

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/08/2015

Reviewed on 08/08/2015

## 1 Identification

- **Product identifier**
- **Trade name:** DIFFERENTIATING SOLUTION
- **Article number:** 26777-02
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Eye Irrit. 2A H319 Causes serious eye irritation.

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

- **Signal word** Danger

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

2-methylpropan-2-ol

Methyl Alcohol

- **Hazard statements**

Highly flammable liquid and vapor.

Harmful if inhaled.

Causes serious eye irritation.

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May cause respiratory irritation.

· **Precautionary statements**

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

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

Avoid breathing dust/fume/gas/mist/vapors/spray

Wear protective gloves / eye protection / face protection.

Wear eye protection / face protection.

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

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

Continue rinsing.

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

Call a poison center/doctor if you feel unwell.

If eye irritation persists: Get medical advice/attention.

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

Store locked up.

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

Store in a well-ventilated place. Keep cool.

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

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 1

Fire = 3

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = \*1

Fire = 3

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

## 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

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

· **Dangerous components:**

|         |                     |         |
|---------|---------------------|---------|
| 75-65-0 | 2-methylpropan-2-ol | 50-100% |
| 67-56-1 | Methyl Alcohol      | ≤ 2.5%  |

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## 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**  
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Generally the product does not irritate the skin.
- **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
- **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.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect from heat.

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Protect against electrostatic charges.

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
  - Keep receptacle tightly sealed.
  - Store in cool, dry conditions in well sealed receptacles.
  - Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

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

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

### 75-65-0 2-methylpropan-2-ol

PEL Long-term value: 300 mg/m<sup>3</sup>, 100 ppm

REL Short-term value: 450 mg/m<sup>3</sup>, 150 ppm

Long-term value: 300 mg/m<sup>3</sup>, 100 ppm

TLV Long-term value: 303 mg/m<sup>3</sup>, 100 ppm

### 67-56-1 Methyl Alcohol

PEL Long-term value: 260 mg/m<sup>3</sup>, 200 ppm

REL Short-term value: 325 mg/m<sup>3</sup>, 250 ppm

Long-term value: 260 mg/m<sup>3</sup>, 200 ppm

Skin

TLV Short-term value: 328 mg/m<sup>3</sup>, 250 ppm

Long-term value: 262 mg/m<sup>3</sup>, 200 ppm

Skin; BEI

· **Ingredients with biological limit values:**

### 67-56-1 Methyl Alcohol

BEI 15 mg/L

Medium: urine

Time: end of shift

Parameter: Methanol (background, nonspecific)

· **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.
  - Avoid contact with the eyes.
  - Avoid contact with the eyes and skin.
- **Breathing equipment:**
  - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

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· **Protection of hands:**

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>Color:</b>           | Colorless       |
| <b>Odor:</b>            | Pungent         |
| <b>Odour threshold:</b> | Not determined. |

· **pH-value:** Not determined.

· **Change in condition**

|                                     |                |
|-------------------------------------|----------------|
| <b>Melting point/Melting range:</b> | Undetermined.  |
| <b>Boiling point/Boiling range:</b> | 83 °C (181 °F) |

· **Flash point:** 11 °C (52 °F)

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

· **Ignition temperature:** 470 °C (878 °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> | 2.3 Vol % |
| <b>Upper:</b> | 8.0 Vol % |

· **Vapor pressure at 20 °C (68 °F):** 40 hPa (30 mm Hg)

|                         |                 |
|-------------------------|-----------------|
| <b>Density:</b>         | Not determined. |
| <b>Relative density</b> | Not determined. |
| <b>Vapour density</b>   | Not determined. |
| <b>Evaporation rate</b> | Not determined. |

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- |   |  |
|---|--|
| <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>                          | 1.3 %                                      |
| <b>VOC content:</b>                               | 1.3 %                                      |
|   | 12.5 g/l / 0.10 lb/gl                      |
| <b>· Other information</b>                        | No further relevant information available. |

## 10 Stability and reactivity

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

## 11 Toxicological information

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

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

**75-65-0 2-methylpropan-2-ol**

|      |      |                  |
|------|------|------------------|
| Oral | LD50 | 3500 mg/kg (rat) |
|------|------|------------------|

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **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)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

US

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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 1 (Self-assessment): slightly hazardous for water*  
*Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.*
- **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

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT, ADR, IMDG, IATA</b></li> </ul>   | <p style="margin: 0;">UN1993</p>   |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG, IATA</b></li> </ul> | <p style="margin: 0;">Flammable liquids, n.o.s. (Butanols)</p> <p style="margin: 0;">1993 Flammable liquids, n.o.s. (Butanols)</p> <p style="margin: 0;">FLAMMABLE LIQUID, N.O.S. (BUTANOLS)</p> |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT</b></li> </ul>   | <p style="margin: 0;">3</p>  |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>  | <p style="margin: 0;">3 Flammable liquids</p> <p style="margin: 0;">3</p>  |
| <ul style="list-style-type: none"> <li>· <b>ADR, IMDG, IATA</b></li> </ul>  |  |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> </ul>  | <p style="margin: 0;">3 Flammable liquids</p>  |

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|   |   |
|---|---|
| · <b>Label</b>  | 3   |
| · <b>Packing group</b><br>· <b>DOT, ADR, IMDG, IATA</b>   | II  |
| · <b>Environmental hazards:</b><br>· <b>Marine pollutant:</b>                                   | No  |
| · <b>Special precautions for user</b><br>· <b>Danger code (Kemler):</b><br>· <b>EMS Number:</b> | Warning: Flammable liquids<br>33<br>F-E,S-E   |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>                | Not applicable.   |
| · <b>Transport/Additional information:</b><br>· <b>DOT</b><br>· <b>Quantity limitations</b>     | On passenger aircraft/rail: 5 L<br>On cargo aircraft only: 60 L   |
| · <b>ADR</b><br>· <b>Excepted quantities (EQ)</b>   | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml       |
| · <b>IMDG</b><br>· <b>Limited quantities (LQ)</b><br>· <b>Excepted quantities (EQ)</b>          | 1L<br>Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · <b>UN "Model Regulation":</b>   | UN1993, Flammable liquids, n.o.s. (Butanols), 3, II   |

## 15 Regulatory information

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

|  |
|--|
| · <b>Section 355 (extremely hazardous substances):</b> |
|--|

|                                    |
|------------------------------------|
| None of the ingredients is listed. |
|------------------------------------|

|  |
|--|
| · <b>Section 313 (Specific toxic chemical listings):</b> |
|--|

|         |                     |
|---------|---------------------|
| 75-65-0 | 2-methylpropan-2-ol |
|---------|---------------------|

|         |                |
|---------|----------------|
| 67-56-1 | Methyl Alcohol |
|---------|----------------|

|   |
|---|
| · <b>TSCA (Toxic Substances Control Act):</b> |
|---|

|         |                     |
|---------|---------------------|
| 75-65-0 | 2-methylpropan-2-ol |
|---------|---------------------|

|         |                |
|---------|----------------|
| 67-56-1 | Methyl Alcohol |
|---------|----------------|

|                         |
|-------------------------|
| · <b>Proposition 65</b> |
|-------------------------|

|   |
|---|
| · <b>Chemicals known to cause cancer:</b> |
|---|

|                                    |
|------------------------------------|
| None of the ingredients is listed. |
|------------------------------------|

|  |
|--|
| · <b>Chemicals known to cause reproductive toxicity for females:</b> |
|--|

|                                    |
|------------------------------------|
| None of the ingredients is listed. |
|------------------------------------|

|  |
|--|
| · <b>Chemicals known to cause reproductive toxicity for males:</b> |
|--|

|                                    |
|------------------------------------|
| None of the ingredients is listed. |
|------------------------------------|

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

|         |                |
|---------|----------------|
| 67-56-1 | Methyl Alcohol |
|---------|----------------|

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

|         |                     |    |
|---------|---------------------|----|
| 75-65-0 | 2-methylpropan-2-ol | 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

· **Signal word** Danger

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

2-methylpropan-2-ol

Methyl Alcohol

· **Hazard statements**

Highly flammable liquid and vapor.

Harmful if inhaled.

Causes serious eye irritation.

May cause respiratory irritation.

· **Precautionary statements**

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

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

Avoid breathing dust/fume/gas/mist/vapors/spray

Wear protective gloves / eye protection / face protection.

Wear eye protection / face protection.

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

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

Continue rinsing.

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

Call a poison center/doctor if you feel unwell.

If eye irritation persists: Get medical advice/attention.

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

Store locked up.

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

Store in a well-ventilated place. Keep cool.

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

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

## 16 Other information

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

· **Date of preparation / last revision** 08/08/2015 / -

· **Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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

Acute Tox. 4: Acute toxicity, Hazard Category 4

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

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

US

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

Printing date 08.08.2015

Revision: 08.08.2015

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

- **Product identifier**

- **Trade name:** DIFFERENTIATING SOLUTION

- **Article number:** 26777-02

- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.

- **Application of the substance / the mixture** Laboratory chemicals

- **Details of the supplier of the safety data sheet**

- **Manufacturer/Supplier:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

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

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

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

ProSciTech Pty Ltd

11 Carlton Street, Kirwan QLD 4817 Australia

Telephone Number: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)

Emergency Contact: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)

Emgrid Australia Pty. Ltd.

P.O. Box 118

The Patch VIC 3792

Australia

Tel: 03 9752 1785

Fax: 03 9752 1784

Website: [www.emgrid.com.au](http://www.emgrid.com.au)

- **Further information obtainable from:** Product safety department

- **Emergency telephone number:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

## 2 Hazards identification

- **Classification of the substance or mixture**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Eye Irrit. 2 H319 Causes serious eye irritation.

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).

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

Printing date 08.08.2015

Revision: 08.08.2015

Trade name: **DIFFERENTIATING SOLUTION**

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· **Hazard pictograms**

GHS02 GHS07

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

2-methylpropan-2-ol  
Methyl Alcohol

· **Hazard statements**

*Highly flammable liquid and vapour.*

*Harmful if inhaled.*

*Causes serious eye irritation.*

*May cause respiratory irritation.*

· **Precautionary statements**

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

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

*Avoid breathing dust/fume/gas/mist/vapours/spray.*

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

*Wear eye protection / face protection.*

*Ground/bond container and receiving equipment.*

*Use only non-sparking tools.*

*Take precautionary measures against static discharge.*

*Wash thoroughly after handling.*

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

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

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

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

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

*If eye irritation persists: Get medical advice/attention.*

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

*Store locked up.*

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

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

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

· **Other hazards**· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition/information on ingredients

· **Chemical characterisation:** *Mixtures*

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

· **Dangerous components:**

|         |                     |         |
|---------|---------------------|---------|
| 75-65-0 | 2-methylpropan-2-ol | 50-100% |
| 67-56-1 | Methyl Alcohol      | ≤ 2.5%  |

(Contd. on page 3)

## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.08.2015

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**Trade name: DIFFERENTIATING SOLUTION**

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

### 4 First aid measures

· **Description of first aid measures**

· **General information:**

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. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Generally the product does not irritate the skin.

· **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 Firefighting 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

· **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.

Prevent formation of aerosols.

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

## 8 Exposure controls/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:**

### 75-65-0 2-methylpropan-2-ol

|     |   |
|-----|---|
| NES | Short-term value: 455 mg/m <sup>3</sup> , 150 ppm<br>Long-term value: 303 mg/m <sup>3</sup> , 100 ppm |
|-----|---|

### 67-56-1 Methyl Alcohol

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

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

|                  |                 |
|------------------|-----------------|
| Form:            | Liquid          |
| Colour:          | Colourless      |
| Odour:           | Pungent         |
| Odour threshold: | Not determined. |

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

|                              |               |
|------------------------------|---------------|
| Melting point/Melting range: | Undetermined. |
| Boiling point/Boiling range: | 83 °C         |

· **Flash point:** 11 °C· **Flammability (solid, gaseous):** Not applicable.· **Ignition temperature:** 470 °C· **Decomposition temperature:** Not determined.· **Self-igniting:** Product is not selfigniting.· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.· **Explosion limits:**

|        |           |
|--------|-----------|
| Lower: | 2.3 Vol % |
| Upper: | 8.0 Vol % |

· **Vapour pressure at 20 °C:** 40 hPa· **Density:** Not determined.· **Relative density** Not determined.· **Vapour 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:**

|            |                 |
|------------|-----------------|
| Dynamic:   | Not determined. |
| Kinematic: | Not determined. |

· **Solvent content:**

|                   |        |
|-------------------|--------|
| Organic solvents: | 1.3 %  |
| VOC (EC)          | 1.25 % |

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

### 10 Stability and reactivity

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

### 11 Toxicological information

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

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

75-65-0 2-methylpropan-2-ol

|      |      |                  |
|------|------|------------------|
| Oral | LD50 | 3500 mg/kg (rat) |
|------|------|------------------|

- **Primary irritant effect:**
- **Skin corrosion/irritation** No irritant effect.
- **Serious eye damage/irritation** Irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.

· **Additional toxicological information:**

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

Harmful  
Irritant

### 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 1 (German Regulation) (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

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**13 Disposal considerations**

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

**14 Transport information**

|   |   |
|---|---|
| · <b>UN-Number</b><br>· <b>ADG, IMDG, IATA</b>  | UN1993  |
| · <b>UN proper shipping name</b><br>· <b>ADG</b><br>· <b>IMDG, IATA</b>                         | 1993 FLAMMABLE LIQUID, N.O.S. (BUTANOLS)<br>FLAMMABLE LIQUID, N.O.S. (BUTANOLS)                                       |
| · <b>Transport hazard class(es)</b><br>· <b>ADG, IMDG, IATA</b>                                 |   |
|               |   |
| · <b>Class</b><br>· <b>Label</b>  | 3 Flammable liquids.<br>3   |
| · <b>Packing group</b><br>· <b>ADG, IMDG, IATA</b>  | II  |
| · <b>Environmental hazards:</b><br>· <b>Marine pollutant:</b>                                   | No  |
| · <b>Special precautions for user</b><br>· <b>Danger code (Kemler):</b><br>· <b>EMS Number:</b> | Warning: Flammable liquids.<br>33<br>F-E, <u>S-E</u>  |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>                | Not applicable.   |
| · <b>Transport/Additional information:</b>  |   |
| · <b>ADG</b><br>· <b>Limited quantities (LQ)</b><br>· <b>Excepted quantities (EQ)</b>           | 1L<br>Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · <b>Transport category</b><br>· <b>Tunnel restriction code</b>                                 | 2<br>D/E  |
| · <b>IMDG</b><br>· <b>Limited quantities (LQ)</b><br>· <b>Excepted quantities (EQ)</b>          | 1L<br>Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |

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|                          |  |
|--------------------------|--|
| · UN "Model Regulation": | UN1993, FLAMMABLE LIQUID, N.O.S. (BUTANOLS), 3, II |
|--------------------------|--|

### 15 Regulatory information

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

· **Australian Inventory of Chemical Substances**

|         |                     |
|---------|---------------------|
| 75-65-0 | 2-methylpropan-2-ol |
|---------|---------------------|

|         |                |
|---------|----------------|
| 67-56-1 | Methyl Alcohol |
|---------|----------------|

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

|         |                |        |
|---------|----------------|--------|
| 67-56-1 | Methyl Alcohol | S5, S6 |
|---------|----------------|--------|

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

· **Hazard pictograms**



GHS02    GHS07

· **Signal word** *Danger*

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

2-methylpropan-2-ol

Methyl Alcohol

· **Hazard statements**

Highly flammable liquid and vapour.

Harmful if inhaled.

Causes serious eye irritation.

May cause respiratory irritation.

· **Precautionary statements**

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

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

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wear protective gloves / eye protection / face protection.

Wear eye protection / face protection.

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

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

Continue rinsing.

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

Call a POISON CENTER/doctor if you feel unwell.

If eye irritation persists: Get medical advice/attention.

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

Store locked up.

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

Store in a well-ventilated place. Keep cool.

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

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- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **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)*

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

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

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

*Acute Tox. 4: Acute toxicity, Hazard Category 4*

*Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2*

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

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/08/2015

Reviewed on 08/08/2015

## 1 Identification

- **Product identifier**
- **Trade name:** DIFFERENTIATING SOLUTION
- **Article number:** 26777-02
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**  
Not applicable.



Harmful

Harmful by inhalation.



Irritant

Irritating to eyes and respiratory system.



Highly flammable

Highly flammable.

- **Information concerning particular hazards for human and environment:**  
The product has to be labeled due to the calculation procedure of international guidelines.
- **Classification system:**  
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

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· **Label elements**

· **Labelling according to EU guidelines:**

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

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



Harmful  
Highly flammable

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

2-methylpropan-2-ol

· **Risk phrases:**

*Highly flammable.*

*Harmful by inhalation.*

*Irritating to eyes and respiratory system.*

· **Safety phrases:**

*Keep container in a well-ventilated place.*

*Keep away from heat.*

*Keep away from sources of ignition - No smoking.*

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

· **Hazard description:**

· **WHMIS-symbols:**

B2 - Flammable liquid

D2B - Toxic material causing other toxic effects



· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 1

Fire = 3

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = \*1

Fire = 3

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

## 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

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

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**· Dangerous components:**

|         |                     |          |
|---------|---------------------|----------|
| 75-65-0 | 2-methylpropan-2-ol | 60-100%  |
| 67-56-1 | Methyl Alcohol      | 0.5-1.5% |

## 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. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness place patient stably in side position for transportation.

**· After skin contact:** Generally the product does not irritate the skin.

**· 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

**· Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
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.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.  
Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

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

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

### 75-65-0 2-methylpropan-2-ol

|    |   |
|----|---|
| EL | Long-term value: 100 ppm                              |
| EV | Short-term value: 150 ppm<br>Long-term value: 100 ppm |

### 67-56-1 Methyl Alcohol

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

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

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· **Protection of hands:**

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>Color:</b>           | Colorless       |
| <b>Odor:</b>            | Pungent         |
| <b>Odour threshold:</b> | Not determined. |

· **pH-value:** Not determined.

· **Change in condition**

|                                     |               |
|-------------------------------------|---------------|
| <b>Melting point/Melting range:</b> | Undetermined. |
| <b>Boiling point/Boiling range:</b> | 83 °C         |

· **Flash point:** 11 °C

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

· **Ignition temperature:** 470 °C

· **Decomposition temperature:** Not determined.

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

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

· **Explosion limits:**

|               |           |
|---------------|-----------|
| <b>Lower:</b> | 2.3 Vol % |
| <b>Upper:</b> | 8.0 Vol % |

· **Vapor pressure at 20 °C:** 40 hPa

|                         |                 |
|-------------------------|-----------------|
| <b>Density:</b>         | Not determined. |
| <b>Relative density</b> | Not determined. |
| <b>Vapour density</b>   | Not determined. |
| <b>Evaporation rate</b> | Not determined. |

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- |   |  |
|---|--|
| <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>                          | 1.3 %                                      |
| <b>· Other information</b>                        | No further relevant information available. |

## 10 Stability and reactivity

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

## 11 Toxicological information

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

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

75-65-0 2-methylpropan-2-ol

|      |      |                  |
|------|------|------------------|
| Oral | LD50 | 3500 mg/kg (rat) |
|------|------|------------------|

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **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)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

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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 1 (Self-assessment): slightly hazardous for water*  
*Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.*
- **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

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT, TDG, IMDG, IATA</b></li> </ul>   | <p style="margin-left: 20px;">UN1993</p>   |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT</b></li> <li>· <b>TDG</b></li> <li>· <b>IMDG, IATA</b></li> </ul> | <p style="margin-left: 20px;">Flammable liquids, n.o.s. (Butanols)<br/>           1993 Flammable liquids, n.o.s. (Butanols)<br/>           FLAMMABLE LIQUID, N.O.S. (BUTANOLS)</p> |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT</b></li> </ul>   | <p style="margin-left: 20px;">3</p>  |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> <li>· <b>TDG, IMDG, IATA</b></li> </ul>                                  | <p style="margin-left: 20px;">3 Flammable liquids<br/>           3</p>   |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> </ul>  | <p style="margin-left: 20px;">3 Flammable liquids</p>  |

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|   |   |
|---|---|
| · <b>Label</b>  | 3   |
| · <b>Packing group</b><br>· <b>DOT, TDG, IMDG, IATA</b>   | II  |
| · <b>Environmental hazards:</b><br>· <b>Marine pollutant:</b>                                   | No  |
| · <b>Special precautions for user</b><br>· <b>Danger code (Kemler):</b><br>· <b>EMS Number:</b> | Warning: Flammable liquids<br>33<br>F-E, <u>S-E</u>   |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>                | Not applicable.   |
| · <b>Transport/Additional information:</b><br>· <b>DOT</b><br>· <b>Quantity limitations</b>     | On passenger aircraft/rail: 5 L<br>On cargo aircraft only: 60 L   |
| · <b>TDG</b><br>· <b>Excepted quantities (EQ)</b>   | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml       |
| · <b>IMDG</b><br>· <b>Limited quantities (LQ)</b><br>· <b>Excepted quantities (EQ)</b>          | 1L<br>Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · <b>UN "Model Regulation":</b>   | UN1993, Flammable liquids, n.o.s. (Butanols), 3, II   |

## 15 Regulatory information

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

|  |
|--|
| · <b>Section 355 (extremely hazardous substances):</b> |
|--|

|                                    |
|------------------------------------|
| None of the ingredients is listed. |
|------------------------------------|

|  |
|--|
| · <b>Section 313 (Specific toxic chemical listings):</b> |
|--|

|         |                     |
|---------|---------------------|
| 75-65-0 | 2-methylpropan-2-ol |
|---------|---------------------|

|         |                |
|---------|----------------|
| 67-56-1 | Methyl Alcohol |
|---------|----------------|

|   |
|---|
| · <b>TSCA (Toxic Substances Control Act):</b> |
|---|

|         |                     |
|---------|---------------------|
| 75-65-0 | 2-methylpropan-2-ol |
|---------|---------------------|

|         |                |
|---------|----------------|
| 67-56-1 | Methyl Alcohol |
|---------|----------------|

|                         |
|-------------------------|
| · <b>Proposition 65</b> |
|-------------------------|

|   |
|---|
| · <b>Chemicals known to cause cancer:</b> |
|---|

|                                    |
|------------------------------------|
| None of the ingredients is listed. |
|------------------------------------|

|  |
|--|
| · <b>Chemicals known to cause reproductive toxicity for females:</b> |
|--|

|                                    |
|------------------------------------|
| None of the ingredients is listed. |
|------------------------------------|

|  |
|--|
| · <b>Chemicals known to cause reproductive toxicity for males:</b> |
|--|

|                                    |
|------------------------------------|
| None of the ingredients is listed. |
|------------------------------------|

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

|         |                |
|---------|----------------|
| 67-56-1 | Methyl Alcohol |
|---------|----------------|

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

|         |                     |    |
|---------|---------------------|----|
| 75-65-0 | 2-methylpropan-2-ol | A4 |
|---------|---------------------|----|

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

None of the ingredients is listed.

· **Canadian substance listings:**

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

|         |                     |
|---------|---------------------|
| 75-65-0 | 2-methylpropan-2-ol |
|---------|---------------------|

|         |                |
|---------|----------------|
| 67-56-1 | Methyl Alcohol |
|---------|----------------|

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

None of the ingredients is listed.

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

|         |                     |
|---------|---------------------|
| 75-65-0 | 2-methylpropan-2-ol |
|---------|---------------------|

|         |                |
|---------|----------------|
| 67-56-1 | Methyl Alcohol |
|---------|----------------|

· **Product related hazard informations:**

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

· **Hazard symbols:**



Harmful  
Highly flammable

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

2-methylpropan-2-ol

· **Risk phrases:**

Highly flammable.

Harmful by inhalation.

Irritating to eyes and respiratory system.

· **Safety phrases:**

Keep container in a well-ventilated place.

Keep away from heat.

Keep away from sources of ignition - No smoking.

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

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

## 16 Other information

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

· **Date of preparation / last revision** 08/08/2015 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

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*IATA: International Air Transport Association**ACGIH: American Conference of Governmental Industrial Hygienists**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**NFPA: National Fire Protection Association (USA)**HMIS: Hazardous Materials Identification System (USA)**WHMIS: Workplace Hazardous Materials Information System (Canada)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**Flam. Liq. 2: Flammable liquids, Hazard Category 2**Acute Tox. 4: Acute toxicity, Hazard Category 4**Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A**STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3*

CA

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

Printing date 08.08.2015

Revision: 08.08.2015

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

- **1.1 Product identifier**
- **Trade name:** DIFFERENTIATING SOLUTION
- **Article number:** 26777-02
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Further information obtainable from:** Product safety department
- **1.4 Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### SECTION 2: Hazards identification

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



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

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



GHS02 GHS07

- **Signal word** Danger
- **Hazard-determining components of labelling:**  
2-methylpropan-2-ol  
Methyl Alcohol
- **Hazard statements**  
H225 Highly flammable liquid and vapour.

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H332 Harmful if inhaled.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

· **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: 75-65-0<br>EINECS: 200-889-7 | 2-methylpropan-2-ol<br>Flam. Liq. 2, H225; Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335                                     | 50-100% |
| CAS: 67-56-1<br>EINECS: 200-659-6 | Methyl Alcohol<br>Flam. Liq. 2, H225; STOT SE 1, H370; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315 | ≤ 2.5%  |

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

### SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **General information:**

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. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Generally the product does not irritate the skin.

· **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.

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

### SECTION 8: Exposure controls/personal protection

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

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· **8.1 Control parameters**· **Ingredients with limit values that require monitoring at the workplace:****75-65-0 2-methylpropan-2-ol**

|     |   |
|-----|---|
| WEL | Short-term value: 462 mg/m <sup>3</sup> , 150 ppm<br>Long-term value: 308 mg/m <sup>3</sup> , 100 ppm |
|-----|---|

**67-56-1 Methyl Alcohol**

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

· **Additional information:** The lists valid during the making were used as basis.· **8.2 Exposure controls**· **Personal protective equipment:**· **General protective and hygienic measures:**

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

· **Respiratory protection:**

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

· **Protection of hands:**

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

· **Material of gloves**

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

· **Penetration time of glove material**

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

· **Eye protection:**

Tightly sealed goggles

## SECTION 9: Physical and chemical properties

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

|                         |                 |
|-------------------------|-----------------|
| <b>Form:</b>            | Liquid          |
| <b>Colour:</b>          | Colourless      |
| <b>Odour:</b>           | Pungent         |
| <b>Odour threshold:</b> | Not determined. |

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|   |  |
|---|--|
| · <b>pH-value:</b>                                | <i>Not determined.</i>   |
| · <b>Change in condition</b>                      |  |
| <b>Melting point/Melting range:</b>               | <i>Undetermined.</i>   |
| <b>Boiling point/Boiling range:</b>               | <i>83 °C</i>   |
| · <b>Flash point:</b>                             | <i>11 °C</i>   |
| · <b>Flammability (solid, gaseous):</b>           | <i>Not applicable.</i>   |
| · <b>Ignition temperature:</b>                    | <i>470 °C</i>  |
| · <b>Decomposition temperature:</b>               | <i>Not determined.</i>   |
| · <b>Self-igniting:</b>                           | <i>Product is not selfigniting.</i>  |
| · <b>Danger of explosion:</b>                     | <i>Product is not explosive. However, formation of explosive air/vapour mixtures are possible.</i> |
| · <b>Explosion limits:</b>                        |  |
| <b>Lower:</b>                                     | <i>2.3 Vol %</i>   |
| <b>Upper:</b>                                     | <i>8.0 Vol %</i>   |
| · <b>Vapour pressure at 20 °C:</b>                | <i>40 hPa</i>  |
| · <b>Density:</b>                                 | <i>Not determined.</i>   |
| · <b>Relative density</b>                         | <i>Not determined.</i>   |
| · <b>Vapour density</b>                           | <i>Not determined.</i>   |
| · <b>Evaporation rate</b>                         | <i>Not determined.</i>   |
| · <b>Solubility in / Miscibility with water:</b>  | <i>Not miscible or difficult to mix.</i>   |
| · <b>Partition coefficient (n-octanol/water):</b> | <i>Not determined.</i>   |
| · <b>Viscosity:</b>                               |  |
| <b>Dynamic:</b>                                   | <i>Not determined.</i>   |
| <b>Kinematic:</b>                                 | <i>Not determined.</i>   |
| · <b>Solvent content:</b>                         |  |
| <b>Organic solvents:</b>                          | <i>1.3 %</i>   |
| <b>VOC (EC)</b>                                   | <i>1.25 %</i>  |
| · <b>9.2 Other information</b>                    | <i>No further relevant information available.</i>  |

## **SECTION 10: Stability and reactivity**

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** *No decomposition if used according to specifications.*
- **10.3 Possibility of hazardous reactions** *No dangerous reactions known.*
- **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.*

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## SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**

- **Acute toxicity**

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

|                                    |      |                  |
|------------------------------------|------|------------------|
| <b>75-65-0 2-methylpropan-2-ol</b> |      |                  |
| Oral                               | LD50 | 3500 mg/kg (rat) |

- **Primary irritant effect:**

- **Skin corrosion/irritation** No irritant effect.

- **Serious eye damage/irritation** Irritating effect.

- **Respiratory or skin sensitisation** No sensitising effects known.

- **Additional toxicological information:**

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

Harmful

Irritant

## 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 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- **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

- **14.1 UN-Number**

- **ADR, IMDG, IATA**

UN1993

- **14.2 UN proper shipping name**

- **ADR**

- **IMDG, IATA**

1993 FLAMMABLE LIQUID, N.O.S. (BUTANOLS)

FLAMMABLE LIQUID, N.O.S. (BUTANOLS)

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· **14.3 Transport hazard class(es)**· **ADR, IMDG, IATA**

· **Class** 3 Flammable liquids.  
· **Label** 3

· **14.4 Packing group**· **ADR, IMDG, IATA** II· **14.5 Environmental hazards:**· **Marine pollutant:** No· **14.6 Special precautions for user** Warning: Flammable liquids.· **Danger code (Kemler):** 33· **EMS Number:** F-E,S-E· **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.· **Transport/Additional information:**· **ADR**· **Limited quantities (LQ)** 1L· **Excepted quantities (EQ)** Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **Transport category** 2· **Tunnel restriction code** D/E· **IMDG**· **Limited quantities (LQ)** 1L· **Excepted quantities (EQ)** Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":**

UN1993, FLAMMABLE LIQUID, N.O.S. (BUTANOLS), 3, II

### 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.· **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.

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*H302 Harmful if swallowed.**H312 Harmful in contact with skin.**H315 Causes skin irritation.**H319 Causes serious eye irritation.**H332 Harmful if inhaled.**H335 May cause respiratory irritation.**H370 Causes damage to organs.***· Abbreviations and acronyms:***ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**IATA: International Air Transport Association**GHS: Globally Harmonised System of Classification and Labelling of Chemicals**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**Flam. Liq. 2: Flammable liquids, Hazard Category 2**Acute Tox. 4: Acute toxicity, Hazard Category 4**Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2**Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2**STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1**STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3*

GB

# Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 08.08.2015

Herziening van: 08.08.2015

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

- **1.1 Productidentificatie**
- **Handelsnaam:** DIFFERENTIATING SOLUTION
- **Artikelnummer:** 26777-02
- **1.2 Relevant geïdentificeerd gebruik van de stof of het mengsel en ontraden gebruik**  
Geen verdere relevante informatie verkrijgbaar.
- **Toepassing van de stof / van de bereiding** Laboratoriumchemicaliën
- **1.3 Details betreffende de verstrekker van het veiligheidsinformatieblad**
- **Fabrikant/leverancier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Aurion**  
Binnenhaven 5  
6709 PD Wageningen  
The Netherlands  
Tel: 31 317 415094  
Fax: 31 317 415955  
email: info@aurion.nl
- **Inlichtingengevende sector:** Product safety department
- **1.4 Telefoonnummer voor noodgevallen:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## RUBRIEK 2: Identificatie van de gevaren

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



GHS02 vlam

Flam. Liq. 2 H225 Licht ontvlambare vloeistof en damp.



GHS07

Acute Tox. 4 H332 Schadelijk bij inademing.

Eye Irrit. 2 H319 Veroorzaakt ernstige oogirritatie.

STOT SE 3 H335 Kan irritatie van de luchtwegen veroorzaken.

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

(Vervolg op blz. 2)

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**· Gevarenpictogrammen**


GHS02 GHS07

**· Signaalwoord** Gevaar

**· Gevaaraanduidende componenten voor de etikettering:**

tert-butylalcohol  
methanol

**· Gevarenaanduidingen**

H225 Licht ontvlambare vloeistof en damp.

H332 Schadelijk bij inademing.

H319 Veroorzaakt ernstige oogirritatie.

H335 Kan irritatie van de luchtwegen veroorzaken.

**· 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 gevaren**
**· Resultaten van PBT- en zPzB-beoordeling**

· **PBT:** Niet bruikbaar.

· **zPzB:** Niet bruikbaar.

## RUBRIEK 3: Samenstelling en informatie over de bestanddelen

**· 3.2 Chemische karakterisering: Mengsels**

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

**· Gevaarlijke inhoudstoffen:**

|                                   |  |         |
|-----------------------------------|--|---------|
| CAS: 75-65-0<br>EINECS: 200-889-7 | tert-butylalcohol<br>⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335                                   | 50-100% |
| CAS: 67-56-1<br>EINECS: 200-659-6 | methanol<br>⚠ Flam. Liq. 2, H225; ⚠ STOT SE 1, H370; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315 | ≤ 2,5%  |

**· Aanvullende gegevens:**

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

(Vervolg op blz. 3)

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### 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:

Frisse lucht toedienen, eventueel beademing, warmte. Wanneer de klachten niet ophouden, een arts raadplegen. Bij bewusteloosheid ligging en vervoer in stabiele zijligging.

##### · Na huidcontact: Over het algemeen is het produkt niet prikkelend voor de huid

##### · 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 brandweertieners

##### · 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 terecht komen.

#### · 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.

Aërosolvorming vermijden.

##### · Informatie m.b.t. brand- en ontploffingsgevaar:

Onststekingsbronnen op afstand houden - niet roken.

Beschermen tegen hitte.

(Vervolg op blz. 4)



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Maatregelen treffen tegen ontlading van statische elektriciteit.

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

· **Opslag:**

· **Eisen ten opzichte van opslagruimte en tanks:** Op een koele plaats bewaren.

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

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

Tanks ondoordringbaar gesloten houden.

Koel en droog bewaren in goed gesloten vaten.

Tegen hitte en directe zonnestralen beschermen.

· **7.3 Specifiek eindgebruik** Geen verdere relevante informatie verkrijgbaar.

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

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

· **8.1 Controleparameters**

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

**67-56-1 methanol**

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

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

· **8.2 Maatregelen ter beheersing van blootstelling**

· **Persoonlijke beschermingsvoorzieningen:**

· **Algemene beschermings- en gezondheidsmaatregelen:**

Verwijderd houden van eet- en drinkwaren.

Verontreinigde kleding onmiddellijk uittrekken.

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

Aanraking met de ogen vermijden.

Aanraking met de ogen en de huid vermijden.

· **Ademhalingsbescherming:**

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

· **Handbescherming:**

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

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

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

· **Handschoenmateriaal**

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

· **Doordringingstijd van het handschoenmateriaal**

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

· **Oogbescherming:**



Nauw aansluitende veiligheidsbril

NE

(Vervolg op blz. 5)

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### RUBRIEK 9: Fysische en chemische eigenschappen

#### · 9.1 Informatie over fysische en chemische basiseigenschappen

##### · Algemene gegevens

##### · Voorkomen:

|                    |               |
|--------------------|---------------|
| Vorm:              | Vloeistof     |
| Kleur:             | Kleurloos     |
| Reuk:              | Stekend       |
| Geurdrempelwaarde: | Niet bepaald. |

· pH-waarde: Niet bepaald.

##### · Toestandsverandering

|                          |               |
|--------------------------|---------------|
| Smeltpunt/smeltbereik:   | Niet bepaald. |
| Kookpunt/kookpuntbereik: | 83 °C         |

· Vlampunt: 11 °C

· Ontvlambaarheid (vast, gasvormig): Niet bruikbaar.

· Ontstekingstemperatuur: 470 °C

· Ontbindingstemperatuur: Niet bepaald.

· Zelfonsteking: Het produkt ontbrandt niet uit zichzelf.

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

##### · Ontploffingsgrenzen:

|           |           |
|-----------|-----------|
| Onderste: | 2,3 Vol % |
| Bovenste: | 8,0 Vol % |

· Dampspanning bij 20 °C: 40 hPa

· Dichtheid: Niet bepaald.

· 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: | 1,3 %  |
| VOC (EG)               | 1,25 % |

· 9.2 Overige informatie: Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 10: Stabiliteit en reactiviteit

#### · 10.1 Reactiviteit

#### · 10.2 Chemische stabiliteit

· Thermische afbraak / te vermijden omstandigheden: Geen afbraak bij gebruik volgens voorschrift.

· 10.3 Mogelijke gevaarlijke reacties: Geen gevaarlijke reacties bekend.

(Vervolg op blz. 6)

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- **10.4 Te vermijden omstandigheden** Geen verdere relevante informatie verkrijgbaar.
- **10.5 Chemisch op elkaar inwerkende materialen:** Geen verdere relevante informatie verkrijgbaar.
- **10.6 Gevaarlijke ontledingsproducten:** Geen gevaarlijke ontbindingsproducten bekend.

### RUBRIEK 11: Toxicologische informatie

- **11.1 Informatie over toxicologische effecten**
- **Acute toxiciteit**

#### Indelingsrelevantie LD/LC50-waarden:

75-65-0 tert-butylalcohol

|       |      |                  |
|-------|------|------------------|
| Oraal | LD50 | 3500 mg/kg (rat) |
|-------|------|------------------|

- **Primaire aandoening:**
- **Huidcorrosie/-irritatie** Geen prikkelend effect.
- **Ernstig oogletsel/oogirritatie** Prikkeling
- **Sensibilisatie van de luchtwegen/de huid** Geen effect van overgevoeligheid bekend.
- **Aanvullende toxicologische informatie:**  
Het produkt vertoont op grond van het berekeningsprocédé van de algemene classificatie-richtlijnen van de EG voor toebereidingen in de laatste geldige redactie de volgende gevaren:  
Schadelijk  
Irriterend

### RUBRIEK 12: Ecologische informatie

- **12.1 Toxiciteit**
- **Aquatische toxiciteit:** Geen verdere relevante informatie verkrijgbaar.
- **12.2 Persistentie en afbreekbaarheid** Geen verdere relevante informatie verkrijgbaar.
- **12.3 Bioaccumulatie** Geen verdere relevante informatie verkrijgbaar.
- **12.4 Mobiliteit in de bodem** Geen verdere relevante informatie verkrijgbaar.
- **Verdere ecologische informatie:**
- **Algemene informatie:**  
Waterbezwaarlijkheid (NL) 10: Kan in het aquatisch milieu op lange termijn schadelijke effecten veroorzaken.  
Gevaar voor water klasse 1 (D) (Zelfclassificatie): gevaar voor water klein  
Niet onverdund of in grote hoeveelheden lozen in grondwater, in oppervlaktewater of in de riolering.
- **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.

-NL-

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## RUBRIEK 14: Informatie met betrekking tot het vervoer

|   |   |
|---|---|
| · 14.1 VN-nummer  | UN1993  |
| · ADR, IMDG, IATA   |   |
| · 14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN             |   |
| · ADR   | 1993 BRANDBARE VLOEISTOF, N.E.G. (BUTANOLEN)  |
| · IMDG, IATA  | FLAMMABLE LIQUID, N.O.S. (BUTANOLS)   |
| · 14.3 Transportgevaarklasse(n)   |   |
| · ADR, IMDG, IATA   |   |
|  |   |
| · klasse  | 3 Brandbare vloeistoffen  |
| · Etiket  | 3   |
| · 14.4 Verpakkingsgroep:  |   |
| · ADR, IMDG, IATA   | II  |
| · 14.5 Milieugevaar:  |   |
| · Marine pollutant:   | Neen  |
| · 14.6 Bijzondere voorzorgen voor de gebruiker                                    | Waarschuwing: Brandbare vloeistoffen  |
| · Kemler-getal:   | 33  |
| · EMS-nummer:   | F-E,S-E   |
| · 14.7 Vervoer in bulk overeenkomstig bijlage II bij MARPOL 73/78 en de IBC-code  | Niet bruikbaar.   |
| · Transport/verdere gegevens:   |   |
| · ADR   |   |
| · Beperkte hoeveelheden (LQ)  | 1L  |
| · Uitgezonderde hoeveelheden (EQ)   | Code: E2<br>Grootste netto hoeveelheid per binnenverpakking: 30 ml<br>Grootste netto hoeveelheid per buitenverpakking: 500 ml |
| · Vervoerscategorie   | 2   |
| · Tunnelbeperkingscode  | D/E   |
| · IMDG  |   |
| · Limited quantities (LQ)   | 1L  |
| · Excepted quantities (EQ)  | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml               |
| · VN "Model Regulation":  | UN1993, BRANDBARE VLOEISTOF, N.E.G. (BUTANOLEN), 3, II  |

## 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.

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**· SZW-lijst van mutagene stoffen**

geen der bestanddelen staat op de lijst.

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

geen der bestanddelen staat op de lijst.

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

67-56-1 methanol

2

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

geen der bestanddelen staat op de lijst.

**· Richtlijn 2012/18/EU**
**· Gevaarlijke stoffen die met naam genoemd worden - BIJLAGE I** geen der bestanddelen staat op de lijst.

**· Nationale voorschriften:**
**· Gevaarklasse v. water:** Waterbezwaarlijkheid (NL) 10: Saneringsinspanning A

**· 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.

H302 Schadelijk bij inslikken.

H312 Schadelijk bij contact met de huid.

H315 Veroorzaakt huidirritatie.

H319 Veroorzaakt ernstige oogirritatie.

H332 Schadelijk bij inademing.

H335 Kan irritatie van de luchtwegen veroorzaken.

H370 Veroorzaakt schade aan organen.

**· Afkortingen en acroniemen:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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

Acute Tox. 4: Acute toxicity, Hazard Category 4

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

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

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

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

# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

Date d'impression : 08.08.2015

Révision: 08.08.2015

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

- **1.1 Identificateur de produit**
- **Nom du produit:** DIFFERENTIATING SOLUTION
- **Code du produit:** 26777-02
- **1.2 Utilisations identifiées pertinentes de la substance ou du mélange et utilisations déconseillées**  
Pas d'autres informations importantes disponibles.
- **Emploi de la substance / de la préparation** Produits chimiques pour laboratoires
- **1.3 Renseignements concernant le fournisseur de la fiche de données de sécurité**
- **Producteur/fournisseur:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Service chargé des renseignements:** Product safety department
- **1.4 Numéro d'appel d'urgence:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### SECTION 2: Identification des dangers

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



GHS02 flamme

Flam. Liq. 2 H225 Liquide et vapeurs très inflammables.



GHS07

Acute Tox. 4 H332 Nocif par inhalation.  
Eye Irrit. 2 H319 Provoque une sévère irritation des yeux.  
STOT SE 3 H335 Peut irriter les voies respiratoires.

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



GHS02



GHS07

- **Mention d'avertissement** Danger
- **Composants dangereux déterminants pour l'étiquetage:**  
2-méthyl-2-propanol  
méthanol
- **Mentions de danger**  
H225 Liquide et vapeurs très inflammables.  
H332 Nocif par inhalation.

(suite page 2)

# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

Date d'impression : 08.08.2015

Révision: 08.08.2015

**Nom du produit: DIFFERENTIATING SOLUTION**

(suite de la page 1)

H319 Provoque une sévère irritation des yeux.

H335 Peut irriter les voies respiratoires.

· **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.

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

· **3.2 Caractérisation chimique: Mélanges**

· **Description:** Mélange des substances mentionnées à la suite avec des additifs non dangereux.

· **Composants dangereux:**

|                                   |  |         |
|-----------------------------------|--|---------|
| CAS: 75-65-0<br>EINECS: 200-889-7 | 2-méthyl-2-propanol<br>Flam. Liq. 2, H225; Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335                               | 50-100% |
| CAS: 67-56-1<br>EINECS: 200-659-6 | méthanol<br>Flam. Liq. 2, H225; STOT SE 1, H370; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315 | ≤ 2,5%  |

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

### SECTION 4: Premiers secours

· **4.1 Description des premiers secours**

· **Remarques générales:**

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. Assistance respiratoire si nécessaire. Tenir le malade au chaud. Si les troubles persistent, consulter un médecin.

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

· **Après contact avec la peau:** En règle générale, le produit n'irrite pas la peau.

· **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.

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- **4.3 Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires**  
Pas d'autres informations importantes disponibles.

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

- **5.1 Moyens d'extinction**
- **Moyens d'extinction:** 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.

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

- **6.1 Précautions individuelles, équipement de protection et procédures d'urgence**  
Porter un équipement de sécurité. Eloigner les personnes non protégées.
- **6.2 Précautions pour la protection de l'environnement:**  
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 sections**  
Afin d'obtenir des informations pour une manipulation sûre, consulter le chapitre 7.  
Afin d'obtenir des informations sur les équipements de protection personnels, consulter le chapitre 8.  
Afin d'obtenir des informations sur l'élimination, consulter le chapitre 13.

### SECTION 7: Manipulation et stockage

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

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

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

Sans autre indication, voir point 7.

· **8.1 Paramètres de contrôle**

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

**75-65-0 2-méthyl-2-propanol**

|            |  |
|------------|--|
| <b>VME</b> | Valeur à long terme: 300 mg/m <sup>3</sup> , 100 ppm |
|------------|--|

**67-56-1 méthanol**

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

· **Remarques supplémentaires:**

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

· **8.2 Contrôles de l'exposition**

· **Équipement de protection individuel:**

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

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

Retirer immédiatement les vêtements souillés ou humectés.

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

Éviter tout contact avec les yeux.

Éviter tout contact avec les yeux et avec la peau.

· **Protection respiratoire:**

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

· **Protection des mains:**

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

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

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

· **Matériau des gants**

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

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

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

· **Protection des yeux:**



Lunettes de protection hermétiques

### SECTION 9: Propriétés physiques et chimiques

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

· **Indications générales**

· **Aspect:**

**Forme:** Liquide

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|  |  |
|--|--|
| <b>Couleur:</b>                                  | Incolore   |
| · <b>Odeur:</b>                                  | Piquante   |
| · <b>Seuil olfactif:</b>                         | Non déterminé.   |
| · <b>valeur du pH:</b>                           | Non déterminé.   |
| · <b>Changement d'état</b>                       |  |
| <b>Point de fusion:</b>                          | Non déterminé.   |
| <b>Point d'ébullition:</b>                       | 83 °C  |
| · <b>Point d'éclair</b>                          | 11 °C  |
| · <b>Inflammabilité (solide, gazeux):</b>        | Non applicable.  |
| · <b>Température d'inflammation:</b>             | 470 °C   |
| · <b>Température de décomposition:</b>           | Non déterminé.   |
| · <b>Auto-inflammation:</b>                      | Le produit ne s'enflamme pas spontanément.   |
| · <b>Danger d'explosion:</b>                     | Le produit n'est pas explosif; toutefois, des mélanges explosifs vapeur-air peuvent se former. |
| · <b>Limites d'explosion:</b>                    |  |
| <b>Inférieure:</b>                               | 2,3 Vol %  |
| <b>Supérieure:</b>                               | 8,0 Vol %  |
| · <b>Pression de vapeur à 20 °C:</b>             | 40 hPa   |
| · <b>Densité:</b>                                | Non déterminée.  |
| · <b>Densité relative</b>                        | Non déterminé.   |
| · <b>Densité de vapeur.</b>                      | Non déterminé.   |
| · <b>Vitesse d'évaporation</b>                   | Non déterminé.   |
| · <b>Solubilité dans/miscibilité avec l'eau:</b> | Pas ou peu miscible  |
| · <b>Coefficient de partage (n-octanol/eau):</b> | Non déterminé.   |
| · <b>Viscosité:</b>                              |  |
| <b>Dynamique:</b>                                | Non déterminé.   |
| <b>Cinématique:</b>                              | Non déterminé.   |
| · <b>Teneur en solvants:</b>                     |  |
| <b>Solvants organiques:</b>                      | 1,3 %  |
| <b>VOC (CE)</b>                                  | 1,25 %   |
| · <b>9.2 Autres informations</b>                 | Pas d'autres informations importantes disponibles.   |

## SECTION 10: Stabilité et réactivité

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

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### SECTION 11: Informations toxicologiques

#### · 11.1 Informations sur les effets toxicologiques

##### · Toxicité aiguë

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

75-65-0 2-méthyl-2-propanol

|      |      |                  |
|------|------|------------------|
| Oral | LD50 | 3500 mg/kg (rat) |
|------|------|------------------|

##### · Effet primaire d'irritation:

· **Corrosion cutanée/irritation cutanée** Pas d'effet d'irritation.

· **Lésions oculaires graves/irritation oculaire** Effet d'irritation.

· **Sensibilisation respiratoire ou cutanée** Aucun effet de sensibilisation connu.

##### · Indications toxicologiques complémentaires:

Selon le procédé de calcul de la dernière version en vigueur de la directive générale CEE sur la classification des préparations, le produit présente les dangers suivants:

Nocif

Irritant

### SECTION 12: Informations écologiques

#### · 12.1 Toxicité

· **Toxicité aquatique:** Pas d'autres informations importantes disponibles.

· **12.2 Persistance et dégradabilité** Pas d'autres informations importantes disponibles.

· **12.3 Potentiel de bioaccumulation** Pas d'autres informations importantes disponibles.

· **12.4 Mobilité dans le sol** Pas d'autres informations importantes disponibles.

##### · Autres indications écologiques:

##### · Indications générales:

Catégorie de pollution des eaux 1 (D) (Classification propre): peu polluant

Ne pas laisser le produit, non dilué ou en grande quantité, pénétrer la nappe phréatique, les eaux ou les canalisations.

##### · 12.5 Résultats des évaluations PBT et VPVB

· **PBT:** Non applicable.

· **vPvB:** Non applicable.

· **12.6 Autres effets néfastes** Pas d'autres informations importantes disponibles.

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

#### · 13.1 Méthodes de traitement des déchets

· **Recommandation:** Ne doit pas être évacué avec les ordures ménagères. Ne pas laisser pénétrer dans les égouts.

##### · Emballages non nettoyés:

· **Recommandation:** Evacuation conformément aux prescriptions légales.

### SECTION 14: Informations relatives au transport

#### · 14.1 No ONU

· **ADR, IMDG, IATA**

UN1993

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

· **ADR**

1993 LIQUIDE INFLAMMABLE, N.S.A. (BUTANOLS)

· **IMDG, IATA**

FLAMMABLE LIQUID, N.O.S. (BUTANOLS)

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

· ADR, IMDG, IATA



· Classe 3 Liquides inflammables.  
· Étiquette 3

## · 14.4 Groupe d'emballage

· ADR, IMDG, IATA II

## · 14.5 Dangers pour l'environnement:

· Marine Pollutant: Non

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

Attention: Liquides inflammables.

· Indice Kemler: 33

· No EMS: F-E, S-E

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

Non applicable.

## · Indications complémentaires de transport:

## · ADR

· Quantités limitées (LQ) IL

· Quantités exceptées (EQ) Code: E2

Quantité maximale nette par emballage intérieur: 30 ml

Quantité maximale nette par emballage extérieur: 500 ml

· Catégorie de transport 2

· Code de restriction en tunnels D/E

## · IMDG

· Limited quantities (LQ) IL

· Excepted quantities (EQ) Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

## · "Règlement type" de l'ONU:

UN1993, LIQUIDE INFLAMMABLE, N.S.A. (BUTANOLS), 3, II

### SECTION 15: Informations réglementaires

## · 15.1 Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement

· Directive 2012/18/UE

· Substances dangereuses désignées - ANNEXE I Aucun des composants n'est compris.

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

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**SECTION 16: Autres informations**

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

**· Phrases importantes**

*H225 Liquide et vapeurs très inflammables.*

*H302 Nocif en cas d'ingestion.*

*H312 Nocif par contact cutané.*

*H315 Provoque une irritation cutanée.*

*H319 Provoque une sévère irritation des yeux.*

*H332 Nocif par inhalation.*

*H335 Peut irriter les voies respiratoires.*

*H370 Risque avéré d'effets graves pour les organes.*

**· Acronymes et abréviations:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route*

*IMDG: International Maritime Code for Dangerous Goods*

*IATA: International Air Transport Association*

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

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

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

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

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

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

*Acute Tox. 4: Acute toxicity, Hazard Category 4*

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

*Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2*

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

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

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

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überarbeitet am: 08.08.2015

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

- **1.1 Produktidentifikator**
- **Handelsname:** DIFFERENTIATING SOLUTION
- **Artikelnummer:** 26777-02
- **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**  
Keine weiteren relevanten Informationen verfügbar.
- **Verwendung des Stoffs / des Gemisches** Laborchemikalien
- **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**
- **Hersteller/Lieferant:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- Science Services GmbH  
Unterhachinger Str. 75  
81737 München Germany  
Tel: +49(0)89 18 93 668-0  
safety@scienceservices.de
- 24h Giftnotruf Munchen: +49 (0)89 19240  
Toxikologische Abteilung der II. Medizinischen Klinik  
rechts der Isar, Munchen. - www.toxinfo.org
- **Auskunftgebender Bereich:** Product safety department
- **1.4 Notrufnummer:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### ABSCHNITT 2: Mögliche Gefahren

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



GHS02 Flamme

Flam. Liq. 2 H225 Flüssigkeit und Dampf leicht entzündbar.



GHS07

Acute Tox. 4 H332 Gesundheitsschädlich bei Einatmen.

Eye Irrit. 2 H319 Verursacht schwere Augenreizung.

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.

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· **Gefahrenpiktogramme**

GHS02 GHS07

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

2-Methylpropanol-2

Methanol

· **Gefahrenhinweise**

H225 Flüssigkeit und Dampf leicht entzündbar.

H332 Gesundheitsschädlich bei Einatmen.

H319 Verursacht schwere Augenreizung.

H335 Kann die Atemwege reizen.

· **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: 75-65-0<br>EINECS: 200-889-7 | 2-Methylpropanol-2<br>⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335                                  | 50-100% |
| CAS: 67-56-1<br>EINECS: 200-659-6 | Methanol<br>⚠ Flam. Liq. 2, H225; ⚠ STOT SE 1, H370; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315 | ≤ 2,5%  |

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

### ABSCHNITT 4: Erste-Hilfe-Maßnahmen

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

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

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- **Nach Einatmen:**  
Frischlufztzufuhr, gegebenenfalls Atemspende, Wärme. Bei anhaltenden Beschwerden Arzt konsultieren.  
Bei Bewußtlosigkeit Lagerung und Transport in stabiler Seitenlage.
- **Nach Hautkontakt:** Im allgemeinen ist das Produkt nicht hautreizend.
- **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.  
Aerosolbildung vermeiden.
- **Hinweise zum Brand- und Explosionsschutz:**  
Zündquellen fernhalten - nicht rauchen.  
Vor Hitze schützen.  
Maßnahmen gegen elektrostatische Aufladung treffen.
- **7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten**
- **Lagerung:**
- **Anforderung an Lagerräume und Behälter:** An einem kühlen Ort lagern.
- **Zusammenlagerungshinweise:** Nicht erforderlich.

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- **Weitere Angaben zu den Lagerbedingungen:**  
Behälter dicht geschlossen halten.  
In gut verschlossenen Gebinden kühl und trocken lagern.  
Vor Hitze und direkter Sonnenbestrahlung schützen.
- **Lagerklasse:**
- **Klassifizierung nach Betriebssicherheitsverordnung (BetrSichV):** Leichtentzündlich
- **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:**

#### 75-65-0 2-Methylpropanol-2

AGW Langzeitwert: 62 mg/m<sup>3</sup>, 20 ml/m<sup>3</sup>  
4(II);DFG, Y

#### 67-56-1 Methanol

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

- **Bestandteile mit biologischen Grenzwerten:**

#### 67-56-1 Methanol

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

- **Zusätzliche Hinweise:** Als Grundlage dienen die bei der Erstellung gültigen Listen.
- **8.2 Begrenzung und Überwachung der Exposition**
- **Persönliche Schutzausrüstung:**
- **Allgemeine Schutz- und Hygienemaßnahmen:**  
Von Nahrungsmitteln, Getränken und Futtermitteln fernhalten.  
Beschmutzte, getränkte Kleidung sofort ausziehen.  
Vor den Pausen und bei Arbeitsende Hände waschen.  
Berührung mit den Augen vermeiden.  
Berührung mit den Augen und der Haut vermeiden.
- **Atemschutz:**  
Bei kurzzeitiger oder geringer Belastung Atemfiltergerät; bei intensiver bzw. längerer Exposition unluftunabhängiges Atemschutzgerät verwenden.
- **Handschutz:**  
Das Handschuhmaterial muss undurchlässig und beständig gegen das Produkt / den Stoff / die Zubereitung sein.  
Aufgrund fehlender Tests kann keine Empfehlung zum Handschuhmaterial für das Produkt / die Zubereitung / das Chemikaliengemisch abgegeben werden.  
Auswahl des Handschuhmaterials unter Beachtung der Durchbruchzeiten, Permeationsraten und der Degradation.
- **Handschuhmaterial**  
Die Auswahl eines geeigneten Handschuhs ist nicht nur vom Material, sondern auch von weiteren Qualitätsmerkmalen abhängig und von Hersteller zu Hersteller unterschiedlich. Da das Produkt eine Zubereitung aus mehreren Stoffen darstellt, ist die Beständigkeit von Handschuhmaterialien nicht vorausberechenbar und muß deshalb vor dem Einsatz überprüft werden.

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



Dichtschließende Schutzbrille

### ABSCHNITT 9: Physikalische und chemische Eigenschaften

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

##### · Allgemeine Angaben

##### · Aussehen:

**Form:** Flüssigkeit

**Farbe:** Farblos

· **Geruch:** Stechend

· **Geruchsschwelle:** Nicht bestimmt.

· **pH-Wert:** Nicht bestimmt.

##### · Zustandsänderung

**Schmelzpunkt/Schmelzbereich:** Nicht bestimmt.

**Siedepunkt/Siedebereich:** 83 °C

· **Flammpunkt:** 11 °C

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

· **Zündtemperatur:** 470 °C

· **Zersetzungstemperatur:** Nicht bestimmt.

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

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

##### · Explosionsgrenzen:

**Untere:** 2,3 Vol %

**Obere:** 8,0 Vol %

· **Dampfdruck bei 20 °C:** 40 hPa

· **Dichte:** Nicht bestimmt.

· **Relative Dichte:** Nicht bestimmt.

· **Dampfdichte:** Nicht bestimmt.

· **Verdampfungsgeschwindigkeit:** Nicht bestimmt.

##### · Löslichkeit in / Mischbarkeit mit

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

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

##### · Viskosität:

**Dynamisch:** Nicht bestimmt.

**Kinematisch:** Nicht bestimmt.

##### · Lösemittelgehalt:

**Organische Lösemittel:** 1,3 %

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|                               |  |
|-------------------------------|--|
| <b>VOC (EU)</b>               | 1,25 %   |
| <b>· 9.2 Sonstige Angaben</b> | Keine weiteren relevanten Informationen verfügbar. |

### ABSCHNITT 10: Stabilität und Reaktivität

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

### ABSCHNITT 11: Toxikologische Angaben

- **11.1 Angaben zu toxikologischen Wirkungen**
- **Akute Toxizität**

|  |      |                  |
|--|------|------------------|
| · <b>Einstufungsrelevante LD/LC50-Werte:</b> |      |                  |
| 75-65-0 2-Methylpropanol-2                   |      |                  |
| Oral   | LD50 | 3500 mg/kg (rat) |

- **Primäre Reizwirkung:**
- **Ätz-/Reizwirkung auf die Haut** Keine Reizwirkung.
- **Schwere Augenschädigung/-reizung** Reizwirkung.
- **Sensibilisierung der Atemwege/Haut** Keine sensibilisierende Wirkung bekannt.
- **Zusätzliche toxikologische Hinweise:**  
Das Produkt weist aufgrund des Berechnungsverfahrens der Allgemeinen Einstufungsrichtlinie der EG für Zubereitungen in der letztgültigen Fassung folgende Gefahren auf:  
Gesundheitsschädlich  
Reizend

### ABSCHNITT 12: Umweltbezogene Angaben

- **12.1 Toxizität**
- **Aquatische Toxizität:** Keine weiteren relevanten Informationen verfügbar.
- **12.2 Persistenz und Abbaubarkeit** Keine weiteren relevanten Informationen verfügbar.
- **12.3 Bioakkumulationspotenzial** Keine weiteren relevanten Informationen verfügbar.
- **12.4 Mobilität im Boden** Keine weiteren relevanten Informationen verfügbar.
- **Weitere ökologische Hinweise:**
- **Allgemeine Hinweise:**  
Wassergefährdungsklasse 1 (Selbsteinstufung): schwach wassergefährdend  
Nicht unverdünnt bzw. in größeren Mengen in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen.
- **12.5 Ergebnisse der PBT- und vPvB-Beurteilung**
- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.
- **12.6 Andere schädliche Wirkungen** Keine weiteren relevanten Informationen verfügbar.

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### ABSCHNITT 13: Hinweise zur Entsorgung

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

### ABSCHNITT 14: Angaben zum Transport

|   |   |
|---|---|
| · <b>14.1 UN-Nummer</b><br>· <b>ADR, IMDG, IATA</b>   | UN1993  |
| · <b>14.2 Ordnungsgemäße UN-Versandbezeichnung</b><br>· <b>ADR</b><br><br>· <b>IMDG, IATA</b>                 | 1993 ENTZÜNDBARER FLÜSSIGER STOFF, N.A.G.<br>(BUTANOLE)<br>FLAMMABLE LIQUID, N.O.S. (BUTANOLS)                  |
| · <b>14.3 Transportgefahrenklassen</b><br>· <b>ADR, IMDG, IATA</b>  |   |
|                             |   |
| · <b>Klasse</b><br>· <b>Gefahrzettel</b>  | 3 Entzündbare flüssige Stoffe<br>3  |
| · <b>14.4 Verpackungsgruppe</b><br>· <b>ADR, IMDG, IATA</b>   | II  |
| · <b>14.5 Umweltgefahren:</b><br>· <b>Marine pollutant:</b>   | Nein  |
| · <b>14.6 Besondere Vorsichtsmaßnahmen für den Verwender</b><br>· <b>Kemler-Zahl:</b><br>· <b>EMS-Nummer:</b> | Achtung: Entzündbare flüssige Stoffe<br>33<br>F-E, <u>S-E</u>   |
| · <b>14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens 73/78 und gemäß IBC-Code</b>         | Nicht anwendbar.  |
| · <b>Transport/weitere Angaben:</b>   |   |
| · <b>ADR</b><br>· <b>Begrenzte Menge (LQ)</b><br>· <b>Freigestellte Mengen (EQ)</b>                           | 1L<br>Code: E2<br>Höchste Nettomenge je Innenverpackung: 30 ml<br>Höchste Nettomenge je Außenverpackung: 500 ml |
| · <b>Beförderungskategorie</b><br>· <b>Tunnelbeschränkungscode</b>  | 2<br>D/E  |
| · <b>IMDG</b><br>· <b>Limited quantities (LQ)</b>   | 1L  |

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|                                   |   |
|-----------------------------------|---|
| · <b>Excepted quantities (EQ)</b> | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · <b>UN "Model Regulation":</b>   | UN1993, ENTZÜNDBARER FLÜSSIGER STOFF, N.A.G. (BUTANOLE), 3, II  |

### 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.

· **Nationale Vorschriften:**

· **Technische Anleitung Luft:**

| Klasse | Anteil in % |
|--------|-------------|
| I      | 1,3         |

· **Wassergefährdungsklasse: WGK 1 (Selbsteinstufung):** schwach wassergefährdend.

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

### ABSCHNITT 16: Sonstige Angaben

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

· **Relevante Sätze**

H225 Flüssigkeit und Dampf leicht entzündbar.

H302 Gesundheitsschädlich bei Verschlucken.

H312 Gesundheitsschädlich bei Hautkontakt.

H315 Verursacht Hautreizungen.

H319 Verursacht schwere Augenreizung.

H332 Gesundheitsschädlich bei Einatmen.

H335 Kann die Atemwege reizen.

H370 Schädigt die Organe.

· **Abkürzungen und Akronyme:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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

Acute Tox. 4: Acute toxicity, Hazard Category 4

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

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

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

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

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

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Revisione: 08.08.2015

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

- **1.1 Identificatore del prodotto**
- **Denominazione commerciale:** DIFFERENTIATING SOLUTION
- **Articolo numero:** 26777-02
- **1.2 Usi pertinenti identificati della sostanza o miscela e usi sconsigliati** Non sono disponibili altre informazioni.
- **Utilizzazione della Sostanza / del Preparato** Prodotti chimici per laboratorio
- **1.3 Informazioni sul fornitore della scheda di dati di sicurezza**
- **Produttore/fornitore:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
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
- **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. 2 H225 Liquido e vapori facilmente infiammabili.



GHS07

Acute Tox. 4 H332 Nocivo se inalato.

Eye Irrit. 2 H319 Provoca grave irritazione oculare.

STOT SE 3 H335 Può irritare le vie respiratorie.

- **2.2 Elementi dell'etichetta**
- **Etichettatura secondo il regolamento (CE) n. 1272/2008**  
Il prodotto è classificato ed etichettato conformemente al regolamento CLP.
- **Pittogrammi di pericolo**



GHS02



GHS07

- **Avvertenza Pericolo**

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

2-metilpropan-2-olo  
metanolo

· **Indicazioni di pericolo**

H225 Liquido e vapori facilmente infiammabili.

H332 Nocivo se inalato.

H319 Provoca grave irritazione oculare.

H335 Può irritare le vie respiratorie.

· **Consigli di prudenza**

P210 Tenere lontano da fonti di calore, superfici riscaldate, scintille, fiamme e altre fonti di innesco. Vietato 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: 75-65-0<br>EINECS: 200-889-7 | 2-metilpropan-2-olo<br>Flam. Liq. 2, H225; Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335                               | 50-100% |
| CAS: 67-56-1<br>EINECS: 200-659-6 | metanolo<br>Flam. Liq. 2, H225; STOT SE 1, H370; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315 | ≤ 2,5%  |

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

### SEZIONE 4: Misure di primo soccorso

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

· **Indicazioni generali:**

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 in zona ben areata, praticare eventualmente la respirazione artificiale, tenere al caldo. Se i disturbi persistono consultare il medico.

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

· **Contatto con la pelle:** Generalmente il prodotto non è irritante per la pelle.

· **Contatto con gli occhi:**

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

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**Scheda di dati di sicurezza**  
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- **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 della eventuale necessità di consultare immediatamente un medico e di trattamenti speciali**  
Non sono disponibili altre informazioni.

### SEZIONE 5: Misure antincendio

- **5.1 Mezzi di estinzione**
- **Mezzi di estinzione idonei:** CO<sub>2</sub>, 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 detergenti liquidi.
- **6.4 Riferimento ad altre sezioni**  
Per informazioni relative ad un manipolazione sicura, vedere capitolo 7.  
Per informazioni relative all'equipaggiamento protettivo ad uso personale vedere Capitolo 8.  
Per informazioni relative allo smaltimento vedere Capitolo 13.

### SEZIONE 7: Manipolazione e immagazzinamento

- **7.1 Precauzioni per la manipolazione sicura**  
Accurata ventilazione/aspirazione nei luoghi di lavoro.  
Evitare la formazione di aerosol.
- **Indicazioni in caso di incendio ed esplosione:**  
Tenere lontano da fonti di calore, non fumare.  
Proteggere dal calore.  
Adottare provvedimenti contro cariche elettrostatiche.
- **7.2 Condizioni per l'immagazzinamento sicuro, comprese eventuali incompatibilità**
- **Stoccaggio:**
- **Requisiti dei magazzini e dei recipienti:** Conservare in ambiente fresco.
- **Indicazioni sullo stoccaggio misto:** Non necessario.
- **Ulteriori indicazioni relative alle condizioni di immagazzinamento:**  
Mantenere i recipienti ermeticamente chiusi.  
Conservare in luogo fresco e asciutto in fusti ben chiusi.  
Proteggere dal calore e dai raggi diretti del sole.
- **7.3 Usi finali specifici** Non sono disponibili altre informazioni.

IT

(continua a pagina 4)



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

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### 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:**

**75-65-0 2-metilpropan-2-olo**

|     |   |
|-----|---|
| TWA | Valore a lungo termine: 303 mg/m <sup>3</sup> , 100 ppm |
| A4  |   |

**67-56-1 metanolo**

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

· **Componenti con valori limite biologici:**

**67-56-1 metanolo**

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

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

· **8.2 Controlli dell'esposizione**

· **Mezzi protettivi individuali:**

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

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

· **Maschera protettiva:**

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

· **Guanti protettivi:**

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.

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**Scheda di dati di sicurezza**  
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· Occhiali protettivi:



Occhiali protettivi a tenuta

### SEZIONE 9: Proprietà fisiche e chimiche

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

##### · Indicazioni generali

##### · Aspetto:

**Forma:** Liquido

**Colore:** Incolore

· **Odore:** Pungente

· **Soglia olfattiva:** Non definito.

· **valori di pH:** Non definito.

##### · Cambiamento di stato

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

**Temperatura di ebollizione/ambito di ebollizione:** 83 °C

· **Punto di infiammabilità:** 11 °C

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

· **Temperatura di accensione:** 470 °C

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

· **Autoaccensione:** Prodotto non autoinfiammabile.

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

##### · Limiti di infiammabilità:

**Inferiore:** 2,3 Vol %

**Superiore:** 8,0 Vol %

· **Tensione di vapore a 20 °C:** 40 hPa

· **Densità:** Non definito.

· **Densità relativa** Non definito.

· **Densità del vapore** Non definito.

· **Velocità di evaporazione** Non definito.

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

Poco e/o non miscibile.

· **Coefficiente di distribuzione (n-Octanol/acqua):** Non definito.

##### · Viscosità:

**Dinamica:** Non definito.

**Cinematica:** Non definito.

##### · Tenore del solvente:

**Solventi organici:** 1,3 %

**VOC (CE)** 1,25 %

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**Scheda di dati di sicurezza**  
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· 9.2 Altre informazioni

Non sono disponibili altre informazioni.

### SEZIONE 10: Stabilità e reattività

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

### SEZIONE 11: Informazioni tossicologiche

- 11.1 Informazioni sugli effetti tossicologici
- Tossicità acuta

· Valori LD/LC50 rilevanti per la classificazione:

75-65-0 2-metilpropan-2-olo

|       |      |                  |
|-------|------|------------------|
| Orale | LD50 | 3500 mg/kg (rat) |
|-------|------|------------------|

- Irritabilità primaria:
- Corrosione/irritazione cutanea Non ha effetti irritanti.
- Lesioni oculari gravi/irritazioni oculari gravi Irritante.
- Sensibilizzazione respiratoria o cutanea Non si conoscono effetti sensibilizzanti.
- Ulteriori dati tossicologici:

Il prodotto, in base al metodo di calcolo della direttiva generale della Comunità sulla classificazione dei preparati nella sua ultima versione valida, presenta i seguenti rischi:

Nocivo  
Irritante

### 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 1 (D) (Autoclassificazione): poco pericoloso  
Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature non diluito o in grandi quantità.
- 12.5 Risultati della valutazione PBT e vPvB
- PBT: Non applicabile.
- vPvB: Non applicabile.
- 12.6 Altri effetti avversi Non sono disponibili altre informazioni.

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**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><br>· <b>ADR, IMDG, IATA</b>   | UN1993  |
| · <b>14.2 Nome di spedizione dell'ONU</b><br>· <b>ADR</b><br>· <b>IMDG, IATA</b>                           | 1993 LIQUIDO INFIAMMABILE, N.A.S. (BUTANOLI)<br>FLAMMABLE LIQUID, N.O.S. (BUTANOLS)   |
| · <b>14.3 Classi di pericolo connesso al trasporto</b><br>· <b>ADR, IMDG, IATA</b>                         |   |
|                           |   |
| · <b>Classe</b><br>· <b>Etichetta</b>  | 3 Liquidi infiammabili<br>3   |
| · <b>14.4 Gruppo di imballaggio</b><br>· <b>ADR, IMDG, IATA</b>  | II  |
| · <b>14.5 Pericoli per l'ambiente:</b><br>· <b>Marine pollutant:</b>                                       | No  |
| · <b>14.6 Precauzioni speciali per gli utilizzatori</b><br>· <b>Numero Kemler:</b><br>· <b>Numero EMS:</b> | Attenzione: Liquidi infiammabili<br>33<br>F-E, <u>S-E</u>   |
| · <b>14.7 Trasporto di rinfuse secondo l'allegato II di MARPOL 73/78 ed il codice IBC</b>                  | Non applicabile.  |
| · <b>Trasporto/ulteriori indicazioni:</b>  |   |
| · <b>ADR</b><br>· <b>Quantità limitate (LQ)</b><br>· <b>Quantità esenti (EQ)</b>                           | 1L<br>Codice: E2<br>Quantità massima netta per imballaggio interno: 30 ml<br>Quantità massima netta per imballaggio esterno: 500 ml |
| · <b>Categoria di trasporto</b><br>· <b>Codice di restrizione in galleria</b>                              | 2<br>D/E  |
| · <b>IMDG</b><br>· <b>Limited quantities (LQ)</b><br>· <b>Excepted quantities (EQ)</b>                     | 1L<br>Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml               |

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· **UN "Model Regulation":** UN1993, LIQUIDO INFIAMMABILE, N.A.S. (BUTANOLI), 3, II

### SEZIONE 15: Informazioni sulla regolamentazione

· **15.1 Norme e legislazione su salute, sicurezza e ambiente specifiche per la sostanza o la miscela**

· **Direttiva 2012/18/UE**

· **Sostanze pericolose specificate - ALLEGATO I** Nessuno dei componenti è contenuto.

· **Disposizioni nazionali:**

· **Istruzione tecnica aria:**

| Classe | quota in % |
|--------|------------|
| NC     | 1,3        |

· **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.*

· **Frasei rilevanti**

H225 Liquido e vapori facilmente infiammabili.

H302 Nocivo se ingerito.

H312 Nocivo per contatto con la pelle.

H315 Provoca irritazione cutanea.

H319 Provoca grave irritazione oculare.

H332 Nocivo se inalato.

H335 Può irritare le vie respiratorie.

H370 Provoca danni agli organi.

· **Abbreviazioni e acronimi:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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

Acute Tox. 4: Acute toxicity, Hazard Category 4

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

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

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

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

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.08.08

개정: 2015.08.08

### 1 화학제품과 회사에 관한 정보

- 제품 식별자
- 제품명: **DIFFERENTIATING SOLUTION**
- 상품번호: 26777-02
- 해당 순물질이나 혼합물의 관련 하위용도 및 사용금지용도 추가적인 정보가 존재하지 않습니다.
- 제품의 권고 용도와 사용상의 제한: 실험실 화학품
- 안전데이터표(Safety Data Sheet)내 공급업체 관련 상세 정보
- 제조자/수입자/유통업자 정보:  
 Electron Microscopy Sciences  
 1560 Industry Road  
 USA-Hatfield, PA 19440  
 Tel: 215-412-8400 Fax: 215-412-8450  
 email: sgkcck@aol.com  
 www.emsdiasum.com
- Samchang Commercial Co., Ltd.  
 Yeo Eui Do  
 PO Box 1110  
 Seoul, Korea  
 Tel: 82 2 703 3040  
 Fax: 82 2 717 3298
- 추가적인 정보 획득 가능: Product safety department
- 비상연락 전화번호:  
 ChemTrec 1-800-424-9300 Contract CCN7661  
 1-703-527-3887

### 2 유해성.위험성

- 순물질 또는 혼합물의 분류



화염

인화성 액체 구분2                      H225 고인화성 액체 및 증기



급성 독성(흡입) 구분4              H332 흡입하면 유해함  
 심한 눈 손상/자극성 구분2      H319 눈에 심한 자극을 일으킴  
 표적장기-1회노출 구분3          H335 호흡기계 자극을 일으킬 수 있음

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



GHS02    GHS07

- 신호어 위험

(2 쪽에 계속)

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.08.08

개정: 2015.08.08

**제품명: DIFFERENTIATING SOLUTION**

(1 쪽부터계속)

**· 상표상에명확히위험성이표시된성분:**

2-methylpropan-2-ol  
Methyl Alcohol

**· 유해.위험 문구**

고인화성 액체 및 증기  
흡입하면 유해함  
눈에 심한 자극을 일으킴  
호흡기계 자극을 일으킬 수 있음

**· 예방조치 문구**

열·스파크·화염·고열로부터 멀리하시오 – 금연  
폭발 방지용 전기·환기·조명·장비를 사용하시오.  
피부(모발)에 접촉 시: 모든 오염된 옷을 즉시 벗으시오 피부를 물/샤워로 헹구시오.  
눈에 물으면 몇 분간 물로 조심해서 씻으시오. 가능하면콘택트렌즈를 제거하시오. 계속 씻으시오.  
잠금장치가 있는 저장장소에 저장하시오.  
현지/지역/국가/국제 규정에 따라서 내용물/용기 노출

**· 기타 유해성**

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

### 3 구성성분의 명칭 및 함유량

- **화학적 특성:** 혼합물
- **설명:** 무해한 첨가물이 함유된 아래에 열거된물질로 만들어진 혼합물.

**· 위험요소:**

|         |   |         |
|---------|---|---------|
| 75-65-0 | 2-methylpropan-2-ol<br>⚠ 인화성 액체 - 구분2, H225; ⚠ 급성 독성(흡입) - 구분4, H332; 심한 눈 손상/자극성 - 구분2, H319; 표적장기-1회노출 - 구분3, H335  | 50-100% |
| 67-56-1 | Methyl Alcohol<br>⚠ 인화성 액체 - 구분2, H225; ⚠ 표적장기-1회노출 - 구분1, H370; ⚠ 급성 독성(경구) - 구분4, H302; 급성 독성(경피) - 구분4, H312; 급성 독성(흡입) - 구분4, H332; 심한 눈 손상/자극성 - 구분2, H319 | ≤ 2.5%  |

### 4 응급조치 요령

**· 응급조치요령 내용**

**· 일반적 정보:**

중독 증상은 몇 시간이 지난 뒤에 발생할 수 있다. 따라서 사고가 발생한 후에 적어도 48 시간동안은 의료진의 관찰을 받아야 한다.

**· 흡입했을 때:**

신선한 공기를 쐬고, 필요할 경우에는 산소 호흡기의 도움을 받는다. 환자를 따뜻하게 하고, 증상이 지속될 경우에는 의료진의 도움을 구한다.  
환자가 의식을 잃었을 경우에는 안전한 자세에서 환자를 운반한다.

**· 피부에 접촉했을 때:** 일반적으로 이 제품은 피부에 자극적이지 않다.

**· 눈에 들어갔을 때:** 흐르는 물에 눈을 몇분동안 씻어내고나서, 증상이 지속될 경우에는 의사와 상담한다

**· 먹었을 때:** 증상이 지속될 경우에는 의사와 상담한다.

**· 기타 의사의 주의사항:**

· 가장 중요한 급·만성 증상 및 영향 추가적인 정보가 존재하지 않습니다.

(3 쪽에계속)

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.08.08

개정: 2015.08.08

**제품명: DIFFERENTIATING SOLUTION**

- **즉각적인 의료처치 및 특별치료가 필요함을 시사하는 징후** 추가적인 정보가 존재하지 않습니다. (2 쪽부터계속)

### 5 폭발·화재시 대처방법

- **소화제**
- **적절한 소화제:** 이 산화 탄소, 모래, 석회 가루를 사용하고, 물을 사용하지 않는다.
- **부적절한 소화제:** 플레트용 물
- **본 화학물질이나 혼합물에서 발생하는 특별 유해성** 추가적인 정보가 존재하지 않습니다.
- **소방관에 대한 권고사항**
- **화재 진압 시 착용할 보호구 및 예방조치:** 호흡보호장비설치.

### 6 누출 사고 시 대처방법

- **개인적 예방조치, 보호장비 및 응급처치 절차** 안전장비 착용하고, 무방비의 사람은 격리시킨다.
- **환경 관련 예방조치:** 하수도망/해수면위의물/지하수로도달하지않게한다.
- **밀폐 및 정화 방법과 소재:**  
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 마시오
- **타 섹션 참조**  
안전관리에 대한 정보는 제7장을 참고하십시오.  
개인보호장비에 대한 정보는 제8장을 참고하십시오.  
쓰레기처리에 대한 정보는 제13장을 참고하십시오.

### 7 취급 및 저장방법

- **취급:**
- **안전 취급을 위한 예방조치**  
작업장에서는 통풍이 잘 되고/습기 제거가 잘 되게 주의한다.  
연무질이 형성되는 것을 피한다.
- **화재 및 폭발 사고 예방대책에 관한 정보:**  
발화요소는 멀리 둔다. 급연.  
열로부터 보호한다.  
정전기의 충전으로부터 보호한다.
- **혼합위험성 등 안전 저장 조건**
- **보관:**
- **안전한 저장 방법:** 차가운 장소에 보관한다.
- **하나의 공동 보관 시설에 대한 보관 관련 정보:** 필요없음
- **보관 조건에 관한 추가적인 정보:**  
용기를 새지 않게 밀폐한 채 보관한다.  
밀폐된 용기 속에서 늘 하고 건조하게 보관한다.  
열이나 직사광선으로부터 보호한다.
- **구체적 최종 사용자** 추가적인 정보가 존재하지 않습니다.

### 8 누출방지 및 개인보호구

- **첨단시설 디자인에 대한 추가정보:** 더 이상 의 자료는 없음. 항목 7을 참고하십시오.

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**제품명: DIFFERENTIATING SOLUTION**

(3 쪽부터계속)

**통제 변수**

**· 화학물질의 노출기준, 생물학적 노출기준 등:**

| 75-65-0 2-methylpropan-2-ol |   |
|-----------------------------|---|
| TLV (ROK)                   | 단기간의값: 450 mg/m <sup>3</sup> , 150 ppm<br>장기간의값: 300 mg/m <sup>3</sup> , 100 ppm              |
| PEL (USA)                   | 장기간의값: 300 mg/m <sup>3</sup> , 100 ppm  |
| REL (USA)                   | 단기간의값: 450 mg/m <sup>3</sup> , 150 ppm<br>장기간의값: 300 mg/m <sup>3</sup> , 100 ppm              |
| TLV (USA)                   | 장기간의값: 303 mg/m <sup>3</sup> , 100 ppm  |
| 67-56-1 Methyl Alcohol      |   |
| TLV (ROK)                   | 단기간의값: 310 mg/m <sup>3</sup> , 250 ppm<br>장기간의값: 260 mg/m <sup>3</sup> , 200 ppm<br>Skin      |
| IOELV (EU)                  | 장기간의값: 260 mg/m <sup>3</sup> , 200 ppm<br>Skin  |
| PEL (USA)                   | 장기간의값: 260 mg/m <sup>3</sup> , 200 ppm  |
| REL (USA)                   | 단기간의값: 325 mg/m <sup>3</sup> , 250 ppm<br>장기간의값: 260 mg/m <sup>3</sup> , 200 ppm<br>Skin      |
| TLV (USA)                   | 단기간의값: 328 mg/m <sup>3</sup> , 250 ppm<br>장기간의값: 262 mg/m <sup>3</sup> , 200 ppm<br>Skin; BEI |

· **추 가 정 보:** 제 조 할 당 시 에 유 효 한 목 록 을 기 초 로 사 용 했 다.

**· 노출 통제**

**· 개인 보호구**

**· 일반적보호조치및위생조치:**

- 식료품, 음료수와 사료로부터 멀리 떨어져 두어 놓는다.
- 더러워지거나 음료수가 묻은 옷은 즉시 탈의한다.
- 휴식 전 이 나 작업이 끝날때마다 손을 씻는다.
- 눈과의 접촉을 피한다.
- 눈과 피부와의 접촉을 피한다.

**· 호흡기 보호:**

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

**· 손 보호:**

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

**· 장갑의재료**

적합한장갑의선택은재질차이뿐만아니라품질기준의차이도고려하여이루어져야하고제조업종에따라서도다르게선택되어야한다. 제품은다양한재료로부터의조제로이루어지는것이기때문에, 장갑재질의안정성은사전에예측되어질수있는것이아니고, 반드시사용전에 (그안전성이) 체크되어야한다.

· **장 갑 재 료 의 투 과 시 간** 정확한관통시간은보호장갑제조자에의하여인지되고, 준수되어야한다.

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**제품명: DIFFERENTIATING SOLUTION**

· 눈 보호:

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· 팍조이는보안경

### 9 물리화학적 특성

|                         |  |
|-------------------------|--|
| · 기본 물리 및 화학적 특성에 대한 정보 |  |
| · 일반정보                  |  |
| · 외형                    |  |
| · 물리적 상태:               | 액체   |
| · 색:                    | 색소가없는  |
| · 냄새:                   | 찌르는듯한  |
| · 후각역치                  | 알맞지않다.                                       |
| · pH:                   | 알맞지않다.                                       |
| · 상태변화                  |  |
| · 녹는점/어는점:              | 맞지않는   |
| · 초기 끓는점과 끓는점 범위:       | 83 °C  |
| · 인화점:                  | 11 °C  |
| · 인화성(고체, 기체):          | 해당사항 없음.                                     |
| · 점화온도:                 | 470 °C                                       |
| · 분해 온도:                | 알맞지않다.                                       |
| · 자기점화:                 | 이제품은자연발화성이없다.                                |
| · 폭발위험:                 | 이제품은폭발위험성이없지만, 폭발가능성이있는증기화합물/공기화합물의형성가능성이있다. |
| · 인화 또는 폭발 범위의 상한/하한    |  |
| · 아래로:                  | 2.3 Vol %                                    |
| · 위로:                   | 8.0 Vol %                                    |
| · 증기압 의경우 20 °C:        | 40 hPa                                       |
| · 밀도:                   | 맞지않는다.                                       |
| · 비중:                   | 알맞지않다.                                       |
| · 증기밀도:                 | 알맞지않다.                                       |
| · 증발 속도:                | 알맞지않다.                                       |
| · 용해도:                  |  |
| · 물:                    | 각각의경우에따라서는거의혼합할수없는                           |
| · n 옥탄올/물 분배계수:         | 알맞지않다.                                       |
| · 점도:                   |  |
| · 역학성:                  | 알맞지않다.                                       |
| · 동점성:                  | 알맞지않다.                                       |
| · 용매내용물                 |  |
| · 유기용매:                 | 1.3 %  |
| · VOC (EU)              | 1.25 %                                       |

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**제품명: DIFFERENTIATING SOLUTION**

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· 기타 정보

추가적인 정보가 존재하지 않습니다.

### 10 안정성 및 반응성

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

### 11 독성에 관한 정보

- 독성학적 영향에 대한 정보
- 급성 독성:

· LD/LC50-수치에 따른 분류:

75-65-0 2-methylpropan-2-ol

구강의 LD50 3500 mg/kg (rat)

· 일차적 자극 효과:

- 피부 부식성 또는 자극성: 무자극
- 심한 눈 손상 또는 자극성: 자극
- 감각화: 민감한영향이없는것으로알려져있다.

· 추가적인 독성에 관한 정보:

이제품은유럽공동체의공동분류원칙의합법적인절차에근거하여최근에발효된원고에서아래위험들의사전 준비에대하여제시하고있다.

건강에해로운  
자극적인

### 12 환경에 미치는 영향

- 독성
- 수생독성: 추가적인 정보가 존재하지 않습니다.
- 지속성 및 분해성 추가적인 정보가 존재하지 않습니다.
- 환경 시스템에서의 행동:
- 생물농축 잠재성 추가적인 정보가 존재하지 않습니다.
- 토양내 이동성 추가적인 정보가 존재하지 않습니다.
- 추가적인 생태학 정보:
- 일반 특징:
  - 수질오염등급 1 (자체등급분류): 약하게수질오염이된
  - 희석시키지않은채대량으로지하수나, 하천으로그리고하수도망에도달하지않게한다.
- PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과
- PBT(잔류성, 생물농축성, 독성 물질): 해당사항 없음.
- vPvB(고 잔류성, 고 생물농축성 물질): 해당사항 없음.
- 기타 부작용 추가적인 정보가 존재하지 않습니다.

KR

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### 13 폐기시 주의사항

- 폐기물 처리 방법
- 권고: 생활쓰레기와 함께 처리되어서는 안된다. 하수도망으로 유입되어서는 안된다.
- 비위생적 포장:
- 권고: 당국의 지침에 입각한 쓰레기 처리.

### 14 운송에 필요한 정보

|   |   |
|---|---|
| · 유엔 번호<br>· ADR, IMDG, IATA  | UN1993  |
| · UN 적정 선적명<br>· ADR<br>· IMDG, IATA  | 1993 FLAMMABLE LIQUID, N.O.S. (BUTANOLS)<br>FLAMMABLE LIQUID, N.O.S. (BUTANOLS)                                       |
| · 교통 위험 클래스<br>· ADR, IMDG, IATA  |   |
|  |   |
| · 등급<br>· 위험물 라벨  | 3 발화성용액<br>3  |
| · 용기등급<br>· ADR, IMDG, IATA   | II  |
| · 환경적 유해물질:<br>· 해양오염물질:  | 아니오   |
| · 이용자 특별 예방조치<br>· 위험 코드:<br>· EMS-번호:  | 경고: 발화성용액<br>33<br>F-E, S-E   |
| · MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(bulk) 운송         | 해당사항 없음.  |
| · 운 송/추가 정보:  |   |
| · ADR<br>· 한정 수량 (LQ)<br>· Excepted quantities (EQ)                               | 1L<br>Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · 운송 구분<br>· 터널 제한 코드   | 2<br>D/E  |
| · IMDG<br>· Limited quantities (LQ)   | 1L  |

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|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>· <b>Excepted quantities (EQ)</b></li> </ul> | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| <ul style="list-style-type: none"> <li>· <b>UN "모범 규제":</b></li> </ul>              | UN1993, FLAMMABLE LIQUID, N.O.S.<br>(BUTANOLS), 3, II   |

### 15 법적 규제현황

· 해당 순물질 또는 혼합물에 대한 안전, 보건 및 환경 규제/법률

|   |                     |          |
|---|---------------------|----------|
| · <b>Korean Existing Chemical Inventory</b> |                     |          |
| 75-65-0                                     | 2-methylpropan-2-ol | KE-24895 |
| 67-56-1                                     | Methyl Alcohol      | KE-23193 |

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



· **표지어 위험**

· **상표상에명확히위험성이표시된성분:**

2-methylpropan-2-ol  
 Methyl Alcohol

· **위험 문구**

고인화성 액체 및 증기  
 흡입하면 유해함  
 눈에 심한 자극을 일으킴  
 호흡기계 자극을 일으킬 수 있음

· **주의 문구**

열·스파크·화염·고열로부터 멀리하십시오 - 금연  
 폭발 방지용 전기·환기·조명·장비를 사용하십시오.  
 피부(모발)에 접촉 시: 모든 오염된 옷을 즉시 벗으십시오 피부를 물/샤워로 헹구십시오.  
 눈에 묻으면 몇 분간 물로 조심해서 씻으십시오. 가능하면콘택트렌즈를 제거하십시오. 계속 씻으십시오.  
 잠금장치가 있는 저장장소에 저장하십시오.

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

### 16 그 밖의 참고사항

이보고는우리지식에대한오늘날의상태에대하여평가하고있다, 하지만이보고서는생산특성에관한보증은 기술하지않았으며계약적인법률관계에기반을두고있지도않다

· **최초 작성일자:** 2015.08.08  
 · **개정 횟수 및 최종 개정일자:** 1 / 2015.08.08  
 · **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

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EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

인화성 액체 구분2: Flammable liquids, Hazard Category 2

급성 독성(흡입) 구분4: Acute toxicity, Hazard Category 4

심한 눈 손상/자극성 구분2: Serious eye damage/eye irritation, Hazard Category 2

표적장기-1회노출 구분1: Specific target organ toxicity - Single exposure, Hazard Category 1

표적장기-1회노출 구분3: Specific target organ toxicity - Single exposure, Hazard Category 3

KR

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 08.08.2015

Revisión: 08.08.2015

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

- **1.1 Identificador del producto**
- **Nombre comercial:** DIFFERENTIATING SOLUTION
- **Número del artículo:** 26777-02
- **1.2 Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados**  
No existen más datos relevantes disponibles.
- **Utilización del producto / de la elaboración** Sustancias químicas de laboratorio
- **1.3 Datos del proveedor de la ficha de datos de seguridad**
- **Fabricante/distribuidor:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: sgkcck@aol.com  
www.emsdiasum.com
- **Aname**  
C/ Perez Galdos no. 2  
28693 Quijorna  
Madrid, Spain  
Tel: +34.91.816.89.50  
Fax: +34.91.816.85.94  
email: ventas@aname.es
- **Área de información:** Product safety department
- **1.4 Teléfono de emergencia:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### SECCIÓN 2: Identificación de los peligros

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



GHS02 llama

Flam. Liq. 2 H225 Líquido y vapores muy inflamables.



GHS07

Acute Tox. 4 H332 Nocivo en caso de inhalación.

Eye Irrit. 2 H319 Provoca irritación ocular grave.

STOT SE 3 H335 Puede irritar las vías respiratorias.

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

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· **Pictogramas de peligro**

GHS02 GHS07

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

2-metil-2-propanol  
metanol

· **Indicaciones de peligro**

H225 Líquido y vapores muy inflamables.

H332 Nocivo en caso de inhalación.

H319 Provoca irritación ocular grave.

H335 Puede irritar las vías respiratorias.

· **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: 75-65-0<br>EINECS: 200-889-7 | 2-metil-2-propanol<br>Flam. Liq. 2, H225; Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335                               | 50-100% |
| CAS: 67-56-1<br>EINECS: 200-659-6 | metanol<br>Flam. Liq. 2, H225; STOT SE 1, H370; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315 | ≤ 2,5%  |

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

### SECCIÓN 4: Primeros auxilios

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

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.

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- **En caso de inhalación del producto:**  
 Suministrar aire fresco; eventualmente hacer respiración artificial, calor. Si los trastornos persisten, consultar al médico.  
 Las personas desmayadas deben tenderse y transportarse de lado con la suficiente estabilidad.
- **En caso de contacto con la piel:** Por regla general, el producto no irrita la piel.
- **En caso de con los ojos:**  
 Limpiar 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.  
 Evitar la formación de aerosoles.
- **Prevención de incendios y explosiones:**  
 Mantener alejadas las fuentes de encendido. No fumar.  
 Proteger del calor.  
 Tomar medidas contra las cargas electrostáticas.
- **7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**
- **Almacenamiento:**
- **Exigencias con respecto al almacén y los recipientes:** Almacenar en un lugar fresco.
- **Normas en caso de un almacenamiento conjunto:** No es necesario.

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- **Indicaciones adicionales sobre las condiciones de almacenamiento:**  
Mantener el recipiente cerrado herméticamente.  
Almacenarlo en envases bien cerrados en un lugar fresco y seco.  
Proteger del calor y de la luz directa del sol.
- **7.3 Usos específicos finales** No existen más datos relevantes disponibles.

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

- **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:**

##### 75-65-0 2-metil-2-propanol

|     |  |
|-----|--|
| LEP | Valor de larga duración: 308 mg/m <sup>3</sup> , 100 ppm |
| s   |  |

##### 67-56-1 metanol

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

- **Componentes con valores límite biológicos:**

##### 67-56-1 metanol

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

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

#### · 8.2 Controles de la exposición

##### · Equipo de protección individual:

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

Mantener alejado de alimentos, bebidas y alimentos para animales.

Quitarse de inmediato la ropa ensuciada o impregnada.

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

Evitar el contacto con los ojos.

Evitar el contacto con los ojos y la piel.

##### · Protección respiratoria:

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

##### · Protección de manos:

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

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

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

##### · Material de los guantes

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

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

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

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· **Protección de ojos:**

Gafas de protección herméticas

### SECCIÓN 9: Propiedades físicas y químicas

· **9.1 Información sobre propiedades físicas y químicas básicas**· **Datos generales**· **Aspecto:**

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

· **valor pH:** No determinado.· **Cambio de estado**

|  |                |
|--|----------------|
| · <b>Punto de fusión /campo de fusión:</b>         | Indeterminado. |
| · <b>Punto de ebullición /campo de ebullición:</b> | 83 °C          |

· **Punto de inflamación:** 11 °C· **Inflamabilidad (sólido, gaseiforme):** No aplicable.· **Temperatura de ignición:** 470 °C· **Temperatura de descomposición:** No determinado.· **Autoinflamabilidad:** El producto no es autoinflamable.· **Peligro de explosión:** El producto no es explosivo; sin embargo, pueden formarse mezclas explosivas de vapor / aire.· **Límites de explosión:**

|                    |           |
|--------------------|-----------|
| · <b>Inferior:</b> | 2,3 Vol % |
| · <b>Superior:</b> | 8,0 Vol % |

· **Presión de vapor a 20 °C:** 40 hPa· **Densidad:** Indeterminado.· **Densidad relativa** No determinado.· **Densidad de vapor** No determinado.· **Velocidad de evaporación** No determinado.· **Solubilidad en / miscibilidad con agua:**

Poco o no mezclable.

· **Coeficiente de reparto (n-octanol/agua):** No determinado.· **Viscosidad:**· **Dinámica:** No determinado.· **Cinemática:** No determinado.· **Concentración del disolvente:**

|                                 |        |
|---------------------------------|--------|
| · <b>Disolventes orgánicos:</b> | 1,3 %  |
| · <b>VOC (CE)</b>               | 1,25 % |

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· **9.2 Información adicional** No existen más datos relevantes disponibles.

### SECCIÓN 10: Estabilidad y reactividad

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

### SECCIÓN 11: Información toxicológica

- **11.1 Información sobre los efectos toxicológicos**
- **Toxicidad aguda**

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

75-65-0 2-metil-2-propanol

|      |      |                  |
|------|------|------------------|
| Oral | LD50 | 3500 mg/kg (rat) |
|------|------|------------------|

- **Efecto estimulante primario:**
- **Corrosión o irritación cutáneas** No produce irritaciones.
- **Lesiones o irritación ocular graves** Produce irritaciones.
- **Sensibilización respiratoria o cutánea** No se conoce ningún efecto sensibilizante.
- **Indicaciones toxicológicas adicionales:**  
En conformidad con el procedimiento de cálculo contenido en la última versión de la Normativa General de Clasificación de la CE para Preparados, el producto tiene los siguientes riesgos:  
Nocivo  
Irritante

### 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 1 (autoclasificación): escasamente peligroso para el agua  
En estado no diluido o no neutralizado, no dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados.
- **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.

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### 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

- |   |   |
|---|---|
| · 14.1 Número UN  | UN1993  |
| · ADR, IMDG, IATA   |   |
| · 14.2 Designación oficial de transporte de las Naciones Unidas                               |   |
| · ADR   | 1993 LÍQUIDO INFLAMABLE, N.E.P. (BUTANOLES)   |
| · IMDG, IATA  | FLAMMABLE LIQUID, N.O.S. (BUTANOLS)   |
| · 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   | II  |
| · 14.5 Peligros para el medio ambiente:   |   |
| · Contaminante marino:  | No  |
| · 14.6 Precauciones particulares para los usuarios  | Atención: Líquidos inflamables  |
| · Número Kemler:  | 33  |
| · Número EMS:   | F-E,S-E   |
| · 14.7 Transporte a granel con arreglo al anexo II del Convenio Marpol 73/78 y del Código IBC | No aplicable.   |
| · Transporte/datos adicionales:   |   |
| · ADR   |   |
| · Cantidades limitadas (LQ)   | 1L  |
| · Cantidades exceptuadas (EQ)   | Código: E2<br>Cantidad neta máxima por envase interior: 30 ml<br>Cantidad neta máxima por embalaje exterior: 500 ml |
| · Categoría de transporte   | 2   |
| · Código de restricción del túnel   | D/E   |
| · IMDG  |   |
| · Limited quantities (LQ)   | 1L  |
| · Excepted quantities (EQ)  | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml     |

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· "Reglamentación Modelo" de la UNECE: UN1993, LÍQUIDO INFLAMABLE, N.E.P. (BUTANOLES), 3, II

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

### SECCIÓN 16: Otra información

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

· **Frases relevantes**

H225 Líquido y vapores muy inflamables.

H302 Nocivo en caso de ingestión.

H312 Nocivo en contacto con la piel.

H315 Provoca irritación cutánea.

H319 Provoca irritación ocular grave.

H332 Nocivo en caso de inhalación.

H335 Puede irritar las vías respiratorias.

H370 Provoca daños en los órganos.

· **Abreviaturas y acrónimos:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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

Acute Tox. 4: Acute toxicity, Hazard Category 4

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

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

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

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