공동분류원칙의합법적인절차에근거하여최근에발효된원고에서아래위험들의사전 준비에대하여제시하고있다.

건강에해로운

부식작용의

자극적인

삼킬경우 식도나 위등의내장기관벽에상처를주는위험과 마찬가지로 입 주변이나 구강에강한부식작용을한다  
압을 유발하는

다음 다음 중류의 잠재적인 효과에 대한 정보

· **변이 효과 유발 유전자 변이성 그리고 생식독성**

생식세포 변이원성- 구분2, 발암성 - 구분1B

## 12 환경에 미치는 영향

독성독성독성

· **수생독성:** 추가적인 정보가 존재하지 않습니다.

· **지속성 및 분해성** 추가적인 정보가 존재하지 않습니다.

· **환경 시스템에서의 행동:**

· **생물농축 잠재성** 추가적인 정보가 존재하지 않습니다.

· **토양내 이동성** 추가적인 정보가 존재하지 않습니다.

· **생태독성:**

의견의견의견류 에 해 로움

· **추가적인 생태학 정보**

일반 일반 일반 특징

수질오염등급 2 (자체등급분류): 수질오염이된

지하수나, 하천으로또는 하수도망에도달하지않게한다.

회석시키지않은채또는중화시키지않은채 하수도나배수로에도달하지않게해야한다.

지하수로경미한양이유입되었을경우엔이미식수오염상태이다

물속의유기체에해가되는것

· **PBT(잔류성, 생물농축성, 물질물질) 및 vPvB(고 잔류성, 고 생물농축성) 물질에 대한 평가 결과**

· **PBT(잔류성, 생물농축성) 물질물질** 당사항 없음.

· **vPvB(고 잔류성, 고 생물농축성) 물질물질** 당사항 없음.

기타기타 부작용 추가적인 정보가 존재하지 않습니다.

KR

(8 쪽에계속)

# 물질안전보건자료 GHS에 따라라따

인쇄일자: 2022.07.07

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**제품명: FORMALIN SOLUTION, 50%**

(7 쪽부터계속)

## 13 폐기시 주의사항

- 폐기물 처리 방법  
권고 권고 생활 쓰레기와 함께 처리되어서는 안된다. 하수도망으로 유입되어서는 안된다.
- 비위생적 포장 포장  
권고 권고 당국의 지침에 입각한 쓰레기 처리.
- 추천 세정제: 경우에 따라서 세제가 첨가된 물

## 14 운송에 필요한 정보

유엔 유엔 유엔 번호 · ADR, IMDG, IATA	UN1198
적정적정 적정명 · ADR · IMDG, IATA	1198 FORMALDEHYDE SOLUTION, FLAMMABLE FORMALDEHYDE SOLUTION, FLAMMABLE
교통 교통 교통 클래스 · ADR	
	
등급 등급 등급 · 위험도 라벨라벨	3 발화성용액 3+6.1+8
· IMDG	
	
· Class · Label	3 발화성용액 3/6.1/8
· IATA	
	
· Class · Label	3 발화성용액 3 (6.1, 8)
· 용기등급 · ADR, IMDG, IATA	I
· 환경적 유해물질:	해당사항 없음.
· 이 용기 특별 취급 조치 위험도 라벨라벨 코드 · E 번호 번호 · Stowage Category · Stowage Code	경고: 발화성용액 368 F-E,S-C E SW2 Clear of living quarters.

(9 쪽에 계속)

# 물질안전보건자료 GHS에 따라라따

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(8 쪽부터계속)

· Segregation Code	SG5 Segregation as for class 3 SG8 Stow "away from" class 4.1
· MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크물질 운송 운송	해당사항 없음.
<b>· 운송/추가정보</b>	
· ADR 한정 한량 (수량 제한)	0
· Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity
운송 운송 운송 구분 터널 터널 터널 터널 코드	1 C/E
· IMDG · Limited quantities (LQ)	0
· Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity
· UN 번호 및 위험 등급	UN 1198 FORMALDEHYDE SOLUTION, FLAMMABLE, 3 (6.1+8), I

## 15 법적 규제 현황

<b>· 산업안전보건법에 의한 위험성 규제</b>		
<b>제조제조금지물질:</b>		
어떠한 내용물도 목록화되어있지않다		
<b>· 허가대상물질:</b>		
어떠한 내용물도 목록화되어있지않다		
<b>· 관리대상유해물질:</b>		
50-00-0	포르말린	
<b>· 관리대상 유해물 종류 종류 화합물: 118</b>		
<b>· 작업환경측정 대상 유해인자</b>		
50-00-0	포르말린	1A105
<b>· 특수건강 집관 대상 유해인자</b>		
50-00-0	포르말린	1A98
<b>해당 해당 수질 또는 모래 물에 대한 안전 보건 규정 관련 법률</b>		
<b>· Korean Existing Chemical Inventory</b>		
50-00-0	포르말린	KE-17074
7732-18-5	물	KE-35400
64-17-5	Ethyl alcohol	KE-13217
<b>· 화학물질관리법</b>		
<b>· 사고대비물질</b>		
50-00-0	포르말린	
<b>· 금지물질</b>		
어떠한 내용물도 목록화되어있지않다		

(10 쪽에 계속)



# 물질안전보건자료

GHS에 따라라따

인쇄일자: 2022.07.07

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**제품명: FORMALIN SOLUTION, 50%**

(9 쪽부터계속)

· 제한물질	
50-00-0	포르말린

· 유독물질	
50-00-0	포르말린

· 허가물질	
50-00-0	포르말린

· 위험물안전관리법 (위험물 및 지정수량) 제 4: 400 리터

등록명목번호: 7732-18-5 **선제대상 화학물질**

7732-18-5	물
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· ‘21년까지 등록하여야 할 압, 들언변이, 생식능력 이상을 일으킬 우려가 있는 기존화학물질  
어떠한내용물도 목록화되어있지않다

· 종점관리물질(제관전관련관련)	
50-00-0	포르말린

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

· GHS 그림문자



· 신호어 위험

· 상표상에명확히위험성이표시된성분:  
포르말린

**유해유해유해문구**  
극산화성 액체 및 증기  
삼키면 유해함  
피부에 심한 화상과 눈에 손상을 일으킴  
알레르기성 피부 반응을 일으킬 수 있음  
유전적인 결함을 일으킬 것으로 의심됨  
암을 일으킬 수 있음

· 예방조치문구  
피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗거나 제거하십시오. 피부를 물로 씻으시오/샤워하십시오

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

· 국내규정:

· 사용제한에 대한정보  
노동자들은 이러한예방준비하에암을유발시키는성분을함유한위험물을버리지말아야한다. 개별적인경우  
에관청은예외를허가할수있다.

· 화학물질 안전성 평가  
화학물질 안전성 평가가 수행되지 않음

KR

(11 쪽에계속)

# 물질안전보건자료

## GHS에 따라라따

인쇄일자: 2022.07.07

개정: 2022.07.07

**제품명: FORMALIN SOLUTION, 50%**

(10 쪽부터계속)

### 16 그 밖의 참고사항

이보고는우리지식에대한오늘날의상태에대하여평가하고있다, 하지만이보고서는생산특성에관한보증은  
기술하지않았으며계약적인법률관계에기반을두고있지도않다

**당첨당자당자**

최초최초작성일자: 2022.07.07

개정개정개정개정최종작성일자: 1 / 2022.07.07

· **약어와 두문자어:**

ADR: Accord relatif au transport international 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

KR

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 07.07.2022

Revisión: 07.07.2022

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

- **1.1 Identificador del producto**
- **Nombre comercial:** FORMALIN SOLUTION, 50%
- **Número del artículo:** 26698-03
- **UFI:** QJ43-40V0-Y00R-9UKP
- **1.2 Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados**  
No existen más datos relevantes disponibles.
- **Utilización del producto / de la elaboración** Sustancias químicas de laboratorio
- **1.3 Datos del proveedor de la ficha de datos de seguridad**
- **Fabricante/distribuidor:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- **Aname**  
C/ Perez Galdos no. 2  
28693 Quijorna  
Madrid, Spain  
Tel: +34.91.816.89.50  
Fax: +34.91.816.85.94  
email: ventas@aname.es
- **Área de información:** Product safety department
- **1.4 Teléfono de emergencia:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### SECCIÓN 2: Identificación de los peligros

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



GHS02 llama

Flam. Liq. 1 H224 Líquido y vapores extremadamente inflamables.



GHS08 peligro para la salud

Muta. 2 H341 Se sospecha que provoca defectos genéticos.

Carc. 1B H350 Puede provocar cáncer.



GHS05 corrosión

Skin Corr. 1B H314 Provoca quemaduras graves en la piel y lesiones oculares graves.

Eye Dam. 1 H318 Provoca lesiones oculares graves.

( se continua en página 2 )

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GHS07

- Acute Tox. 4 H302 Nocivo en caso de ingestión.  
 Acute Tox. 4 H312 Nocivo en contacto con la piel.  
 Acute Tox. 4 H332 Nocivo en caso de inhalación.  
 Skin Sens. 1 H317 Puede provocar una reacción alérgica en la piel.  
 STOT SE 3 H335 Puede irritar las vías respiratorias.

### · 2.2 Elementos de la etiqueta

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

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

#### · Pictogramas de peligro



GHS02

GHS05

GHS07

GHS08

#### · Palabra de advertencia Peligro

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

formaldehído

#### · Indicaciones de peligro

- H224 Líquido y vapores extremadamente inflamables.  
 H302+H312+H332 Nocivo en caso de ingestión, contacto con la piel o inhalación.  
 H314 Provoca quemaduras graves en la piel y lesiones oculares graves.  
 H317 Puede provocar una reacción alérgica en la piel.  
 H341 Se sospecha que provoca defectos genéticos.  
 H350 Puede provocar cáncer.  
 H335 Puede irritar las vías respiratorias.

#### · Consejos de prudencia

- P303+P361+P353 EN CASO DE CONTACTO CON LA PIEL (o el pelo): Quitar inmediatamente toda la ropa contaminada. Enjuagar la piel con agua [o ducharse].  
 P305+P351+P338 EN CASO DE CONTACTO CON LOS OJOS: Enjuagar con agua cuidadosamente durante varios minutos. Quitar las lentes de contacto cuando estén presentes y pueda hacerse con facilidad. Proseguir con el lavado.  
 P310 Llamar inmediatamente a un CENTRO DE TOXICOLOGÍA/médico.  
 P321 Se necesita un tratamiento específico (ver en esta etiqueta).  
 P362+P364 Quitar las prendas contaminadas y lavarlas antes de volver a usarlas.  
 P405 Guardar bajo llave.  
 P501 Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional.

### · 2.3 Otros peligros

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

- **PBT:** No aplicable.  
 · **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.

( se continua en página 3 )

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· Componentes peligrosos:		
CAS: 50-00-0 EINECS: 200-001-8	formaldehído Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Muta. 2, H341; Carc. 1B, H350; Skin Corr. 1B, H314; Skin Sens. 1, H317	>25-≤50%
CAS: 64-17-5 EINECS: 200-578-6	etanol Flam. Liq. 2, H225	>2,5-≤10%
· SVHC		
64-17-5	etanol	

· **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:

Quitarse de inmediato toda prenda contaminada con el producto.

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

##### · En caso de inhalación del producto:

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

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

##### · En caso de contacto con la piel: Lavar inmediatamente con agua y jabón y enjuagar bien.

##### · En caso de con los ojos:

Limpia los ojos abiertos durante varios minutos con agua corriente y consultar un médico.

##### · En caso de ingestión:

Consultar inmediatamente un médico.

Beber mucha agua a respirar aire fresco. Solicitar asistencia médica inmediatamente.

##### · 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

Llevar puesto equipo de protección. Mantener alejadas las personas sin protección.

#### · 6.2 Precauciones relativas al medio ambiente:

Al penetrar en las aguas o en el alcantarillado, avisar a las autoridades pertinentes.

Diluir con mucha agua.

Evitar que penetre en la canalización /aguas de superficie /agua subterráneas.

#### · 6.3 Métodos y material de contención y de limpieza:

Quitar con material absorbente (arena, kieselgur, aglutinante de ácidos, aglutinante universal, aserrín).

( se continua en página 4 )

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Utilizar un neutralizador.

Desechar el material contaminado como vertido según ítem 13.

Asegurar suficiente ventilación.

· **6.4 Referencia a otras secciones**

Ver capítulo 7 para mayor información sobre una manipulación segura.

Ver capítulo 8 para mayor información sobre el equipo personal de protección.

Para mayor información sobre cómo desechar el producto, ver capítulo 13.

### SECCIÓN 7: Manipulación y almacenamiento

· **7.1 Precauciones para una manipulación segura**

Asegurar suficiente ventilación /aspiración en el puesto de trabajo.

Abrir y manejar el recipiente con cuidado.

Evitar la formación de aerosoles.

· **Prevención de incendios y explosiones:**

Mantener alejadas las fuentes de encendido. No fumar.

Proteger del calor.

Tomar medidas contra las cargas electrostáticas.

Tener preparados los aparatos respiratorios.

· **7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**

· **Almacenamiento:**

· **Exigencias con respecto al almacén y los recipientes:** Almacenar en un lugar fresco.

· **Normas en caso de un almacenamiento conjunto:** No es necesario.

· **Indicaciones adicionales sobre las condiciones de almacenamiento:**

Mantener el recipiente cerrado herméticamente.

Almacenarlo en envases bien cerrados en un lugar fresco y seco.

Proteger del calor y de la luz directa del sol.

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

### SECCIÓN 8: Controles de exposición/protección individual

· **8.1 Parámetros de control**

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

Sin datos adicionales, ver punto 7.

· **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

**64-17-5 etanol**

LEP Valor de corta duración: 1910 mg/m<sup>3</sup>, 1000 ppm

s

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

· **8.2 Controles de la exposición**

· **Equipo de protección individual:**

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

Mantener alejado de alimentos, bebidas y alimentos para animales.

Quitarse de inmediato la ropa ensuciada o impregnada.

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

Guardar la ropa protectora por separado.

( se continua en página 5 )

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( se continua en página 4 )

Evitar el contacto con los ojos.

Evitar el contacto con los ojos y la piel.

· **Protección respiratoria:**

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

· **Protección de manos:**



Guantes de protección

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

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

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

· **Material de los guantes**

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

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

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

· **Protección de ojos:**



Gafas de protección herméticas

### SECCIÓN 9: Propiedades físicas y químicas

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

· **Datos generales**

· **Aspecto:**

Forma: Líquido

Color: Claro

· **Olor:** Aldehídico

· **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: -21 °C

· **Punto de inflamación:** 13 °C

· **Inflamabilidad (sólido, gas):** Fácilmente inflamable.

· **Temperatura de ignición:** 300 °C

· **Temperatura de descomposición:** No determinado.

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

( se continua en página 6 )



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· <b>Propiedades explosivas:</b>	<i>El producto no es explosivo; sin embargo, pueden formarse mezclas explosivas de vapor / aire.</i>
· <b>Límites de explosión:</b>	
<b>Inferior:</b>	7 Vol %
<b>Superior:</b>	73 Vol %
· <b>Presión de vapor a 20 °C:</b>	23 hPa
· <b>Densidad a 20 °C:</b>	0,8903 g/cm <sup>3</sup>
· <b>Densidad relativa</b>	No determinado.
· <b>Densidad de vapor</b>	No determinado.
· <b>Tasa de evaporación:</b>	No determinado.
· <b>Solubilidad en / miscibilidad con agua:</b>	Completamente mezclable.
· <b>Coefficiente de reparto: n-octanol/agua:</b>	No determinado.
· <b>Viscosidad:</b>	
<b>Dinámica:</b>	No determinado.
<b>Cinemática:</b>	No determinado.
· <b>Concentración del disolvente:</b>	
<b>Disolventes orgánicos:</b>	55,0 %
<b>Agua:</b>	45,0 %
<b>VOC (CE)</b>	55,00 %
<b>Contenido de cuerpos sólidos:</b>	0,0 %
· <b>9.2 Otros datos</b>	<i>No existen más datos relevantes disponibles.</i>

### SECCIÓN 10: Estabilidad y reactividad

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

### SECCIÓN 11: Información toxicológica

- **11.1 Información sobre los efectos toxicológicos**
  - **Toxicidad aguda**  
Nocivo en caso de ingestión, contacto con la piel o inhalación.
  - **Valores LD/LC50 (dosis letal /dosis letal = 50%) relevantes para la clasificación:**
- |                             |      |                  |
|-----------------------------|------|------------------|
| <b>50-00-0 formaldehído</b> |      |                  |
| Oral                        | LD50 | >200 mg/kg (rat) |
- **Efecto estimulante primario:**
  - **Corrosión o irritación cutáneas**  
Provoca quemaduras graves en la piel y lesiones oculares graves.

( se continua en página 7 )

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( se continua en página 6 )

- **Lesiones o irritación ocular graves**  
Provoca lesiones oculares graves.
- **Sensibilización respiratoria o cutánea**  
Puede provocar una reacción alérgica en la piel.
- **Indicaciones toxicológicas adicionales:**
- **Efectos CMR (carcinogenicidad, mutagenicidad y toxicidad para la reproducción)**
- **Mutagenicidad en células germinales**  
Se sospecha que provoca defectos genéticos.
- **Carcinogenicidad**  
Puede provocar cáncer.
- **Toxicidad para la reproducción** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad específica en determinados órganos (STOT) – exposición única**  
Puede irritar las vías respiratorias.
- **Toxicidad específica en determinados órganos (STOT) – exposición repetida**  
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Peligro de aspiración** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

### SECCIÓN 12: Información ecológica

- **12.1 Toxicidad**
- **Toxicidad acuática:** No existen más datos relevantes disponibles.
- **12.2 Persistencia y degradabilidad** No existen más datos relevantes disponibles.
- **12.3 Potencial de bioacumulación** No existen más datos relevantes disponibles.
- **12.4 Movilidad en el suelo** No existen más datos relevantes disponibles.
- **Efectos ecotóxicos:**
- **Observación:** Nocivo para los peces.
- **Indicaciones medioambientales adicionales:**
- **Indicaciones generales:**  
Nivel de riesgo para el agua 2 (autoclasificación): peligroso para el agua  
No dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados.  
En estado no diluido o no neutralizado, no verter en el alcantarillado o en otros sistemas de desagüe.  
Una cantidad mínima vertida en el subsuelo ya representa un peligro para el agua potable.  
nocivo para organismos acuáticos
- **12.5 Resultados de la valoración PBT y mPmB**
- **PBT:** No aplicable.
- **mPmB:** No aplicable.
- **12.6 Otros efectos adversos** No existen más datos relevantes disponibles.

### SECCIÓN 13: Consideraciones relativas a la eliminación

- **13.1 Métodos para el tratamiento de residuos**
- **Recomendación:** No debe desecharse con la basura doméstica. No debe llegar al alcantarillado.
- **Embalajes sin limpiar:**
- **Recomendación:** Eliminar conforme a las disposiciones oficiales.
- **Producto de limpieza recomendado:** Agua, eventualmente añadiendo productos de limpieza.

### SECCIÓN 14: Información relativa al transporte

- **14.1 Número ONU**
- **ADR, IMDG, IATA**

UN1198

( se continua en página 8 )

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( se continua en página 7 )

· **14.2 Designación oficial de transporte de las Naciones Unidas**  
 · **ADR** 1198 FORMALDEHÍDO EN SOLUCIÓN, INFLAMABLE  
 · **IMDG, IATA** FORMALDEHYDE SOLUTION, FLAMMABLE

· **14.3 Clase(s) de peligro para el transporte**

· **ADR**



· **Clase** 3 Líquidos inflamables  
 · **Etiqueta** 3+6.1+8

· **IMDG**



· **Class** 3 Líquidos inflamables  
 · **Label** 3/6.1/8

· **IATA**



· **Class** 3 Líquidos inflamables  
 · **Label** 3 (6.1, 8)

· **14.4 Grupo de embalaje**

· **ADR, IMDG, IATA** I

· **14.5 Peligros para el medio ambiente:** No aplicable.

· **14.6 Precauciones particulares para los usuarios** Atención: Líquidos inflamables

· **Número de identificación de peligro (Número Kemler):** 368  
 · **Número EMS:** F-E,S-C  
 · **Stowage Category** E  
 · **Stowage Code** SW2 Clear of living quarters.  
 · **Segregation Code** SG5 Segregation as for class 3  
 SG8 Stow "away from" class 4.1

· **14.7 Transporte a granel con arreglo al anexo II del Convenio MARPOL y el Código IBC** No aplicable.

· **Transporte/datos adicionales:**

· **ADR**  
 · **Cantidades limitadas (LQ)** 0  
 · **Cantidades exceptuadas (EQ)** Código: E0  
 No se permite como cantidad exceptuada  
 · **Categoría de transporte** 1  
 · **Código de restricción del túnel** C/E

( se continua en página 9 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 07.07.2022

Revisión: 07.07.2022

Nombre comercial: FORMALIN SOLUTION, 50%

( se continua en página 8 )

· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	0
· <b>Excepted quantities (EQ)</b>	Code: E0 Not permitted as Excepted Quantity
· <b>"Reglamentación Modelo" de la UNECE:</b>	UN 1198 FORMALDEHÍDO EN SOLUCIÓN, INFLAMABLE, 3 (6.1+8), I

### 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
- Categoría Seveso P5a LÍQUIDOS INFLAMABLES
- Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel inferior 10 t
- Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel superior 50 t
- REGLAMENTO (CE) n° 1907/2006 ANEXO XVII Restricciones: 3, 28, 72

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

ninguno de los componentes está incluido en una lista

· REGLAMENTO (UE) 2019/1148

· Anexo I - PRECURSORES DE EXPLOSIVOS RESTRINGIDOS (Valor límite superior a efectos de la concesión de licencias con arreglo al artículo 5, apartado 3)

ninguno de los componentes está incluido en una lista

· Anexo II - PRECURSORES DE EXPLOSIVOS NOTIFICABLES

ninguno de los componentes está incluido en una lista

· Reglamento (CE) no 273/2004 sobre precursores de drogas

ninguno de los componentes está incluido en una lista

· Reglamento (CE) N o 111/2005 por el que establecen normas para la vigilancia del comercio de precursores de drogas entre la Comunidad y terceros países

ninguno de los componentes está incluido en una lista

· Disposiciones nacionales:

· **Indicaciones sobre las limitaciones de trabajo:**

Los empleados no deben exponerse a las sustancias cancerígenas contenidas en el producto. En casos aislados las autoridades pueden hacer excepciones.

· **Demás disposiciones, limitaciones y decretos prohibitivos**

· Sustancias altamente preocupantes (SVHC) según REACH, artículo 57

64-17-5 | etanol

· **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.

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· **Frases relevantes**

- H225 Líquido y vapores muy inflamables.
- H301 Tóxico en caso de ingestión.
- H311 Tóxico en contacto con la piel.
- H314 Provoca quemaduras graves en la piel y lesiones oculares graves.
- H317 Puede provocar una reacción alérgica en la piel.
- H331 Tóxico en caso de inhalación.
- H341 Se sospecha que provoca defectos genéticos.
- H350 Puede provocar cáncer.

· **Abreviaturas y acrónimos:**

- ADR: Accord relatif au transport international 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
- SVHC: Substances of Very High Concern
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 1: Líquidos inflamables – Categoría 1
- 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
- Eye Dam. 1: Lesiones oculares graves o irritación ocular – Categoría 1
- Skin Sens. 1: Sensibilización cutánea – Categoría 1
- Muta. 2: Mutagenicidad en células germinales – Categoría 2
- Carc. 1B: Carcinogenicidad – Categoría 1B
- STOT SE 3: Toxicidad específica en determinados órganos ( exposición única) – Categoría 3

ES