

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/28/2015

Reviewed on 07/28/2015

## 1 Identification

- **Product identifier**
- **Trade name:** FIXATIVE/DECALCIFIER
- **Article number:** 64148-01, 64148-06
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

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



GHS05 Corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.  
Eye Dam. 1      H318 Causes serious eye damage.



GHS07

Skin Sens. 1      H317 May cause an allergic skin reaction.  
Flam. Liq. 4      H227 Combustible liquid.

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



GHS05



GHS07



GHS08

- **Signal word** *Danger*

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**Trade name: FIXATIVE/DECALCIFIER**

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

formaldehyde

Formic acid

· **Hazard statements**

Combustible liquid.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause cancer.

· **Precautionary statements**

Keep away from flames and hot surfaces. – No smoking.

Do not breathe dusts or mists.

Wear protective gloves / eye protection / face protection.

Wear protective gloves.

Wear eye protection / face protection.

Wash thoroughly after handling.

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

Obtain special instructions before use.

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

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

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

Continue rinsing.

Immediately call a poison center/doctor.

Specific treatment (see on this label).

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

Wash contaminated clothing before reuse.

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

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

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

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

Store locked up.

Store in a well-ventilated place. Keep cool.

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

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 3

Fire = 1

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 3

Fire = 1

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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Trade name: **FIXATIVE/DECALCIFIER**

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### 3 Composition/information on ingredients

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

- **Dangerous components:**

64-18-6	Formic acid	10-25%
50-00-0	formaldehyde	2.5-10%
67-56-1	Methyl Alcohol	≤ 2.5%

### 4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **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:** 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.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
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.

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See Section 13 for disposal information.

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
 Ensure good ventilation/exhaustion at the workplace.  
 Open and handle receptacle with care.  
 Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
 Protect from heat.  
 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.  
 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:**

### 64-18-6 Formic acid

PEL	Long-term value: 9 mg/m <sup>3</sup> , 5 ppm
REL	Long-term value: 9 mg/m <sup>3</sup> , 5 ppm
TLV	Short-term value: 19 mg/m <sup>3</sup> , 10 ppm Long-term value: 9.4 mg/m <sup>3</sup> , 5 ppm

### 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	Ceiling limit value: 0.37 mg/m <sup>3</sup> , 0.3 ppm (SEN) NIC-DSEN; RSEN

### 67-56-1 Methyl Alcohol

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

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· **Ingredients with biological limit values:**

**67-56-1 Methyl Alcohol**

<b>BEI</b>	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.

· **Eye protection:**

Safety glasses



Tightly sealed goggles

## 9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

**Form:** Liquid

**Color:** Colorless

· **Odor:** uncharacteristic

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· <b>Odour threshold:</b>	Not determined.
· <b>pH-value at 20 °C (68 °F):</b>	2
· <b>Change in condition</b>	
<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	-21 °C (-6 °F)
· <b>Flash point:</b>	71 °C (160 °F)
· <b>Flammability (solid, gaseous):</b>	Not flammable.
· <b>Ignition temperature:</b>	300 °C (572 °F)
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Not determined.
· <b>Explosion limits:</b>	
<b>Lower:</b>	14.0 Vol %
<b>Upper:</b>	33.0 Vol %
· <b>Vapor pressure at 20 °C (68 °F):</b>	43 hPa (32 mm Hg)
· <b>Density at 20 °C (68 °F):</b>	1.00398 g/cm <sup>3</sup> (8.378 lbs/gal)
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with</b>	
<b>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>	8.4 %
<b>Water:</b>	81.0 %
<b>VOC content:</b>	8.4 %
	451.5 g/l / 3.77 lb/gl
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

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

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## 11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

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

<b>64-18-6 Formic acid</b>		
Oral	LD50	1100 mg/kg (rat)
<b>50-00-0 formaldehyde</b>		
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:

- 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
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- **NTP (National Toxicology Program)**

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

50-00-0	formaldehyde	
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## 12 Ecological information

- **Toxicity**

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

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

- **Behavior in environmental systems:**

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

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

- **Additional ecological information:**

- **General notes:**

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

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

- 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.

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· **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>         | UN3265   |
| · <b>UN proper shipping name</b>      |  |
| · <b>DOT</b>                          | Corrosive liquid, acidic, organic, n.o.s. (Formic acid, Formaldehyde solutions)      |
| · <b>ADR</b>                          | 3265 Corrosive liquid, acidic, organic, n.o.s. (Formic acid, Formaldehyde solutions) |
| · <b>IMDG, IATA</b>                   | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (FORMIC ACID, FORMALDEHYDE SOLUTION)       |
| · <b>Transport hazard class(es)</b>   |  |
| · <b>DOT</b>                          |  |
|                                       |  |
| · <b>Class</b>                        | 8 Corrosive substances   |
| · <b>Label</b>                        | 8  |
|                                       |  |
| · <b>ADR, IMDG, IATA</b>              |  |
|                                       |  |
| · <b>Class</b>                        | 8 Corrosive substances   |
| · <b>Label</b>                        | 8  |
| · <b>Packing group</b>                |  |
| · <b>DOT, ADR, IMDG, IATA</b>         | III  |
| · <b>Environmental hazards:</b>       |  |
| · <b>Marine pollutant:</b>            | No   |
| · <b>Special precautions for user</b> | Warning: Corrosive substances  |
| · <b>Danger code (Kemler):</b>        | 80   |
| · <b>EMS Number:</b>                  | F-A,S-B  |
| · <b>Segregation groups</b>           | Acids  |

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· <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</b>	
· <b>Quantity limitations</b>	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· <b>ADR</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>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <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>	UN3265, Corrosive liquid, acidic, organic, n.o.s. (Formic acid, Formaldehyde solutions), 8, III

## 15 Regulatory information

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

· <b>Section 355 (extremely hazardous substances):</b>
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50-00-0	formaldehyde
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· <b>Section 313 (Specific toxic chemical listings):</b>
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64-18-6	Formic acid
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50-00-0	formaldehyde
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67-56-1	Methyl Alcohol
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· <b>TSCA (Toxic Substances Control Act):</b>
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All ingredients are listed.
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· <b>Proposition 65</b>
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· <b>Chemicals known to cause cancer:</b>
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50-00-0	formaldehyde
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· <b>Chemicals known to cause reproductive toxicity for females:</b>
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None of the ingredients is listed.
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· <b>Chemicals known to cause reproductive toxicity for males:</b>
--

None of the ingredients is listed.
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· <b>Chemicals known to cause developmental toxicity:</b>
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67-56-1	Methyl Alcohol
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· <b>Carcinogenic categories</b>
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· <b>EPA (Environmental Protection Agency)</b>
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50-00-0	formaldehyde
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· <b>TLV (Threshold Limit Value established by ACGIH)</b>	
50-00-0 formaldehyde	A2

· <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b>	
50-00-0 formaldehyde	

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

· **Hazard pictograms**



GHS05

GHS07

GHS08

· **Signal word** *Danger*

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

formaldehyde

Formic acid

· **Hazard statements**

Combustible liquid.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause cancer.

· **Precautionary statements**

Keep away from flames and hot surfaces. – No smoking.

Do not breathe dusts or mists.

Wear protective gloves / eye protection / face protection.

Wear protective gloves.

Wear eye protection / face protection.

Wash thoroughly after handling.

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

Obtain special instructions before use.

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

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

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

Continue rinsing.

Immediately call a poison center/doctor.

Specific treatment (see on this label).

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

Wash contaminated clothing before reuse.

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

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

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

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

Store locked up.

Store in a well-ventilated place. Keep cool.

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

· **National regulations:**

· **Information about limitation of use:**

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

Exceptions can be made by the authorities in certain cases.

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

## 16 Other information

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

· **Date of preparation / last revision** 07/28/2015 / -

· **Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 4: Flammable liquids, Hazard Category 4

Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Muta. 2: Germ cell mutagenicity, Hazard Category 2

Carc. 1B: Carcinogenicity, Hazard Category 1B

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

Printing date 28.07.2015

Revision: 28.07.2015

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

- **Product identifier**
- **Trade name:** FIXATIVE/DECALCIFIER
- **Article number:** 64148-01, 64148-06
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: [sgkcck@aol.com](mailto:sgkcck@aol.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)
- 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 Hazards identification

- **Classification of the substance or mixture**



GHS08 health hazard

Muta. 2      H341 Suspected of causing genetic defects.

Carc. 1B      H350 May cause cancer.



GHS05 corrosion

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

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

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

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AU

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 28.07.2015

Revision: 28.07.2015

Trade name: **FIXATIVE/DECALCIFIER**

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Flam. Liq. 4 H227 Combustible liquid.

· **Label elements**

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

· **Hazard pictograms**



GHS05    GHS07    GHS08

· **Signal word** *Danger*

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

*formaldehyde*

*Formic acid*

· **Hazard statements**

*Combustible liquid.*

*Causes severe skin burns and eye damage.*

*May cause an allergic skin reaction.*

*Suspected of causing genetic defects.*

*May cause cancer.*

· **Precautionary statements**

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

*Wear protective gloves.*

*Wear eye protection / face protection.*

*Wash thoroughly after handling.*

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

*Obtain special instructions before use.*

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

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

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

*Continue rinsing.*

*Immediately call a POISON CENTER/doctor.*

*Specific treatment (see on this label).*

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

*Wash contaminated clothing before reuse.*

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

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

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

*In case of fire: Use for extinction: CO2, powder or water spray.*

*Store locked up.*

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

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

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

## 3 Composition/information on ingredients

· **Chemical characterisation:** *Mixtures*

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

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# Safety data sheet

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

Printing date 28.07.2015

Revision: 28.07.2015

Trade name: **FIXATIVE/DECALCIFIER**

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<b>· Dangerous components:</b>		
64-18-6	Formic acid	10-25%
50-00-0	formaldehyde	2.5-10%
67-56-1	Methyl Alcohol	≤ 2.5%

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

### 4 First aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **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:** 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 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
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.

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## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**  
Protect from heat.  
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep container tightly sealed.  
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 facilities:** No further data; see item 7.
- **Control parameters**

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

### 64-18-6 Formic acid

NES	Short-term value: 19 mg/m <sup>3</sup> , 10 ppm Long-term value: 9.4 mg/m <sup>3</sup> , 5 ppm
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### 50-00-0 formaldehyde

NES	Short-term value: 2.5 mg/m <sup>3</sup> , 2 ppm Long-term value: 1.2 mg/m <sup>3</sup> , 1 ppm Sen
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### 67-56-1 Methyl Alcohol

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

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**· Protection of hands:**

Protective gloves

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

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

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

**· Material of gloves**

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

**· Penetration time of glove material**

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

**· Eye protection:**

Safety glasses



Tightly sealed goggles

## 9 Physical and chemical properties

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

<b>Form:</b>	Liquid
<b>Colour:</b>	Colourless
<b>· Odour:</b>	Uncharacteristic.
<b>· Odour threshold:</b>	Not determined.

**· pH-value at 20 °C:** 2

**· Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	-21 °C

**· Flash point:** 71 °C

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

**· Ignition temperature:** 300 °C

**· Decomposition temperature:** Not determined.

**· Self-igniting:** Product is not selfigniting.

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

**· Explosion limits:**

<b>Lower:</b>	14.0 Vol %
<b>Upper:</b>	33.0 Vol %

**· Vapour pressure at 20 °C:** 43 hPa

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· <b>Density at 20 °C:</b>	1.00398 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>	8.4 %
<b>Water:</b>	81.0 %
<b>VOC (EC)</b>	8.40 %
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

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

## 11 Toxicological information

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

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

**64-18-6 Formic acid**

Oral	LD50	1100 mg/kg (rat)
------	------	------------------

**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:  
Corrosive  
Irritant

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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 (carcinogenity, mutagenicity and toxicity for reproduction)**

Muta. 2, Carc. 1B

## 12 Ecological information

· **Toxicity**

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

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

· **Behaviour in environmental systems:**

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

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

· **Additional ecological information:**

· **General notes:**

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

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

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

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

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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

## 13 Disposal considerations

· **Waste treatment methods**

· **Recommendation**

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

· **Uncleaned packaging:**

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

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

## 14 Transport information

· **UN-Number**

· **ADG, IMDG, IATA**

UN3265

· **UN proper shipping name**

· **ADG**

3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (FORMIC ACID, FORMALDEHYDE SOLUTION)

· **IMDG, IATA**

CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (FORMIC ACID, FORMALDEHYDE SOLUTION)

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· **Transport hazard class(es)**· **ADG, IMDG, IATA**

· **Class** 8 Corrosive substances.  
· **Label** 8

· **Packing group**· **ADG, IMDG, IATA** III· **Environmental hazards:**· **Marine pollutant:** No· **Special precautions for user**

Warning: Corrosive substances.

· **Danger code (Kemler):**

80

· **EMS Number:**

F-A,S-B

· **Segregation groups**

Acids

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

Not applicable.

· **Transport/Additional information:**· **ADG**· **Limited quantities (LQ)**

5L

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· **Transport category**

3

· **Tunnel restriction code**

E

· **IMDG**· **Limited quantities (LQ)**

5L

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· **UN "Model Regulation":**UN3265, CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.  
(FORMIC ACID, FORMALDEHYDE SOLUTION), 8, III

## 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**· **Australian Inventory of Chemical Substances**

All ingredients are listed.

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

64-18-6	Formic acid	S5
50-00-0	formaldehyde	S2, S6, S10
67-56-1	Methyl Alcohol	S5, S6

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

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· **Hazard pictograms**

GHS05   GHS07   GHS08

· **Signal word** *Danger*· **Hazard-determining components of labelling:***formaldehyde**Formic acid*· **Hazard statements***Combustible liquid.**Causes severe skin burns and eye damage.**May cause an allergic skin reaction.**Suspected of causing genetic defects.**May cause cancer.*· **Precautionary statements***Wear protective gloves / eye protection / face protection.**Wear protective gloves.**Wear eye protection / face protection.**Wash thoroughly after handling.**Contaminated work clothing should not be allowed out of the workplace.**Obtain special instructions before use.**Do not handle until all safety precautions have been read and understood.**IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.**Continue rinsing.**Immediately call a POISON CENTER/doctor.**Specific treatment (see on this label).**IF INHALED: Remove person to fresh air and keep comfortable for breathing.**Wash contaminated clothing before reuse.**IF exposed or concerned: Get medical advice/attention.**If skin irritation or rash occurs: Get medical advice/attention.**IF SWALLOWED: rinse mouth. Do NOT induce vomiting.**In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.**Store locked up.**Store in a well-ventilated place. Keep cool.**Dispose of contents/container in accordance with local/regional/national/international regulations.*· **Directive 2012/18/EU**· **Named dangerous substances - ANNEX I** *None of the ingredients is listed.*· **National regulations:**· **Information about limitation of use:***Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.**Exceptions can be made by the authorities in certain cases.*· **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.***16 Other information**

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

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**· Abbreviations and acronyms:**

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

*IMDG: International Maritime Code for Dangerous Goods*

*IATA: International Air Transport Association*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

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

*VOC: Volatile Organic Compounds (USA, EU)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*Flam. Liq. 4: Flammable liquids, Hazard Category 4*

*Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A*

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

*Skin Sens. 1: Sensitisation - Skin, Hazard Category 1*

*Muta. 2: Germ cell mutagenicity, Hazard Category 2*

*Carc. 1B: Carcinogenicity, Hazard Category 1B*

AU

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/28/2015

Reviewed on 07/28/2015

## 1 Identification

- **Product identifier**
- **Trade name:** FIXATIVE/DECALCIFIER
- **Article number:** 64148-01, 64148-06
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Muta. 2      H341 Suspected of causing genetic defects.

Carc. 1B      H350 May cause cancer.



GHS05 Corrosion

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

Eye Dam. 1      H318 Causes serious eye damage.



GHS07

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

Flam. Liq. 4      H227 Combustible liquid.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

Not applicable.



Toxic

May cause cancer.



Corrosive

Causes severe burns.



Harmful

Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.

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**Irritant**

*Risk of serious damage to eyes. May cause sensitisation by skin contact.*

· **Information concerning particular hazards for human and environment:**

*The product has to be labeled due to the calculation procedure of international guidelines.*

· **Classification system:**

*The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.*

· **Label elements**

· **Labelling according to EU guidelines:**

*The product has been classified and marked in accordance with directives on hazardous materials.*

· **Code letter and hazard designation of product:**

**Toxic**

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

*formaldehyde*

*Formic acid*

· **Risk phrases:**

*May cause cancer.*

*Causes severe burns.*

*Risk of serious damage to eyes.*

*May cause sensitisation by skin contact.*

*Also harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.*

· **Safety phrases:**

*Avoid exposure - obtain special instructions before use.*

*In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.*

*Wear suitable protective clothing, gloves and eye/face protection.*

*In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).*

*This material and its container must be disposed of as hazardous waste.*

· **Hazard description:**

· **WHMIS-symbols:**

*B3 - Combustible liquid*

*D2A - Very toxic material causing other toxic effects*

*E - Corrosive material*



· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



*Health = 3*

*Fire = 1*

*Reactivity = 0*

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

HEALTH	3	Health = 3
FIRE	1	Fire = 1
REACTIVITY	0	Reactivity = 0

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

### 3 Composition/information on ingredients

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

- **Dangerous components:**

64-18-6	Formic acid	7-13%
50-00-0	formaldehyde	5-10%
67-56-1	Methyl Alcohol	≤ 1%

### 4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **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:** 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.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Dilute with plenty of water.

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*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:**

*Protect from heat.*

*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.*

*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:**

**64-18-6 Formic acid**

<i>EL</i>	<i>Short-term value: 10 ppm</i> <i>Long-term value: 5 ppm</i>
<i>EV</i>	<i>Short-term value: 10 ppm</i> <i>Long-term value: 5 ppm</i>

**50-00-0 formaldehyde**

<i>EL</i>	<i>Long-term value: 0.3 ppm</i> <i>Ceiling limit value: 1 ppm</i> <i>ACGIH A2; IARC 1; S</i>
<i>EV</i>	<i>Short-term value: 1.0 ppm</i>
<i>Ceiling limit value</i>	<i>1.5 ppm</i>

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**67-56-1 Methyl Alcohol**

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

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

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the 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:**

Safety glasses



Tightly sealed goggles

## 9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

<b>Form:</b>	Liquid
<b>Color:</b>	Colorless

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· <b>Odor:</b>	<i>uncharacteristic</i>
· <b>Odour threshold:</b>	<i>Not determined.</i>
· <b>pH-value at 20 °C:</b>	<i>2</i>
· <b>Change in condition</b>	
<b>Melting point/Melting range:</b>	<i>Undetermined.</i>
<b>Boiling point/Boiling range:</b>	<i>-21 °C</i>
· <b>Flash point:</b>	<i>71 °C</i>
· <b>Flammability (solid, gaseous):</b>	<i>Not flammable.</i>
· <b>Ignition temperature:</b>	<i>300 °C</i>
· <b>Decomposition temperature:</b>	<i>Not determined.</i>
· <b>Auto igniting:</b>	<i>Product is not selfigniting.</i>
· <b>Danger of explosion:</b>	<i>Not determined.</i>
· <b>Explosion limits:</b>	
<b>Lower:</b>	<i>14.0 Vol %</i>
<b>Upper:</b>	<i>33.0 Vol %</i>
· <b>Vapor pressure at 20 °C:</b>	<i>43 hPa</i>
· <b>Density at 20 °C:</b>	<i>1.00398 g/cm<sup>3</sup></i>
· <b>Relative density</b>	<i>Not determined.</i>
· <b>Vapour density</b>	<i>Not determined.</i>
· <b>Evaporation rate</b>	<i>Not determined.</i>
· <b>Solubility in / Miscibility with Water:</b>	<i>Fully miscible.</i>
· <b>Partition coefficient (n-octanol/water):</b>	<i>Not determined.</i>
· <b>Viscosity:</b>	
<b>Dynamic:</b>	<i>Not determined.</i>
<b>Kinematic:</b>	<i>Not determined.</i>
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	<i>8.4 %</i>
<b>Water:</b>	<i>81.0 %</i>
· <b>Other information</b>	<i>No further relevant information available.</i>

## 10 Stability and reactivity

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

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Trade name: **FIXATIVE/DECALCIFIER**

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## 11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

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

<b>64-18-6 Formic acid</b>		
Oral	LD50	1100 mg/kg (rat)
<b>50-00-0 formaldehyde</b>		
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:

- 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
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- **NTP (National Toxicology Program)**

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

50-00-0	formaldehyde	
---------	--------------	--

## 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.

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· **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, TDG, IMDG, IATA</b>   | UN3265   |
| · <b>UN proper shipping name</b>  |  |
| · <b>DOT</b>  | Corrosive liquid, acidic, organic, n.o.s. (Formic acid, Formaldehyde solutions)      |
| · <b>TDG</b>  | 3265 Corrosive liquid, acidic, organic, n.o.s. (Formic acid, Formaldehyde solutions) |
| · <b>IMDG, IATA</b>   | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (FORMIC ACID, FORMALDEHYDE SOLUTION)       |
| · <b>Transport hazard class(es)</b>   |  |
| · <b>DOT</b>  |  |
|  |  |
| · <b>Class</b>  | 8 Corrosive substances   |
| · <b>Label</b>  | 8  |
| · <b>TDG, IMDG, IATA</b>  |  |
|  |  |
| · <b>Class</b>  | 8 Corrosive substances   |
| · <b>Label</b>  | 8  |
| · <b>Packing group</b>  |  |
| · <b>DOT, TDG, IMDG, IATA</b>   | III  |
| · <b>Environmental hazards:</b>   |  |
| · <b>Marine pollutant:</b>  | No   |
| · <b>Special precautions for user</b>   | Warning: Corrosive substances  |
| · <b>Danger code (Kemler):</b>  | 80   |
| · <b>EMS Number:</b>  | F-A,S-B  |
| · <b>Segregation groups</b>   | Acids  |

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· <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</b>	
· <b>Quantity limitations</b>	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· <b>TDG</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>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <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>	UN3265, Corrosive liquid, acidic, organic, n.o.s. (Formic acid, Formaldehyde solutions), 8, III

## 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):

64-18-6 Formic acid

50-00-0 formaldehyde

67-56-1 Methyl Alcohol

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

All ingredients are listed.

### · 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:

67-56-1 Methyl Alcohol

#### · Carcinogenic categories

#### · EPA (Environmental Protection Agency)

50-00-0 formaldehyde

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· <b>TLV (Threshold Limit Value established by ACGIH)</b>	
50-00-0	formaldehyde
	A2
· <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b>	
50-00-0	formaldehyde
· <b>Canadian substance listings:</b>	
· <b>Canadian Domestic Substances List (DSL)</b>	
All ingredients are listed.	
· <b>Canadian Ingredient Disclosure list (limit 0.1%)</b>	
50-00-0	formaldehyde
· <b>Canadian Ingredient Disclosure list (limit 1%)</b>	
64-18-6	Formic acid
67-56-1	Methyl Alcohol

· **Product related hazard informations:**

The product has been classified and marked in accordance with directives on hazardous materials.

· **Hazard symbols:**

Toxic

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

formaldehyde

Formic acid

· **Risk phrases:**

May cause cancer.

Causes severe burns.

Risk of serious damage to eyes.

May cause sensitisation by skin contact.

Also harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.

· **Safety phrases:**

Avoid exposure - obtain special instructions before use.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable protective clothing, gloves and eye/face protection.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

This material and its container must be disposed of as hazardous waste.

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

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

Exceptions can be made by the authorities in certain cases.

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

## 16 Other information

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

· **Date of preparation / last revision** 07/28/2015 / -

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**· Abbreviations and acronyms:**

*IMDG: International Maritime Code for Dangerous Goods*  
*DOT: US Department of Transportation*  
*IATA: International Air Transport Association*  
*ACGIH: American Conference of Governmental Industrial Hygienists*  
*EINECS: European Inventory of Existing Commercial Chemical Substances*  
*ELINCS: European List of Notified Chemical Substances*  
*CAS: Chemical Abstracts Service (division of the American Chemical Society)*  
*NFPA: National Fire Protection Association (USA)*  
*HMIS: Hazardous Materials Identification System (USA)*  
*WHMIS: Workplace Hazardous Materials Information System (Canada)*  
*LC50: Lethal concentration, 50 percent*  
*LD50: Lethal dose, 50 percent*  
*Flam. Liq. 4: Flammable liquids, Hazard Category 4*  
*Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A*  
*Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1*  
*Skin Sens. 1: Sensitisation - Skin, Hazard Category 1*  
*Muta. 2: Germ cell mutagenicity, Hazard Category 2*  
*Carc. 1B: Carcinogenicity, Hazard Category 1B*

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**Safety data sheet**  
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### SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name:** FIXATIVE/DECALCIFIER
- **Article number:** 64148-01, 64148-06
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Further information obtainable from:** Product safety department
- **1.4 Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### SECTION 2: Hazards identification

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



GHS08 health hazard

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



GHS05 corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.  
Eye Dam. 1      H318 Causes serious eye damage.



GHS07

Skin Sens. 1      H317 May cause an allergic skin reaction.  
STOT SE 3      H335 May cause respiratory irritation.

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



GHS05



GHS07



GHS08

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**Trade name: FIXATIVE/DECALCIFIER**

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· **Signal word** *Danger*· **Hazard-determining components of labelling:***formaldehyde**Formic acid*· **Hazard statements***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/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).**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: 64-18-6 EINECS: 200-579-1	<i>Formic acid</i> ⚠ Skin Corr. 1A, H314	10-25%
CAS: 50-00-0 EINECS: 200-001-8	<i>formaldehyde</i> ⚠ Acute Tox. 3, H301; ⚠ Acute Tox. 3, H311; ⚠ Acute Tox. 3, H331; ⚠ Muta. 2, H341; ⚠ Carc. 1B, H350; ⚠ Skin Corr. 1B, H314; ⚠ Skin Sens. 1, H317	2.5-10%
CAS: 67-56-1 EINECS: 200-659-6	<i>Methyl Alcohol</i> ⚠ Flam. Liq. 2, H225; ⚠ STOT SE 1, H370; ⚠ Acute Tox. 4, H302; ⚠ Acute Tox. 4, H312; ⚠ Acute Tox. 4, H332; ⚠ Skin Irrit. 2, H315	≤ 2.5%

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

## SECTION 4: First aid measures

· **4.1 Description of first aid measures**· **General information:** Immediately remove any clothing soiled by the product.· **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:** 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.

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- **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:** No special measures required.

### **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:**  
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.  
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**  
Protect from heat.  
Keep respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep container tightly sealed.  
Protect from heat and direct sunlight.
- **7.3 Specific end use(s)** No further relevant information available.

### **SECTION 8: Exposure controls/personal protection**

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

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· **8.1 Control parameters**· **Ingredients with limit values that require monitoring at the workplace:**

<b>64-18-6 Formic acid</b>	
WEL	Long-term value: 9.6 mg/m <sup>3</sup> , 5 ppm
<b>50-00-0 formaldehyde</b>	
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
<b>67-56-1 Methyl Alcohol</b>	
WEL	Short-term value: 333 mg/m <sup>3</sup> , 250 ppm Long-term value: 266 mg/m <sup>3</sup> , 200 ppm Sk

· **Additional information:** The lists valid during the making were used as basis.· **8.2 Exposure controls**· **Personal protective equipment:**· **General protective and hygienic measures:***Keep away from foodstuffs, beverages and feed.**Immediately remove all soiled and contaminated clothing**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:**

Safety glasses



Tightly sealed goggles

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### SECTION 9: Physical and chemical properties

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

##### · General Information

##### · Appearance:

Form:	Liquid
Colour:	Colourless
· Odour:	Uncharacteristic.
· Odour threshold:	Not determined.

· pH-value at 20 °C: 2

##### · Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	-21 °C

· Flash point: 71 °C

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 300 °C

· Decomposition temperature: Not determined.

· Self-igniting: Product is not selfigniting.

· Danger of explosion: Not determined.

##### · Explosion limits:

Lower:	14.0 Vol %
Upper:	33.0 Vol %

· Vapour pressure at 20 °C: 43 hPa

· Density at 20 °C: 1.00398 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.

##### · Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

##### · Solvent content:

Organic solvents:	8.4 %
Water:	81.0 %
VOC (EC)	8.40 %

· 9.2 Other information: No further relevant information available.

### SECTION 10: Stability and reactivity

#### · 10.1 Reactivity

#### · 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.

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- **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**

- **LD/LC50 values relevant for classification:**

#### 64-18-6 Formic acid

Oral	LD50	1100 mg/kg (rat)
------	------	------------------

#### 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:  
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. 1B

### SECTION 12: Ecological information

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

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### SECTION 13: Disposal considerations

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

### SECTION 14: Transport information

- |   |  |
|---|--|
| · <b>14.1 UN-Number</b><br>· <b>ADR, IMDG, IATA</b>   | UN3265   |
| · <b>14.2 UN proper shipping name</b><br>· <b>ADR</b><br><br>· <b>IMDG, IATA</b>  | 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.<br>(FORMIC ACID, FORMALDEHYDE SOLUTION)<br>CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (FORMIC ACID, FORMALDEHYDE SOLUTION) |
| · <b>14.3 Transport hazard class(es)</b><br>· <b>ADR, IMDG, IATA</b>  |  |
|    |  |
| · <b>Class</b><br>· <b>Label</b>  | 8 Corrosive substances.<br>8   |
| · <b>14.4 Packing group</b><br>· <b>ADR, IMDG, IATA</b>   | III  |
| · <b>14.5 Environmental hazards:</b><br>· <b>Marine pollutant:</b>  | No   |
| · <b>14.6 Special precautions for user</b><br>· <b>Danger code (Kemler):</b><br>· <b>EMS Number:</b><br>· <b>Segregation groups</b> | Warning: Corrosive substances.<br>80<br>F-A,S-B<br>Acids   |
| · <b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>   | Not applicable.  |
| · <b>Transport/Additional information:</b>  |  |
| · <b>ADR</b><br>· <b>Limited quantities (LQ)</b><br>· <b>Excepted quantities (EQ)</b>   | 5L<br>Code: E1<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 1000 ml   |
| · <b>Transport category</b><br>· <b>Tunnel restriction code</b>   | 3<br>E   |

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· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <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>	UN3265, CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (FORMIC ACID, FORMALDEHYDE SOLUTION), 8, III

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

### SECTION 16: Other information

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

- **Relevant phrases**  
H225 Highly flammable liquid and vapour.  
H301 Toxic if swallowed.  
H302 Harmful if swallowed.  
H311 Toxic in contact with skin.  
H312 Harmful in contact with skin.  
H314 Causes severe skin burns and eye damage.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H331 Toxic if inhaled.  
H332 Harmful if inhaled.  
H341 Suspected of causing genetic defects.  
H350 May cause cancer.  
H370 Causes damage to organs.
- **Abbreviations and acronyms:**  
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
VOC: Volatile Organic Compounds (USA, EU)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
Flam. Liq. 2: Flammable liquids, Hazard Category 2  
Acute Tox. 3: Acute toxicity, Hazard Category 3  
Acute Tox. 4: Acute toxicity, Hazard Category 4

(Contd. on page 9)



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

Printing date 28.07.2015

Revision: 28.07.2015

**Trade name: FIXATIVE/DECALCIFIER**

(Contd. of page 8)

*Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A*  
*Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B*  
*Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2*  
*Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1*  
*Skin Sens. 1: Sensitisation - Skin, Hazard Category 1*  
*Muta. 2: Germ cell mutagenicity, Hazard Category 2*  
*Carc. 1B: Carcinogenicity, Hazard Category 1B*  
*STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1*  
*STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3*

GB

# Veiligheidsinformatieblad volgens 1907/2006/EG, Artikel 31

datum van de druk: 28.07.2015

Herziening van: 28.07.2015

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

### · 1.1 Productidentificatie

· Handelsnaam: **FIXATIVE/DECALCIFIER**

· Artikelnummer: 64148-01, 64148-06

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

Geen verdere relevante informatie verkrijgbaar.

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

### · 1.3 Details betreffende de verstrekker van het veiligheidsinformatieblad

#### · Fabrikant/leverancier:

*Electron Microscopy Sciences*

*1560 Industry Road*

*USA-Hatfield, PA 19440*

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

*email: sgkcck@aol.com*

*www.emsdiasum.com*

*Aurion*

*Binnenhaven 5*

*6709 PD Wageningen*

*The Netherlands*

*Tel: 31 317 415094*

*Fax: 31 317 415955*

*email: info@aurion.nl*

· **Inlichtingengevende sector:** *Product safety department*

### · 1.4 Telefoonnummer voor noodgevallen:

*ChemTrec 1-800-424-9300 Contract CCN7661*

*1-703-527-3887*

## RUBRIEK 2: Identificatie van de gevaren

### · 2.1 Indeling van de stof of het mengsel

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



GHS08 gezondheidsgevaar

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

Carc. 1B H350 Kan kanker veroorzaken.



GHS05 corrosie

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

Eye Dam. 1 H318 Veroorzaakt ernstig oogletsel.



GHS07

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 geïdentificeerd en geëtiketteerd volgens de CLP-verordening.

(Vervolg op blz. 2)

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**Handelsnaam: FIXATIVE/DECALCIFIER**

(Vervolg van blz. 1)

## · Gevarenpictogrammen



GHS05 GHS07 GHS08

## · Signaalwoord Gevaar

### · Gevaaraanduidende componenten voor de etikettering:

formaldehyde

mierenzuur

### · Gevarenaanduidingen

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/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).

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 onveerbarelijke bijmengingen.

#### · Gevaarlijke inhoudstoffen:

CAS: 64-18-6 EINECS: 200-579-1	mierenzuur Skin Corr. 1A, H314	10-25%
CAS: 50-00-0 EINECS: 200-001-8	formaldehyde Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Muta. 2, H341; Carc. 1B, H350; Skin Corr. 1B, H314; Skin Sens. 1, H317	2,5-10%
CAS: 67-56-1 EINECS: 200-659-6	methanol Flam. Liq. 2, H225; STOT SE 1, H370; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	≤ 2,5%

#### · Aanvullende gegevens:

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

(Vervolg op blz. 3)

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(Vervolg van blz. 2)

### RUBRIEK 4: Eerstehulpmaatregelen

- **4.1 Beschrijving van de eerstehulpmaatregelen**
- **Algemene informatie:** Verontreinigde kleding onmiddellijk uittrekken.
- **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:** 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 brandweerlieden**
- **Speciale beschermende kleding:** Geen bijzondere maatregelen nodig.

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

- **6.1 Persoonlijke voorzorgsmaatregelen, beschermde uitrusting en noodprocedures**  
Beschermende kleding aantrekken. Niet beschermde personen op afstand houden.
- **6.2 Milieuvoorzorgsmaatregelen:**  
Met veel water verdunnen.  
Niet in de riolering/het oppervlaktewater/het grondwater laten terecht komen.
- **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:**  
Beschermen tegen hitte.  
Ademhalingsstoestellen gereedhouden.

(Vervolg op blz. 4)

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(Vervolg van blz. 3)

- **7.2 Voorwaarden voor een veilige opslag, met inbegrip van incompatibele producten**
- **Opslag:**
- **Eisen ten opzichte van opslagruimte en tanks:** Geen bijzondere eisen.
- **Informatie m.b.t. gezamenlijke opslag:** Niet noodzakelijk.
- **Verdere inlichtingen over eisen m.b.t. de opslag:**  
Tanks ondoordringbaar gesloten houden.  
Tegen hitte en directe zonnestralen beschermen.
- **7.3 Specifiek eindgebruik** Geen verdere relevante informatie verkrijgbaar.

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

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

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

#### 64-18-6 mierenzuur

WGW | Korte termijn waarde: 5 mg/m<sup>3</sup>, 2,6 ppm

#### 50-00-0 formaldehyde

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

#### 67-56-1 methanol

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

- **Aanvullende gegevens:** Als basis dienden lijsten die bij opstelling geldig waren.
- **8.2 Maatregelen ter beheersing van blootstelling**
- **Persoonlijke beschermingsvoorzieningen:**
- **Algemene beschermings- en gezondheidsmaatregelen:**  
Verwijderd houden van eet- en drinkwaren.  
Verontreinigde kleding onmiddellijk uittrekken.  
Vóór de pauze en aan het einde van werktijd handen wassen.  
Beschermdende 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.

(Vervolg op blz. 5)

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(Vervolg van blz. 4)

- **Doordringingstijd van het handschoenmateriaal**  
De precieze penetratietijd kunt u te weten komen bij de handschoenfabrikant; houd er rekening mee.
- **Oogbescherming:**  
Veiligheidsbril



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>	Kleurloos
<b>Reuk:</b>	Niet karakteristiek.
<b>Geurdrempelwaarde:</b>	Niet bepaald.

· **pH-waarde bij 20 °C:** 2

##### · Toestandsverandering

<b>Smeltpunt/smeltbereik:</b>	Niet bepaald.
<b>Kookpunt/kookpuntbereik:</b>	-21 °C

· **Vlampunt:** 71 °C

· **Ontvlambaarheid (vast, gasvormig):** Niet bruikbaar.

· **Ontstekingstemperatuur:** 300 °C

· **Ontbindingstemperatuur:** Niet bepaald.

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

· **Ontploffingsgevaar:** Niet bepaald.

##### · Ontploffingsgrenzen:

<b>Onderste:</b>	14,0 Vol %
<b>Bovenste:</b>	33,0 Vol %

· **Dampspanning bij 20 °C:** 43 hPa

· **Dichtheid bij 20 °C:** 1,00398 g/cm<sup>3</sup>

· **Relatieve dichtheid:** Niet bepaald.

· **Dampdichtheid:** Niet bepaald.

· **Verdampingssnelheid:** Niet bepaald.

##### · Oplosbaarheid in/mengbaarheid met

**Water:** Volledig mengbaar.

· **Verdelingscoëfficiënt (n-octanol/water):** Niet bepaald.

##### · Viscositeit

<b>Dynamisch:</b>	Niet bepaald.
<b>Kinematisch:</b>	Niet bepaald.

##### · Oplosmiddelgehalte:

**Organisch oplosmiddel:** 8,4 %

(Vervolg op blz. 6)

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(Vervolg van blz. 5)

<b>Water:</b>	81,0 %
<b>VOC (EG)</b>	8,40 %
<b>· 9.2 Overige informatie</b>	Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 10: Stabiliteit en reactiviteit

- **10.1 Reactiviteit**
- **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**

**Indelingsrelevantie LD/LC50-waarden:**
**64-18-6 mierenzuur**

Oraal	LD50	1100 mg/kg (rat)
-------	------	------------------

**50-00-0 formaldehyde**

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

- **Primaire aandoening:**
- **Huidcorrosie/-irritatie** Sterk bijtend effect op de huid en de slijmvliezen.
- **Ernstig oogletsel/oogirritatie**  
Sterk bijtend effect.  
Sterk prikkelend effect met gevaar voor ernstige oogbeschadiging.
- **Sensibilisatie van de luchtwegen/de huid** Kan overgevoeligheid veroorzaken bij contact met de huid.
- **Aanvullende toxicologische informatie:**  
Het produkt vertoont op grond van het berekeningsprocédé van de algemene classificatie-richtlijnen van de EG voor toebereidingen in de laatste geldige redactie de volgende gevaren:  
Bijtend  
Irriterend  
Bij het slikken sterk bijtende effecten in de mondholte en de keel, bovendien gevaar voor perforatie van de slokdarm en de maag.  
Kanker verwekkend.
- **CMR-effecten (kankerverwekkendheid, mutageniteit en giftigheid voor de voortplanting)**  
Muta. 2, Carc. 1B

### 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.

(Vervolg op blz. 7)



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(Vervolg van blz. 6)

- **Verdere ecologische informatie:**
- **Algemene informatie:**
  - Waterbezwaarlijkheid (NL) 3: Kan kanker veroorzaken.
  - 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.
- **12.5 Resultaten van PBT- en zPzB-beoordeling**
- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.
- **12.6 Andere schadelijke effecten** Geen verdere relevante informatie verkrijgbaar.

## RUBRIEK 13: Instructies voor verwijdering

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

## RUBRIEK 14: Informatie met betrekking tot het vervoer

- |   |  |
|---|--|
| · <b>14.1 VN-nummer</b>   |  |
| · <b>ADR, IMDG, IATA</b>  | UN3265   |
| · <b>14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN</b>        |  |
| · <b>ADR</b>  | 3265 BIJTENDE ZURE ORGANISCHE VLOEISTOF, N.E.G.<br>(MIERENZUUR, FORMALDEHYDE, OPLOSSING) |
| · <b>IMDG, IATA</b>   | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.<br>(FORMIC ACID, FORMALDEHYDE SOLUTION)        |
| · <b>14.3 Transportgevaarenklasse(n)</b>  |  |
| · <b>ADR, IMDG, IATA</b>  |  |
|  |  |
| · <b>klasse</b>   | 8 Bijtende stoffen   |
| · <b>Etiket</b>   | 8  |
| · <b>14.4 Verpakkingsgroep:</b>   |  |
| · <b>ADR, IMDG, IATA</b>  | III  |
| · <b>14.5 Milieugevaren:</b>  |  |
| · <b>Marine pollutant:</b>  | Neen   |
| · <b>14.6 Bijzondere voorzorgen voor de gebruiker</b>                               | Waarschuwing: Bijtende stoffen   |
| · <b>Kemler-getal:</b>  | 80   |
| · <b>EMS-nummer:</b>  | F-A,S-B  |
| · <b>Segregation groups</b>   | Acids  |

(Vervolg op blz. 8)



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(Vervolg van blz. 7)

· <b>14.7 Vervoer in bulk overeenkomstig bijlage II bij MARPOL 73/78 en de IBC-code</b>	Niet bruikbaar.
· <b>Transport/verdere gegevens:</b>	
· <b>ADR</b>	
· <b>Beperkte hoeveelheden (LQ)</b>	5L
· <b>Uitzonderde hoeveelheden (EQ)</b>	Code: E1 Grootste netto hoeveelheid per binnenverpakking: 30 ml Grootste netto hoeveelheid per buitenverpakking: 1000 ml
· <b>Vervoerscategorie</b>	3
· <b>Tunnelbeperkingscode</b>	E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>VN "Model Regulation":</b>	UN3265, BIJTENDE ZURE ORGANISCHE VLOEISTOF, N.E.G. (MIERENZUUR, FORMALDEHYDE, OPLOSSING), 8, III

### RUBRIEK 15: Regelgeving

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

##### · SZW-lijst van kankerverwekkende stoffen

50-00-0 | formaldehyde

##### · SZW-lijst van mutagene stoffen

geen der bestanddelen staat op de lijst.

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

geen der bestanddelen staat op de lijst.

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

67-56-1 | methanol

2

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

geen der bestanddelen staat op de lijst.

##### · Richtlijn 2012/18/EU

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

##### · 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) 3: Saneringsinspanning A· **15.2 Chemischeveiligheidsbeoordeling:** Een chemische veiligheidsbeoordeling is niet uitgevoerd.

NL

(Vervolg op blz. 9)

**Handelsnaam: FIXATIVE/DECALCIFIER**

(Vervolg van blz. 8)

### **RUBRIEK 16: Overige informatie**

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

· **Relevante zinnen**

- H225 Licht ontvlambare vloeistof en damp.*
- H301 Giftig bij inslikken.*
- H302 Schadelijk bij inslikken.*
- H311 Giftig bij contact met de huid.*
- H312 Schadelijk bij contact met de huid.*
- H314 Veroorzaakt ernstige brandwonden en oogletsel.*
- H315 Veroorzaakt huidirritatie.*
- H317 Kan een allergische huidreactie veroorzaken.*
- H331 Giftig bij inademing.*
- H332 Schadelijk bij inademing.*
- H341 Verdacht van het veroorzaken van genetische schade.*
- H350 Kan kanker veroorzaken.*
- H370 Veroorzaakt schade aan organen.*

· **Afkortingen en acroniemen:**

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*
- IMDG: International Maritime Code for Dangerous Goods*
- IATA: International Air Transport Association*
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals*
- EINECS: European Inventory of Existing Commercial Chemical Substances*
- ELINCS: European List of Notified Chemical Substances*
- CAS: Chemical Abstracts Service (division of the American Chemical Society)*
- VOC: Volatile Organic Compounds (USA, EU)*
- LC50: Lethal concentration, 50 percent*
- LD50: Lethal dose, 50 percent*
- Flam. Liq. 2: Flammable liquids, Hazard Category 2*
- Acute Tox. 3: Acute toxicity, Hazard Category 3*
- Acute Tox. 4: Acute toxicity, Hazard Category 4*
- Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A*
- Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B*
- Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2*
- Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1*
- Skin Sens. 1: Sensitisation - Skin, Hazard Category 1*
- Muta. 2: Germ cell mutagenicity, Hazard Category 2*
- Carc. 1B: Carcinogenicity, Hazard Category 1B*
- STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1*
- STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3*

# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

Date d'impression : 28.07.2015

Révision: 28.07.2015

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

- **1.1 Identificateur de produit**
- **Nom du produit:** FIXATIVE/DECALCIFIER
- **Code du produit:** 64148-01, 64148-06
- **1.2 Utilisations identifiées pertinentes de la substance ou du mélange et utilisations déconseillées**  
Pas d'autres informations importantes disponibles.
- **Emploi de la substance / de la préparation** Produits chimiques pour laboratoires
- **1.3 Renseignements concernant le fournisseur de la fiche de données de sécurité**
- **Producteur/fournisseur:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Service chargé des renseignements:** Product safety department
- **1.4 Numéro d'appel d'urgence:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### SECTION 2: Identification des dangers

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



GHS08 danger pour la santé

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



GHS05 corrosion

Skin Corr. 1A H314 Provoque des brûlures de la peau et des lésions oculaires graves.  
Eye Dam. 1 H318 Provoque des lésions oculaires graves.



GHS07

Skin Sens. 1 H317 Peut provoquer une allergie cutanée.  
STOT SE 3 H335 Peut irriter les voies respiratoires.

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



GHS05



GHS07



GHS08

- **Mention d'avertissement** Danger

(suite page 2)

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## selon 1907/2006/CE, Article 31

Date d'impression : 28.07.2015

Révision: 28.07.2015

**Nom du produit: FIXATIVE/DECALCIFIER**

(suite de la page 1)

- **Composants dangereux déterminants pour l'étiquetage:**

Formaldéhyde  
acide formique

- **Mentions de danger**

H314 Provoque des brûlures de la peau et des lésions oculaires graves.  
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/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).

P405 Garder sous clef.

P501 Éliminer le contenu/réceptacle conformément à la réglementation locale/régionale/nationale/internationale.

- **2.3 Autres dangers**

- **Résultats des évaluations PBT et vPvB**

- **PBT:** Non applicable.

- **vPvB:** Non applicable.

### SECTION 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: 64-18-6 EINECS: 200-579-1	acide formique ⚠ Skin Corr. 1A, H314	10-25%
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	2,5-10%
CAS: 67-56-1 EINECS: 200-659-6	méthanol ⚠ Flam. Liq. 2, H225; ⚠ STOT SE 1, H370; ⚠ Acute Tox. 4, H302; ⚠ Acute Tox. 4, H312; ⚠ Acute Tox. 4, H332; ⚠ Skin Irrit. 2, H315	≤ 2,5%

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

### SECTION 4: Premiers secours

- **4.1 Description des premiers secours**

- **Remarques générales:** Enlever immédiatement les vêtements contaminés par le produit.

- **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.

(suite page 3)

# Fiche de données de sécurité

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**Nom du produit: FIXATIVE/DECALCIFIER**

(suite de la page 2)

- **Après ingestion:** 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.

### SECTION 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:** Aucune mesure particulière n'est requise.

### SECTION 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:**  
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.  
Évacuer les matériaux contaminés en tant que déchets conformément au point 13.  
Assurer une aération suffisante.
- **6.4 Référence à d'autres sections**  
Afin d'obtenir des informations pour une manipulation sûre, consulter le chapitre 7.  
Afin d'obtenir des informations sur les équipements de protection personnels, consulter le chapitre 8.  
Afin d'obtenir des informations sur l'élimination, consulter le chapitre 13.

### SECTION 7: Manipulation et stockage

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

(suite page 4)

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**Nom du produit: FIXATIVE/DECALCIFIER**

(suite de la page 3)

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

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

· **Indications complémentaires pour l'agencement des installations techniques:**

Sans autre indication, voir point 7.

· **8.1 Paramètres de contrôle**

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

**64-18-6 acide formique**

VME Valeur momentanée: 9 mg/m<sup>3</sup>, 5 ppm

**50-00-0 Formaldéhyde**

VME Valeur momentanée: 1 ppm  
Valeur à long terme: 0,5 ppm  
C2

**67-56-1 méthanol**

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

· **Remarques supplémentaires:**

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

· **8.2 Contrôles de l'exposition**

· **Équipement 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.

Éviter tout contact avec les yeux.

Éviter tout contact avec les yeux et avec la peau.

· **Protection respiratoire:**

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

· **Protection des mains:**



Gants de protection

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

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

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

· **Matériau des gants**

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

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

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

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**Fiche de données de sécurité**  
selon 1907/2006/CE, Article 31

Date d'impression : 28.07.2015

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Nom du produit: **FIXATIVE/DECALCIFIER**

(suite de la page 4)

- **Protection des yeux:**  
Lunettes de protection



Lunettes de protection hermétiques

### SECTION 9: Propriétés physiques et chimiques

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

##### · Indications générales

##### · Aspect:

Forme:	Liquide
Couleur:	Incolore
· Odeur:	Non caractéristique
· Seuil olfactif:	Non déterminé.

· valeur du pH à 20 °C: 2

##### · Changement d'état

Point de fusion:	Non déterminé.
Point d'ébullition:	-21 °C

· Point d'éclair 71 °C

· Inflammabilité (solide, gazeux): Non applicable.

· Température d'inflammation: 300 °C

· Température de décomposition: Non déterminé.

· Auto-inflammation: Le produit ne s'enflamme pas spontanément.

· Danger d'explosion: Non déterminé.

##### · Limites d'explosion:

Inférieure:	14,0 Vol %
Supérieure:	33,0 Vol %

· Pression de vapeur à 20 °C: 43 hPa

· Densité à 20 °C: 1,00398 g/cm<sup>3</sup>

· Densité relative Non déterminé.

· Densité de vapeur. Non déterminé.

· Vitesse d'évaporation Non déterminé.

· Solubilité dans/miscibilité avec l'eau:

Entièrement miscible

· Coefficient de partage (n-octanol/eau): Non déterminé.

##### · Viscosité:

Dynamique:	Non déterminé.
Cinématique:	Non déterminé.

##### · Teneur en solvants:

Solvants organiques:	8,4 %
Eau:	81,0 %
VOC (CE)	8,40 %

(suite page 6)



# Fiche de données de sécurité

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**Nom du produit: FIXATIVE/DECALCIFIER**

(suite de la page 5)

- **9.2 Autres informations** Pas d'autres informations importantes disponibles.

### SECTION 10: Stabilité et réactivité

- **10.1 Réactivité**
- **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

### SECTION 11: Informations toxicologiques

- **11.1 Informations sur les effets toxicologiques**
- **Toxicité aiguë**

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

#### 64-18-6 acide formique

Oral	LD50	1100 mg/kg (rat)
------	------	------------------

#### 50-00-0 Formaldéhyde

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

- **Effet primaire d'irritation:**
- **Corrosion cutanée/irritation cutanée** Effet fortement corrosif sur la peau et les muqueuses.
- **Lésions oculaires graves/irritation oculaire**  
Effet fortement corrosif.  
Effet fortement irritant avec risque d'une affection grave des yeux.
- **Sensibilisation respiratoire ou cutanée** Sensibilisation possible par contact avec la peau.
- **Indications toxicologiques complémentaires:**  
Selon le procédé de calcul de la dernière version en vigueur de la directive générale CEE sur la classification des préparations, le produit présente les dangers suivants:  
Corrosif  
Irritant  
L'absorption orale du produit a un fort effet corrosif sur la cavité buccale et le pharynx et présente un danger de perforation du tube digestif et de l'estomac.  
Cancérogène.
- **Effets CMR (cancérogène, mutagène et toxique pour la reproduction)**  
Muta. 2, Carc. 1B

### SECTION 12: Informations écologiques

- **12.1 Toxicité**
- **Toxicité aquatique:** Pas d'autres informations importantes disponibles.
- **12.2 Persistance et dégradabilité** Pas d'autres informations importantes disponibles.
- **12.3 Potentiel de bioaccumulation** Pas d'autres informations importantes disponibles.
- **12.4 Mobilité dans le sol** Pas d'autres informations importantes disponibles.
- **Autres indications écologiques:**
- **Indications générales:**  
Catégorie de pollution des eaux 2 (D) (Classification propre): polluant  
Ne pas laisser pénétrer dans la nappe phréatique, les eaux ou les canalisations.

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(suite de la page 6)

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.

· **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.

### SECTION 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

### SECTION 14: Informations relatives au transport

· **14.1 No ONU**

· **ADR, IMDG, IATA** UN3265

· **14.2 Nom d'expédition des Nations unies**

· **ADR** 3265 LIQUIDE ORGANIQUE CORROSIF, ACIDE, N.S.A. (ACIDE FORMIQUE, FORMALDÉHYDE EN SOLUTION)

· **IMDG, IATA** CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (FORMIC ACID, FORMALDEHYDE SOLUTION)

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

· **ADR, IMDG, IATA**



· **Classe** 8 Matières corrosives.

· **Étiquette** 8

· **14.4 Groupe d'emballage**

· **ADR, IMDG, IATA** III

· **14.5 Dangers pour l'environnement:**

· **Marine Pollutant:** Non

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

Attention: Matières corrosives.

· **Indice Kemler:** 80

· **No EMS:** F-A,S-B

· **Segregation groups** Acids

· **14.7 Transport en vrac conformément à l'annexe II de la convention Marpol 73/78 et au recueil IBC**

Non applicable.

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**Nom du produit: FIXATIVE/DECALCIFIER**

(suite de la page 7)

**· Indications complémentaires de transport:**

**· ADR**

· **Quantités limitées (LQ)**

5L

· **Quantités exceptées (EQ)**

Code: E1

Quantité maximale nette par emballage intérieur: 30 ml

Quantité maximale nette par emballage extérieur: 1000 ml

· **Catégorie de transport**

3

· **Code de restriction en tunnels**

E

**· IMDG**

· **Limited quantities (LQ)**

5L

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· **"Règlement type" de l'ONU:**

UN3265, LIQUIDE ORGANIQUE CORROSIF, ACIDE, N.S.A. (ACIDE FORMIQUE, FORMALDÉHYDE EN SOLUTION), 8, III

### SECTION 15: Informations réglementaires

· **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.

· **Prescriptions nationales:**

· **Indications sur les restrictions de travail:**

*Le personnel ne doit pas être exposé aux substances dangereuses cancérigènes contenues dans cette préparation.*

*Les autorités peuvent autoriser des exceptions dans des cas particuliers.*

· **15.2 Évaluation de la sécurité chimique:** Une évaluation de la sécurité chimique n'a pas été réalisée.

### SECTION 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.

H302 Nocif en cas d'ingestion.

H311 Toxique par contact cutané.

H312 Nocif par contact cutané.

H314 Provoque des brûlures de la peau et des lésions oculaires graves.

H315 Provoque une irritation cutanée.

H317 Peut provoquer une allergie cutanée.

H331 Toxique par inhalation.

H332 Nocif par inhalation.

H341 Susceptible d'induire des anomalies génétiques.

H350 Peut provoquer le cancer.

H370 Risque avéré d'effets graves pour les organes.

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**· Acronymes et abréviations:***ADR: Accord européen sur le transport des marchandises dangereuses par Route**IMDG: International Maritime Code for Dangerous Goods**IATA: International Air Transport Association**GHS: Globally Harmonised System of Classification and Labelling of Chemicals**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**Flam. Liq. 2: Flammable liquids, Hazard Category 2**Acute Tox. 3: Acute toxicity, Hazard Category 3**Acute Tox. 4: Acute toxicity, Hazard Category 4**Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A**Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B**Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2**Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1**Skin Sens. 1: Sensitisation - Skin, Hazard Category 1**Muta. 2: Germ cell mutagenicity, Hazard Category 2**Carc. 1B: Carcinogenicity, Hazard Category 1B**STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1**STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3*

FR

# Sicherheitsdatenblatt gemäß 1907/2006/EG, Artikel 31

Druckdatum: 28.07.2015

überarbeitet am: 28.07.2015

## ABSCHNITT 1: Bezeichnung des Stoffs bzw. des Gemischs und des Unternehmens

- **1.1 Produktidentifikator**
- **Handelsname:** FIXATIVE/DECALCIFIER
- **Artikelnummer:** 64148-01, 64148-06
- **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**  
Keine weiteren relevanten Informationen verfügbar.
- **Verwendung des Stoffes / des Gemisches** Laborchemikalien
- **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**
- **Hersteller/Lieferant:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com  
  
Science Services GmbH  
Unterhachinger Str. 75  
81737 München Germany  
Tel: +49(0)89 18 93 668-0  
safety@scienceservices.de  
  
24h Giftnotruf Munchen: +49 (0)89 19240  
Toxikologische Abteilung der II. Medizinischen Klinik  
rechts der Isar, Munchen. - www.toxinfo.org
- **Auskunftgebender Bereich:** Product safety department
- **1.4 Notrufnummer:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## ABSCHNITT 2: Mögliche Gefahren

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



GHS08 Gesundheitsgefahr

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



GHS05 Ätzwirkung

Skin Corr. 1A H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.  
Eye Dam. 1      H318 Verursacht schwere Augenschäden.



GHS07

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

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



GHS05    GHS07    GHS08

- **Signalwort Gefahr**
- **Gefahrbestimmende Komponenten zur Etikettierung:**  
Formaldehyd  
Ameisensäure
- **Gefahrenhinweise**  
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/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).  
P405 Unter Verschluss aufbewahren.  
P501 Entsorgung des Inhalts / des Behälters gemäß den örtlichen / regionalen / nationalen / internationalen Vorschriften.
- **Zusätzliche Angaben:**  
Nur für gewerbliche Anwender.
- **2.3 Sonstige Gefahren**
- **Ergebnisse der PBT- und vPvB-Beurteilung**
- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.

### ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

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

**Gefährliche Inhaltsstoffe:**

CAS: 64-18-6 EINECS: 200-579-1	Ameisensäure ⚠ Skin Corr. 1A, H314	10-25%
CAS: 50-00-0 EINECS: 200-001-8	Formaldehyd ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ⚠ Muta. 2, H341; Carc. 1B, H350; ⚠ Skin Corr. 1B, H314; ⚠ Skin Sens. 1, H317	2,5-10%
CAS: 67-56-1 EINECS: 200-659-6	Methanol ⚠ Flam. Liq. 2, H225; ⚠ STOT SE 1, H370; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	≤ 2,5%

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

### ABSCHNITT 4: Erste-Hilfe-Maßnahmen

- **4.1 Beschreibung der Erste-Hilfe-Maßnahmen**
- **Allgemeine Hinweise:** Mit Produkt verunreinigte Kleidungsstücke unverzüglich entfernen.
- **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:** 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:** Keine besonderen Maßnahmen erforderlich.

### ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

- **6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren**  
Schutzausrüstung tragen. Ungeschützte Personen fernhalten.
- **6.2 Umweltschutzmaßnahmen:**  
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.

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- Aerosolbildung vermeiden.
- **Hinweise zum Brand- und Explosionsschutz:**  
Vor Hitze schützen.  
Atemschutzgeräte bereithalten.
  - **7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten**
  - **Lagerung:**
  - **Anforderung an Lagerräume und Behälter:** Keine besonderen Anforderungen.
  - **Zusammenlagerungshinweise:** Nicht erforderlich.
  - **Weitere Angaben zu den Lagerbedingungen:**  
Behälter dicht geschlossen halten.  
Vor Hitze und direkter Sonnenbestrahlung schützen.
  - **Lagerklasse:**
  - **Klassifizierung nach Betriebssicherheitsverordnung (BetrSichV):** -
  - **7.3 Spezifische Endanwendungen** Keine weiteren relevanten Informationen verfügbar.

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

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

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

**64-18-6 Ameisensäure**

AGW	Langzeitwert: 9,5 mg/m <sup>3</sup> , 5 ml/m <sup>3</sup> 2(I);DFG, EU, Y
-----	--

**50-00-0 Formaldehyd**

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

**67-56-1 Methanol**

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

- **Bestandteile mit biologischen Grenzwerten:**

**67-56-1 Methanol**

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

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

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

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**· Atemschutz:**

Bei kurzzeitiger oder geringer Belastung Atemfiltergerät; bei intensiver bzw. längerer Exposition unluftunabhängiges Atemschutzgerät verwenden.

**· Handschutz:**


Schutzhandschuhe

Das Handschuhmaterial muss undurchlässig und beständig gegen das Produkt / den Stoff / die Zubereitung sein. Aufgrund fehlender Tests kann keine Empfehlung zum Handschuhmaterial für das Produkt / die Zubereitung / das Chemikaliengemisch abgegeben werden.

Auswahl des Handschuhmaterials unter Beachtung der Durchbruchzeiten, Permeationsraten und der Degradation.

**· Handschuhmaterial**

Die Auswahl eines geeigneten Handschuhs ist nicht nur vom Material, sondern auch von weiteren Qualitätsmerkmalen abhängig und von Hersteller zu Hersteller unterschiedlich. Da das Produkt eine Zubereitung aus mehreren Stoffen darstellt, ist die Beständigkeit von Handschuhmaterialien nicht vorausberechenbar und muß deshalb vor dem Einsatz überprüft werden.

**· Durchdringungszeit des Handschuhmaterials**

Die genaue Durchbruchzeit ist beim Schutzhandschuhhersteller zu erfahren und einzuhalten.

**· Augenschutz:**

Schutzbrille



Dichtschließende Schutzbrille

### ABSCHNITT 9: Physikalische und chemische Eigenschaften

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

**Form:** Flüssigkeit

**Farbe:** Farblos

**· Geruch:** Nicht charakteristisch.

**· Geruchsschwelle:** Nicht bestimmt.

**· pH-Wert bei 20 °C:** 2

**· Zustandsänderung**

**Schmelzpunkt/Schmelzbereich:** Nicht bestimmt.

**Siedepunkt/Siedebereich:** -21 °C

**· Flammpunkt:** 71 °C

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

**· Zündtemperatur:** 300 °C

**· Zersetzungstemperatur:** Nicht bestimmt.

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

**· Explosionsgefahr:** Nicht bestimmt.

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· <b>Explosionsgrenzen:</b>	
<b>Untere:</b>	14,0 Vol %
<b>Obere:</b>	33,0 Vol %
· <b>Dampfdruck bei 20 °C:</b> 43 hPa	
· <b>Dichte bei 20 °C:</b> 1,00398 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>	8,4 %
<b>Wasser:</b>	81,0 %
<b>VOC (EU)</b>	8,40 %
· <b>9.2 Sonstige Angaben</b> Keine weiteren relevanten Informationen verfügbar.	

### ABSCHNITT 10: Stabilität und Reaktivität

- **10.1 Reaktivität**
- **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**

· <b>Einstufungsrelevante LD/LC50-Werte:</b>		
<b>64-18-6 Ameisensäure</b>		
Oral	LD50	1100 mg/kg (rat)
<b>50-00-0 Formaldehyd</b>		
Oral	LD50	>200 mg/kg (rat)

- **Primäre Reizwirkung:**
- **Ätz-/Reizwirkung auf die Haut** Starke Ätzwirkung auf Haut und Schleimhäute.
- **Schwere Augenschädigung/-reizung**  
Starke Ätzwirkung.  
Starke Reizwirkung mit Gefahr ernster Augenschäden.
- **Sensibilisierung der Atemwege/Haut** Durch Hautkontakt Sensibilisierung möglich.

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**· Zusätzliche toxikologische Hinweise:**

Das Produkt weist aufgrund des Berechnungsverfahrens der Allgemeinen Einstufungsrichtlinie der EG für Zubereitungen in der letztgültigen Fassung folgende Gefahren auf:

Ätzend

Reizend

Bei Verschlucken starke Ätzwirkung des Mundraumes und Rachens sowie Gefahr der Perforation der Speiseröhre und des Magens.

Krebserzeugend.

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

Muta. 2, Carc. 1B

### 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.

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

Wassergefährdungsklasse 2 (Selbsteinstufung): 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.

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

· **PBT:** Nicht anwendbar.

· **vPvB:** Nicht anwendbar.

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

### ABSCHNITT 13: Hinweise zur Entsorgung

**· 13.1 Verfahren der Abfallbehandlung**

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

**· Ungereinigte Verpackungen:**

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

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

### ABSCHNITT 14: Angaben zum Transport

**· 14.1 UN-Nummer**

· **ADR, IMDG, IATA**

UN3265

**· 14.2 Ordnungsgemäße UN-Versandbezeichnung**

· **ADR**

3265 ÄTZENDER SAURER ORGANISCHER FLÜSSIGER STOFF, N.A.G. (AMEISENSÄURE, FORMALDEHYDLÖSUNG)

· **IMDG, IATA**

CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (FORMIC ACID, FORMALDEHYDE SOLUTION)

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· **14.3 Transportgefahrenklassen**

· **ADR, IMDG, IATA**



· **Klasse** 8 Ätzende Stoffe  
 · **Gefahrzettel** 8

· **14.4 Verpackungsgruppe**

· **ADR, IMDG, IATA** III

· **14.5 Umweltgefahren:**

· **Marine pollutant:** Nein

· **14.6 Besondere Vorsichtsmaßnahmen für den Verwender**

· **Kemler-Zahl:** Achtung: Ätzende Stoffe  
80  
 · **EMS-Nummer:** F-A,S-B  
 · **Segregation groups** Acids

· **14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens 73/78 und gemäß IBC-Code**

Nicht anwendbar.

· **Transport/weitere Angaben:**

· **ADR**

· **Begrenzte Menge (LQ)** 5L  
 · **Freigestellte Mengen (EQ)** Code: E1  
 Höchste Nettomenge je Innenverpackung: 30 ml  
 Höchste Nettomenge je Außenverpackung: 1000 ml  
 · **Beförderungskategorie** 3  
 · **Tunnelbeschränkungscode** E

· **IMDG**

· **Limited quantities (LQ)** 5L  
 · **Excepted quantities (EQ)** Code: E1  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 1000 ml

· **UN "Model Regulation":**

UN3265, ÄTZENDER SAURER ORGANISCHER FLÜSSIGER STOFF, N.A.G. (AMEISENSÄURE, FORMALDEHYDLÖSUNG), 8, III

### 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.**

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· **Nationale Vorschriften:**

· **Hinweise zur Beschäftigungsbeschränkung:**

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

· **Technische Anleitung Luft:**

Klasse	Anteil in %
Wasser	81,0
I	8,4

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

· **15.2 Stoffsicherheitsbeurteilung:** Eine Stoffsicherheitsbeurteilung wurde nicht durchgeführt.

### ABSCHNITT 16: Sonstige Angaben

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

· **Relevante Sätze**

H225 Flüssigkeit und Dampf leicht entzündbar.

H301 Giftig bei Verschlucken.

H302 Gesundheitsschädlich bei Verschlucken.

H311 Giftig bei Hautkontakt.

H312 Gesundheitsschädlich bei Hautkontakt.

H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.

H315 Verursacht Hautreizungen.

H317 Kann allergische Hautreaktionen verursachen.

H331 Giftig bei Einatmen.

H332 Gesundheitsschädlich bei Einatmen.

H341 Kann vermutlich genetische Defekte verursachen.

H350 Kann Krebs erzeugen.

H370 Schädigt die Organe.

· **Abkürzungen und Akronyme:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Acute Tox. 3: Acute toxicity, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A

Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Muta. 2: Germ cell mutagenicity, Hazard Category 2

Carc. 1B: Carcinogenicity, Hazard Category 1B

STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

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

Stampato il: 28.07.2015

Revisione: 28.07.2015

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

· **1.1 Identificatore del prodotto**

· **Denominazione commerciale:** FIXATIVE/DECALCIFIER

· **Articolo numero:** 64148-01, 64148-06

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

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

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

· **Produttore/fornitore:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

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

email: [sgkcck@aol.com](mailto:sgkcck@aol.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**



GHS08 pericolo per la salute

Muta. 2      H341 Sospettato di provocare alterazioni genetiche.

Carc. 1B      H350 Può provocare il cancro.



GHS05 corrosione

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

Eye Dam. 1    H318 Provoca gravi lesioni oculari.



GHS07

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

STOT SE 3      H335 Può irritare le vie respiratorie.

· **2.2 Elementi dell'etichetta**

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

Il prodotto è classificato ed etichettato conformemente al regolamento CLP.

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**Pittogrammi di pericolo**

GHS05 GHS07 GHS08

**Avvertenza Pericolo****Componenti pericolosi che ne determinano l'etichettatura:**

formaldeide  
acido formico

**Indicazioni di pericolo**

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): togliere immediatamente tutti gli  
indumenti contaminati. Sciacquare la pelle/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).

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: 64-18-6 EINECS: 200-579-1	acido formico ⚠ Skin Corr. 1A, H314	10-25%
CAS: 50-00-0 EINECS: 200-001-8	formaldeide ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ⚠ Muta. 2, H341; Carc. 1B, H350; ⚠ Skin Corr. 1B, H314; ⚠ Skin Sens. 1, H317	2,5-10%
CAS: 67-56-1 EINECS: 200-659-6	metanolo ⚠ Flam. Liq. 2, H225; ⚠ STOT SE 1, H370; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	≤ 2,5%

· **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.

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· **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:**

*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 della 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:** *Non sono richiesti provvedimenti particolari.*

### **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:**

*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.*

· **6.4 Riferimenti 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:**

*Proteggere dal calore.*

*Tener pronto il respiratore.*

· **7.2 Condizioni per l'immagazzinamento sicuro, comprese eventuali incompatibilità**

· **Stoccaggio:**

· **Requisiti dei magazzini e dei recipienti:** *Non sono richiesti requisiti particolari.*

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- **Indicazioni sullo stoccaggio misto:** Non necessario.
- **Ulteriori indicazioni relative alle condizioni di immagazzinamento:**  
Mantenere i recipienti ermeticamente chiusi.  
Proteggere dal calore e dai raggi diretti del sole.
- **7.3 Usi finali specifici** Non sono disponibili altre informazioni.

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

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

#### · 8.1 Parametri di controllo

- **Componenti i cui valori limite devono essere tenuti sotto controllo negli ambienti di lavoro:**

##### 64-18-6 acido formico

TWA	Valore a breve termine: 18,8 mg/m <sup>3</sup> , 10 ppm Valore a lungo termine: 9,4 mg/m <sup>3</sup> , 5 ppm
VL	Valore a lungo termine: 9 mg/m <sup>3</sup> , 5 ppm

##### 50-00-0 formaldeide

TWA	Limite Ceiling: 0,37 mg/m <sup>3</sup> , 0,3 ppm sen, A2
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##### 67-56-1 metanolo

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

- **Componenti con valori limite biologici:**

##### 67-56-1 metanolo

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

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

#### · 8.2 Controlli dell'esposizione

##### · Mezzi protettivi individuali:

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

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

##### · Guanti protettivi:



Guanti protettivi

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*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*



Occhiali protettivi a tenuta

### SEZIONE 9: Proprietà fisiche e chimiche

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

· **Indicazioni generali**

· **Aspetto:**

**Forma:** Liquido

**Colore:** Incolore

· **Odore:** Non caratteristico.

· **Soglia olfattiva:** Non definito.

· **valori di pH a 20 °C:** 2

· **Cambiamento di stato**

**Temperatura di fusione/ambito di fusione:** Non definito.

**Temperatura di ebollizione/ambito di ebollizione:** -21 °C

· **Punto di infiammabilità:** 71 °C

· **Infiammabilità (solido, gassoso):** Non applicabile.

· **Temperatura di accensione:** 300 °C

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

· **Autoaccensione:** Prodotto non autoinfiammabile.

· **Pericolo di esplosione:** Non definito.

· **Limiti di infiammabilità:**

**Inferiore:** 14,0 Vol %

**Superiore:** 33,0 Vol %

· **Tensione di vapore a 20 °C:** 43 hPa

· **Densità a 20 °C:** 1,00398 g/cm<sup>3</sup>

· **Densità relativa** Non definito.

· **Densità del vapore** Non definito.

· **Velocità di evaporazione** Non definito.

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· <b>Solubilità in/Miscibilità con acqua:</b>	Completamente miscibile.
· <b>Coefficiente di distribuzione (n-Octanol/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>	8,4 %
<b>Acqua:</b>	81,0 %
<b>VOC (CE)</b>	8,40 %
· <b>9.2 Altre informazioni</b>	Non sono disponibili altre informazioni.

### SEZIONE 10: Stabilità e reattività

- **10.1 Reattività**
- **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**

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

**64-18-6 acido formico**

Orale	LD50	1100 mg/kg (rat)
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**50-00-0 formaldeide**

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

- **Irritabilità primaria:**
- **Corrosione/irritazione cutanea** Fortemente corrosivo sulla pelle e sulle mucose.
- **Lesioni oculari gravi/irritazioni oculari gravi**  
Fortemente corrosivo.  
Forte irritazione con rischio di gravi lesioni oculari.
- **Sensibilizzazione respiratoria o cutanea** Può provocare sensibilizzazione a contatto con la pelle.
- **Ulteriori dati tossicologici:**  
Il prodotto, in base al metodo di calcolo della direttiva generale della Comunità sulla classificazione dei preparati nella sua ultima versione valida, presenta i seguenti rischi:  
Corrosivo  
Irritante  
Se ingerito provoca forte corrosione della cavità orale e della faringe con rischio di perforazione dell'esofago e dello stomaco.  
Cancerogeno.

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- **Effetti CMR (cancerogenicità, mutagenicità e tossicità per la riproduzione)**  
Muta. 2, Carc. 1B


### SEZIONE 12: Informazioni ecologiche

- **12.1 Tossicità**
- **Tossicità acquatica:** Non sono disponibili altre informazioni.
- **12.2 Persistenza e degradabilità** Non sono disponibili altre informazioni.
- **12.3 Potenziale di bioaccumulo** Non sono disponibili altre informazioni.
- **12.4 Mobilità nel suolo** Non sono disponibili altre informazioni.
- **Ulteriori indicazioni in materia ambientale:**
- **Ulteriori indicazioni:**  
Pericolosità per le acque classe 2 (D) (Autoclassificazione): pericoloso  
Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature.  
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.
- **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>  | UN3265  |
| · <b>14.2 Nome di spedizione dell'ONU</b>   |   |
| · <b>ADR</b>  | 3265 LIQUIDO ORGANICO CORROSIVO, ACIDO, N.A.S.<br>(ACIDO FORMICO, FORMALDEIDE IN SOLUZIONE) |
| · <b>IMDG, IATA</b>   | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (FORMIC<br>ACID, FORMALDEHYDE SOLUTION)           |
| · <b>14.3 Classi di pericolo connesso al trasporto</b>                              |   |
| · <b>ADR, IMDG, IATA</b>  |   |
|  |   |
| · <b>Classe</b>   | 8 Materie corrosive   |
| · <b>Etichetta</b>  | 8   |

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· 14.4 Gruppo di imballaggio · ADR, IMDG, IATA	III
· 14.5 Pericoli per l'ambiente: · Marine pollutant:	No
· 14.6 Precauzioni speciali per gli utilizzatori · Numero Kemler: · Numero EMS: · Segregation groups	Attenzione: Materie corrosive 80 F-A,S-B Acids
· 14.7 Trasporto di rifiuti secondo l'allegato II di MARPOL 73/78 ed il codice IBC	Non applicabile.
· Trasporto/ulteriori indicazioni:	
· ADR · Quantità limitate (LQ) · Quantità esenti (EQ)	5L Codice: E1 Quantità massima netta per imballaggio interno: 30 ml Quantità massima netta per imballaggio esterno: 1000 ml
· Categoria di trasporto · Codice di restrizione in galleria	3 E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN3265, LIQUIDO ORGANICO CORROSIVO, ACIDO, N.A.S. (ACIDO FORMICO, FORMALDEIDE IN SOLUZIONE), 8, III

### SEZIONE 15: Informazioni sulla regolamentazione

- 15.1 Norme e legislazione 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.
  - 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     | 8,4        |
- 15.2 Valutazione della sicurezza chimica: Una valutazione della sicurezza chimica non è stata effettuata.

### SEZIONE 16: Altre informazioni

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

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**Scheda di dati di sicurezza**  
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**· Frasi rilevanti**

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

**· Abbreviazioni e acronimi:**

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*
- IMDG: International Maritime Code for Dangerous Goods*
- IATA: International Air Transport Association*
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals*
- EINECS: European Inventory of Existing Commercial Chemical Substances*
- ELINCS: European List of Notified Chemical Substances*
- CAS: Chemical Abstracts Service (division of the American Chemical Society)*
- VOC: Volatile Organic Compounds (USA, EU)*
- LC50: Lethal concentration, 50 percent*
- LD50: Lethal dose, 50 percent*
- Flam. Liq. 2: Flammable liquids, Hazard Category 2*
- Acute Tox. 3: Acute toxicity, Hazard Category 3*
- Acute Tox. 4: Acute toxicity, Hazard Category 4*
- Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A*
- Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B*
- Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2*
- Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1*
- Skin Sens. 1: Sensitisation - Skin, Hazard Category 1*
- Muta. 2: Germ cell mutagenicity, Hazard Category 2*
- Carc. 1B: Carcinogenicity, Hazard Category 1B*
- STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1*
- STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3*

IT

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.07.28

개정: 2015.07.28

### 1 화학제품과 회사에 관한 정보

- 제품 식별자
- 제품명: **FIXATIVE/DECALCIFIER**
- 상품번호: 64148-01, 64148-06
- 해당 순물질이나 혼합물의 관련 하위용도 및 사용금지용도 추가적인 정보가 존재하지 않습니다.
- 제품의 권고 용도와 사용상의 제한: 실험실화학품
- 안전데이터표(Safety Data Sheet)내 공급업체 관련 상세 정보
- 제조자/수입자/유통업자 정보:  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- Samchang Commercial Co., Ltd.  
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- 추가적인 정보 획득 가능: Product safety department
- 비상연락 전화번호:  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### 2 유해성.위험성

- 순물질 또는 혼합물의 분류



건강에 위험

생식세포 변이원성 구분2 H341 유전적인 결함을 일으킬 것으로 의심됨  
발암성 구분1B H350 암을 일으킬 수 있음



부식

피부 부식성/자극성 구분1 H314 피부에 심한 화상과 눈에 손상을 일으킴  
심한 눈 손상/자극성 구분1 H318 눈에 심한 손상을 일으킴



피부과민성 구분1 H317 알레르기성 피부 반응을 일으킬 수 있음

- 라벨표기 요소

- GHS 라벨 요소

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

(2 쪽에 계속)

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.07.28

개정: 2015.07.28

**제품명: FIXATIVE/DECALCIFIER**

(1 쪽부터계속)

· **그림문자**



GHS05    GHS07    GHS08

· **신호어 위험**

· **상표상에명확히위험성이표시된성분:**

formaldehyde

Formic acid

· **유해.위험 문구**

피부에 심한 화상과 눈에 손상을 일으킴

알레르기성 피부 반응을 일으킬 수 있음

유전적인 결함을 일으킬 것으로 의심됨

암을 일으킬 수 있음

· **예방조치 문구**

피부(모발)에 접촉 시: 모든 오염된 옷을 즉시 벗으시오 피부를 물/샤워로 행구시오.

눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면콘택트렌즈를 제거하시오. 계속 씻으시오.

즉시 독성물질센터/병원 연락 필요.

(라벨 참조) 처치를 하시오.

잠금장치가 있는 저장장소에 저장하시오.

현지/지역/국가/국제 규정에 따라서 내용물/용기 노출

· **기타 유해성**

· PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과

· PBT(잔류성, 생물농축성, 독성 물질): 해당사항 없음.

· vPvB(고 잔류성, 고 생물농축성 물질): 해당사항 없음.

### 3 구성성분의 명칭 및 함유량

· **화학적 특성: 혼합물**

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

· **위험요소:**

64-18-6	Formic acid ⚠ 피부 부식성/자극성    구분1, H314	10-25%
50-00-0	formaldehyde ⚠ 급성 독성(경구)    구분3, H301; ⚠ 급성 독성(경피)    구분3, H311; ⚠ 급성 독성(흡입)    구분3, H331; ⚠ 생식세포 변이원성    구분2, H341; ⚠ 발암성    구분1B, H350; ⚠ 피부 부식성/자극성    구분1, H314; ⚠ 피부과민성    구분1, H317	2.5-10%
67-56-1	Methyl Alcohol ⚠ 인화성 액체    구분2, H225; ⚠ 표적장기-1회노출    구분1, H370; ⚠ 급성 독성(경구)    구분4, H302; ⚠ 급성 독성(경피)    구분4, H312; ⚠ 급성 독성(흡입)    구분4, H332; 심한 눈 손상/자극성    구분2, H319	≤ 2.5%

### 4 응급조치 요령

· **응급조치요령 내용**

· **일반적 정보:** 이 제품에 의해 오염된 의상은 즉시 제거한다.

· **흡입했을 때:**

신선한 공기를 쐬고 나서 반드시 의료진의 도움을 구한다.

(3 쪽에계속)

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- 환자가 의식을 잃었을 경우에는 안전한 자세에서 환자를 운반한다.
- **피부에 접촉했을 때:** 즉시물과비누로씻고잘행군다.
- **눈에 들어갔을 때:** 흐르는 물에 눈을 몇분동안 씻어내고나서, 의사와 상담한 다
- **먹었을 때:** 물을 충분히 마시고 신선한 공기를 쐬다. 즉시 의사의 도움을 구한다.
- **기타 의사의 주의사항:**
- **가장 중요한 급·만성 증상 및 영향** 추가적인 정보가 존재하지 않습니다.
- **즉각적인 의료처치 및 특별치료가 필요함을 시사하는 징후** 추가적인 정보가 존재하지 않습니다.

### 5 폭발.화재시 대처방법

- 소화제
- **적절한 소화제:**  
이산화탄소, 진화용 석회 가루 또는 물 방사를 사용하고, 더 큰 화재는 물을 분사 하거나 알코올 이 함유된 거품으로 끈다.
- **본 화학물질이나 혼합물에서 발생하는 특별 유해성** 추가적인 정보가 존재하지 않습니다.
- **소방관에 대한 권고사항**
- **화재 진압 시 착용할 보호구 및 예방조치:** 특별한 조치가 필요없음.

### 6 누출 사고 시 대처방법

- **개인적 예방조치, 보호장비 및 응급처치 절차** 안전장비 착용하고, 무방비의 사람은 격리시킨다.
- **환경 관련 예방조치:**  
많은 물로 희석 시킨다.  
하수도망/해수면위의물/지하수로도달하지않게한다.
- **밀폐 및 정화 방법과 소재:**  
액체가 혼합된 물질 (모래, 규조토, 산성 결합물, 일반 결합물, 톱밥)에 흡입되도록 한다.  
중성제를 사용한다.  
항목 13에 따라 오염된 물질을 쓰레기로 처분한다.  
충분한 환기가 되도록 한다.
- **타 섹션 참조**  
안전 관리에 대한 정보는 제7 장을 참고하십시오.  
개인 보호 장비에 대한 정보는 제8 장을 참고하십시오.  
쓰레기 처리에 대한 정보는 제13 장을 참고하십시오.

### 7 취급 및 저장방법

- 취급:
- **안전 취급을 위한 예방조치**  
작업장에서는 통풍이 잘 되고/습기 제거가 잘 되게 주의한다.  
조심스럽게 용기를 개봉하거나 취급한다.  
연무질이 형성되는 것을 피한다.
- **화재 및 폭발 사고 예방대책에 관한 정보:**  
열로부터 보호한다.  
호흡 보호 장비를 항상 비치한다.
- **혼합 위험성 등 안전 저장 조건**
- 보관:
- **안전한 저장 방법:** 특별한 요구 사항이 없음.
- **하나의 공동 보관 시설에 대한 보관 관련 정보:** 필요 없음
- **보관 조건에 관한 추가적인 정보:**  
용기를 새지 않게 밀폐한 채 보관한다.  
열이나 직사광선으로부터 보호한다.

(4 쪽에 계속)



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**제품명: FIXATIVE/DECALCIFIER**

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· **구체적 최종 사용자** 추가적인 정보가 존재하지 않습니다.

### 8 노출방지 및 개인보호구

· **침단시설 디자인에 대한 추가정보:** 더 이상 의 자료는 없음. 항 목 7 을 참고하시 오.

· **통제 변수**

· **화학물질의 노출기준, 생물학적 노출기준 등:**

**64-18-6 Formic acid**

TLV (ROK)	장기간의값: 9 mg/m <sup>3</sup> , 5 ppm
IOELV (EU)	장기간의값: 9 mg/m <sup>3</sup> , 5 ppm
PEL (USA)	장기간의값: 9 mg/m <sup>3</sup> , 5 ppm
REL (USA)	장기간의값: 9 mg/m <sup>3</sup> , 5 ppm
TLV (USA)	단기간의값: 19 mg/m <sup>3</sup> , 10 ppm 장기간의값: 9.4 mg/m <sup>3</sup> , 5 ppm

**50-00-0 formaldehyde**

TLV (ROK)	단기간의값: 1.5 mg/m <sup>3</sup> , 1 ppm 장기간의값: 0.75 mg/m <sup>3</sup> , 0.5 ppm
PEL (USA)	단기간의값: 2 ppm 장기간의값: 0.75 ppm see 29 CFR 1910.1048(c)
REL (USA)	장기간의값: 0.016 ppm 최고노출기준: 0.1* ppm *15-min; See Pocket Guide App. A
TLV (USA)	최고노출기준: 0.37 mg/m <sup>3</sup> , 0.3 ppm (SEN) NIC-DSEN; RSEN

**67-56-1 Methyl Alcohol**

TLV (ROK)	단기간의값: 310 mg/m <sup>3</sup> , 250 ppm 장기간의값: 260 mg/m <sup>3</sup> , 200 ppm Skin
IOELV (EU)	장기간의값: 260 mg/m <sup>3</sup> , 200 ppm Skin
PEL (USA)	장기간의값: 260 mg/m <sup>3</sup> , 200 ppm
REL (USA)	단기간의값: 325 mg/m <sup>3</sup> , 250 ppm 장기간의값: 260 mg/m <sup>3</sup> , 200 ppm Skin
TLV (USA)	단기간의값: 328 mg/m <sup>3</sup> , 250 ppm 장기간의값: 262 mg/m <sup>3</sup> , 200 ppm Skin; BEI

· **추가 정보:** 제 조 할 당시에 유 효 한 목 록을 기 초로 사 용 했 다.

· **노출 통제**

· **개인 보호구**

· **일반적보호조치및위생조치:**

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

(5 쪽에계속)

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눈과 피부와의 접촉은 피한다.

**· 호흡기 보호:**

단 시간 또는 경미한 오염의 경우에는 호흡 여과기를 사용한다. 심각한 또는 장기간 노출시에는 호흡보호장비를 사용한다.

**· 손 보호:**



보호용 장갑

장갑재질은제품 / 원료 / 조제를투과시키지않아야하고, 내구성이있어야한다.

테스트를 하지 않았기 때문에 제품 / 조제 / 화학 혼합물에 적합한 장갑재질에 대한 추천이 없다.

투과 시간, 침투율과 저하를 고려해서 장갑 재료를 선택한다.

**· 장갑 의재료**

적합한장갑의선택은재질차이뿐아니라품질기준의차이도고려하여이루어져야하고제조업종에따라서도다르게선정되어야한다. 제품은다양한재료로부터의조제로이루어지는것이기때문에, 장갑재질의안정성은사전예측되어질수있는것이아니고, 반드시사용전에 (그안전성이) 체크되어야한다.

**· 장갑 재료의 투과시간** 정확한관통시간은보호장갑제조자에의하여인지되고, 준수되어야한다.

**· 눈 보호:**

보호안경



팍조이는보안경

### 9 물리화학적 특성

**· 기본 물리 및 화학적 특성에 대한 정보**

**· 일반정보**

**· 외형**

· 물리적 상태:	액체
· 색:	색소가 없는
· 냄새:	특색없는
· 후각역치	알맞지않다.

· pH 의경우 20 °C:	2
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**· 상태변화**

· 녹는점/어는점:	맞지않는
· 초기 끓는점과 끓는점 범위:	-21 °C

· 인화점:	71 °C
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· 인화성(고체, 기체):	해당사항 없음.
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· 점화온도:	300 °C
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· 분해 온도:	알맞지않다.
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· 자기점화:	이제품은자연발화성이없다.
---------	---------------

· 폭발위험:	알맞지않다.
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**· 인화 또는 폭발 범위의 상한/하한**

· 아래로:	14.0 Vol %
· 위로:	33.0 Vol %

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· 증기압 의경우 20 °C:	43 hPa
· 밀도 의경우 20 °C:	1.00398 g/cm <sup>3</sup>
· 비중:	알맞지않다.
· 증기밀도:	알맞지않다.
· 증발 속도:	알맞지않다.
· 용해도:	
물:	완전히혼합할수있는
· n 옥탄올/물 분배계수:	알맞지않다.
· 점도:	
역학성:	알맞지않다.
동점성:	알맞지않다.
· 용매내용물	
유기용매:	8.4 %
물:	81.0 %
VOC (EU)	8.40 %
· 기타 정보	추가적인 정보가 존재하지 않습니다.

### 10 안정성 및 반응성

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

### 11 독성에 관한 정보

- 독성학적 영향에 대한 정보
- 급성 독성:

· LD/LC50-수치에 따른 분류:		
64-18-6 Formic acid		
구강의	LD50	1100 mg/kg (rat)
50-00-0 formaldehyde		
구강의	LD50	>200 mg/kg (rat)

- 일차적 자극 효과:
- 피부 부식성 또는 자극성: 피부와점막에강한부식작용.
- 심한 눈 손상 또는 자극성:
  - 강한부식작용
  - 심각한안구상처의위험이있는강한자극
- 감각화: 피부접촉을통하여감각화가능성이있다.
- 추가적인 독성에 관한 정보:
  - 이제품은유럽공동체의공동분류원칙의합법적인절차에근거하여최근에발효된원고에서아래위험들의이사전 준비에대하여제시하고있다.
  - 부식작용의
  - 자극적인

(7 쪽에계속)

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.07.28

개정: 2015.07.28

**제품명: FIXATIVE/DECALCIFIER**

(6 쪽부터계속)

삼킬경우 식도나 위 등의 내장 기관 벽에 상처를 주는 위험과 마찬가지로 입 주변이나 구강에 강한 부식 작용을 한다  
압을 유발하는

- 다음 종류의 잠재적인 효과에 대한 정보
- CMR-효과 (암 유발, 돌연변이성 그리고 생식 독성)
- 생식세포 변이원성 구분2, 발암성 구분1B

### 12 환경에 미치는 영향

- 독성
- 수생독성: 추가적인 정보가 존재하지 않습니다.
- 지속성 및 분해성 추가적인 정보가 존재하지 않습니다.
- 환경 시스템에서의 행동:
- 생물농축 잠재성 추가적인 정보가 존재하지 않습니다.
- 토양내 이동성 추가적인 정보가 존재하지 않습니다.
- 추가적인 생태학 정보:
- 일반 특징:
  - 수질오염등급 2 (자체등급분류): 수질오염이된 지하수나, 하천으로 또는 하수도망에도 달하지 않게 한다.
  - 희석시키지 않은 채 또는 증화시키지 않은 채 하수도나 배수로에도 달하지 않게 해야 한다.
  - 지하수로 경미한 양이 유입되었을 경우 엔이 미식수 오염 상태이다
- PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과
- PBT(잔류성, 생물농축성, 독성 물질): 해당사항 없음.
- vPvB(고 잔류성, 고 생물농축성 물질): 해당사항 없음.
- 기타 부작용 추가적인 정보가 존재하지 않습니다.

### 13 폐기시 주의사항

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

### 14 운송에 필요한 정보

<ul style="list-style-type: none"> <li>· 유엔 번호</li> <li>· ADR, IMDG, IATA</li> </ul>	UN3265
<ul style="list-style-type: none"> <li>· UN 적정 선정명</li> <li>· ADR</li> </ul>	3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (FORMIC ACID, FORMALDEHYDE SOLUTION)
<ul style="list-style-type: none"> <li>· IMDG, IATA</li> </ul>	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (FORMIC ACID, FORMALDEHYDE SOLUTION)

(8 쪽에계속)

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.07.28

개정: 2015.07.28

**제품명: FIXATIVE/DECALCIFIER**

(7 쪽부터계속)

<ul style="list-style-type: none"> <li>· 교통 위험 클래스</li> <li>· ADR, IMDG, IATA</li> </ul>	
<ul style="list-style-type: none"> <li>· 등급</li> <li>· 위험물 라벨</li> </ul>	8 부식작용하는물질 8
<ul style="list-style-type: none"> <li>· 용기등급</li> <li>· ADR, IMDG, IATA</li> </ul>	III
<ul style="list-style-type: none"> <li>· 환경적 유해물질:</li> <li>· 해양오염물질:</li> </ul>	아니오
<ul style="list-style-type: none"> <li>· 이용자 특별 예방조치</li> <li>· 위험 코드:</li> <li>· EMS-번호:</li> <li>· Segregation groups</li> </ul>	경고: 부식작용하는물질 80 F-A,S-B Acids
<ul style="list-style-type: none"> <li>· MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(bulk) 운송</li> </ul>	해당사항 없음.
<ul style="list-style-type: none"> <li>· 운 송/추가 정보:</li> </ul>	
<ul style="list-style-type: none"> <li>· ADR</li> <li>· 한정 수량 (LQ)</li> <li>· Excepted quantities (EQ)</li> </ul>	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
<ul style="list-style-type: none"> <li>· 운송 구분</li> <li>· 터널 제한 코드</li> </ul>	3 E
<ul style="list-style-type: none"> <li>· IMDG</li> <li>· Limited quantities (LQ)</li> <li>· Excepted quantities (EQ)</li> </ul>	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
<ul style="list-style-type: none"> <li>· UN "모범 규제":</li> </ul>	UN3265, CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (FORMIC ACID, FORMALDEHYDE SOLUTION), 8, III

### 15 법적 규제현황

· 해당 순물질 또는 혼합물에 대한 안전, 보건 및 환경 규제/법률

· Korean Existing Chemical Inventory		
64-18-6	Formic acid	KE-17233
50-00-0	formaldehyde	KE-17074
67-56-1	Methyl Alcohol	KE-23193
7732-18-5	water, distilled, conductivity or of similar purity	KE-35400

(9 쪽에계속)

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.07.28

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**제품명: FIXATIVE/DECALCIFIER**

(8 쪽부터계속)

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

· **위험 도표**



GHS05    GHS07    GHS08

· **표지어 위험**

· **상표상에명확히위험성이표시된성분:**

formaldehyde  
Formic acid

· **위험 문구**

피부에 심한 화상과 눈에 손상을 일으킴  
알레르기성 피부 반응을 일으킬 수 있음  
유전적인 결함을 일으킬 것으로 의심됨  
암을 일으킬 수 있음

· **주의 문구**

피부(모발)에 접촉 시: 모든 오염된 옷을 즉시 벗으시오 피부를 물/샤워로 행구시오.  
눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면콘택트렌즈를 제거하시오. 계속 씻으시오.  
즉시 독성물질센터/병원 연락 필요.  
(라벨 참조) 처치를 하시오.  
잠금장치가 있는 저장장소에 저장하시오.  
현지/지역/국가/국제 규정에 따라서 내용물/용기 노출

· **국내규정:**

· **사용제한에 대한 정보:**

노동자들은이러한예방준비하에암을유발시키는성분을함유한위험물을버리지말아야한다. 개별적인경우에관청은예외를허가할수있다.

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

### 16 그 밖의 참고사항

이보고는우리지식에대한오늘날의상태에대하여평가하고있다, 하지만이보고서는생산특성에관한보증은 기술하지않았으며계약적인법을관계에기반을두고있지도않다

- **최초 작성일자:** 2015.07.28
- **개정 횟수 및 최종 개정일자:** 1 / 2015.07.28
- **약어와 두문자어:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
VOC: Volatile Organic Compounds (USA, EU)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
인화성 액체    구분2: Flammable liquids, Hazard Category 2  
급성 독성(경구)    구분3: Acute toxicity, Hazard Category 3  
급성 독성(경구)    구분4: Acute toxicity, Hazard Category 4  
피부 부식성/자극성    구분1: Skin corrosion/irritation, Hazard Category 1  
심한 눈 손상/자극성    구분1: Serious eye damage/eye irritation, Hazard Category 1  
심한 눈 손상/자극성    구분2: Serious eye damage/eye irritation, Hazard Category 2  
피부과민성    구분1: Sensitisation - Skin, Hazard Category 1

(10 쪽에계속)

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.07.28

개정: 2015.07.28

**제품명: FIXATIVE/DECALCIFER**

생식세포 변이원성 구분2: Germ cell mutagenicity, Hazard Category 2  
발암성 구분1B: Carcinogenicity, Hazard Category 1B  
표적장기-1회노출 구분1: Specific target organ toxicity - Single exposure, Hazard Category 1

(9 쪽부터계속)

KR



# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 28.07.2015

Revisión: 28.07.2015

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

#### · 1.1 Identificador del producto

· **Nombre comercial:** FIXATIVE/DECALCIFIER

· **Número del artículo:** 64148-01, 64148-06

#### · 1.2 Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados

No existen más datos relevantes disponibles.

· **Utilización del producto / de la elaboración** Sustancias químicas de laboratorio

#### · 1.3 Datos del proveedor de la ficha de datos de seguridad

##### · **Fabricante/distribuidor:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

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

email: sgkcck@aol.com

www.emsdiasum.com

Aname

C/ Perez Galdos no. 2

28693 Quijorna

Madrid, Spain

Tel: +34.91.816.89.50

Fax: +34.91.816.85.94

email: ventas@aname.es

· **Área de información:** Product safety department

#### · 1.4 Teléfono de emergencia:

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

### SECCIÓN 2: Identificación de los peligros

#### · 2.1 Clasificación de la sustancia o de la mezcla

· **Clasificación con arreglo al Reglamento (CE) n° 1272/2008**



GHS08 peligro para la salud

Muta. 2 H341 Se sospecha que provoca defectos genéticos.

Carc. 1B H350 Puede provocar cáncer.



GHS05 corrosión

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

Eye Dam. 1 H318 Provoca lesiones oculares graves.



GHS07

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.

( se continua en página 2 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

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Nombre comercial: **FIXATIVE/DECALCIFIER**

( se continua en página 1 )

· **Pictogramas de peligro**

GHS05 GHS07 GHS08

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

formaldehído

ácido fórmico

· **Indicaciones de peligro**

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 todas las prendas contaminadas. Aclararse la piel con agua/ducharse.

P305+P351+P338 EN CASO DE CONTACTO CON LOS OJOS: Aclarar cuidadosamente con agua durante varios minutos. Quitar las lentes de contacto, si lleva y resulta fácil. Seguir aclarando.

P310 Llamar inmediatamente a un CENTRO DE TOXICOLOGÍA/médico.

P321 Se necesita un tratamiento específico (ver en esta etiqueta).

P405 Guardar bajo llave.

P501 Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional.

· **2.3 Otros peligros**· **Resultados de la valoración PBT y mPmB**· **PBT:** No aplicable.· **mPmB:** No aplicable.

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

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

CAS: 64-18-6 EINECS: 200-579-1	ácido fórmico ⚠ Skin Corr. 1A, H314	10-25%
CAS: 50-00-0 EINECS: 200-001-8	formaldehído ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ⚠ Muta. 2, H341; Carc. 1B, H350; ⚠ Skin Corr. 1B, H314; ⚠ Skin Sens. 1, H317	2,5-10%
CAS: 67-56-1 EINECS: 200-659-6	metanol ⚠ Flam. Liq. 2, H225; ⚠ STOT SE 1, H370; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	≤ 2,5%

· **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.

( se continua en página 3 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 28.07.2015

Revisión: 28.07.2015

**Nombre comercial: FIXATIVE/DECALCIFIER**

( se continua en página 2 )

- **En caso de inhalación del producto:**  
*Suministrar suficiente aire fresco y, para mayor seguridad, consultar el médico.  
 Las personas desmayadas deben tenderse y transportarse de lado con la suficiente estabilidad.*
- **En caso de contacto con la piel:** *Lavar inmediatamente con agua y jabón y enjuagar bien.*
- **En caso de con los ojos:**  
*Limpiar los ojos abiertos durante varios minutos con agua corriente y consultar un médico.*
- **En caso de ingestión:** *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:**  
*CO2, polvo extintor o chorro de agua rociada. Combatir incendios mayores con chorro de agua rociada o espuma resistente al alcohol.*
- **5.2 Peligros específicos derivados de la sustancia o la mezcla** *No existen más datos relevantes disponibles.*
- **5.3 Recomendaciones para el personal de lucha contra incendios**
- **Equipo especial de protección:** *No se requieren medidas especiales.*

### 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:**  
*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).  
 Utilizar un neutralizador.  
 Desechar el material contaminado como vertido según item 13.  
 Asegurar suficiente ventilación.*
- **6.4 Referencia a otras secciones**  
*Ver capítulo 7 para mayor información sobre una manipulación segura.  
 Ver capítulo 8 para mayor información sobre el equipo personal de protección.  
 Para mayor información sobre cómo desechar el producto, ver capítulo 13.*

### SECCIÓN 7: Manipulación y almacenamiento

- **7.1 Precauciones para una manipulación segura**  
*Asegurar suficiente ventilación /aspiración en el puesto de trabajo.  
 Abrir y manejar el recipiente con cuidado.  
 Evitar la formación de aerosoles.*
- **Prevención de incendios y explosiones:**  
*Proteger del calor.  
 Tener preparados los aparatos respiratorios.*
- **7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**
- **Almacenamiento:**
- **Exigencias con respecto al almacén y los recipientes:** *No se requieren medidas especiales.*
- **Normas en caso de un almacenamiento conjunto:** *No es necesario.*

( se continua en página 4 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 28.07.2015

Revisión: 28.07.2015

Nombre comercial: **FIXATIVE/DECALCIFIER**

( se continua en página 3 )

- **Indicaciones adicionales sobre las condiciones de almacenamiento:**  
Mantener el recipiente cerrado herméticamente.  
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

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

#### · 8.1 Parámetros de control

- **Componentes con valores límite admisibles que deben controlarse en el puesto de trabajo:**

##### 64-18-6 ácido fórmico

LEP	Valor de larga duración: 9 mg/m <sup>3</sup> , 5 ppm
	VLI, s

##### 50-00-0 formaldehído

LEP	Valor de corta duración: 0,37 mg/m <sup>3</sup> , 0,3 ppm
	Sen, s

##### 67-56-1 metanol

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

- **Componentes con valores límite biológicos:**

##### 67-56-1 metanol

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

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

#### · 8.2 Controles de la exposición

##### · Equipo de protección individual:

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

Mantener alejado de alimentos, bebidas y alimentos para animales.

Quitarse de inmediato la ropa ensuciada o impregnada.

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

Guardar la ropa protectora por separado.

Evitar el contacto con 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.

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· **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



Gafas de protección herméticas

### SECCIÓN 9: Propiedades físicas y químicas

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

· **Datos generales**

· **Aspecto:**

· <b>Forma:</b>	Líquido
· <b>Color:</b>	Incoloro
· <b>Olor:</b>	No característico.
· <b>Umbral olfativo:</b>	No determinado.

· **valor pH a 20 °C:** 2

· **Cambio de estado**

· <b>Punto de fusión /campo de fusión:</b>	Indeterminado.
· <b>Punto de ebullición /campo de ebullición:</b>	-21 °C

· **Punto de inflamación:** 71 °C

· **Inflamabilidad (sólido, gaseiforme):** No aplicable.

· **Temperatura de ignición:** 300 °C

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

· **Autoinflamabilidad:** El producto no es autoinflamable.

· **Peligro de explosión:** No determinado.

· **Límites de explosión:**

· <b>Inferior:</b>	14,0 Vol %
· <b>Superior:</b>	33,0 Vol %

· **Presión de vapor a 20 °C:** 43 hPa

· <b>Densidad a 20 °C:</b>	1,00398 g/cm <sup>3</sup>
· <b>Densidad relativa</b>	No determinado.
· <b>Densidad de vapor</b>	No determinado.
· <b>Velocidad de evaporación</b>	No determinado.

· **Solubilidad en / miscibilidad con agua:** Completamente mezclable.

· **Coefficiente de reparto (n-octanol/agua):** No determinado.

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- **Viscosidad:**
  - Dinámica:** No determinado.
  - Cinemática:** No determinado.
- **Concentración del disolvente:**
  - Disolventes orgánicos:** 8,4 %
  - Agua:** 81,0 %
  - VOC (CE)** 8,40 %
- **9.2 Información adicional** No existen más datos relevantes disponibles.

### SECCIÓN 10: Estabilidad y reactividad

- **10.1 Reactividad**
- **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**

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

#### 64-18-6 ácido fórmico

Oral	LD50	1100 mg/kg (rat)
------	------	------------------

#### 50-00-0 formaldehído

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

- **Efecto estimulante primario:**
- **Corrosión o irritación cutáneas** Fuerte efecto cáustico en la piel y las mucosas.
- **Lesiones o irritación ocular graves**  
Fuerte efecto cáustico  
Produce irritaciones fuertes con el riesgo de perjudicar seriamente los ojos.
- **Sensibilización respiratoria o cutánea** Posible sensibilización al entrar en contacto con la piel.
- **Indicaciones toxicológicas adicionales:**  
En conformidad con el procedimiento de cálculo contenido en la última versión de la Normativa General de Clasificación de la CE para Preparados, el producto tiene los siguientes riesgos:  
Corrosivo  
Irritante  
La ingestión produce un fuerte efecto cáustico en la boca y la faringe, así como el peligro de perforación del esófago y del estómago.  
Cancerígeno.
- **Efectos CMR (carcinogenicidad, mutagenicidad y toxicidad para la reproducción)**  
Muta. 2, Carc. 1B

ES

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### SECCIÓN 12: Información ecológica

- **12.1 Toxicidad**
- **Toxicidad acuática:** No existen más datos relevantes disponibles.
- **12.2 Persistencia y degradabilidad** No existen más datos relevantes disponibles.
- **12.3 Potencial de bioacumulación** No existen más datos relevantes disponibles.
- **12.4 Movilidad en el suelo** No existen más datos relevantes disponibles.
- **Indicaciones medioambientales adicionales:**
- **Indicaciones generales:**  
 Nivel de riesgo para el agua 2 (autoclasiificación): 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.
- **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

- |   |   |
|---|---|
| · <b>14.1 Número UN</b>   |   |
| · <b>ADR, IMDG, IATA</b>  | UN3265  |
| · <b>14.2 Designación oficial de transporte de las Naciones Unidas</b>              |   |
| · <b>ADR</b>  | 3265 LÍQUIDO CORROSIVO, ÁCIDO, ORGÁNICO, N.E.P. (ÁCIDO FÓRMICO, FORMALDEHÍDO EN SOLUCIÓN) |
| · <b>IMDG, IATA</b>   | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (FORMIC ACID, FORMALDEHYDE SOLUTION)            |
| · <b>14.3 Clase(s) de peligro para el transporte</b>                                |   |
| · <b>ADR, IMDG, IATA</b>  |   |
|  |   |
| · <b>Clase</b>  | 8 Materias corrosivas   |
| · <b>Etiqueta</b>   | 8   |
| · <b>14.4 Grupo de embalaje</b>   |   |
| · <b>ADR, IMDG, IATA</b>  | III   |

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· <b>14.5 Peligros para el medio ambiente:</b>	
· <b>Contaminante marino:</b>	No
· <b>14.6 Precauciones particulares para los usuarios</b>	Atención: Materias corrosivas
· <b>Número Kemler:</b>	80
· <b>Número EMS:</b>	F-A,S-B
· <b>Segregation groups</b>	Acids
· <b>14.7 Transporte a granel con arreglo al anexo II del Convenio Marpol 73/78 y del Código IBC</b>	No aplicable.
· <b>Transporte/datos adicionales:</b>	
· <b>ADR</b>	
· <b>Cantidades limitadas (LQ)</b>	5L
· <b>Cantidades exceptuadas (EQ)</b>	Código: E1 Cantidad neta máxima por envase interior: 30 ml Cantidad neta máxima por embalaje exterior: 1000 ml
· <b>Categoría de transporte</b>	3
· <b>Código de restricción del túnel</b>	E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>"Reglamentación Modelo" de la UNECE:</b>	UN3265, LÍQUIDO CORROSIVO, ÁCIDO, ORGÁNICO, N.E.P. (ÁCIDO FÓRMICO, FORMALDEHÍDO EN SOLUCIÓN), 8, III

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

### SECCIÓN 16: Otra información

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

- **Frases relevantes**
- H225 Líquido y vapores muy inflamables.
- H301 Tóxico en caso de ingestión.
- H302 Nocivo en caso de ingestión.
- H311 Tóxico en contacto con la piel.

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*H312 Nocivo en contacto con la piel.**H314 Provoca quemaduras graves en la piel y lesiones oculares graves.**H315 Provoca irritación cutánea.**H317 Puede provocar una reacción alérgica en la piel.**H331 Tóxico en caso de inhalación.**H332 Nocivo en caso de inhalación.**H341 Se sospecha que provoca defectos genéticos.**H350 Puede provocar cáncer.**H370 Provoca daños en los órganos.***· Abreviaturas y acrónimos:***ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**IATA: International Air Transport Association**GHS: Globally Harmonised System of Classification and Labelling of Chemicals**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**Flam. Liq. 2: Flammable liquids, Hazard Category 2**Acute Tox. 3: Acute toxicity, Hazard Category 3**Acute Tox. 4: Acute toxicity, Hazard Category 4**Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A**Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B**Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2**Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1**Skin Sens. 1: Sensitisation - Skin, Hazard Category 1**Muta. 2: Germ cell mutagenicity, Hazard Category 2**Carc. 1B: Carcinogenicity, Hazard Category 1B**STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1**STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3*