

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2022

Reviewed on 11/03/2022

## 1 Identification

- **Product identifier**
- **Trade name:** FORMALIN, 40% NEUTRALIZED
- **Article number:** 26392-04
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 Electron Microscopy Sciences  
 1560 Industry Road  
 USA-Hatfield, PA 19440  
 Tel: 215-412-8400 Fax: 215-412-8450  
 email: sgkcck@aol.com  
 www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
 ChemTrec 1-800-424-9300 Contract CCN7661  
 1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS06 Skull and crossbones

Acute Toxicity - Dermal 3

H311 Toxic in contact with skin.

Acute Toxicity - Inhalation 3

H331 Toxic if inhaled.



GHS08 Health hazard

Germ Cell Mutagenicity 2

H341 Suspected of causing genetic defects.

Carcinogenicity 1B

H350 May cause cancer.

Specific Target Organ Toxicity - Single Exposure 1

H370 Causes damage to the central nervous system and the visual organs.



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.

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).

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2022

Reviewed on 11/03/2022

Trade name: **FORMALIN, 40% NEUTRALIZED**

(Contd. of page 1)

· **Hazard pictograms**· **Signal word** *Danger*· **Hazard-determining components of labeling:***formaldehyde**Methyl Alcohol*· **Hazard statements***Harmful if swallowed.**Toxic 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.**Causes damage to the central nervous system and the visual organs.*· **Precautionary statements***Obtain special instructions before use.**Do not handle until all safety precautions have been read and understood.**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 immediately all contaminated clothing and wash it before reuse.**If skin irritation or rash occurs: Get medical advice/attention.**Store in a well-ventilated place. Keep container tightly closed.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.*· **Classification system:**· **NFPA ratings (scale 0 - 4)**· **HMIS-ratings (scale 0 - 4)**

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2022

Reviewed on 11/03/2022

**Trade name: FORMALIN, 40% NEUTRALIZED**

(Contd. of page 2)

- **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%
67-56-1	Methyl Alcohol	>10-≤25%

### 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.  
Remove breathing apparatus only after contaminated clothing have been completely removed.  
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**  
Supply fresh air or oxygen; call for 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:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2022

Reviewed on 11/03/2022

**Trade name: FORMALIN, 40% NEUTRALIZED**

(Contd. of page 3)

- 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
67-56-1	Methyl Alcohol	530 ppm
471-34-1	calcium carbonate	45 mg/m <sup>3</sup>

· **PAC-2:**

50-00-0	formaldehyde	14 ppm
67-56-1	Methyl Alcohol	2,100 ppm
471-34-1	calcium carbonate	210 mg/m <sup>3</sup>

· **PAC-3:**

50-00-0	formaldehyde	56 ppm
67-56-1	Methyl Alcohol	7200* ppm
471-34-1	calcium carbonate	1,300 mg/m <sup>3</sup>

## 7 Handling and storage

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

## 8 Exposure controls/personal protection

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

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

<b>50-00-0 formaldehyde</b>	
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

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2022

Reviewed on 11/03/2022

**Trade name: FORMALIN, 40% NEUTRALIZED**

(Contd. of page 4)

TLV	Short-term value: 0.3 ppm Long-term value: 0.1 ppm DSEN; RSEN, AI
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**67-56-1 Methyl Alcohol**

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

TLV	Short-term value: 250 ppm Long-term value: 200 ppm Skin; BEI
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**· Ingredients with biological limit values:**

**67-56-1 Methyl Alcohol**

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

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

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

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2022

Reviewed on 11/03/2022

Trade name: **FORMALIN, 40% NEUTRALIZED**

(Contd. of page 5)

· **Eye protection:**

Safety glasses



Tightly sealed goggles

## 9 Physical and chemical properties

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

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

· **pH-value at 20 °C (68 °F):** 3.3· **Change in condition**

· <b>Melting point/Melting range:</b>	Undetermined.
· <b>Boiling point/Boiling range:</b>	-21 °C (-5.8 °F)

· **Flash point:** Not applicable.· **Flammability (solid, gaseous):** Not flammable.· **Ignition temperature:** 300 °C (572 °F)· **Decomposition temperature:** Not determined.· **Auto igniting:** Product is not selfigniting.· **Danger of explosion:** Product does not present an explosion hazard.· **Explosion limits:**

· <b>Lower:</b>	5.5 Vol %
· <b>Upper:</b>	73 Vol %

· **Vapor pressure at 20 °C (68 °F):** 128 hPa (96 mm Hg)· **Density at 20 °C (68 °F):** 0.9044 g/cm<sup>3</sup> (7.54722 lbs/gal)· **Relative density** Not determined.· **Vapor density** Not determined.· **Evaporation rate** Not determined.· **Solubility in / Miscibility with**· **Water:** Not miscible or difficult to mix.· **Partition coefficient (n-octanol/water):** Not determined.· **Viscosity:**

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

· **Solvent content:**

· <b>Organic solvents:</b>	55.0 %
· <b>Water:</b>	44.3 %

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2022

Reviewed on 11/03/2022

**Trade name: FORMALIN, 40% NEUTRALIZED**

(Contd. of page 6)

<b>VOC content:</b>	55.00 % 829.9 g/l / 6.93 lb/gal
<b>Solids content:</b>	0.7 %
<b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

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

## 11 Toxicological information

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

· <b>LD/LC50 values that are relevant for classification:</b>		
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:  
Toxic  
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**

· <b>IARC (International Agency for Research on Cancer)</b>		
50-00-0	formaldehyde	I
· <b>NTP (National Toxicology Program)</b>		
50-00-0	formaldehyde	K
· <b>OSHA-Ca (Occupational Safety Health Administration)</b>		
50-00-0	formaldehyde	

US

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2022

Reviewed on 11/03/2022

**Trade name: FORMALIN, 40% NEUTRALIZED**

(Contd. of page 7)

## 12 Ecological information

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

## 13 Disposal considerations

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

## 14 Transport information

· <b>Environmental hazards:</b>	Not applicable.
· <b>Special precautions for user</b>	Not applicable.
· <b>Stowage Category</b>	B
· <b>Stowage Code</b>	SW2 Clear of living quarters.
· <b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>IMDG</b>	
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	Void

(Contd. on page 9)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2022

Reviewed on 11/03/2022

Trade name: **FORMALIN, 40% NEUTRALIZED**

(Contd. of page 8)

## 15 Regulatory information

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

· **Sara**

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

50-00-0	formaldehyde
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· **Section 313 (Specific toxic chemical listings):**

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

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

50-00-0	formaldehyde
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67-56-1	Methyl Alcohol
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· **Proposition 65**

· **Chemicals known to cause cancer:**

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

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

· **EPA (Environmental Protection Agency)**

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

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

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

· **Hazard pictograms**



GHS05   GHS06   GHS07   GHS08

· **Signal word** Danger

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

formaldehyde

Methyl Alcohol

· **Hazard statements**

Harmful if swallowed.

Toxic in contact with skin or if inhaled.

Causes severe skin burns and eye damage.

(Contd. on page 10)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2022

Reviewed on 11/03/2022

**Trade name: FORMALIN, 40% NEUTRALIZED**

(Contd. of page 9)

*May cause an allergic skin reaction.*

*Suspected of causing genetic defects.*

*May cause cancer.*

*Causes damage to the central nervous system and the visual organs.*

· **Precautionary statements**

*Obtain special instructions before use.*

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

*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 immediately all contaminated clothing and wash it before reuse.*

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

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

*Store locked up.*

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

· **National regulations:**

· **Information about limitation of use:**

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

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

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

## 16 Other information

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

· **Contact:**

· **Date of preparation / last revision** 11/03/2022 / -

· **Abbreviations and acronyms:**

*IMDG: International Maritime Code for Dangerous Goods*

*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***

(Contd. on page 11)

**Safety Data Sheet**  
**acc. to OSHA HCS**

Printing date 11/03/2022

Reviewed on 11/03/2022

**Trade name: FORMALIN, 40% NEUTRALIZED**

(Contd. of page 10)

*BEI: Biological Exposure Limit**Acute Toxicity - Oral 4: Acute toxicity – Category 4**Acute Toxicity - Dermal 3: Acute toxicity – Category 3**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 1B: Carcinogenicity – Category 1B**Specific Target Organ Toxicity - Single Exposure 1: Specific target organ toxicity (single exposure) – Category 1*

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