

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/25/2018

Reviewed on 06/25/2018

## 1 Identification

- **Product identifier**
- **Trade name:** MATFIX HARDENER 1
- **Article number:** 1258-H1
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapor.



GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

STOT RE 1 H372 Causes damage to the hearing organs through prolonged or repeated exposure.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

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

STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**

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

- **Hazard pictograms**



GHS02



GHS07



GHS08

- **Signal word** Danger

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US

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Trade name: **MATFIX HARDENER 1**

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

STYRENE

Methyl Methacrylate

· **Hazard statements**

Flammable liquid and vapor.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

Suspected of causing cancer.

Suspected of damaging fertility or the unborn child.

May cause respiratory irritation.

Causes damage to the hearing organs through prolonged or repeated exposure.

· **Precautionary statements**

Obtain special instructions before use.

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

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

Ground/bond container and receiving equipment.

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

Use only non-sparking tools.

Take precautionary measures against static discharge.

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

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

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

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

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

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

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

IF exposed or concerned: Get medical advice/attention.

Call a poison center/doctor if you feel unwell.

Specific treatment (see on this label).

Get medical advice/attention if you feel unwell.

Take off contaminated clothing and wash it before reuse.

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

If eye irritation persists: Get medical advice/attention.

Wash contaminated clothing before reuse.

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

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

Store in a well-ventilated place. Keep cool.

Store locked up.

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

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 3

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 2

Fire = 3

Reactivity = 0

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- **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:**

100-42-5	STYRENE	>25-≤50%
80-62-6	Methyl Methacrylate	>10-≤25%

### 4 First-aid measures

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

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.  
Do not flush with water or aqueous cleansing agents

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- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· PAC-1:		
100-42-5	STYRENE	20 ppm
80-62-6	Methyl Methacrylate	17 ppm
· PAC-2:		
100-42-5	STYRENE	130 ppm
80-62-6	Methyl Methacrylate	120 ppm
· PAC-3:		
100-42-5	STYRENE	1100* ppm
80-62-6	Methyl Methacrylate	570 ppm

## 7 Handling and storage

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

· <b>Components with limit values that require monitoring at the workplace:</b>	
<b>100-42-5 STYRENE</b>	
PEL	Long-term value: 100 ppm Ceiling limit value: 200; 600* ppm *5-min peak in any 3 hrs

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REL	Short-term value: 425 mg/m <sup>3</sup> , 100 ppm Long-term value: 215 mg/m <sup>3</sup> , 50 ppm
TLV	Short-term value: (170) mg/m <sup>3</sup> , (40) ppm Long-term value: (85) NIC-8.5 mg/m <sup>3</sup> , (20) NIC-2 ppm BEI, NIC-A3, NIC-OTO

**80-62-6 Methyl Methacrylate**

PEL	Long-term value: 410 mg/m <sup>3</sup> , 100 ppm
REL	Long-term value: 410 mg/m <sup>3</sup> , 100 ppm
TLV	Short-term value: 410 mg/m <sup>3</sup> , 100 ppm Long-term value: 205 mg/m <sup>3</sup> , 50 ppm DSEN

**· Ingredients with biological limit values:****100-42-5 STYRENE**

BEI	400 mg/g creatinine Medium: urine Time: end of shift Parameter: Mandelic acid plus phenylglyoxylic acid (nonspecific)
	0.2 mg/L Medium: venous blood Time: end of shift Parameter: Styrene (semi-quantitative)

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

**· Exposure controls****· Personal protective equipment:****· General protective and hygienic measures:**

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

**· Breathing equipment:**

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

**· Protection of hands:**

Protective gloves

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

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

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

**· Material of gloves**

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

**· Penetration time of glove material**

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

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· **Eye protection:**

Tightly sealed goggles

## 9 Physical and chemical properties

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

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

· **pH-value:** Not determined.· **Change in condition**

· <b>Melting point/Melting range:</b>	Undetermined.
· <b>Boiling point/Boiling range:</b>	101 °C (213.8 °F)

· **Flash point:** 26 °C (78.8 °F)· **Flammability (solid, gaseous):** Not flammable.· **Ignition temperature:** 430 °C (806 °F)· **Decomposition temperature:** Not determined.· **Auto igniting:** Product is not selfigniting.· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.· **Explosion limits:**

· <b>Lower:</b>	1.2 Vol %
· <b>Upper:</b>	12.5 Vol %

· **Vapor pressure at 20 °C (68 °F):** 47 hPa (35.3 mm Hg)· **Density at 20 °C (68 °F):** 0.91571 g/cm<sup>3</sup> (7.6416 lbs/gal)· **Relative density** Not determined.· **Vapor density** Not determined.· **Evaporation rate** Not determined.· **Solubility in / Miscibility with**· **Water:** Not miscible or difficult to mix.· **Partition coefficient (n-octanol/water):** Not determined.· **Viscosity:**

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

· **Solvent content:**

· <b>Organic solvents:</b>	50.0 %
· <b>VOC content:</b>	50.00 %
	457.9 g/l / 3.82 lb/gl

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- |                          |  |
|--------------------------|--|
| <b>Solids content:</b>   | 0.0 %                                      |
| <b>Other information</b> | No further relevant information available. |

## 10 Stability and reactivity

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

## 11 Toxicological information

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

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

### 100-42-5 STYRENE

Oral	LD50	5,000 mg/kg (rat)
Inhalative	LC50/4 h	24 mg/l (rat)

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

- **Carcinogenic categories**

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

100-42-5	STYRENE	2B
80-62-6	Methyl Methacrylate	3

- **NTP (National Toxicology Program)**

100-42-5	STYRENE	R
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- **OSHA-Ca (Occupational Safety Health Administration)**

None of the ingredients is listed.

## 12 Ecological information

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

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

## 13 Disposal considerations

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

## 14 Transport information

- |   |                            |
|---|----------------------------|
| <b>UN-Number</b>  | UN1866                     |
| <b>DOT, ADR, IMDG, IATA</b>   |                            |
| <b>UN proper shipping name</b>  |                            |
| <b>DOT</b>  | Resin solution             |
| <b>ADR</b>  | 1866 Resin solution        |
| <b>IMDG, IATA</b>   | RESIN SOLUTION             |
| <b>Transport hazard class(es)</b>   |                            |
| <b>DOT</b>  |                            |
|  |                            |
| <b>Class</b>  | 3 Flammable liquids        |
| <b>Label</b>  | 3                          |
|   |                            |
| <b>ADR, IMDG, IATA</b>  |                            |
|  |                            |
| <b>Class</b>  | 3 Flammable liquids        |
| <b>Label</b>  | 3                          |
| <b>Packing group</b>  |                            |
| <b>DOT, ADR, IMDG, IATA</b>   | III                        |
| <b>Environmental hazards:</b>   | Not applicable.            |
| <b>Special precautions for user</b>   | Warning: Flammable liquids |
| <b>Danger code (Kemler):</b>  | 30                         |

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· <b>EMS Number:</b>	F-E, <u>S-E</u>
· <b>Stowage Category</b>	A
· <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: 60 L On cargo aircraft only: 220 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>	UN 1866 RESIN SOLUTION, 3, III

## 15 Regulatory information

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

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

None of the ingredients is listed.

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

All ingredients are listed.

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

All ingredients are listed.

### · Proposition 65

#### · Chemicals known to cause cancer:

100-42-5 | STYRENE

#### · 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:

None of the ingredients is listed.

### · Carcinogenic categories

#### · EPA (Environmental Protection Agency)

80-62-6 | Methyl Methacrylate

E, NL

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

100-42-5 | STYRENE

A4

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**Trade name: MATFIX HARDENER 1**

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80-62-6 Methyl Methacrylate

A4

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

None of the ingredients is listed.

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

· **Hazard pictograms**



GHS02

GHS07

GHS08

· **Signal word** *Danger*

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

STYRENE

Methyl Methacrylate

· **Hazard statements**

Flammable liquid and vapor.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

Suspected of causing cancer.

Suspected of damaging fertility or the unborn child.

May cause respiratory irritation.

Causes damage to the hearing organs through prolonged or repeated exposure.

· **Precautionary statements**

Obtain special instructions before use.

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

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

Ground/bond container and receiving equipment.

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

Use only non-sparking tools.

Take precautionary measures against static discharge.

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

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

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

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

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

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

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

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Call a poison center/doctor if you feel unwell.

Specific treatment (see on this label).

Get medical advice/attention if you feel unwell.

Take off contaminated clothing and wash it before reuse.

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

If eye irritation persists: Get medical advice/attention.

Wash contaminated clothing before reuse.

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

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

Store in a well-ventilated place. Keep cool.

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Store locked up.

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

· **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** 06/25/2018 / -

· **Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety **Health**

**TLV: Threshold Limit Value**

**PEL: Permissible Exposure Limit**

**REL: Recommended Exposure Limit**

**BEI: Biological Exposure Limit**

**Flam. Liq. 3: Flammable liquids – Category 3**

**Skin Irrit. 2: Skin corrosion/irritation – Category 2**

**Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A**

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

**Carc. 2: Carcinogenicity – Category 2**

**Repr. 2: Reproductive toxicity – Category 2**

**STOT SE 3: Specific target organ toxicity (single exposure) – Category 3**

**STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1**

# Safety Data Sheet

## according to WHS Regulations

Printing date 25.06.2018

Revision: 25.06.2018

### 1 Identification

- **Product identifier**
- **Trade name:** MATFIX HARDENER 1
- **Article number:** 1258-H1
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: [info@emsdiasum.com](mailto:info@emsdiasum.com)  
[www.emsdiasum.com](http://www.emsdiasum.com)
- ProSciTech Pty Ltd  
11 Carlton Street, Kirwan QLD 4817 Australia  
Telephone Number: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)  
Emergency Contact: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)  
Website: [ems.proscitech.com](http://ems.proscitech.com)
- Emgrid Australia Pty. Ltd.  
P.O. Box 118  
The Patch VIC 3792  
Australia  
Tel: 03 9752 1785  
Fax: 03 9752 1784  
Website: [www.emgrid.com.au](http://www.emgrid.com.au)
- **Further information obtainable from:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### 2 Hazard(s) Identification

- **Classification of the substance or mixture**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Carc. 2 H351 Suspected of causing cancer.

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

STOT RE 1 H372 Causes damage to the hearing organs through prolonged or repeated exposure.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

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## Safety Data Sheet according to WHS Regulations

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Trade name: **MATFIX HARDENER 1**

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Eye Irrit. 2A H319 Causes serious eye irritation.

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

STOT SE 3 H335 May cause respiratory irritation.

· **Label elements**

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

· **Hazard pictograms**



GHS02    GHS07    GHS08

· **Signal word** *Danger*

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

STYRENE

Methyl Methacrylate

· **Hazard statements**

Flammable liquid and vapour.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

Suspected of causing cancer.

Suspected of damaging fertility or the unborn child.

May cause respiratory irritation.

Causes damage to the hearing organs through prolonged or repeated exposure.

· **Precautionary statements**

Obtain special instructions before use.

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

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

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

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

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

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

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

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

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

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

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Call a POISON CENTER/doctor if you feel unwell.

Specific treatment (see on this label).

Get medical advice/attention if you feel unwell.

Take off contaminated clothing and wash it before reuse.

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

If eye irritation persists: Get medical advice/attention.

Wash contaminated clothing before reuse.

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

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## Safety Data Sheet according to WHS Regulations

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**Trade name: MATFIX HARDENER 1**

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- Store in a well-ventilated place. Keep container tightly closed.
- Store in a well-ventilated place. Keep cool.
- Store locked up.
- Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition and Information on Ingredients

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

- **Dangerous components:**

100-42-5	STYRENE	>25-≤50%
80-62-6	Methyl Methacrylate	>10-≤25%

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

### 4 First Aid Measures

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

### 5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

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- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.  
Do not flush with water or aqueous cleansing agents
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and Storage

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

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

- **Control parameters**

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

#### 100-42-5 STYRENE

WES	Short-term value: 426 mg/m <sup>3</sup> , 100 ppm Long-term value: 213 mg/m <sup>3</sup> , 50 ppm
-----	--

#### 80-62-6 Methyl Methacrylate

WES	Short-term value: 416 mg/m <sup>3</sup> , 100 ppm Long-term value: 208 mg/m <sup>3</sup> , 50 ppm
-----	--

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

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

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Store protective clothing separately.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

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

· **Protection of hands:**



Protective gloves

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

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

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

· **Material of gloves**

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

· **Penetration time of glove material**

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

· **Eye protection:**



Tightly sealed goggles

### 9 Physical and Chemical Properties

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

· **General Information**

· **Appearance:**

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

· **pH-value:** Not determined.

· **Change in condition**

· <b>Melting point/freezing point:</b>	Undetermined.
· <b>Initial boiling point and boiling range:</b>	101 °C

· **Flash point:** 26 °C

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

· **Ignition temperature:** 430 °C

· **Decomposition temperature:** Not determined.

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

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

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· <b>Explosion limits:</b>	
<b>Lower:</b>	1.2 Vol %
<b>Upper:</b>	12.5 Vol %
· <b>Vapour pressure at 20 °C:</b>	47 hPa
· <b>Density at 20 °C:</b>	0.91571 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient: n-octanol/water:</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	50.0 %
<b>VOC (EC)</b>	50.00 %
<b>Solids content:</b>	0.0 %
· <b>Other information</b>	No further relevant information available.

### 10 Stability and Reactivity

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

### 11 Toxicological Information

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

· <b>LD/LC50 values relevant for classification:</b>		
<b>100-42-5 STYRENE</b>		
Oral	LD50	5,000 mg/kg (rat)
Inhalative	LC50/4 h	24 mg/l (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** Irritating effect.
- **Respiratory or skin sensitisation** Sensitisation possible through skin contact.
- **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Harmful

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Irritant

- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**  
Carc. 2, Repr. 2


### 12 Ecological Information

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

### 13 Disposal considerations

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

### 14 Transport information

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>ADG, IMDG, IATA</b></li> </ul>                                | <p>UNI866</p>  |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>ADG</b></li> <li>· <b>IMDG, IATA</b></li> </ul> | <p>1866 RESIN SOLUTION<br/>RESIN SOLUTION</p>  |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>ADG, IMDG, IATA</b></li> </ul>               | <p></p> |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>  | <p>3 Flammable liquids.<br/>3</p>  |
| <ul style="list-style-type: none"> <li>· <b>Packing group</b></li> <li>· <b>ADG, IMDG, IATA</b></li> </ul>                            | <p>III</p>   |

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· <b>Environmental hazards:</b>	Not applicable.
· <b>Special precautions for user</b>	Warning: Flammable liquids.
· <b>Danger code (Kemler):</b>	30
· <b>EMS Number:</b>	F-E, S-E
· <b>Stowage Category</b>	A
· <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADG</b>	
· <b>Limited quantities (LQ)</b>	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>Transport category</b>	3
· <b>Tunnel restriction code</b>	D/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>UN "Model Regulation":</b>	UN 1866 RESIN SOLUTION, 3, 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**

100-42-5	STYRENE	S5
80-62-6	Methyl Methacrylate	S6, S10

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

· **Hazard pictograms**



GHS02   GHS07   GHS08

· **Signal word** Danger

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

STYRENE

Methyl Methacrylate

· **Hazard statements**

Flammable liquid and vapour.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

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Trade name: **MATFIX HARDENER 1**

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- Suspected of causing cancer.*  
*Suspected of damaging fertility or the unborn child.*  
*May cause respiratory irritation.*  
*Causes damage to the hearing organs through prolonged or repeated exposure.*
- **Precautionary statements**
    - Obtain special instructions before use.*
    - Do not handle until all safety precautions have been read and understood.*
    - Keep away from heat/sparks/open flames/hot surfaces. No smoking.*
    - Ground/bond container and receiving equipment.*
    - Use explosion-proof electrical/ventilating/lighting equipment.*
    - Use only non-sparking tools.*
    - Take precautionary measures against static discharge.*
    - Do not breathe dust/fume/gas/mist/vapours/spray.*
    - Wash thoroughly after handling.*
    - Do not eat, drink or smoke when using this product.*
    - Use only outdoors or in a well-ventilated area.*
    - Contaminated work clothing should not be allowed out of the workplace.*
    - Wear protective gloves/protective clothing/eye protection/face protection.*
    - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.*
    - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.*
    - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
    - IF exposed or concerned: Get medical advice/attention.*
    - Call a POISON CENTER/doctor if you feel unwell.*
    - Specific treatment (see on this label).*
    - Get medical advice/attention if you feel unwell.*
    - Take off contaminated clothing and wash it before reuse.*
    - If skin irritation or rash occurs: Get medical advice/attention.*
    - If eye irritation persists: Get medical advice/attention.*
    - Wash contaminated clothing before reuse.*
    - In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.*
    - Store in a well-ventilated place. Keep container tightly closed.*
    - Store in a well-ventilated place. Keep cool.*
    - Store locked up.*
    - Dispose of contents/container in accordance with local/regional/national/international regulations.*
  - **Directive 2012/18/EU**
  - **Named dangerous substances - ANNEX I** None of the ingredients is listed.
  - **Seveso category P5c FLAMMABLE LIQUIDS**
  - **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
  - **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
  - **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

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

- **Abbreviations and acronyms:**

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

*IMDG: International Maritime Code for Dangerous Goods*

*IATA: International Air Transport Association*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

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

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*VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Flam. Liq. 3: Flammable liquids – Category 3**Skin Irrit. 2: Skin corrosion/irritation – Category 2**Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A**Skin Sens. 1: Skin sensitisation – Category 1**Carc. 2: Carcinogenicity – Category 2**Repr. 2: Reproductive toxicity – Category 2**STOT SE 3: Specific target organ toxicity (single exposure) – Category 3**STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1*

AU

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/25/2018

Reviewed on 06/25/2018

## 1 Identification

- **Product identifier**
- **Trade name:** MATFIX HARDENER 1
- **Article number:** 1258-H1
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids - Category 3

H226 Flammable liquid and vapour.



GHS08 Health hazard

Carcinogenicity – Category 2

H351 Suspected of causing cancer.

Reproductive Toxicity - Category 2

H361 Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Repeated Exposure - Category 1

H372 Causes damage to the hearing organs through prolonged or repeated exposure.



GHS07

Skin Irritation - Category 2

H315 Causes skin irritation.

Eye Irritation - Category 2A

H319 Causes serious eye irritation.

Skin Sensitizer - Category 1

H317 May cause an allergic skin reaction.

Specific Target Organ Toxicity - Single Exposure - Category 3

H335 May cause respiratory irritation.

- **Label elements**

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

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Trade name: **MATFIX HARDENER 1**

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· **Hazard pictograms**

GHS02   GHS07   GHS08

· **Signal word** *Danger*· **Hazard-determining components of labeling:**

STYRENE

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

B2 - Flammable liquid

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D2A - Very toxic material causing other toxic effects



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



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

HEALTH	2	Health = 2
FIRE	3	Fire = 3
REACTIVITY	0	Reactivity = 0

### 3 Composition/information on ingredients

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

- **Dangerous components:**

100-42-5	STYRENE	30-60% w/w
80-62-6	Methyl Methacrylate	10-30% w/w

### 4 First-aid measures

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

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.

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

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.  
Do not flush with water or aqueous cleansing agents
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## 7 Handling and storage

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

### 100-42-5 STYRENE

EL	Short-term value: 75 ppm Long-term value: 50 ppm IARC 2B
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EV	Short-term value: 100 ppm Long-term value: 35 ppm
<b>80-62-6 Methyl Methacrylate</b>	
EL	Short-term value: 100 ppm Long-term value: 50 ppm S(D)
EV	Short-term value: 100 ppm Long-term value: 50 ppm

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

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

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

· **Protection of hands:**



Protective gloves

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

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

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

· **Material of gloves**

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

· **Penetration time of glove material**

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

· **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form: Liquid

Color: Colorless

· **Odor:** Characteristic

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· <b>Odor threshold:</b>	Not determined.
· <b>pH-value:</b>	Not determined.
· <b>Change in condition</b> <b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	101 °C
· <b>Flash point:</b>	26 °C
· <b>Flammability (solid, gaseous):</b>	Not flammable.
· <b>Ignition temperature:</b>	430 °C
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· <b>Explosion limits:</b> <b>Lower:</b>	1.2 Vol %
<b>Upper:</b>	12.5 Vol %
· <b>Vapor pressure at 20 °C:</b>	47 hPa
· <b>Density at 20 °C:</b>	0.91571 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with</b> <b>Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b> <b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b> <b>Organic solvents:</b>	50.0 %
<b>Solids content:</b>	0.0 %
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

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

CA

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# Safety Data Sheet

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Printing date 06/25/2018

Reviewed on 06/25/2018

Trade name: **MATFIX HARDENER 1**

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## 11 Toxicological information

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

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

### 100-42-5 STYRENE

Oral	LD50	5,000 mg/kg (rat)
Inhalative	LC50/4 h	24 mg/l (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**

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

- **Carcinogenic categories**

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

100-42-5	STYRENE	2B
80-62-6	Methyl Methacrylate	3

- **NTP (National Toxicology Program)**

100-42-5	STYRENE	R
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## 12 Ecological information

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

## 13 Disposal considerations

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

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Trade name: MATFIX HARDENER 1

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- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

<b>· UN-Number</b>	UN1866
<b>· DOT, TDG, IMDG, IATA</b>	
<b>· UN proper shipping name</b>	Resin solution
<b>· DOT</b>	1866 Resin solution
<b>· TDG</b>	RESIN SOLUTION
<b>· IMDG, IATA</b>	
<b>· Transport hazard class(es)</b>	
<b>· DOT</b>	
	
<b>· Class</b>	3 Flammable liquids
<b>· Label</b>	3
<b>· TDG, IMDG, IATA</b>	
	
<b>· Class</b>	3 Flammable liquids
<b>· Label</b>	3
<b>· Packing group</b>	III
<b>· DOT, TDG, IMDG, IATA</b>	
<b>· Environmental hazards:</b>	Not applicable.
<b>· Special precautions for user</b>	Warning: Flammable liquids
<b>· Danger code (Kemler):</b>	30
<b>· EMS Number:</b>	F-E, <u>S-E</u>
<b>· Stowage Category</b>	A
<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: 60 L On cargo aircraft only: 220 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

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Trade name: **MATFIX HARDENER 1**

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- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>· <b>IMDG</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul> | <p>5L<br/>Code: E1<br/>Maximum net quantity per inner packaging: 30 ml<br/>Maximum net quantity per outer packaging: 1000 ml</p> |
| <ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>  | <p>UN 1866 RESIN SOLUTION, 3, III</p>  |

## 15 Regulatory information

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

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

None of the ingredients is listed.

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

All ingredients are listed.

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

All ingredients are listed.

- **Canadian substance listings:**

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

All ingredients are listed.

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

100-42-5 | STYRENE

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

80-62-6 | Methyl Methacrylate

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

- **Hazard pictograms**



GHS02    GHS07    GHS08

- **Signal word** *Danger*

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

STYRENE

Methyl Methacrylate

- **Hazard statements**

Flammable liquid and vapour.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

Suspected of causing cancer.

Suspected of damaging fertility or the unborn child.

May cause respiratory irritation.

Causes damage to the hearing organs through prolonged or repeated exposure.

- **Precautionary statements**

Obtain special instructions before use.

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**Trade name: MATFIX HARDENER 1**

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Do not handle until all safety precautions have been read and understood.  
 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 Ground and bond container and receiving equipment.  
 Use explosion-proof [electrical/ventilating/lighting] equipment.  
 Use non-sparking tools.  
 Take actions to prevent static discharges.  
 Do not breathe dust/fume/gas/mist/vapours/spray.  
 Wash thoroughly after handling.  
 Do not eat, drink or smoke when using this product.  
 Use only outdoors or in a well-ventilated area.  
 Contaminated work clothing should not be allowed out of the workplace.  
 Wear protective gloves/protective clothing/eye protection/face protection.  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
 Continue rinsing.  
 IF exposed or concerned: Get medical advice/attention.  
 Call a poison center/doctor if you feel unwell.  
 Specific treatment (see on this label).  
 Get medical advice/attention if you feel unwell.  
 Take off contaminated clothing and wash it before reuse.  
 If skin irritation or rash occurs: Get medical advice/attention.  
 If eye irritation persists: Get medical advice/attention.  
 In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.  
 Store in a well-ventilated place. Keep container tightly closed.  
 Store in a well-ventilated place. Keep cool.  
 Store locked up.  
 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **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** 06/25/2018 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods  
 DOT: US Department of Transportation  
 IATA: International Air Transport Association  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 ELINCS: European List of Notified Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 NFPA: National Fire Protection Association (USA)  
 HMIS: Hazardous Materials Identification System (USA)  
 WHMIS: Workplace Hazardous Materials Information System (Canada)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative

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

Printing date 25.06.2018

Revision: 25.06.2018

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

- **1.1 Product identifier**
- **Trade name:** MATFIX HARDENER 1
- **Article number:** 1258-H1
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: [info@emsdiasum.com](mailto:info@emsdiasum.com)  
[www.emsdiasum.com](http://www.emsdiasum.com)
- **Further information obtainable from:** Product safety department
- **1.4 Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### SECTION 2: Hazards identification

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



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Repr. 2 H361d Suspected of damaging the unborn child.

STOT RE 1 H372 Causes damage to the hearing organs through prolonged or repeated exposure.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

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

STOT SE 3 H335 May cause respiratory irritation.

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

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Trade name: **MATFIX HARDENER 1**

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· **Hazard pictograms**

GHS02   GHS07   GHS08

· **Signal word** *Danger*· **Hazard-determining components of labelling:**

STYRENE

Methyl Methacrylate

· **Hazard statements**H226 *Flammable liquid and vapour.*H315 *Causes skin irritation.*H319 *Causes serious eye irritation.*H317 *May cause an allergic skin reaction.*H361d *Suspected of damaging the unborn child.*H335 *May cause respiratory irritation.*H372 *Causes damage to the hearing organs through prolonged or repeated exposure.*· **Precautionary statements**P210 *Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.*P241 *Use explosion-proof electrical/ventilating/lighting equipment.*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.*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: 100-42-5 EINECS: 202-851-5	STYRENE ⚠ Flam. Liq. 3, H226; ⚠ Repr. 2, H361d; STOT RE 1, H372; ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319	>25- ≤50%
CAS: 80-62-6 EINECS: 201-297-1	Methyl Methacrylate ⚠ Flam. Liq. 2, H225; ⚠ Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335	>10- ≤25%

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

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Trade name: **MATFIX HARDENER 1**

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## SECTION 4: First aid measures

### · 4.1 Description of first aid measures

#### · General information:

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

#### · After inhalation:

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

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

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

#### · After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

#### · After swallowing: If symptoms persist consult doctor.

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

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

No further relevant information available.

## SECTION 5: Firefighting measures

### · 5.1 Extinguishing media

· Suitable extinguishing agents: CO<sub>2</sub>, sand, extinguishing powder. Do not use water.

· For safety reasons unsuitable extinguishing agents: Water with full jet

### · 5.2 Special hazards arising from the substance or mixture No further relevant information available.

### · 5.3 Advice for firefighters

· Protective equipment: Mouth respiratory protective device.

## SECTION 6: Accidental release measures

### · 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

· 6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.

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

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

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

### · 6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## SECTION 7: Handling and storage

### · 7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

### · Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect from heat.

Protect against electrostatic charges.

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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.

#### · 8.1 Control parameters

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

##### **100-42-5 STYRENE**

WEL	Short-term value: 1080 mg/m <sup>3</sup> , 250 ppm
	Long-term value: 430 mg/m <sup>3</sup> , 100 ppm

##### **80-62-6 Methyl Methacrylate**

WEL	Short-term value: 416 mg/m <sup>3</sup> , 100 ppm
	Long-term value: 208 mg/m <sup>3</sup> , 50 ppm

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

#### · 8.2 Exposure controls

- **Personal protective equipment:**

- **General protective and hygienic measures:**

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

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Trade name: **MATFIX HARDENER 1**

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· **Eye protection:**

Tightly sealed goggles

### SECTION 9: Physical and chemical properties

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

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

· **pH-value:** Not determined.· **Change in condition**

· <b>Melting point/freezing point:</b>	Undetermined.
· <b>Initial boiling point and boiling range:</b>	101 °C

· **Flash point:** 26 °C· **Flammability (solid, gas):** Not applicable.· **Ignition temperature:** 430 °C· **Decomposition temperature:** Not determined.· **Auto-ignition temperature:** Product is not selfigniting.· **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.· **Explosion limits:**

· <b>Lower:</b>	1.2 Vol %
· <b>Upper:</b>	12.5 Vol %

· **Vapour pressure at 20 °C:** 47 hPa

· <b>Density at 20 °C:</b>	0.91571 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.

· **Solubility in / Miscibility with water:** Not miscible or difficult to mix.· **Partition coefficient: n-octanol/water:** Not determined.· **Viscosity:**

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

· **Solvent content:**

· <b>Organic solvents:</b>	50.0 %
· <b>VOC (EC)</b>	50.00 %

· **Solids content:** 0.0 %

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**· 9.2 Other information**

No further relevant information available.

**SECTION 10: Stability and reactivity**

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

**SECTION 11: Toxicological information**

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

**· LD/LC50 values relevant for classification:****100-42-5 STYRENE**

Oral	LD50	5,000 mg/kg (rat)
Inhalative	LC50/4 h	24 mg/l (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation**  
Causes skin irritation.
- **Serious eye damage/irritation**  
Causes serious eye irritation.
- **Respiratory or skin sensitisation**  
May cause an allergic skin reaction.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity**  
Suspected of damaging the unborn child.
- **STOT-single exposure**  
May cause respiratory irritation.
- **STOT-repeated exposure**  
Causes damage to the hearing organs through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

**SECTION 12: Ecological information**

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.

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- *Danger to drinking water if even small quantities leak into the ground.*
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

### SECTION 13: Disposal considerations

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

### SECTION 14: Transport information

- |   |  |
|---|--|
| · <b>14.1 UN-Number</b><br>· <b>ADR, IMDG, IATA</b>   | UN1866   |
| · <b>14.2 UN proper shipping name</b><br>· <b>ADR</b><br>· <b>IMDG, IATA</b>  | 1866 RESIN SOLUTION<br>RESIN SOLUTION  |
| · <b>14.3 Transport hazard class(es)</b><br>· <b>ADR, IMDG, IATA</b>  | <br>· <b>Class</b> 3 Flammable liquids.<br>· <b>Label</b> 3 |
| · <b>14.4 Packing group</b><br>· <b>ADR, IMDG, IATA</b>   | III  |
| · <b>14.5 Environmental hazards:</b>  | Not applicable.  |
| · <b>14.6 Special precautions for user</b><br>· <b>Danger code (Kemler):</b><br>· <b>EMS Number:</b><br>· <b>Stowage Category</b> | Warning: Flammable liquids.<br>30<br>F-E, <u>S-E</u><br>A  |
| · <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>  | Not applicable.  |
| · <b>Transport/Additional information:</b>  |  |
| · <b>ADR</b><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>   | 3  |

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· <b>Tunnel restriction code</b>	D/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>UN "Model Regulation":</b>	UN 1866 RESIN SOLUTION, 3, 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.
- **Seveso category P5c FLAMMABLE LIQUIDS**
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **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.
  - H226 Flammable liquid and vapour.
  - H315 Causes skin irritation.
  - H317 May cause an allergic skin reaction.
  - H319 Causes serious eye irritation.
  - H332 Harmful if inhaled.
  - H335 May cause respiratory irritation.
  - H361d Suspected of damaging the unborn child.
  - H372 Causes damage to the hearing organs through prolonged or repeated exposure.
- **Abbreviations and acronyms:**
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - IMDG: International Maritime Code for Dangerous Goods
  - IATA: International Air Transport Association
  - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - ELINCS: European List of Notified Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - VOC: Volatile Organic Compounds (USA, EU)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - Flam. Liq. 2: Flammable liquids – Category 2
  - Flam. Liq. 3: Flammable liquids – Category 3
  - Acute Tox. 4: Acute toxicity – Category 4
  - Skin Irrit. 2: Skin corrosion/irritation – Category 2
  - Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
  - Skin Sens. 1: Skin sensitisation – Category 1
  - Repr. 2: Reproductive toxicity – Category 2

(Contd. on page 9)

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

Printing date 25.06.2018

Revision: 25.06.2018

**Trade name: MATFIX HARDENER 1**

*STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*  
*STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1*

(Contd. of page 8)

GB



# Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 25.06.2018

Herziening van: 25.06.2018

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

### · 1.1 Productidentificatie

· Handelsnaam: **MATFIX HARDENER 1**

· Artikelnummer: 1258-H1

### · 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: info@emsdiasum.com*

*www.emsdiasum.com*

*Aurion*

*Binnenhaven 5*

*6709 PD Wageningen*

*The Netherlands*

*Tel: 31 317 415094*

*Fax: 31 317 415955*

*email: info@aurion.nl*

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

### · 1.4 Telefoonnummer voor noodgevallen:

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

*1-703-527-3887*

## RUBRIEK 2: Identificatie van de gevaren

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

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



GHS02 vlam

*Flam. Liq. 3 H226 Ontvlambare vloeistof en damp.*



GHS08 gezondheidsgevaar

*Repr. 2 H361d Wordt ervan verdacht het ongeboren kind te schaden.*

*STOT RE 1 H372 Veroorzaakt schade aan de gehoororganen bij langdurige of herhaalde blootstelling.*



GHS07

*Skin Irrit. 2 H315 Veroorzaakt huidirritatie.*

*Eye Irrit. 2 H319 Veroorzaakt ernstige oogirritatie.*

*Skin Sens. 1 H317 Kan een allergische huidreactie veroorzaken.*

*STOT SE 3 H335 Kan irritatie van de luchtwegen veroorzaken.*

(Vervolg op blz. 2)

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(Vervolg van blz. 1)

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



GHS02 GHS07 GHS08

- **Signaalwoord** Gevaar
- **Gevaaraanduidende componenten voor de etikettering:**  
styreen  
methylnmethacrylaat
- **Gevapenaanduidingen**  
H226 Ontvlambare vloeistof en damp.  
H315 Veroorzaakt huidirritatie.  
H319 Veroorzaakt ernstige oogirritatie.  
H317 Kan een allergische huidreactie veroorzaken.  
H361d Wordt ervan verdacht het ongeboren kind te schaden.  
H335 Kan irritatie van de luchtwegen veroorzaken.  
H372 Veroorzaakt schade aan de gehoororganen bij langdurige of herhaalde blootstelling.
- **Veiligheidsaanbevelingen**  
P210 Verwijderd houden van warmte, hete oppervlakken, vonken, open vuur en andere ontstekingsbronnen. Niet roken.  
P241 Explosie veilige elektrische/ventilatie-/verlichtings- apparatuur gebruiken.  
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.  
P405 Achter slot bewaren.  
P501 De inhoud en de verpakking verwerken volgens de plaatselijke/regionale/nationale/internationale voorschriften.
- **2.3 Andere gevapen**
- **Resultaten van PBT- en zPzB-beoordeling**
- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.

## RUBRIEK 3: Samenstelling en informatie over de bestanddelen

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

### · Gevaarlijke inhoudstoffen:

CAS: 100-42-5 EINECS: 202-851-5	styreen ⚠ Flam. Liq. 3, H226; ⚠ Repr. 2, H361d; STOT RE 1, H372; ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319	>25- ≤50%
CAS: 80-62-6 EINECS: 201-297-1	methylnmethacrylaat ⚠ Flam. Liq. 2, H225; ⚠ Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335	>10- ≤25%

(Vervolg op blz. 3)

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**· Aanvullende gegevens:**

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

### RUBRIEK 4: Eerstehulpmaatregelen

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

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

**· Na het inademen:**

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

*Bij bewusteloosheid ligging en vervoer in stabiele zijligging.*

**· Na huidcontact:** *Onmiddellijk met water en zeep afwassen en goed naspoelen.***· Na oogcontact:**

*De ogen gedurende verscheidene minuten onder stromend water afspoelen terwijl de oogspleet geopend blijft. Bij aanhoudende klachten een dokter raadplegen.*

**· Na inslikken:** *Als de klachten niet minderen, een arts raadplegen***· 4.2 Belangrijkste acute en uitgestelde symptomen en effecten** *Geen verdere relevante informatie verkrijgbaar.***· 4.3 Vermelding van de vereiste onmiddellijke medische verzorging en speciale behandeling**

*Geen verdere relevante informatie verkrijgbaar.*

### RUBRIEK 5: Brandbestrijdingsmaatregelen

**· 5.1 Blusmiddelen****· Geschikte blusmiddelen:** *CO<sub>2</sub>, zand, bluspoeder. Geen water gebruiken.***· Blusmiddelen die uit veiligheidsoogpunt niet geschikt zijn:** *Krachtige waterstraal***· 5.2 Speciale gevaren die door de stof of het mengsel worden veroorzaakt**

*Geen verdere relevante informatie verkrijgbaar.*

**· 5.3 Advies voor brandweelieden****· Speciale beschermende kleding:** *Ademhalingstoestel aantrekken.*

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

**· 6.1 Persoonlijke voorzorgsmaatregelen, beschermde uitrusting en noodprocedures**

*Beschermende kleding aantrekken. Niet beschermde personen op afstand houden.*

**· 6.2 Milieuvoorzorgsmaatregelen:** *Niet in de riolering/het oppervlaktewater/het grondwater laten terechtkomen.***· 6.3 Insluitings- en reinigingsmethoden en -materiaal:**

*Met vloeistofbindend materiaal (zand, bergmeel, zuurbinder, universele binder, zaagmeel) opnemen.*

*Besmet materiaal zoals afval volgens punt 13 verwijderen.*

*Voor voldoende ventilatie zorgen.*

*Niet met water of waterachtige reinigingsmiddelen wegspoelen.*

**· 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.*

(Vervolg op blz. 4)

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Aërosolvorming vermijden.

- **Informatie m.b.t. brand- en ontploffingsgevaar:**

- Onststekingsbronnen op afstand houden - niet roken.

- Beschermen tegen hitte.

- Maatregelen treffen tegen ontlading van statische elektriciteit.

- Ademhalingstoestellen gereedhouden.

- **7.2 Voorwaarden voor een veilige opslag, met inbegrip van incompatibele producten**

- **Opslag:**

- **Eisen ten opzichte van opslagruimte en tanks:** Geen bijzondere eisen.

- **Informatie m.b.t. gezamenlijke opslag:** Niet noodzakelijk.

- **Verdere inlichtingen over eisen m.b.t. de opslag:**

- Tanks ondoordringbaar gesloten houden.

- Tegen hitte en directe zonnestrallen 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:**

#### 80-62-6 methylmethacrylaat

WGW	Korte termijn waarde: 410 mg/m <sup>3</sup> , 100 ppm
	Lange termijn waarde: 205 mg/m <sup>3</sup> , 50 ppm

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

- **8.2 Maatregelen ter beheersing van blootstelling**

- **Persoonlijke beschermingsvoorzieningen:**

- **Algemene beschermings- en gezondheidsmaatregelen:**

- Verwijderd houden van eet- en drinkwaren.

- Verontreinigde kleding onmiddellijk uittrekken.

- Vóór de pauze en aan het einde van werktijd handen wassen.

- Beschermende kleding afzonderlijk bewaren.

- Aanraking met de ogen en de huid vermijden.

- **Ademhalingsbescherming:**

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

- **Handbescherming:**



Veiligheidshandschoenen

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

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

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

- **Handschoenmateriaal**

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

(Vervolg op blz. 5)

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



Nauw aansluitende veiligheidsbril

## RUBRIEK 9: Fysische en chemische eigenschappen

### · 9.1 Informatie over fysische en chemische basiseigenschappen

#### · Algemene gegevens

#### · Voorkomen:

Vorm:	Vloeistof
Kleur:	Kleurloos
Geur:	Karakteristiek
Geurdrempelwaarde:	Niet bepaald.

· pH-waarde: Niet bepaald.

#### · Toestandsverandering

Smelt-/vriespunt:	Niet bepaald.
Beginkookpunt en kooktraject:	101 °C

· Vlampunt: 26 °C

· Ontvlambaarheid (vast, gas): Niet bruikbaar.

· Ontstekingstemperatuur: 430 °C

· Ontledingstemperatuur: Niet bepaald.

· Zelfontbrandingstemperatuur: Het produkt ontbrandt niet uit zichzelf.

· **Ontploffingseigenschappen:** Het produkt is niet ontploffingsgevaarlijk, maar de vorming van ontploffingsgevaarlijke damp-/luchtmengsels is mogelijk.

#### · Ontploffingsgrenzen:

Onderste:	1,2 Vol %
Bovenste:	12,5 Vol %

· Dampspanning bij 20 °C: 47 hPa

· Dichtheid bij 20 °C: 0,91571 g/cm<sup>3</sup>

· Relatieve dichtheid: Niet bepaald.

· Dampdichtheid: Niet bepaald.

· Verdampingssnelheid: Niet bepaald.

#### · Oplosbaarheid in/mengbaarheid met

Water: Niet resp. gering mengbaar.

· Verdelingscoëfficiënt: n-octanol/water: Niet bepaald.

#### · Viscositeit

Dynamisch:	Niet bepaald.
Kinematisch:	Niet bepaald.

#### · Oplosmiddelgehalte:

Organisch oplosmiddel: 50,0 %

(Vervolg op blz. 6)

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<b>VOC (EG)</b>	50,00 %
<b>Gehalte aan vaste bestanddelen:</b>	0,0 %
<b>· 9.2 Overige informatie</b>	Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 10: Stabiliteit en reactiviteit

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

### RUBRIEK 11: Toxicologische informatie

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

<b>· Indelingsrelevantie LD/LC50-waarden:</b>		
<b>100-42-5 styreen</b>		
Oraal	LD50	5.000 mg/kg (rat)
Inhalatief	LC50/4 h	24 mg/l (rat)

- **Primaire aandoening:**
- **Huidcorrosie/-irritatie**  
Veroorzaakt huidirritatie.
- **Ernstig oogletsel/oogirritatie**  
Veroorzaakt ernstige oogirritatie.
- **Sensibilisatie van de luchtwegen/de huid**  
Kan een allergische huidreactie veroorzaken.
- **CMR-effecten (kankerverwekkendheid, mutageniteit en giftigheid voor de voortplanting)**
- **Mutageniteit in geslachtscellen** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Kankerverwekkendheid** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Giftigheid voor de voortplanting**  
Wordt ervan verdacht het ongeboren kind te schaden.
- **STOT bij eenmalige blootstelling**  
Kan irritatie van de luchtwegen veroorzaken.
- **STOT bij herhaalde blootstelling**  
Veroorzaakt schade aan de gehoororganen bij langdurige of herhaalde blootstelling.
- **Gevaar bij inademing** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

### RUBRIEK 12: Ecologische informatie

- **12.1 Toxiciteit**
- **Aquatische toxiciteit:** Geen verdere relevante informatie verkrijgbaar.
- **12.2 Persistentie en afbreekbaarheid** Geen verdere relevante informatie verkrijgbaar.
- **12.3 Bioaccumulatie** Geen verdere relevante informatie verkrijgbaar.
- **12.4 Mobiliteit in de bodem** Geen verdere relevante informatie verkrijgbaar.

(Vervolg op blz. 7)

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- **Verdere ecologische informatie:**
- **Algemene informatie:**  
*Waterbezwaarlijkheid (NL): B(4) Weinig schadelijk voor in water levende organismen*  
*Gevaar voor water klasse 2 (D) (Zelfclassificatie): gevaar voor water*  
*Niet lozen in grondwater, in oppervlaktewater of in riolering.*  
*Gevaar voor drinkwater zelfs bij uitlopen van geringe hoeveelheden in de ondergrond.*
- **12.5 Resultaten van PBT- en zPzB-beoordeling**
- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.
- **12.6 Andere schadelijke effecten** Geen verdere relevante informatie verkrijgbaar.

## RUBRIEK 13: Instructies voor verwijdering

- **13.1 Afvalverwerkingsmethoden**
- **Aanbeveling:** Mag niet tesamen met huisvuil gestort worden of in de riolering terechtkomen.
- **Niet gereinigde verpakkingen:**
- **Aanbeveling:** Afvalverwijdering volgens overheidsbepalingen.

## RUBRIEK 14: Informatie met betrekking tot het vervoer

- |   |   |
|---|---|
| · <b>14.1 VN-nummer</b>   |   |
| · <b>ADR, IMDG, IATA</b>  | UN1866  |
| · <b>14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN</b>      |   |
| · <b>ADR</b>  | 1866 HARS, OPLOSSING  |
| · <b>IMDG, IATA</b>   | RESIN SOLUTION  |
| · <b>14.3 Transportgevaarklasse(n)</b>  |   |
| · <b>ADR, IMDG, IATA</b>  |   |
|   |  |
| · <b>klasse</b>   | 3 Brandbare vloeistoffen  |
| · <b>Etiket</b>   | 3   |
| · <b>14.4 Verpakkingsgroep:</b>   |   |
| · <b>ADR, IMDG, IATA</b>  | III   |
| · <b>14.5 Milieugevaren:</b>  | Niet bruikbaar.   |
| · <b>14.6 Bijzondere voorzorgen voor de gebruiker</b>                             | Waarschuwing: Brandbare vloeistoffen  |
| · <b>Kemler-getal:</b>  | 30  |
| · <b>EMS-nummer:</b>  | F-E,S-E   |
| · <b>Stowage Category</b>   | A   |
| · <b>14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code</b> | Niet bruikbaar.   |

(Vervolg op blz. 8)

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· **Transport/verdere gegevens:**

· **ADR**

· **Beperkte hoeveelheden (LQ)**

5L

· **Uitgezonderde hoeveelheden (EQ)**

Code: E1

Grootste netto hoeveelheid per binnenverpakking: 30 ml

Grootste netto hoeveelheid per buitenverpakking: 1000 ml

· **Vervoerscategorie**

3

· **Tunnelbeperkingscode**

D/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

· **VN "Model Regulation":**

UN 1866 HARS, OPLOSSING, 3, III

## RUBRIEK 15: Regelgeving

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

· **SZW-lijst van kankerverwekkende stoffen**

geen der bestanddelen staat op de lijst.

· **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**

100-42-5 styreen

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.

· **Seveso-categorie P5c ONTVLAMBARE VLOEISTOFFEN**

· **Drempelwaarde (ton) voor toepassing van voorschriften voor lagedrempelinrichtingen** 5.000 t

· **Drempelwaarde (ton) voor toepassing van voorschriften voor hogedrempelinrichtingen** 50.000 t

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

· **Nationale voorschriften:**

· **Gevaarklasse v. water:** Waterbezwaarlijkheid (NL): B(4) Weinig schadelijk voor in water levende organismen

· **15.2 Chemischeveiligheidsbeoordeling:** Een chemische veiligheidsbeoordeling is niet uitgevoerd.

## RUBRIEK 16: Overige informatie

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

· **Relevante zinnen**

H225 Licht ontvlambare vloeistof en damp.

H226 Ontvlambare vloeistof en damp.

(Vervolg op blz. 9)



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**Handelsnaam: MATFIX HARDENER 1**

(Vervolg van blz. 8)

*H315* Veroorzaakt huidirritatie.*H317* Kan een allergische huidreactie veroorzaken.*H319* Veroorzaakt ernstige oogirritatie.*H332* Schadelijk bij inademing.*H335* Kan irritatie van de luchtwegen veroorzaken.*H361d* Wordt ervan verdacht het ongeboren kind te schaden.*H372* Veroorzaakt schade aan de gehoororganen bij langdurige of herhaalde blootstelling.**Afkortingen en acroniemen:***ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**IATA: International Air Transport Association**GHS: Globally Harmonised System of Classification and Labelling of Chemicals**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Flam. Liq. 2: Ontvlambare vloeistoffen – Categorie 2**Flam. Liq. 3: Ontvlambare vloeistoffen – Categorie 3**Acute Tox. 4: Acute toxiciteit – Categorie 4**Skin Irrit. 2: Huidcorrosie/-irritatie – Categorie 2**Eye Irrit. 2: Ernstig oogletsel/oogirritatie – Categorie 2**Skin Sens. 1: Sensibilisatie van de huid – Categorie 1**Repr. 2: Voortplantingstoxiciteit – Categorie 2**STOT SE 3: Specifieke doelorgaan toxiciteit bij eenmalige blootstelling – Categorie 3**STOT RE 1: Specifieke doelorgaan toxiciteit bij herhaalde blootstelling – Categorie 1*

# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

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

- **1.1 Identificateur de produit**
- **Nom du produit:** MATFIX HARDENER 1
- **Code du produit:** 1258-H1
- **1.2 Utilisations identifiées pertinentes de la substance ou du mélange et utilisations déconseillées**  
Pas d'autres informations importantes disponibles.
- **Emploi de la substance / de la préparation** Produits chimiques pour laboratoires
- **1.3 Renseignements concernant le fournisseur de la fiche de données de sécurité**
- **Producteur/fournisseur:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: [info@emsdiasum.com](mailto:info@emsdiasum.com)  
[www.emsdiasum.com](http://www.emsdiasum.com)
- **Service chargé des renseignements:** Product safety department
- **1.4 Numéro d'appel d'urgence:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### RUBRIQUE 2: Identification des dangers

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



GHS02 flamme

Flam. Liq. 3 H226 Liquide et vapeurs inflammables.



GHS08 danger pour la santé

Repr. 2 H361d Susceptible de nuire au fœtus.

STOT RE 1 H372 Risque avéré d'effets graves pour les organes de l'ouïe à la suite d'expositions répétées ou d'une exposition prolongée.



GHS07

Skin Irrit. 2 H315 Provoque une irritation cutanée.

Eye Irrit. 2 H319 Provoque une sévère irritation des yeux.

Skin Sens. 1 H317 Peut provoquer une allergie cutanée.

STOT SE 3 H335 Peut irriter les voies respiratoires.

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

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Nom du produit: **MATFIX HARDENER 1**

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· **Pictogrammes de danger**

GHS02 GHS07 GHS08

· **Mention d'avertissement** Danger· **Composants dangereux déterminants pour l'étiquetage:**

styrène

méthacrylate de méthyle

· **Mentions de danger**

H226 Liquide et vapeurs inflammables.

H315 Provoque une irritation cutanée.

H319 Provoque une sévère irritation des yeux.

H317 Peut provoquer une allergie cutanée.

H361d Susceptible de nuire au fœtus.

H335 Peut irriter les voies respiratoires.

H372 Risque avéré d'effets graves pour les organes de l'ouïe à la suite d'expositions répétées ou d'une exposition prolongée.

· **Conseils de prudence**

P210 Tenir à l'écart de la chaleur, des surfaces chaudes, des étincelles, des flammes nues et de toute autre source d'inflammation. Ne pas fumer.

P241 Utiliser du matériel électrique/de ventilation/d'éclairage antidéflagrant.

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.

P405 Garder sous clef.

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

· **2.3 Autres dangers**· **Résultats des évaluations PBT et vPvB**· **PBT:** Non applicable.· **vPvB:** Non applicable.

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

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

CAS: 100-42-5 EINECS: 202-851-5	styrène ⚠ Flam. Liq. 3, H226; ⚠ Repr. 2, H361d; STOT RE 1, H372; ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319	>25-≤50%
CAS: 80-62-6 EINECS: 201-297-1	méthacrylate de méthyle ⚠ Flam. Liq. 2, H225; ⚠ Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335	>10-≤25%

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

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### RUBRIQUE 4: Premiers secours

· **4.1 Description des premiers secours**

· **Remarques générales:**

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

· **Après inhalation:**

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

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

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

· **Après contact avec les yeux:**

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

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

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

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

*Pas d'autres informations importantes disponibles.*

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

· **5.1 Moyens d'extinction**

· **Moyens d'extinction:** CO2, sable, poudre d'extinction. Ne pas utiliser d'eau.

· **Produits extincteurs déconseillés pour des raisons de sécurité:** Jet d'eau à grand débit

· **5.2 Dangers particuliers résultant de la substance ou du mélange**

*Pas d'autres informations importantes disponibles.*

· **5.3 Conseils aux pompiers**

· **Équipement spécial de sécurité:** Porter un appareil de protection respiratoire.

### RUBRIQUE 6: Mesures à prendre en cas de dispersion accidentelle

· **6.1 Précautions individuelles, équipement de protection et procédures d'urgence**

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

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

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

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

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

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

*Assurer une aération suffisante.*

*Ne pas rincer à l'eau ou aux produits nettoyants aqueux.*

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

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

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

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

### RUBRIQUE 7: Manipulation et stockage

· **7.1 Précautions à prendre pour une manipulation sans danger**

*Veiller à une bonne ventilation/aspiration du poste de travail.*

*Ouvrir et manipuler les récipients avec précaution.*

*Eviter la formation d'aérosols.*

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- **Préventions des incendies et des explosions:**  
Tenir à l'abri des sources d'inflammation - ne pas fumer.  
Tenir à l'abri de la chaleur.  
Prendre des mesures contre les charges électrostatiques.  
Tenir des appareils de protection respiratoire prêts.
- **7.2 Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités**
- **Stockage:**
- **Exigences concernant les lieux et conteneurs de stockage:** 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.
- **7.3 Utilisation(s) finale(s) particulière(s)** Pas d'autres informations importantes disponibles.

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

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

- **8.1 Paramètres de contrôle**

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

#### 100-42-5 styrène

VME	Valeur momentanée: 200 mg/m <sup>3</sup> , 46,6 ppm Valeur à long terme: 100 mg/m <sup>3</sup> , 23,3 ppm R2, risque de pénétration percutanée, (15)
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#### 80-62-6 méthacrylate de méthyle

VME	Valeur momentanée: 410 mg/m <sup>3</sup> , 100 ppm Valeur à long terme: 205 mg/m <sup>3</sup> , 50 ppm
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- **Remarques supplémentaires:**  
Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.
- **8.2 Contrôles de l'exposition**
- **Equipement de protection individuel:**
- **Mesures générales de protection et d'hygiène:**  
Tenir à l'écart des produits alimentaires, des boissons et de la nourriture pour animaux.  
Retirer immédiatement les vêtements souillés ou humectés.  
Se laver les mains avant les pauses et en fin de travail.  
Conserver à part les vêtements de protection.  
Eviter tout contact avec les yeux 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.

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· **Matériau des gants**

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

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

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

· **Protection des yeux:**



Lunettes de protection hermétiques

### RUBRIQUE 9: Propriétés physiques et chimiques

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

· **Indications générales**

· **Aspect:**

<b>Forme:</b>	Liquide
<b>Couleur:</b>	Incolore
<b>Odeur:</b>	Caractéristique
<b>Seuil olfactif:</b>	Non déterminé.

· **valeur du pH:** Non déterminé.

· **Changement d'état**

<b>Point de fusion/point de congélation:</b>	Non déterminé.
<b>Point initial d'ébullition et intervalle d'ébullition:</b>	101 °C

· **Point d'éclair** 26 °C

· **Inflammabilité (solide, gaz):** Non applicable.

· **Température d'inflammation:** 430 °C

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

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

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

· **Limites d'explosion:**

<b>Inférieure:</b>	1,2 Vol %
<b>Supérieure:</b>	12,5 Vol %

· **Pression de vapeur à 20 °C:** 47 hPa

· **Densité à 20 °C:** 0,91571 g/cm<sup>3</sup>

· **Densité relative** Non déterminé.

· **Densité de vapeur:** Non déterminé.

· **Taux d'évaporation:** Non déterminé.

· **Solubilité dans/miscibilité avec**

**l'eau:** Pas ou peu miscible

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

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· <b>Viscosité:</b>	
<b>Dynamique:</b>	Non déterminé.
<b>Cinématique:</b>	Non déterminé.
· <b>Teneur en solvants:</b>	
<b>Solvants organiques:</b>	50,0 %
<b>VOC (CE)</b>	50,00 %
· <b>Teneur en substances solides:</b>	0,0 %
· <b>9.2 Autres informations</b>	Pas d'autres informations importantes disponibles.

### RUBRIQUE 10: Stabilité et réactivité

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

### RUBRIQUE 11: Informations toxicologiques

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

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

#### 100-42-5 styrène

Oral	LD50	5.000 mg/kg (rat)
Inhalatoire	LC50/4 h	24 mg/l (rat)

- **Effet primaire d'irritation:**
- **Corrosion cutanée/irritation cutanée**  
Provoque une irritation cutanée.
- **Lésions oculaires graves/irritation oculaire**  
Provoque une sévère irritation des yeux.
- **Sensibilisation respiratoire ou cutanée**  
Peut provoquer une allergie cutanée.
- **Effets CMR (cancérogène, mutagène et toxique pour la reproduction)**
- **Mutagénicité sur les cellules germinales**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Cancérogénicité** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité pour la reproduction**  
Susceptible de nuire au fœtus.
- **Toxicité spécifique pour certains organes cibles - exposition unique**  
Peut irriter les voies respiratoires.
- **Toxicité spécifique pour certains organes cibles - exposition répétée**  
Risque avéré d'effets graves pour les organes de l'ouïe à la suite d'expositions répétées ou d'une exposition prolongée.
- **Danger par aspiration** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

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### RUBRIQUE 12: Informations écologiques

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

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

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

### RUBRIQUE 14: Informations relatives au transport

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>· <b>14.1 Numéro ONU</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>   | UN1866   |
| <ul style="list-style-type: none"> <li>· <b>14.2 Désignation officielle de transport de l'ONU</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG, IATA</b></li> </ul>                  | 1866 RÉSINE EN SOLUTION<br>RESIN SOLUTION  |
| <ul style="list-style-type: none"> <li>· <b>14.3 Classe(s) de danger pour le transport</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>  | <div style="text-align: center;">  </div> |
| <ul style="list-style-type: none"> <li>· <b>Classe</b></li> <li>· <b>Étiquette</b></li> </ul>  | 3 Liquides inflammables.<br>3  |
| <ul style="list-style-type: none"> <li>· <b>14.4 Groupe d'emballage</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>   | III  |
| <ul style="list-style-type: none"> <li>· <b>14.5 Dangers pour l'environnement:</b></li> </ul>  | Non applicable.  |
| <ul style="list-style-type: none"> <li>· <b>14.6 Précautions particulières à prendre par l'utilisateur</b></li> <li>· <b>Indice Kemler:</b></li> <li>· <b>No EMS:</b></li> </ul> | Attention: Liquides inflammables.<br>30<br>F-E, <u>S-E</u>   |

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· <b>Stowage Category</b>	A
· <b>14.7 Transport en vrac conformément à l'annexe II de la convention Marpol et au recueil IBC</b>	Non applicable.
· <b>Indications complémentaires de transport:</b>	
· <b>ADR</b>	
· <b>Quantités limitées (LQ)</b>	5L
· <b>Quantités exceptées (EQ)</b>	Code: E1 Quantité maximale nette par emballage intérieur: 30 ml Quantité maximale nette par emballage extérieur: 1000 ml
· <b>Catégorie de transport</b>	3
· <b>Code de restriction en tunnels</b>	D/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>"Règlement type" de l'ONU:</b>	UN 1866 RÉSINE EN SOLUTION, 3, III

### RUBRIQUE 15: Informations relatives à la réglementation

- **15.1 Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement**
- **Directive 2012/18/UE**
- **Substances dangereuses désignées - ANNEXE I** Aucun des composants n'est compris.
- **Catégorie SEVESO P5c LIQUIDES INFLAMMABLES**
- **Quantité seuil (tonnes) pour l'application des exigences relatives au seuil bas** 5.000 t
- **Quantité seuil (tonnes) pour l'application des exigences relatives au seuil haut** 50.000 t
- **RÈGLEMENT (CE) N° 1907/2006 ANNEXE XVII** Conditions de limitation: 3
- **15.2 Évaluation de la sécurité chimique:** Une évaluation de la sécurité chimique n'a pas été réalisée.

### RUBRIQUE 16: Autres informations

Ces indications sont fondées sur l'état actuel de nos connaissances, mais ne constituent pas une garantie quant aux propriétés du produit et ne donnent pas lieu à un rapport juridique contractuel.

- **Phrases importantes**
- H225 Liquide et vapeurs très inflammables.
- H226 Liquide et vapeurs inflammables.
- H315 Provoque une irritation cutanée.
- H317 Peut provoquer une allergie cutanée.
- H319 Provoque une sévère irritation des yeux.
- H332 Nocif par inhalation.
- H335 Peut irriter les voies respiratoires.
- H361d Susceptible de nuire au fœtus.
- H372 Risque avéré d'effets graves pour les organes de l'ouïe à la suite d'expositions répétées ou d'une exposition prolongée.
- **Acronymes et abréviations:**
- ADR: Accord européen sur le transport des marchandises dangereuses par Route
- IMDG: International Maritime Code for Dangerous Goods

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**Nom du produit: MATFIX HARDENER 1**

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*IATA: International Air Transport Association**GHS: Globally Harmonised System of Classification and Labelling of Chemicals**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Flam. Liq. 2: Liquides inflammables – Catégorie 2**Flam. Liq. 3: Liquides inflammables – Catégorie 3**Acute Tox. 4: Toxicité aiguë – Catégorie 4**Skin Irrit. 2: Corrosion cutanée/irritation cutanée – Catégorie 2**Eye Irrit. 2: Lésions oculaires graves/irritation oculaire – Catégorie 2**Skin Sens. 1: Sensibilisation cutanée – Catégorie 1**Repr. 2: Toxicité pour la reproduction – Catégorie 2**STOT SE 3: Toxicité spécifique pour certains organes cibles (exposition unique) – Catégorie 3**STOT RE 1: Toxicité spécifique pour certains organes cibles (exposition répétée) – Catégorie 1*

FR

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 25.06.2018

überarbeitet am: 25.06.2018

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

- **1.1 Produktidentifikator**
- **Handelsname:** MATFIX HARDENER 1
- **Artikelnummer:** 1258-H1
- **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**  
Keine weiteren relevanten Informationen verfügbar.
- **Verwendung des Stoffes / des Gemisches** Laborchemikalien
- **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**
- **Hersteller/Lieferant:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com  
  
Science Services GmbH  
Unterhachinger Str. 75  
81737 München Germany  
  
Tel: +49(0)89 18 93 668-0  
safety@scienceservices.de  
  
Deutschland: +49 (0)89 19240, 24h Giftnotruf Munchen, www.toxinfo.org  
Osterreich: +43 1406 43 43, Gesundheit Osterreich GmbH, 24 h
- **Auskunftgebender Bereich:** Product safety department
- **1.4 Notrufnummer:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### ABSCHNITT 2: Mögliche Gefahren

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



GHS02 Flamme

Flam. Liq. 3 H226 Flüssigkeit und Dampf entzündbar.



GHS08 Gesundheitsgefahr

Repr. 2 H361d Kann vermutlich das Kind im Mutterleib schädigen.

STOT RE 1 H372 Schädigt die Hörorgane bei längerer oder wiederholter Exposition.



GHS07

Skin Irrit. 2 H315 Verursacht Hautreizungen.

Eye Irrit. 2 H319 Verursacht schwere Augenreizung.

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*Skin Sens. 1 H317 Kann allergische Hautreaktionen verursachen.*

*STOT SE 3 H335 Kann die Atemwege reizen.*

### · 2.2 Kennzeichnungselemente

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

*Das Produkt ist gemäß CLP-Verordnung eingestuft und gekennzeichnet.*

#### · Gefahrenpiktogramme



GHS02 GHS07 GHS08

#### · Signalwort Gefahr

#### · Gefahrbestimmende Komponenten zur Etikettierung:

*Styrol*

*Methyl-methacrylat*

#### · Gefahrenhinweise

*H226 Flüssigkeit und Dampf entzündbar.*

*H315 Verursacht Hautreizungen.*

*H319 Verursacht schwere Augenreizung.*

*H317 Kann allergische Hautreaktionen verursachen.*

*H361d Kann vermutlich das Kind im Mutterleib schädigen.*

*H335 Kann die Atemwege reizen.*

*H372 Schädigt die Hörorgane bei längerer oder wiederholter Exposition.*

#### · Sicherheitshinweise

*P210 Von Hitze, heißen Oberflächen, Funken, offenen Flammen und anderen Zündquellen fernhalten. Nicht rauchen.*

*P241 Explosionsgeschützte elektrische Geräte/Lüftungsanlagen/Beleuchtungsanlagen verwenden.*

*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.*

*P405 Unter Verschluss aufbewahren.*

*P501 Entsorgung des Inhalts / des Behälters gemäß den örtlichen / regionalen / nationalen / internationalen Vorschriften.*

#### · 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: 100-42-5	Styrol	>25-≤50%
EINECS: 202-851-5	Flam. Liq. 3, H226; Repr. 2, H361d; STOT RE 1, H372; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319	
CAS: 80-62-6	Methyl-methacrylat	>10-≤25%
EINECS: 201-297-1	Flam. Liq. 2, H225; Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335	

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

### ABSCHNITT 4: Erste-Hilfe-Maßnahmen

· **4.1 Beschreibung der Erste-Hilfe-Maßnahmen**

· **Allgemeine Hinweise:**

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

· **Nach Einatmen:**

Reichlich Frischluftzufuhr und sicherheitshalber Arzt aufsuchen.

Bei Bewußtlosigkeit Lagerung und Transport in stabiler Seitenlage.

· **Nach Hautkontakt:** Sofort mit Wasser und Seife abwaschen und gut nachspülen.

· **Nach Augenkontakt:**

Augen mehrere Minuten bei geöffnetem Lidspalt unter fließendem Wasser spülen. Bei anhaltenden Beschwerden Arzt konsultieren.

· **Nach Verschlucken:** Bei anhaltenden Beschwerden Arzt konsultieren.

· **4.2 Wichtigste akute und verzögert auftretende Symptome und Wirkungen**

Keine weiteren relevanten Informationen verfügbar.

· **4.3 Hinweise auf ärztliche Soforthilfe oder Spezialbehandlung**

Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

· **5.1 Löschmittel**

· **Geeignete Löschmittel:** CO<sub>2</sub>, Sand, Löschpulver. Kein Wasser verwenden.

· **Aus Sicherheitsgründen ungeeignete Löschmittel:** Wasser im Vollstrahl

· **5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren**

Keine weiteren relevanten Informationen verfügbar.

· **5.3 Hinweise für die Brandbekämpfung**

· **Besondere Schutzausrüstung:** Atemschutzgerät anlegen.

### ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

· **6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren**

Schutzausrüstung tragen. Ungeschützte Personen fernhalten.

· **6.2 Umweltschutzmaßnahmen:** Nicht in die Kanalisation/Oberflächenwasser/Grundwasser gelangen lassen.

· **6.3 Methoden und Material für Rückhaltung und Reinigung:**

Mit flüssigkeitsbindendem Material (Sand, Kieselgur, Säurebinder, Universalbinder, Sägemehl) aufnehmen.

Kontaminiertes Material als Abfall nach Abschnitt 13 entsorgen.

Für ausreichende Lüftung sorgen.

Nicht mit Wasser oder wäßrigen Reinigungsmitteln wegspülen.

· **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:**

Zündquellen fernhalten - nicht rauchen.

Vor Hitze schützen.

Maßnahmen gegen elektrostatische Aufladung treffen.

Atemschutzgeräte bereithalten.

- **7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten**

- **Lagerung:**

- **Anforderung an Lagerräume und Behälter:** 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):** Entzündbare Flüssigkeiten

- **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:**

<b>100-42-5 Styrol</b>	
AGW	Langzeitwert: 86 mg/m <sup>3</sup> , 20 ml/m <sup>3</sup> 2(I);DFG, Y
<b>80-62-6 Methyl-methacrylat</b>	
AGW	Langzeitwert: 210 mg/m <sup>3</sup> , 50 ml/m <sup>3</sup> 2(I);DFG, EU, Y

- **Bestandteile mit biologischen Grenzwerten:**

<b>100-42-5 Styrol</b>	
BGW	600 mg/g Kreatinin Untersuchungsmaterial: Urin Probennahmezeitpunkt: bei Langzeitexposition: Nach mehreren vorangegangenen Schichten, Expositionsende bzw. Schichtende Parameter: Mandelsäure plus Phenylglyoxylsäure

- **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 und der Haut vermeiden.

- **Atemschutz:**

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

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**· Handschutz:**

Schutzhandschuhe

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

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

**· Handschuhmaterial**

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

**· Durchdringungszeit des Handschuhmaterials**

Die genaue Durchbruchzeit ist beim Schutzhandschuhhersteller zu erfahren und einzuhalten.

**· Augenschutz:**

Dichtschließende Schutzbrille

### ABSCHNITT 9: Physikalische und chemische Eigenschaften

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

<b>Form:</b>	Flüssigkeit
<b>Farbe:</b>	Farblos
<b>Geruch:</b>	Charakteristisch
<b>Geruchsschwelle:</b>	Nicht bestimmt.

**· pH-Wert:** Nicht bestimmt.

**· Zustandsänderung**

<b>Schmelzpunkt/Gefrierpunkt:</b>	Nicht bestimmt.
<b>Siedebeginn und Siedebereich:</b>	101 °C

**· Flammpunkt:** 26 °C

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

**· Zündtemperatur:** 430 °C

**· Zersetzungstemperatur:** Nicht bestimmt.

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

**· Explosive Eigenschaften:** Das Produkt ist nicht explosionsgefährlich, jedoch ist die Bildung explosionsgefährlicher Dampf-/Luftgemische möglich.

**· Explosionsgrenzen:**

<b>Untere:</b>	1,2 Vol %
<b>Obere:</b>	12,5 Vol %

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· <b>Dampfdruck bei 20 °C:</b>	47 hPa
· <b>Dichte bei 20 °C:</b>	0,91571 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>	Nicht bzw. wenig 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>	50,0 %
<b>VOC (EU)</b>	50,00 %
· <b>Festkörpergehalt:</b>	0,0 %
· <b>9.2 Sonstige Angaben</b>	Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 10: Stabilität und Reaktivität

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

### ABSCHNITT 11: Toxikologische Angaben

- **11.1 Angaben zu toxikologischen Wirkungen**
- **Akute Toxizität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

· <b>Einstufungsrelevante LD/LC50-Werte:</b>		
<b>100-42-5 Styrol</b>		
Oral	LD50	5.000 mg/kg (rat)
Inhalativ	LC50/4 h	24 mg/l (rat)

- **Primäre Reizwirkung:**
- **Ätz-/Reizwirkung auf die Haut**  
Verursacht Hautreizungen.
- **Schwere Augenschädigung/-reizung**  
Verursacht schwere Augenreizung.
- **Sensibilisierung der Atemwege/Haut**  
Kann allergische Hautreaktionen verursachen.
- **CMR-Wirkungen (krebserzeugende, erbgutverändernde und fortpflanzungsgefährdende Wirkung)**
- **Keimzell-Mutagenität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Karzinogenität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

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- **Reproduktionstoxizität**  
Kann vermutlich das Kind im Mutterleib schädigen.
- **Spezifische Zielorgan-Toxizität bei einmaliger Exposition**  
Kann die Atemwege reizen.
- **Spezifische Zielorgan-Toxizität bei wiederholter Exposition**  
Schädigt die Hörorgane bei längerer oder wiederholter Exposition.
- **Aspirationsgefahr** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

### ABSCHNITT 12: Umwelbezogene 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): deutlich wassergefährdend  
Nicht in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen.  
Trinkwassergefährdung bereits beim Auslaufen geringer Mengen in den Untergrund.
- **12.5 Ergebnisse der PBT- und vPvB-Beurteilung**
- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.
- **12.6 Andere schädliche Wirkungen** Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 13: Hinweise zur Entsorgung

- **13.1 Verfahren der Abfallbehandlung**
- **Empfehlung:** Darf nicht zusammen mit Hausmüll entsorgt werden. Nicht in die Kanalisation gelangen lassen.
- **Ungereinigte Verpackungen:**
- **Empfehlung:** Entsorgung gemäß den behördlichen Vorschriften.

### ABSCHNITT 14: Angaben zum Transport

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>· <b>14.1 UN-Nummer</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>   | <p>UN1866</p>                              |
| <ul style="list-style-type: none"> <li>· <b>14.2 Ordnungsgemäße UN-Versandbezeichnung</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG, IATA</b></li> </ul> | <p>1866 HARZLÖSUNG<br/>RESIN SOLUTION</p>  |
| <ul style="list-style-type: none"> <li>· <b>14.3 Transportgefahrenklassen</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>                              | <p>3 Entzündbare flüssige Stoffe<br/>3</p> |



- **Klasse** 3 Entzündbare flüssige Stoffe
- **Gefahrzettel** 3

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· <b>14.4 Verpackungsgruppe</b> · <b>ADR, IMDG, IATA</b>	<b>III</b>
· <b>14.5 Umweltgefahren:</b>	Nicht anwendbar.
· <b>14.6 Besondere Vorsichtsmaßnahmen für den Verwender</b> · <b>Kemler-Zahl:</b> · <b>EMS-Nummer:</b> · <b>Stowage Category</b>	Achtung: Entzündbare flüssige Stoffe 30 F-E, <u>S-E</u> A
· <b>14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens und gemäß IBC-Code</b>	Nicht anwendbar.
· <b>Transport/weitere Angaben:</b>	
· <b>ADR</b> · <b>Begrenzte Menge (LQ)</b> · <b>Freigestellte Mengen (EQ)</b>	5L Code: E1 Höchste Nettomenge je Innenverpackung: 30 ml Höchste Nettomenge je Außenverpackung: 1000 ml
· <b>Beförderungskategorie</b> · <b>Tunnelbeschränkungscode</b>	3 D/E
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	UN 1866 HARZLÖSUNG, 3, 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.
- **Seveso-Kategorie P5c ENTZÜNDBARE FLÜSSIGKEITEN**
- **Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der unteren Klasse 5.000 t**
- **Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der oberen Klasse 50.000 t**
- **VERORDNUNG (EG) Nr. 1907/2006 ANHANG XVII** Beschränkungsbedingungen: 3
- **Nationale Vorschriften:**
- **Technische Anleitung Luft:**

Klasse	Anteil in %
NK	50,0
- **Wassergefährdungsklasse: WGK 2 (Selbsteinstufung):** deutlich wassergefährdend.
- **Sonstige Vorschriften, Beschränkungen und Verbotsverordnungen**  
Das Produkt unterliegt der Anlage 2 der Chemikalienverbotsverordnung (ChemVerbotsV) - Anforderungen in Bezug auf die Abgabe

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· **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.
- H226 Flüssigkeit und Dampf entzündbar.
- H315 Verursacht Hautreizungen.
- H317 Kann allergische Hautreaktionen verursachen.
- H319 Verursacht schwere Augenreizung.
- H332 Gesundheitsschädlich bei Einatmen.
- H335 Kann die Atemwege reizen.
- H361d Kann vermutlich das Kind im Mutterleib schädigen.
- H372 Schädigt die Hörorgane bei längerer oder wiederholter Exposition.

· **Abkürzungen und Akronyme:**

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 2: Entzündbare Flüssigkeiten – Kategorie 2
- Flam. Liq. 3: Entzündbare Flüssigkeiten – Kategorie 3
- Acute Tox. 4: Akute Toxizität – Kategorie 4
- Skin Irrit. 2: Hautreizende/-ätzende Wirkung – Kategorie 2
- Eye Irrit. 2: Schwere Augenschädigung/Augenreizung – Kategorie 2
- Skin Sens. 1: Sensibilisierung der Haut – Kategorie 1
- Repr. 2: Reproduktionstoxizität – Kategorie 2
- STOT SE 3: Spezifische Zielorgan-Toxizität (einmalige Exposition) – Kategorie 3
- STOT RE 1: Spezifische Zielorgan-Toxizität (wiederholte Exposition) – Kategorie 1

DE

**Scheda di dati di sicurezza**  
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### SEZIONE 1: Identificazione della sostanza o della miscela e della società/impresa

- **1.1 Identificatore del prodotto**
- **Denominazione commerciale:** MATFIX HARDENER 1
- **Articolo numero:** 1258-H1
- **1.2 Usi identificati pertinenti della sostanza o della miscela e usi sconsigliati**  
Non sono disponibili altre informazioni.
- **Utilizzazione della Sostanza / del Preparato** Prodotti chimici per laboratorio
- **1.3 Informazioni sul fornitore della scheda di dati di sicurezza**
- **Produttore/fornitore:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: [info@emsdiasum.com](mailto:info@emsdiasum.com)  
[www.emsdiasum.com](http://www.emsdiasum.com)
- **Società Italiana Chimici**  
Via Rio Nell Ellba 140  
00138 Rome, Italy  
Tel: 39 06 8800211  
Fax: 39 30 06 8815313  
Web: [www.sichim.com](http://www.sichim.com)
- **Informazioni fornite da:** Product safety department
- **1.4 Numero telefonico di emergenza:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### SEZIONE 2: Identificazione dei pericoli

- **2.1 Classificazione della sostanza o della miscela**
- **Classificazione secondo il regolamento (CE) n. 1272/2008**



GHS02 fiamma

Flam. Liq. 3 H226 Liquido e vapori infiammabili.



GHS08 pericolo per la salute

Repr. 2 H361d Sospettato di nuocere al feto.

STOT RE 1 H372 Provoca danni agli organi uditivi in caso di esposizione prolungata e ripetuta.



GHS07

Skin Irrit. 2 H315 Provoca irritazione cutanea.

Eye Irrit. 2 H319 Provoca grave irritazione oculare.

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

STOT SE 3 H335 Può irritare le vie respiratorie.

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

Il prodotto è classificato ed etichettato conformemente al regolamento CLP.

**Pittogrammi di pericolo**

GHS02 GHS07 GHS08

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

stirene

metacrilato di metile

**Indicazioni di pericolo**

H226 Liquido e vapori infiammabili.

H315 Provoca irritazione cutanea.

H319 Provoca grave irritazione oculare.

H317 Può provocare una reazione allergica cutanea.

H361d Sospettato di nuocere al feto.

H335 Può irritare le vie respiratorie.

H372 Provoca danni agli organi uditivi in caso di esposizione prolungata e ripetuta.

**Consigli di prudenza**

P210 Tenere lontano da fonti di calore, superfici calde, scintille, fiamme libere o altre fonti di accensione. Non fumare.

P241 Utilizzare impianti elettrici/di ventilazione/d'illuminazione/a prova di esplosione.

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.

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: 100-42-5 EINECS: 202-851-5	stirene ⚠ Flam. Liq. 3, H226; ⚠ Repr. 2, H361d; STOT RE 1, H372; ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319	>25- ≤50%
CAS: 80-62-6 EINECS: 201-297-1	metacrilato di metile ⚠ Flam. Liq. 2, H225; ⚠ Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335	>10- ≤25%

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

#### **SEZIONE 4: Misure di primo soccorso**

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

· **Indicazioni generali:**

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

· **Inalazione:**

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

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

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

· **Contatto con gli occhi:**

*Lavare con acqua corrente per diversi minuti tenendo le palpebre ben aperte. Se persiste il dolore consultare il medico.*

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

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

· **4.3 Indicazione dell'eventuale necessità di consultare immediatamente un medico e di trattamenti speciali**  
Non sono disponibili altre informazioni.

#### **SEZIONE 5: Misure antincendio**

· **5.1 Mezzi di estinzione**

· **Mezzi di estinzione idonei:** CO<sub>2</sub>, sabbia, polvere. Non usare acqua.

· **Mezzi di estinzione inadatti per motivi di sicurezza:** Getti d'acqua

· **5.2 Pericoli speciali derivanti dalla sostanza o dalla miscela** Non sono disponibili altre informazioni.

· **5.3 Raccomandazioni per gli addetti all'estinzione degli incendi**

· **Mezzi protettivi specifici:** Indossare il respiratore.

#### **SEZIONE 6: Misure in caso di rilascio accidentale**

· **6.1 Precauzioni personali, dispositivi di protezione e procedure in caso di emergenza**

*Indossare equipaggiamento protettivo. Allontanare le persone non equipaggiate.*

· **6.2 Precauzioni ambientali:** Impedire infiltrazioni nella fognatura/nelle acque superficiali/nelle acque freatiche.

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

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

*Smaltimento del materiale contaminato conformemente al punto 13.*

*Provvedere ad una sufficiente areazione.*

*Non dilavare con acqua o detersivi liquidi.*

· **6.4 Riferimento ad altre sezioni**

*Per informazioni relative ad una manipolazione sicura, vedere capitolo 7.*

*Per informazioni relative all'equipaggiamento protettivo ad uso personale vedere Capitolo 8.*

*Per informazioni relative allo smaltimento vedere Capitolo 13.*

#### **SEZIONE 7: Manipolazione e immagazzinamento**

· **7.1 Precauzioni per la manipolazione sicura**

*Accurata ventilazione/aspirazione nei luoghi di lavoro.*

*Aprire e manipolare i recipienti con cautela.*

*Evitare la formazione di aerosol.*

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- **Indicazioni in caso di incendio ed esplosione:**  
Tenere lontano da fonti di calore, non fumare.  
Proteggere dal calore.  
Adottare provvedimenti contro cariche elettrostatiche.  
Tener pronto il respiratore.
- **7.2 Condizioni per lo stoccaggio sicuro, comprese eventuali incompatibilità**
- **Stoccaggio:**
- **Requisiti dei magazzini e dei recipienti:** Non sono richiesti requisiti particolari.
- **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 particolari** Non sono disponibili altre informazioni.

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

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

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

**100-42-5 stirene**

TWA	Valore a breve termine: 170 mg/m <sup>3</sup> , 40 ppm
	Valore a lungo termine: 85 mg/m <sup>3</sup> , 20 ppm
	A4, IBE

**80-62-6 metacrilato di metile**

TWA	Valore a breve termine: 410 mg/m <sup>3</sup> , 100 ppm
	Valore a lungo termine: 205 mg/m <sup>3</sup> , 50 ppm
	sen, A4
VL	Valore a breve termine: 100 ppm
	Valore a lungo termine: 50 ppm

· **Componenti con valori limite biologici:**

**100-42-5 stirene**

IBE	400 mg/g creatinina
	Campioni: urine
	Momento del prelievo: a fine turno
	Indicatore biologico: acido mandelico + acido fenilglicosilico
	0,2 mg/l
	Campioni: sangue venoso
	Momento del prelievo: a fine turno
	Indicatore biologico: stirene

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

- **8.2 Controlli dell'esposizione**
- **Mezzi protettivi individuali:**
- **Norme generali protettive e di igiene del lavoro:**  
Tenere lontano da cibo, bevande e foraggi.  
Togliere immediatamente gli abiti contaminati.  
Lavarsi le mani prima dell'intervallo o a lavoro terminato.  
Custodire separatamente l'equipaggiamento protettivo.  
Evitare il contatto con gli occhi e la pelle.

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**· Maschera protettiva:**

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

**· Guanti protettivi:**

Guanti protettivi

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

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

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

**· Materiale dei guanti**

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

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

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

**· Occhiali protettivi:**

Occhiali protettivi a tenuta

**SEZIONE 9: Proprietà fisiche e chimiche****· 9.1 Informazioni sulle proprietà fisiche e chimiche fondamentali****· Indicazioni generali****· Aspetto:**

<b>Forma:</b>	Liquido
<b>Colore:</b>	Incolore
<b>Odore:</b>	Caratteristico
<b>Soglia olfattiva:</b>	Non definito.

**· valori di pH:** Non definito.

**· Cambiamento di stato**

<b>Punto di fusione/punto di congelamento:</b>	Non definito.
<b>Punto di ebollizione iniziale e intervallo di ebollizione:</b>	101 °C

**· Punto di infiammabilità:** 26 °C

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

**· Temperatura di accensione:** 430 °C

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

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

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

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· <b>Limiti di infiammabilità:</b>	
<b>Inferiore:</b>	1,2 Vol %
<b>Superiore:</b>	12,5 Vol %
· <b>Tensione di vapore a 20 °C:</b>	47 hPa
· <b>Densità a 20 °C:</b>	0,91571 g/cm <sup>3</sup>
· <b>Densità relativa</b>	Non definito.
· <b>Densità di vapore:</b>	Non definito.
· <b>Velocità di evaporazione</b>	Non definito.
· <b>Solubilità in/Miscibilità con acqua:</b>	Poco e/o non miscibile.
· <b>Coefficiente di ripartizione: n-ottanolo/acqua:</b>	Non definito.
· <b>Viscosità:</b>	
<b>Dinamica:</b>	Non definito.
<b>Cinematica:</b>	Non definito.
· <b>Tenore del solvente:</b>	
<b>Solventi organici:</b>	50,0 %
<b>VOC (CE)</b>	50,00 %
<b>Contenuto solido:</b>	0,0 %
· <b>9.2 Altre informazioni</b>	Non sono disponibili altre informazioni.

**SEZIONE 10: Stabilità e reattività**

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

**SEZIONE 11: Informazioni tossicologiche**

- **11.1 Informazioni sugli effetti tossicologici**
- **Tossicità acuta** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

· **Valori LD/LC50 rilevanti per la classificazione:****100-42-5 stirene**

Orale	LD50	5.000 mg/kg (rat)
Per inalazione	LC50/4 h	24 mg/l (rat)

- **Irritabilità primaria:**
- **Corrosione/irritazione cutanea**  
Provoca irritazione cutanea.
- **Lesioni oculari gravi/irritazioni oculari gravi**  
Provoca grave irritazione oculare.
- **Sensibilizzazione respiratoria o cutanea**  
Può provocare una reazione allergica cutanea.

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- **Effetti CMR (cancerogenicità, mutagenicità e tossicità per la riproduzione)**
- **Mutagenicità delle cellule germinali**  
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Cancerogenicità** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Tossicità per la riproduzione**  
Sospettato di nuocere al feto.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione singola**  
Può irritare le vie respiratorie.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione ripetuta**  
Provoca danni agli organi uditivi in caso di esposizione prolungata e ripetuta.
- **Pericolo in caso di aspirazione** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

### SEZIONE 12: Informazioni ecologiche

- **12.1 Tossicità**
- **Tossicità acquatica:** Non sono disponibili altre informazioni.
- **12.2 Persistenza e degradabilità** Non sono disponibili altre informazioni.
- **12.3 Potenziale di bioaccumulo** Non sono disponibili altre informazioni.
- **12.4 Mobilità nel suolo** Non sono disponibili altre informazioni.
- **Ulteriori indicazioni in materia ambientale:**
- **Ulteriori indicazioni:**  
Pericolosità per le acque classe 2 (D) (Autoclassificazione): pericoloso  
Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature.  
Pericolo per le acque potabili anche in caso di perdite nel sottosuolo di piccole quantità di prodotto.
- **12.5 Risultati della valutazione PBT e vPvB**
- **PBT:** Non applicabile.
- **vPvB:** Non applicabile.
- **12.6 Altri effetti avversi** Non sono disponibili altre informazioni.

### SEZIONE 13: Considerazioni sullo smaltimento

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

### SEZIONE 14: Informazioni sul trasporto

- |   |                          |
|---|--------------------------|
| · <b>14.1 Numero ONU</b>                  |                          |
| · <b>ADR, IMDG, IATA</b>                  | UN1866                   |
| · <b>14.2 Nome di spedizione dell'ONU</b> |                          |
| · <b>ADR</b>                              | 1866 RESINA IN SOLUZIONE |
| · <b>IMDG, IATA</b>                       | RESIN SOLUTION           |

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## · 14.3 Classi di pericolo connesso al trasporto

· ADR, IMDG, IATA



· Classe 3 Liquidi infiammabili  
· Etichetta 3

## · 14.4 Gruppo di imballaggio

· ADR, IMDG, IATA III

· 14.5 Pericoli per l'ambiente: Non applicabile.

· 14.6 Precauzioni speciali per gli utilizzatori Attenzione: Liquidi infiammabili

· Numero Kemler: 30  
· Numero EMS: F-E, S-E  
· Stowage Category A

· 14.7 Trasporto di rinfuse secondo l'allegato II di MARPOL ed il codice IBC Non applicabile.

## · Trasporto/ulteriori indicazioni:

· ADR  
· Quantità limitate (LQ) 5L  
· Quantità esenti (EQ) Codice: E1  
Quantità massima netta per imballaggio interno: 30 ml  
Quantità massima netta per imballaggio esterno: 1000 ml  
· Categoria di trasporto 3  
· Codice di restrizione in galleria D/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": UN 1866 RESINA IN SOLUZIONE, 3, III

### SEZIONE 15: Informazioni sulla regolamentazione

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

- Direttiva 2012/18/UE
- Sostanze pericolose specificate - ALLEGATO I Nessuno dei componenti è contenuto.
- Categoria Seveso P5c LIQUIDI INFIAMMABILI
- Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia inferiore 5.000 t
- Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia superiore 50.000 t
- REGOLAMENTO (CE) n. 1907/2006 ALLEGATO XVII Restrizioni: 3

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· **Disposizioni nazionali:**

· **Istruzione tecnica aria:**

Classe	quota in %
NC	50,0

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

### SEZIONE 16: Altre informazioni

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

· **Frasi rilevanti**

H225 *Liquido e vapori facilmente infiammabili.*

H226 *Liquido e vapori infiammabili.*

H315 *Provoca irritazione cutanea.*

H317 *Può provocare una reazione allergica cutanea.*

H319 *Provoca grave irritazione oculare.*

H332 *Nocivo se inalato.*

H335 *Può irritare le vie respiratorie.*

H361d *Sospettato di nuocere al feto.*

H372 *Provoca danni agli organi uditivi in caso di esposizione prolungata e ripetuta.*

· **Abbreviazioni e acronimi:**

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

IMDG: *International Maritime Code for Dangerous Goods*

IATA: *International Air Transport Association*

GHS: *Globally Harmonised System of Classification and Labelling of Chemicals*

EINECS: *European Inventory of Existing Commercial Chemical Substances*

ELINCS: *European List of Notified Chemical Substances*

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

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

LC50: *Lethal concentration, 50 percent*

LD50: *Lethal dose, 50 percent*

PBT: *Persistent, Bioaccumulative and Toxic*

vPvB: *very Persistent and very Bioaccumulative*

Flam. Liq. 2: *Liquidi infiammabili – Categoria 2*

Flam. Liq. 3: *Liquidi infiammabili – Categoria 3*

Acute Tox. 4: *Tossicità acuta – Categoria 4*

Skin Irrit. 2: *Corrosione/irritazione della pelle – Categoria 2*

Eye Irrit. 2: *Gravi lesioni oculari/irritazione oculare – Categoria 2*

Skin Sens. 1: *Sensibilizzazione della pelle – Categoria 1*

Repr. 2: *Tossicità per la riproduzione – Categoria 2*

STOT SE 3: *Tossicità specifica per organi bersaglio (esposizione singola) – Categoria 3*

STOT RE 1: *Tossicità specifica per organi bersaglio (esposizione ripetuta) – Categoria 1*

# 물질안전보건자료

GHS에 따라라따

기압점: 2018.06.25

개정: 2018.06.25

## 1 화학제품과 회사에 관한 정보

제품제품제제자

· 제품명: MATFIX HARDENER 1

· 상품번호: 1258-H1

해당 해당 해당 물질이나 혼합물(약) 관련 해당 위험도 및 사용 금지용도 추가적인 정보가 존재하지 않습니다.

· 제품의 권고 용도와 사용 상에 대한 제한 사항 없음 실 화 학 품

· 안전 데이터 표(Safety Data Sheet) 내 공급 업체 관련 정보

· 제조자/수입자/유통 업체 정보

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

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

email: info@emsdiasum.com

www.emsdiasum.com

Samchang Commercial Co., Ltd.

Yeo Eui Do

PO Box 1110

Seoul, Korea

Tel: 82 2 703 3040

Fax: 82 2 717 3298

· 추가적인 정보: 특정 위험 회피 가능 duct safety department

· 비상 연락 전화번호:

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

## 2 유해성·위험성

· 순물질 또는 혼합물(약) 분류분류



화염

인화성 액체 - 구분 3

H226 인화성 액체 및 증기



건강에 위험

생식독성 - 구분 2

H361 태아 또는 생식능력에 손상을 일으킬 것으로 의심됨

특정표적장기 독성 - 반복 노출 - 구분 1 H372 청각기관 을 장시간 또는 반복된 노출로 인하여 손상시키 다.



피부 부식성/피부 자극성 - 구분 2

H315 피부에 자극을 일으킴

심한 눈 손상성/눈 자극성 - 구분 2

H319 눈에 심한 자극을 일으킴

피부 과민성 - 구분 1

H317 알레르기성 피부 반응을 일으킬 수 있음

특정표적장기 독성 - 1회 노출 - 구분 3

H335 호흡기계 자극을 일으킬 수 있음

· 라벨 표기 요소요소

· 라벨 라벨 라벨 요소

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

(2 쪽에 계속)

기압점: 2018.06.25

개정: 2018.06.25

**제품명: MATFIX HARDENER 1**

(1 쪽부터 계속)

**· 그림문자**



GHS02    GHS07    GHS08

**· 신호어 위험**

**· 상표상에 명확히 위험성이 표시된 성분:**

STYRENE

Methyl Methacrylate

유해 유해 유해 유해 유해 문구

- 인화성 액체 및 증기
- 피부에 자극을 일으킴
- 눈에 심한 자극을 일으킴
- 알레르기성 피부 반응을 일으킬 수 있음
- 태아 또는 생식능력에 손상을 일으킬 것으로 의심됨
- 호흡기계 자극을 일으킬 수 있음
- 청각기관을 장시간 또는 반복된 노출로 인하여 손상시키다.

**· 예방조치 문구 문구**

- 열·스파크·화염·고열로부터 멀리하시오 - 금연
- 폭발 방지용 전기·환기·조명·장비를 사용하시오.
- 피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗으시오. 피부를 물로 씻으시오/샤워하시오.
- 눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면 콘택트렌즈를 제거하시오. 계속 씻으시오.
- 잠금장치가 있는 저장장소에 저장하시오.
- 현지/지역/국가/국제 규정에 따라서 내용물/용기 노출

**기타 기타 유해성**

- PBT(잔류성, 생물농축성, 물질분해성) 및 vPvB(고 잔류성, 고 생물농축성, 물질분해성)에 해당하지 않음
- PBT(잔류성, 생물농축성, 물질분해성) 당사항 없음.
- vPvB(고 잔류성, 고 생물농축성, 물질분해성) 당사항 없음.

### 3 구성성분의 명칭 및 함유량

**· 화학적 특성: 혼합물**

설명 설명 설명 채한 첨 가 물 이 함유된 아래에 열 거 된 물 질 로 만 들 어 진 혼 합 물.

**· 위험요소요소**

100-42-5	STYRENE ⚠ 인화성 액체 - 구분 3, H226; ⚠ 생식독성 - 구분 2, H361; 특정표적장기 독성 - 반 복 노출 - 구분 1, H372; ⚠ 급성 독성 - 흡입 - 구분 4, H332; 피부 부식성/피부 자극성 - 구분 2, H315; 심한 눈 손상성/눈 자극성 - 구분 2, H319	>25-≤50%
80-62-6	Methyl Methacrylate ⚠ 인화성 액체 - 구분 2, H225; ⚠ 피부 부식성/피부 자극성 - 구분 2, H315; 피부 과 민성 - 구분 1, H317; 특정표적장기 독성 - 1회 노출 - 구분 3, H335	>10-≤25%

### 4 응급조치 요령

**· 응급조치요령 내용내용**

**· 일반적 정보정보**

중 독 증 상 은 몇 시 간 이 지 난 뒤 에 발 생 할 수 있 다. 따 라 서 사 고 가 발 생 한 후 에 적 어 도 48 시 간 동 안 은 의 료 진 의 관 찰 을 받 아 야 한 다.

(3 쪽에 계속)

# 물질안전보건자료 GHS에 따라라다

기압점: 2018.06.25

개정: 2018.06.25

## 제품명: MATFIX HARDENER 1

(2 쪽부터 계속)

- **흡입했을 때:**  
신선한 공기를 쐬고 나서 반드시 의료진의 도움을 구한다.  
환자가 의식을 잃었을 경우에는 안전한 자세에서 환자를 운반한다.
  - **피부에 접촉했을 때:** 즉시 물과 비누로 씻고 잘 행군다.
  - **눈에 눈에 들어갔을 때:** 흐르는 물에 눈을 몇 분 동안 씻어내고 나서, 증상이 지속될 경우에는 의사와 상담한다
  - **먹었을 때:** 증상이 지속될 경우에는 의사와 상담한다.
- 기타 기타 **각각의 주의사항:**  
가장 가장 중요한 것은 항상 **중요한 정보**가 존재하지 않습니다.  
· **즉각적인 의료처리 및 특별치료가 필요함을 시사하는 징후**가 존재하지 않습니다.

## 5 폭발·화재시 대처방법

- **소화제**
  - **적절한 소화제:** 이산화탄소, 모래, 석회가루를 사용하고, 물을 사용하지 않는다.
  - **부적절한 소화제:** 플레트용 물
  - **본 화학물질이나 혼합물에서 발생하여 특별한 주의사항** 추가적인 정보가 존재하지 않습니다.
  - **소방관에 대한 신고사항**
- 화재 **화재화재 예방 및 보호구 및 예방조치:** 호흡보호장비 설치.

## 6 누출 사고 시 대처방법

- **개인적 예방조치, 보호장비 및 응급 절차 절차** 전장 비 착용하고, 무방비의 사람은 격리시킨다.
- 환경 **환경환경 예방조치:** 하수도망/해수면위의물/지하수로도달하지않게한다.  
밀폐 **밀폐밀폐 예방조치:** 소재소재  
액체가 혼합된 물질 (모래, 규조토, 산성결합물, 일반결합물, 톱밥)에 흡입되도록 한다.  
항목 13에 따라 오염된 물질을 쓰레기로 처분한다.  
충분한 환기가 되도록 한다.  
물이나 묽은 세척제로 씻어 내지 마십시오
- 석션 시스템 시스템 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 **취급취급**  
안전 **안전안전** 위한 **예방조치**  
작업장에서는 통풍이 잘 되고/습기 제거가 잘 되게 주의한다.  
조심스럽게 용기를 개봉하거나 취급한다.  
연무질이 형성되는 것을 피한다.
- 화재 **화재화재 예방조치** **예방대책에 관한 정보**  
발화 요소는 멀리 둔다. 금연.  
열로부터 보호한다.  
정전기의 충전으로부터 보호한다.  
호흡보호장비를 항상 비치한다.
- **혼합 위험성 및 안정성 조건 조건**
- 보관 **보관보관**  
· **안전한 저장 방법** 특별한 요구사항이 없음.  
· **하수 및 공기 방출 방지**에 대한 **예방조치**가 필요 없음  
· **보관 조건에 관한 추가 정보** 정보  
용기를 새지 않게 밀폐한 채 보관한다.

(4 쪽에 계속)

# 물질안전보건자료

## GHS에 따라 라다

기압점: 2018.06.25

개정: 2018.06.25

**제품명: MATFIX HARDENER 1**

열이나 직사광선으로부터 보호한다.  
 구체적 최종 사용자 추가적인 정보가 존재하지 않습니다.

(3 쪽부터 계속)

### 8 노출방지 및 개인보호구

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

통제 ~~물질~~ ~~변수~~

· **화학물질의 노출기준, 생물학적 노출기준 등:**

**100-42-5 STYRENE**

TLV (KR)	단기간의값: 170 mg/m <sup>3</sup> , 40 ppm 장기간의값: 85 mg/m <sup>3</sup> , 20 ppm Skin
PEL (US)	장기간의값: 100 ppm 최고노출기준: 200; 600* ppm *5-min peak in any 3 hrs
REL (US)	단기간의값: 425 mg/m <sup>3</sup> , 100 ppm 장기간의값: 215 mg/m <sup>3</sup> , 50 ppm
TLV (US)	단기간의값: (170) mg/m <sup>3</sup> , (40) ppm 장기간의값: (85) NIC-8.5 mg/m <sup>3</sup> , (20) NIC-2 ppm BEI, NIC-A3, NIC-OTO

**80-62-6 Methyl Methacrylate**

TLV (KR)	단기간의값: 410 mg/m <sup>3</sup> , 100 ppm 장기간의값: 205 mg/m <sup>3</sup> , 50 ppm
IOELV (EU)	단기간의값: 100 ppm 장기간의값: 50 ppm
PEL (US)	장기간의값: 410 mg/m <sup>3</sup> , 100 ppm
REL (US)	장기간의값: 410 mg/m <sup>3</sup> , 100 ppm
TLV (US)	단기간의값: 410 mg/m <sup>3</sup> , 100 ppm 장기간의값: 205 mg/m <sup>3</sup> , 50 ppm DSEN

· **추가정보** 정보 소 할 당시에 유효 한 목 록을 기초로 사용했다.

노출 ~~통제~~ 통제

개인 ~~보호~~ 보호구

· **일반적보호조치및위생조치:**

- 식료품, 음료수와 사료로부터 멀리 떨어져 두어 놓는다.
- 더러워지거나 음식물이 묻은 옷은 즉시 탈의한다.
- 휴식 전 이 나 작업이 끝날때마다 손을 씻는다.
- 방호복은 따로 보관한다.
- 눈과 피부와의 접촉은 피한다.

· **호흡기 보호보호**

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

**보습 보호보호**



보호용 장갑

장갑재질은제품 / 원료 / 조제를투과시키지않아야하고, 내구성이있어야한다.

(5 쪽에 계속)



# 물질안전보건자료 GHS에 따라

기압점: 2018.06.25

개정: 2018.06.25

## 제품명: MATFIX HARDENER 1

(4 쪽부터 계속)

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

**· 장갑의 재료**

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

· 장갑 재료의 투과 시간 정확한 관통 시간은 보호 장갑 제조자에 의하여 인지도되고, 준수되어야 한다.  
보충 보호 보호



꼭 조이는 보안경

### 9 물리화학적 특성

기본 물리화학적 특성에 대한 정보

**· 일반 정보**

외형 외형 외형

· 물리적 상태 상태

액체

· 색:

색소가 없는

냄새 냄새 냄새

특색 있는

· 후각 역치

알맞지 않다.

· pH:

알맞지 않다.

· 상태 변화

· 녹는 점/어는 점:

맞지 않는다

초기 초기 녹는 점과 끓는 점 범위 범위 101 °C

· 인화점:

26 °C

· 인화성 (고체/기체/액체)

해당 사항 없음.

· 점화 온도:

430 °C

분해 분해 온도

알맞지 않다.

· 자기 점화:

이 제품은 자연 발화성이 없다.

· 폭발 위험:

이 제품은 폭발 위험성이 없지만, 폭발 가능성이 있는 증기 화합물/공기 화합물의 형성 가능성이 있다.

인화 인화 인화 폭발 위험성 상한/하한

아래로:

1.2 Vol %

위로 위로

12.5 Vol %

· 증기압 의 경우 20 °C:

47 hPa

밀도 밀도 의 경우 20 °C:

0.91571 g/cm<sup>3</sup>

비중 비중 비중

알맞지 않다.

· 증기 밀도:

알맞지 않다.

증발 증발 증발 속도

알맞지 않다.

· 용해도:

· 물:

각각의 경우에 따라서는 거의 혼합할 수 없는

· n 옥탄올/물 분배 계수:

알맞지 않다.

(6 쪽에 계속)

# 물질안전보건자료

## GHS에 따라라따

기압점: 2018.06.25

개정: 2018.06.25

**제품명: MATFIX HARDENER 1**

(5 쪽부터계속)

<p>점도점도점도</p> <p><b>역학성:</b> 알맞지않다.</p> <p><b>동점성:</b> 알맞지않다.</p>
<p><b>· 용매내용물</b></p> <p><b>유기용매:</b> 50.0 %</p> <p><b>VOC (EU)</b> 50.00 %</p>
<p><b>고체양함량함량</b> 0.0 %</p> <p>기타정보정보 추가적인 정보가 존재하지 않습니다.</p>

### 10 안정성 및 반응성

- **반응성** 추가적인 정보가 존재하지 않습니다.
- **화학적 안정성**
- **화학적 안정성 및 유해 반응의 가능성 / 피해야할 조건 조건**에 따라사용할경우해체는없다
- **유해반응 가능성** 위험한반응으로는알려지지않았다.
- **피해야할 조건 조건** 추가적인 정보가 존재하지 않습니다.
- **혼합 혼합물 혼합물** 추가적인 정보가 존재하지 않습니다.
- **유해분해물질:** 위험성있는분해물들은알려지지않았다.

### 11 독성에 관한 정보

- **독성학적 영향에 대한 정보**
- **급성독성독성독성**

· <b>LD/LC50-수 제에 따른 분류</b>		
<b>100-42-5 STYRENE</b>		
구강의	LD50	5,000 mg/kg (rat)
흡입의	LC50/4 h	24 mg/l (rat)

- **일체적 자극효과**
- **피부피부 자극성 또는 모자극성:** 피부와점막을자극한다.
- **심한심한 자극성 또는 모자극성:** 자극
- **감각화:** 피부접촉을통하여감각화가능성이있다.
- **추 가 적 인 독 성 에 관 한 정보**
- 이제품은유럽공동체의공동분류원칙의합법적인절차에근거하여최근에발효된원고에서아래위험들의사전준비에대하여제시하고있다.
- 건강에해로운
- 자극적인
- **다음다음 종류의 잠재적인 효과에 대한 정보**
- **CMR 효과유발, 유물변이성 그리고생식독성**
- **생식독성 - 구분 2**

### 12 환경에 미치는 영향

- **독성독성독성**
- **수생독성:** 추가적인 정보가 존재하지 않습니다.
- **지속성 및 분해성** 추가적인 정보가 존재하지 않습니다.
- **환 경 시스 템 에 서 의 행 동:**
- **생물농축 잠재성** 추가적인 정보가 존재하지 않습니다.
- **토양내 이동성** 추가적인 정보가 존재하지 않습니다.

(7 쪽에계속)

# 물질안전보건자료

## GHS에 따라라따

기압점: 2018.06.25

개정: 2018.06.25

**제품명: MATFIX HARDENER 1**


(6 쪽부터계속)

- **추가적인 생태학정보정보**
  - 일반 **알려지지 않은** 특징
    - 수질오염등급 2 (자체등급분류): 수질오염이된 지하수나, 하천으로또는 하수도망에도달 하지않게한다.
    - 지하수로경미한양이유입되었을경우엔이미식수오염상태이다
  - PBT(잔류성, 생물농축성, 독성물질) 및 vPvB(고 잔류성, 고 생물농축성) 물질이공정과정에서 결과
  - PBT(잔류성, 생물농축성, 독성물질) 물질당사항 없음.
  - vPvB(고 잔류성, 고 생물농축성) 물질당사항 없음.
- 기타기타 **부작용** 추가적인 정보가 존재하지 않습니다.

### 13 폐기시 주의사항

- **폐기물처리방법**  
권고권고 **쓰레기**와함께처리되어서는안된다. 하수도망으로유입되어서는안된다.
- **비위생적 포장포장**  
권고권고 **쓰레기**의지침에입각한쓰레기처리.

### 14 운송에 필요한 정보

<b>유엔 유엔번호</b>	UN1866
· ADR, IMDG, IATA	
<b>적정적정명</b>	1866 RESIN SOLUTION RESIN SOLUTION
· ADR	
· IMDG, IATA	
<b>교통 교통위험 클래스</b>	
· ADR, IMDG, IATA	
	
<b>등급등급</b>	3 발화성용액
· <b>위험물라벨라벨</b>	3
<b>용기등급</b>	III
· ADR, IMDG, IATA	
<b>환경적 유해물질:</b>	해당사항 없음.
<b>이용자별 특별 예방 조치</b>	경고: 발화성용액
<b>위험 위험 코드</b>	30
· <b>번호번호</b>	F-E, S-E
· <b>Stowage Category</b>	A
<b>MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 다른</b>	
<b>벌크 벌크 운송 운송</b>	해당사항 없음.

(8 쪽에계속)

# 물질안전보건자료

## GHS에 따라라다

기압점: 2018.06.25

개정: 2018.06.25

**제품명: MATFIX HARDENER 1**

(7 쪽부터계속)

· <b>운송/추가정보</b>	
· ADR	5L
한정 <b>제한수량 (수량)</b>	Code: E1
· Excepted quantities (EQ)	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
운송 <b>운송분류</b> 구분	3
터널 <b>터널제한</b> 코드	D/E
· <b>IMDG</b>	
· 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
· <b>UN번호</b>	UN 1866 RESIN SOLUTION, 3, III

### 15 법적 규제현황

· <b>산업안전보건법에 의한 유해규제</b>		
<b>제조제조계급</b> 물질:		
어떠한내용물도 목록화 되어있지않다		
· <b>허가대상물질:</b>		
어떠한내용물도 목록화 되어있지않다		
· <b>관리대상유해물질:</b>		
100-42-5	STYRENE	
해당 해당 <b>수용액</b> 또는 <b>모놀리</b> 에 대한 <b>안전보건자료</b> 작성 <b>필수</b> 법률		
· <b>Korean Existing Chemical Inventory</b>		
100-42-5	STYRENE	KE-35342
80-62-6	Methyl Methacrylate	KE-25050
· <b>화학물질관리법</b>		
· <b>사고대비물질</b>		
어떠한내용물도 목록화 되어있지않다		
· <b>금지물질</b>		
어떠한내용물도 목록화 되어있지않다		
· <b>제한물질</b>		
어떠한내용물도 목록화 되어있지않다		
· <b>유독물질</b>		
어떠한내용물도 목록화 되어있지않다		
· <b>허가물질</b>		
100-42-5	STYRENE	
· <b>라벨 라벨</b> 요소		
본 제품은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.		

(9 쪽에계속)

# 물질안전보건자료 GHS에 따라

기압점: 2018.06.25

개정: 2018.06.25

**제품명: MATFIX HARDENER 1**

(8 쪽부터 계속)

· **그림문자**



GHS02 GHS07 GHS08

· **신호어 위험**

· **상표상에 명확히 위험성이 표시된 성분:**

STYRENE

Methyl Methacrylate

유해 유해 유해 유해 문구

인화성 액체 및 증기

피부에 자극을 일으킴

눈에 심한 자극을 일으킴

알레르기성 피부 반응을 일으킬 수 있음

태아 또는 생식능력에 손상을 일으킬 것으로 의심됨

호흡기계 자극을 일으킬 수 있음

청각기관을 장시간 또는 반복된 노출로 인하여 손상시키다.

· **예방 조치 문구 문구**

열·스파크·화염·고열로부터 멀리하십시오 - 금연

폭발 방지용 전기·환기·조명·장비를 사용하십시오.

피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗으십시오. 피부를 물로 씻으십시오/샤워하십시오.

눈에 묻으면 몇 분간 물로 조심해서 씻으십시오. 가능하면 콘택트렌즈를 제거하십시오. 계속 씻으십시오.

잠금장치가 있는 저장장소에 저장하십시오.

현지/지역/국가/국제 규정에 따라서 내용물/용기 노출

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

**16 그 밖의 참고사항**

이 보고서는 우리 지식에 대한 오늘날의 상태에 대하여 평가하고 있다, 하지만 이 보고서는 생산 특성에 관한 보증은 기술하지 않았으며 계약적인 법률 관계에 기반을 두고 있지 않다

최초 최초 작성 일자: 2018.06.25

개정 개정 개정 최종 개정 일자: 1 / 2018.06.25

· **약어와 두문자어:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 25.06.2018

Revisión: 25.06.2018

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

- **1.1 Identificador del producto**
- **Nombre comercial:** MATFIX HARDENER 1
- **Número del artículo:** 1258-H1
- **1.2 Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados**  
No existen más datos relevantes disponibles.
- **Utilización del producto / de la elaboración** Sustancias químicas de laboratorio
- **1.3 Datos del proveedor de la ficha de datos de seguridad**
- **Fabricante/distribuidor:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: [info@emsdiasum.com](mailto:info@emsdiasum.com)  
[www.emsdiasum.com](http://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](mailto:ventas@aname.es)
- **Área de información:** Product safety department
- **1.4 Teléfono de emergencia:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### SECCIÓN 2: Identificación de los peligros

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



GHS02 llama

Flam. Liq. 3 H226 Líquidos y vapores inflamables.



GHS08 peligro para la salud

Repr. 2 H361d Se sospecha que daña al feto.

STOT RE 1 H372 Provoca daños en el sistema auditivo tras exposiciones prolongadas o repetidas



GHS07

Skin Irrit. 2 H315 Provoca irritación cutánea.

Eye Irrit. 2 H319 Provoca irritación ocular grave.

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

STOT SE 3 H335 Puede irritar las vías respiratorias.

( se continua en página 2 )

# Ficha de datos de seguridad según 1907/2006/CE, Artículo 31

fecha de impresión 25.06.2018

Revisión: 25.06.2018

**Nombre comercial: MATFIX HARDENER 1**

( se continua en página 1 )

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



GHS02 GHS07 GHS08

- **Palabra de advertencia Peligro**
- **Componentes peligrosos a indicar en el etiquetaje:**  
estireno  
metacrilato de metilo
- **Indicaciones de peligro**  
H226 Líquidos y vapores inflamables.  
H315 Provoca irritación cutánea.  
H319 Provoca irritación ocular grave.  
H317 Puede provocar una reacción alérgica en la piel.  
H361d Se sospecha que daña al feto.  
H335 Puede irritar las vías respiratorias.  
H372 Provoca daños en el sistema auditivo tras exposiciones prolongadas o repetidas

- **Consejos de prudencia**  
P210 Mantener alejado del calor, de superficies calientes, de chispas, de llamas abiertas y de cualquier otra fuente de ignición. No fumar.  
P241 Utilizar un material eléctrico, de ventilación o de iluminación/antideflagrante.  
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.  
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: 100-42-5 EINECS: 202-851-5	estireno ⚠ Flam. Liq. 3, H226; ⚠ Repr. 2, H361d; STOT RE 1, H372; ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319	>25- ≤50%
CAS: 80-62-6 EINECS: 201-297-1	metacrilato de metilo ⚠ Flam. Liq. 2, H225; ⚠ Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335	>10- ≤25%

( se continua en página 3 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 25.06.2018

Revisión: 25.06.2018

**Nombre comercial: MATFIX HARDENER 1**

( se continua en página 2 )

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

### SECCIÓN 4: Primeros auxilios

· **4.1 Descripción de los primeros auxilios**

· **Instrucciones generales:**

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

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

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

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

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

· **En caso de con los ojos:**

Limpia los ojos abiertos durante varios minutos con agua corriente. En caso de trastornos persistentes consultar un médico.

· **En caso de ingestión:** Consultar un médico si los trastornos persisten.

· **4.2 Principales síntomas y efectos, agudos y retardados** No existen más datos relevantes disponibles.

· **4.3 Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente** No existen más datos relevantes disponibles.

### SECCIÓN 5: Medidas de lucha contra incendios

· **5.1 Medios de extinción**

· **Sustancias extintoras apropiadas:** CO<sub>2</sub>, arena, polvo extintor. No utilizar agua.

· **Sustancias extintoras inapropiadas por razones de seguridad:** Agua a pleno chorro

· **5.2 Peligros específicos derivados de la sustancia o la mezcla** No existen más datos relevantes disponibles.

· **5.3 Recomendaciones para el personal de lucha contra incendios**

· **Equipo especial de protección:** Colocarse la protección respiratoria.

### SECCIÓN 6: Medidas en caso de vertido accidental

· **6.1 Precauciones personales, equipo de protección y procedimientos de emergencia**

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

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

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

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

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

Desechar el material contaminado como vertido según ítem 13.

Asegurar suficiente ventilación.

No enjuagar con agua ni productos de limpieza acuosos.

· **6.4 Referencia a otras secciones**

Ver capítulo 7 para mayor información sobre una manipulación segura.

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

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

### SECCIÓN 7: Manipulación y almacenamiento

· **7.1 Precauciones para una manipulación segura**

Asegurar suficiente ventilación /aspiración en el puesto de trabajo.

Abrir y manejar el recipiente con cuidado.

Evitar la formación de aerosoles.

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- **Prevención de incendios y explosiones:**  
Mantener alejadas las fuentes de encendido. No fumar.  
Proteger del calor.  
Tomar medidas contra las cargas electrostáticas.  
Tener preparados los aparatos respiratorios.
- **7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**
- **Almacenamiento:**
- **Exigencias con respecto al almacén y los recipientes:** No se requieren medidas especiales.
- **Normas en caso de un almacenamiento conjunto:** No es necesario.
- **Indicaciones adicionales sobre las condiciones de almacenamiento:**  
Mantener el recipiente cerrado herméticamente.  
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:**

##### 100-42-5 estireno

LEP	Valor de corta duración: 172 mg/m <sup>3</sup> , 40 ppm Valor de larga duración: 86 mg/m <sup>3</sup> , 20 ppm VLB, ae
-----	--

##### 80-62-6 metacrilato de metilo

LEP	Valor de corta duración: 100 ppm Valor de larga duración: 50 ppm Sen, VLI
-----	---

- **Componentes con valores límite biológicos:**

##### 100-42-5 estireno

VLB	400 mg/g creatinina Muestra: orina Momento de Muestero: Final de la jornada laboral Indicador Biológico: Ácido mandélico más ácido fenilgloxílico
	0,2 mg/l Muestra: sangre venosa Momento de Muestero: Final de la jornada laboral Indicador Biológico: Estireno

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

#### · 8.2 Controles de la exposición

- **Equipo de protección individual:**

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

Mantener alejado de alimentos, bebidas y alimentos para animales.  
Quitarse de inmediato la ropa ensuciada o impregnada.  
Lavarse las manos antes de las pausas y al final del trabajo.  
Guardar la ropa protectora por separado.  
Evitar el contacto con los ojos y la piel.

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· **Protección respiratoria:**

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

· **Protección de manos:**



Guantes de protección

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

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

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

· **Material de los guantes**

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

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

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

· **Protección de ojos:**



Gafas de protección herméticas

### SECCIÓN 9: Propiedades físicas y químicas

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

· **Datos generales**

· **Aspecto:**

Forma: Líquido

Color: Incoloro

· **Olor:** Característico

· **Umbral olfativo:** No determinado.

· **valor pH:** No determinado.

· **Cambio de estado**

Punto de fusión/punto de congelación: Indeterminado.

Punto inicial de ebullición e intervalo de ebullición: 101 °C

· **Punto de inflamación:** 26 °C

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

· **Temperatura de ignición:** 430 °C

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

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

· **Propiedades explosivas:** El producto no es explosivo; sin embargo, pueden formarse mezclas explosivas de vapor / aire.

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· <b>Límites de explosión:</b>	
<b>Inferior:</b>	1,2 Vol %
<b>Superior:</b>	12,5 Vol %
· <b>Presión de vapor a 20 °C:</b>	47 hPa
· <b>Densidad a 20 °C:</b>	0,91571 g/cm <sup>3</sup>
· <b>Densidad relativa</b>	No determinado.
· <b>Densidad de vapor</b>	No determinado.
· <b>Tasa de evaporación:</b>	No determinado.
· <b>Solubilidad en / miscibilidad con agua:</b>	Poco o no mezclable.
· <b>Coefficiente de reparto: n-octanol/agua:</b>	No determinado.
· <b>Viscosidad:</b>	
<b>Dinámica:</b>	No determinado.
<b>Cinemática:</b>	No determinado.
· <b>Concentración del disolvente:</b>	
<b>Disolventes orgánicos:</b>	50,0 %
<b>VOC (CE)</b>	50,00 %
<b>Contenido de cuerpos sólidos:</b>	0,0 %
· <b>9.2 Otros datos</b>	No existen más datos relevantes disponibles.

### SECCIÓN 10: Estabilidad y reactividad

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

### SECCIÓN 11: Información toxicológica

- **11.1 Información sobre los efectos toxicológicos**
- **Toxicidad aguda** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

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

#### 100-42-5 estireno

Oral	LD50	5.000 mg/kg (rat)
Inhalatorio	LC50/4 h	24 mg/l (rat)

- **Efecto estimulante primario:**
- **Corrosión o irritación cutáneas**  
Provoca irritación cutánea.
- **Lesiones o irritación ocular graves**  
Provoca irritación ocular grave.
- **Sensibilización respiratoria o cutánea**  
Puede provocar una reacción alérgica en la piel.

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- **Efectos CMR (carcinogenicidad, mutagenicidad y toxicidad para la reproducción)**
- **Mutagenicidad en células germinales**  
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Carcinogenicidad** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad para la reproducción**  
Se sospecha que daña al feto.
- **Toxicidad específica en determinados órganos (STOT) – exposición única**  
Puede irritar las vías respiratorias.
- **Toxicidad específica en determinados órganos (STOT) – exposición repetida**  
Provoca daños en el sistema auditivo tras exposiciones prolongadas o repetidas
- **Peligro de aspiración** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

### SECCIÓN 12: Información ecológica

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

### SECCIÓN 13: Consideraciones relativas a la eliminación

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

### SECCIÓN 14: Información relativa al transporte

- |  |                            |
|--|----------------------------|
| · <b>14.1 Número ONU</b>   |                            |
| · <b>ADR, IMDG, IATA</b>   | UN1866                     |
| · <b>14.2 Designación oficial de transporte de las Naciones Unidas</b> |                            |
| · <b>ADR</b>   | 1866 RESINA, SOLUCIONES DE |
| · <b>IMDG, IATA</b>  | RESIN SOLUTION             |

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

· ADR, IMDG, IATA



· Clase

3 Líquidos inflamables

· Etiqueta

3

## · 14.4 Grupo de embalaje

· ADR, IMDG, IATA

III

## · 14.5 Peligros para el medio ambiente:

No aplicable.

## · 14.6 Precauciones particulares para los usuarios

Atención: Líquidos inflamables

· Número Kemler:

30

· Número EMS:

F-E,S-E

· Stowage Category

A

## · 14.7 Transporte a granel con arreglo al anexo II del Convenio MARPOL y el Código IBC

No aplicable.

## · Transporte/datos adicionales:

· ADR

· Cantidades limitadas (LQ)

5L

· Cantidades exceptuadas (EQ)

Código: E1

Cantidad neta máxima por envase interior: 30 ml

Cantidad neta máxima por embalaje exterior: 1000 ml

· Categoría de transporte

3

· Código de restricción del túnel

D/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

· "Reglamentación Modelo" de la UNECE:

UN 1866 RESINA, SOLUCIONES DE, 3, 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

· Categoría Seveso P5c LÍQUIDOS INFLAMABLES

· Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel inferior 5.000 t

· Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel superior 50.000 t

· REGLAMENTO (CE) n° 1907/2006 ANEXO XVII Restricciones: 3

· 15.2 Evaluación de la seguridad química: Una evaluación de la seguridad química no se ha llevado a cabo.

ES

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### 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.

H226 Líquidos y vapores inflamables.

H315 Provoca irritación cutánea.

H317 Puede provocar una reacción alérgica en la piel.

H319 Provoca irritación ocular grave.

H332 Nocivo en caso de inhalación.

H335 Puede irritar las vías respiratorias.

H361d Se sospecha que daña al feto.

H372 Provoca daños en el sistema auditivo tras exposiciones prolongadas o repetidas

#### · Abreviaturas y acrónimos:

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Líquidos inflamables – Categoría 2

Flam. Liq. 3: Líquidos inflamables – Categoría 3

Acute Tox. 4: Toxicidad aguda – Categoría 4

Skin Irrit. 2: Corrosión o irritación cutáneas – Categoría 2

Eye Irrit. 2: Lesiones oculares graves o irritación ocular – Categoría 2

Skin Sens. 1: Sensibilización cutánea – Categoría 1

Repr. 2: Toxicidad para la reproducción – Categoría 2

STOT SE 3: Toxicidad específica en determinados órganos ( exposición única) – Categoría 3

STOT RE 1: Toxicidad específica en determinados órganos (exposiciones repetidas) – Categoría 1