1 Identification

- Product identifier
- Trade name: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER
- Article number: 15735-40S, 15735-30S
- 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: sgkck@aol.com
  www.emsdiasum.com

- Information department: Product safety department
- Emergency telephone number:
  ChemTrec 1-800-424-9300 Contract CCN7661
  1-703-527-3887

2 Hazard(s) identification

- Classification of the substance or mixture

  ![GHS08](image)
  GHS08 Health hazard
  Muta. 2  H341  Suspected of causing genetic defects.
  Carc. 1B  H350  May cause cancer.

  ![GHS07](image)
  GHS07

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

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

- Hazard pictograms

  ![GHS07](image)
  GHS07
  ![GHS08](image)
  GHS08

- Signal word Danger

- Hazard-determining components of labeling:
  formaldehyde

- Hazard statements
  - May cause an allergic skin reaction.
  - Suspected of causing genetic defects.
  - May cause cancer.

- Precautionary statements
  - Avoid breathing dust/fume/gas/mist/vapors/spray
  - Wear protective gloves.
  - Contaminated work clothing must not be allowed out of the workplace.

(Contd. on page 2)
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Specific treatment (see on this label).
Wash contaminated clothing before reuse.
IF exposed or concerned: Get medical advice/attention.
If skin irritation or rash occurs: Get medical advice/attention.
IF ON SKIN: Wash with plenty of water.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Classifications system:
- NFPA ratings (scale 0 - 4)
  - Health = 1
  - Fire = 0
  - Reactivity = 0
- HMIS-ratings (scale 0 - 4)
  - HEALTH Health = *1
  - FIRE Fire = 0
  - REACTIVITY 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:
- 50-00-0 formaldehyde 2.5-10%

4 First-aid measures
- Description of first aid measures
  - General information:
    Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
  - After inhalation:
    Supply fresh air and to be sure call for a doctor.
    In case of unconsciousness place patient stably in side position for transportation.
  - After skin contact: Immediately wash with water and soap and rinse thoroughly.
  - After eye contact: Rinse opened eye for several minutes under running water.
  - 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: CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture: No further relevant information available.
- Advice for firefighters
- Protective equipment: Mouth respiratory protective device.

6 Accidental release measures

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

7 Handling and storage

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

8 Exposure controls/personal protection

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

Components with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>Component</th>
<th>PEL Short-term value: 2 ppm</th>
<th>Long-term value: 0.75 ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>see 29 CFR 1910.1048(c)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>REL Long-term value: 0.016 ppm</th>
<th>Ceiling limit value: 0.1* ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>*15-min; See Pocket Guide App. A</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>TLV Ceiling limit value: 0.37 mg/m³, 0.3 ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DSEN; RSEN</td>
</tr>
</tbody>
</table>

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

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

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

Breathing equipment:

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

Protection of hands:

Protective gloves

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

Material of gloves

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

Penetration time of glove material

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

Eye protection:

Safety glasses

Tightly sealed goggles
9 Physical and chemical properties

- Information on basic physical and chemical properties
- General Information
- Appearance:
  - Form: Liquid
  - Color: Clear
- Odor:
  - Odor threshold: Not determined.
- pH-value at 20 °C (68 °F): 7.4

- Change in condition
  - Melting point/Melting range: Undetermined.
  - Boiling point/Boiling range: -21 °C (-6 °F)
- Flash point: Not applicable.
- Flammability (solid, gaseous): Not flammable.
- Ignition temperature:
  - Decomposition temperature: Not determined.
- Auto igniting: Product is not selfigniting.
- Danger of explosion: Product does not present an explosion hazard.
- Explosion limits:
  - Lower: Not determined.
  - Upper: Not determined.
- Vapor pressure: Not determined.
- Density at 20 °C (68 °F): 0.9905 g/cm³ (8.266 lbs/gal)
- Relative density: Not determined.
- Vapor density: Not determined.
- Evaporation rate: Not determined.
- Solubility in / Miscibility with
  - Water: Fully miscible.
- Partition coefficient (n-octanol/water): Not determined.
- Viscosity:
  - Dynamic: Not determined.
  - Kinematic: Not determined.
- Solvent content:
  - Organic solvents: 4.0 %
  - Water: 95.9 %
  - VOC content: 4.0 %
    - 790.7 g/l / 6.60 lb/gl
- Other information: No further relevant information available.

10 Stability and reactivity

- Reactivity: No further relevant information available.
- Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

(Contd. on page 6)
Trade name: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

- **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.

## II Toxicological information

### Information on toxicological effects

### Acute toxicity:

#### LD/LC50 values that are relevant for classification:

<table>
<thead>
<tr>
<th>Formaldehyde</th>
<th>Oral LD50 &gt;200 mg/kg (rat)</th>
</tr>
</thead>
</table>

#### Primary irritant effect:

- **on the skin**: No irritant effect.
- **on the eye**: No irritating effect.

#### Sensitization:

Sensitization possible through skin contact.

#### Additional toxicological information:

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

- Harmful
- Irritant
- Carcinogenic.

#### Carcinogenic categories

<table>
<thead>
<tr>
<th>IARC (International Agency for Research on Cancer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-00-0 formaldehyde</td>
</tr>
<tr>
<td>I</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NTP (National Toxicology Program)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-00-0 formaldehyde</td>
</tr>
<tr>
<td>K</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OSHA-Ca (Occupational Safety Health Administration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-00-0 formaldehyde</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

## 12 Ecological information

### Toxicty

- **Aquatic toxicity**: No further relevant information available.
- **Persistence and degradability**: No further relevant information available.
- **Behavior in environmental systems**:

- **Bioaccumulative potential**: No further relevant information available.
- **Mobility in soil**: No further relevant information available.
- **Additional ecological information**:

#### General notes:

Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.

#### Results of PBT and vPvB assessment

- **PBT**: Not applicable.
- **vPvB**: Not applicable.
- **Other adverse effects**: No further relevant information available.
13 Disposal considerations

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

- Uncleaned packagings:
  - Recommendation: Disposal must be made according to official regulations.
  - Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

- UN-Number
- DOT, ADR, IMDG, IATA Void

- UN proper shipping name
- DOT, ADR, IMDG, IATA Void

- Transport hazard class(es)
- DOT, ADR, IMDG, IATA Void

- Packing group
- DOT, ADR, IMDG, IATA Void

- Environmental hazards: Not applicable.

- Special precautions for user: Not applicable.

- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

- UN "Model Regulation": Void

15 Regulatory information

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

- Sara

- Section 355 (extremely hazardous substances):
  50-00-0 formaldehyde

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

- TSCA (Toxic Substances Control Act):
  All ingredients are listed.

- Proposition 65

- Chemicals known to cause cancer:
  50-00-0 formaldehyde

- Chemicals known to cause reproductive toxicity for females:
  None of the ingredients is listed.

- Chemicals known to cause reproductive toxicity for males:
  None of the ingredients is listed.
Chemicals known to cause developmental toxicity:
None of the ingredients is listed.

Carcinogenic categories

- EPA (Environmental Protection Agency)
  50-00-0 formaldehyde | B1

- TLV (Threshold Limit Value established by ACGIH)
  50-00-0 formaldehyde | A2

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

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

Hazard pictograms

- GHS07
- GHS08

Signal word: Danger

Hazard-determining components of labeling:
formaldehyde

Hazard statements:
May cause an allergic skin reaction.
Suspected of causing genetic defects.
May cause cancer.

Precautionary statements:
Avoid breathing dust/fume/gas/mist/vapors/spray
Wear protective gloves.
Contaminated work clothing must not be allowed out of the workplace.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Specific treatment (see on this label).
Wash contaminated clothing before reuse.
IF exposed or concerned: Get medical advice/attention.
IF skin irritation or rash occurs: Get medical advice/attention.
IF ON SKIN: Wash with plenty of water.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations:

Information about limitation of use:
Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.
Exceptions can be made by the authorities in certain cases.

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

16 Other information

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

Date of preparation / last revision: 03/28/2016 / -
Abbreviations and acronyms:
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety 
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
Muta. 2: Germ cell mutagenicity, Hazard Category 2
Carc. 1B: Carcinogenicity, Hazard Category 1B
1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
  - **Trade name:** PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER
  - **Article number:** 15735-40S, 15735-30S
- **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: sgkck@aol.com
    - 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
- **Further information obtainable from:** Product safety department
- **Emergency telephone number:**
  - ChemTrec 1-800-424-9300 Contract CCN7661
  - 1-703-527-3887

2 Hazards identification

- **Classification of the substance or mixture**
  - **GHS08 health hazard**
    - Muta. 2  H341  Suspected of causing genetic defects.
    - Carc. 1B  H350  May cause cancer.
  - **GHS07**
    - Skin Sens. 1  H317  May cause an allergic skin reaction.
- **Label elements**
- **GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).

(Contd. on page 2)
Trade name: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

· **Hazard pictograms**

GHS07  GHS08

· **Signal word** Danger

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

· **Hazard statements**
  May cause an allergic skin reaction.
  Suspected of causing genetic defects.
  May cause cancer.

· **Precautionary statements**
  Avoid breathing dust/fume/gas/mist/vapours/spray.
  Wear protective gloves.
  Contaminated work clothing should not be allowed out of the workplace.
  Obtain special instructions before use.
  Do not handle until all safety precautions have been read and understood.
  Specific treatment (see on this label).
  Wash contaminated clothing before reuse.
  IF exposed or concerned: Get medical advice/attention.
  IF skin irritation or rash occurs: Get medical advice/attention.
  IF ON SKIN: Wash with plenty of water.
  Store locked up.
  Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**

· **Results of PBT and vPvB assessment**
  · **PBT:** Not applicable.
  · **vPvB:** Not applicable.

### 3 Composition/information on ingredients

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

· **Dangerous components:**
  
<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>formaldehyde</td>
<td>2,5-10%</td>
</tr>
</tbody>
</table>

· **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 and to be sure call for a doctor.
  In case of unconsciousness place patient stably in side position for transportation.

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

· **After eye contact:** Rinse opened eye for several minutes under running water.
Trade name: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

5 Firefighting measures

- Extinguishing media
- Suitable extinguishing agents:
  CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture No further relevant information available.
- Advice for firefighters
- Protective equipment: Mouth respiratory protective device.

6 Accidental release measures

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

7 Handling and storage

- Handling:
  Precautions for safe handling
  Ensure good ventilation/exhaustion at the workplace.
  Open and handle receptacle with care.
  Prevent formation of aerosols.
- Information about fire - and explosion protection: Keep respiratory protective device available.
- Conditions for safe storage, including any incompatibilities
- Storage:
  Requirements to be met by storerooms and receptacles: No special requirements.
  Information about storage in one common storage facility: Not required.
  Further information about storage conditions: Keep container tightly sealed.
  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.
Trade name: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

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

<table>
<thead>
<tr>
<th>50-00-0 formaldehyde</th>
</tr>
</thead>
<tbody>
<tr>
<td>NES</td>
</tr>
<tr>
<td>Short-term value: 2.5 mg/m³, 2 ppm</td>
</tr>
<tr>
<td>Long-term value: 1.2 mg/m³, 1 ppm</td>
</tr>
<tr>
<td>Sen</td>
</tr>
</tbody>
</table>

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

- Exposure controls
- Personal protective equipment:
  - General protective and hygienic measures:
    - Immediately remove all soiled and contaminated clothing
    - Wash hands before breaks and at the end of work
    - Store protective clothing separately
  - Respiratory protection:
    - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
  - Protection of hands:

  **Protective gloves**

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

  **Material of gloves**

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

  **Penetration time of glove material**

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

  **Eye protection:**

  Safety glasses

  **Tightly sealed goggles**

9 Physical and chemical properties

- Information on basic physical and chemical properties
- General Information

  **Appearance:**

  Form: Liquid
  Colour: Clear
  Odour: Characteristic
  Odour threshold: Not determined.
**Trade name: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH-value at 20 °C:</td>
<td>7.4</td>
</tr>
<tr>
<td>Change in condition</td>
<td></td>
</tr>
<tr>
<td>Melting point/Melting range:</td>
<td>Undetermined.</td>
</tr>
<tr>
<td>Boiling point/Boiling range:</td>
<td>-21 °C</td>
</tr>
<tr>
<td>Flash point:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flammability (solid, gaseous):</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Ignition temperature:</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Self-igniting:</td>
<td>Product is not selfigniting.</td>
</tr>
<tr>
<td>Danger of explosion:</td>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td>Explosion limits:</td>
<td></td>
</tr>
<tr>
<td>Lower:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Upper:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapour pressure:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Density at 20 °C:</td>
<td>0.9905 g/cm³</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Solubility in / Miscibility with water:</td>
<td>Fully miscible.</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water):</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Viscosity:</td>
<td></td>
</tr>
<tr>
<td>Dynamic:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Kinematic:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Solvent content:</td>
<td></td>
</tr>
<tr>
<td>Organic solvents:</td>
<td>4.0 %</td>
</tr>
<tr>
<td>Water:</td>
<td>95.9 %</td>
</tr>
<tr>
<td>VOC (EC)</td>
<td>4.00 %</td>
</tr>
<tr>
<td>Other information</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

### 10 Stability and reactivity

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

- Information on toxicological effects
- Acute toxicity

<table>
<thead>
<tr>
<th>LD/LC50 values relevant for classification:</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-00-0 formaldehyde</td>
</tr>
<tr>
<td>Oral LD50 &gt;200 mg/kg (rat)</td>
</tr>
</tbody>
</table>

- Primary irritant effect:
  - Skin corrosion/irritation: No irritant effect.
  - Serious eye damage/irritation: No irritating effect.
  - Respiratory or skin sensitisation: Sensitisation possible through skin contact.

- Additional toxicological information:
  The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
  Harmful
  Irritant
  Carcinogenic.

- CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
  Muta. 2, Carc. 1B

12 Ecological information

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

- General notes:
  Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
  Do not allow product to reach ground water, water course or sewage system.
  Danger to drinking water if even small quantities leak into the ground.

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

13 Disposal considerations

- Waste treatment methods
  - Recommendation
    Must not be disposed together with household garbage. Do not allow product to reach sewage system.
  - Uncleaned packaging:
    - Recommendation: Disposal must be made according to official regulations.
    - Recommended cleansing agents: Water, if necessary together with cleansing agents.
Trade name: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

14 Transport information

- UN-Number
  - ADG, ADN, IMDG, IATA not regulated

- UN proper shipping name
  - ADG, ADN, IMDG, IATA not regulated

- Transport hazard class(es)
  - ADG, ADN, IMDG, IATA not regulated
  - Class not regulated

- Packing group
  - ADG, IMDG, IATA not regulated

- Environmental hazards:
  Not applicable.

- Special precautions for user
  Not applicable.

- Transport in bulk according to Annex II of Marpol and the IBC Code
  Not applicable.

- UN "Model Regulation": not regulated

15 Regulatory information

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

- Australian Inventory of Chemical Substances
  All ingredients are listed.

- Standard for the Uniform Scheduling of Medicines and Poisons
  50-00-0 formaldehyde S2, S6, S10

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

- Hazard pictograms

  GHS07  GHS08

- Signal word Danger

- Hazard-determining components of labelling:
  formaldehyde

- Hazard statements
  May cause an allergic skin reaction.
  Suspected of causing genetic defects.
  May cause cancer.

- Precautionary statements
  Avoid breathing dust/fume/gas/mist/vapours/spray.
  Wear protective gloves.
  Contaminated work clothing should not be allowed out of the workplace.
  Obtain special instructions before use.
  Do not handle until all safety precautions have been read and understood.
  Specific treatment (see on this label).
  Wash contaminated clothing before reuse.
### Trade name: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

IF exposed or concerned: Get medical advice/attention.
If skin irritation or rash occurs: Get medical advice/attention.
IF ON SKIN: Wash with plenty of water.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Directive 2012/18/EU**
- **Named dangerous substances** - ANNEX I formaldehyde

- **National regulations:**

- **Information about limitation of use:**
  Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.
  Exceptions can be made by the authorities in certain cases.

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

### 16 Other information

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

- **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
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative
  Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
  Mut. 2: Germ cell mutagenicity, Hazard Category 2
  Carc. 1B: Carcinogenicity, Hazard Category 1B
1 Identification

- **Product identifier**
- **Trade name**: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER
- **Article number**: 15735-40S, 15735-30S
- **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: sgkck@aol.com
    www.emsdiasum.com

  - **Information department**: Product safety department
  - **Emergency telephone number**: ChemTrec 1-800-424-9300 Contract CCN7661
    1-703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**
  - GHS08 Health hazard
  - Germ Cell Mutagenicity - Category 2  H341  Suspected of causing genetic defects.
  - Carcinogenicity - Category 1B  H350  May cause cancer.

  - GHS07
  - Skin Sensitizer - Category 1  H317  May cause an allergic skin reaction.

- **Label elements**
  - **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms**
    - GHS07
    - GHS08

- **Signal word** Danger

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

- **Hazard statements**
  - May cause an allergic skin reaction.
  - Suspected of causing genetic defects.
  - May cause cancer.

- **Precautionary statements**
  - Avoid breathing dust/fume/gas/mist/vapours/spray.
  - Wear protective gloves/protective clothing/eye protection/face protection.
  - Contaminated work clothing should not be allowed out of the workplace.

(Contd. on page 2)
Trade name: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Specific treatment (see on this label).
IF exposed or concerned: Get medical advice/attention.
If skin irritation or rash occurs: Get medical advice/attention.
IF ON SKIN: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· Hazard description:

· WHMIS-symbols:
D2A - Very toxic material causing other toxic effects

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

0 0 0
Health = 1
Fire = 0
Reactivity = 0

- HMIS-ratings (scale 0 - 4)

HEALTH > Health = *1
FIRE = Fire = 0
REACTIVITY = 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:

50-00-0 formaldehyde 1-5% w/w

4 First-aid measures

- Description of first aid measures
- General information:
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- After inhalation:
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eye contact: Rinse opened eye for several minutes under running water.
Trade name: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

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:
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Special hazards arising from the substance or mixture: No further relevant information available.
Advice for firefighters
Protective equipment: Mouth respiratory protective device.

6 Accidental release measures

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

7 Handling and storage

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

8 Exposure controls/personal protection

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

Components with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>Code</th>
<th>Limit Value</th>
</tr>
</thead>
</table>
| EL   | Long-term value: 0.3 ppm  
      | Ceiling limit value: 1 ppm  
      | ACGIH A2; IARC 1; S |
| EV   | Short-term value: 1.0 ppm  
      | Ceiling limit value: 1.5 ppm |

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

Exposure controls

Personal protective equipment:

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

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

Protection of hands:
- Protective gloves
  - The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
  - Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
  - Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- Material of gloves
  - The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- Penetration time of glove material
  - The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- Eye protection:
  - Safety glasses
  - Tightly sealed goggles

Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:
- Form: Liquid
- Color: Clear
Trade name: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not determined.</td>
</tr>
<tr>
<td>pH-value at 20 °C</td>
<td>7.4</td>
</tr>
<tr>
<td>Change in condition</td>
<td></td>
</tr>
<tr>
<td>Melting point/Melting range</td>
<td>Undetermined.</td>
</tr>
<tr>
<td>Boiling point/Boiling range</td>
<td>-21 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flammability (solid, gaseous)</td>
<td>Not flammable.</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Auto igniting</td>
<td>Product is not selfigniting.</td>
</tr>
<tr>
<td>Danger of explosion</td>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td>Explosion limits</td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Upper</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Density at 20 °C</td>
<td>0.9905 g/cm³</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Solubility in / Miscibility with Water</td>
<td>Fully miscible.</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Dynamic</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Kinematic</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Solvent content</td>
<td></td>
</tr>
<tr>
<td>Organic solvents</td>
<td>4.0 %</td>
</tr>
<tr>
<td>Water</td>
<td>95.9 %</td>
</tr>
<tr>
<td>Other information</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

10 Stability and reactivity

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

- Information on toxicological effects
- Acute toxicity:
  - LD/LC50 values that are relevant for classification:
    - 50-00-0 formaldehyde
      - Oral LD50 >200 mg/kg (rat)
  - Primary irritant effect:
    - on the skin: No irritant effect.
    - on the eye: No irritating effect.
  - Sensitization: Sensitization possible through skin contact.
  - Additional toxicological information:
    - The product shows the following dangers according to internally approved calculation methods for preparations: Harmful
    - Irritant
    - Carcinogenic.

- Carcinogenic categories
  - IARC (International Agency for Research on Cancer)
    - 50-00-0 formaldehyde 1
  - NTP (National Toxicology Program)
    - 50-00-0 formaldehyde K
  - OSHA-Ca (Occupational Safety Health Administration)
    - 50-00-0 formaldehyde

12 Ecological information

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

13 Disposal considerations

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

<table>
<thead>
<tr>
<th>Description</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN-Number</td>
<td>Void</td>
</tr>
<tr>
<td>DOT, TDG, ADN, IMDG, IATA</td>
<td></td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>Void</td>
</tr>
<tr>
<td>DOT, TDG, ADN, IMDG, IATA</td>
<td></td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>Void</td>
</tr>
<tr>
<td>DOT, TDG, ADN, IMDG, IATA</td>
<td></td>
</tr>
<tr>
<td>Class</td>
<td>Void</td>
</tr>
<tr>
<td>Packing group</td>
<td>Void</td>
</tr>
<tr>
<td>DOT, TDG, IMDG, IATA</td>
<td></td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>UN &quot;Model Regulation&quot;</td>
<td>Void</td>
</tr>
</tbody>
</table>

### 15 Regulatory information

<table>
<thead>
<tr>
<th>Description</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety, health and environmental regulations/legislation specific for the substance or mixture</td>
<td>Sara</td>
</tr>
<tr>
<td>Section 355 (extremely hazardous substances):</td>
<td></td>
</tr>
<tr>
<td>50-00-0 formaldehyde</td>
<td></td>
</tr>
<tr>
<td>Section 313 (Specific toxic chemical listings):</td>
<td></td>
</tr>
<tr>
<td>50-00-0 formaldehyde</td>
<td></td>
</tr>
<tr>
<td>TSCA (Toxic Substances Control Act):</td>
<td></td>
</tr>
<tr>
<td>All ingredients are listed.</td>
<td></td>
</tr>
<tr>
<td>Proposition 65</td>
<td></td>
</tr>
<tr>
<td>Chemicals known to cause cancer:</td>
<td></td>
</tr>
<tr>
<td>50-00-0 formaldehyde</td>
<td></td>
</tr>
<tr>
<td>Chemicals known to cause reproductive toxicity for females:</td>
<td></td>
</tr>
<tr>
<td>None of the ingredients is listed.</td>
<td></td>
</tr>
<tr>
<td>Chemicals known to cause reproductive toxicity for males:</td>
<td></td>
</tr>
<tr>
<td>None of the ingredients is listed.</td>
<td></td>
</tr>
<tr>
<td>Chemicals known to cause developmental toxicity:</td>
<td></td>
</tr>
<tr>
<td>None of the ingredients is listed.</td>
<td></td>
</tr>
</tbody>
</table>

(Contd. on page 8)
Trade name: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

- **Carcinogenic categories**
  - **EPA (Environmental Protection Agency)**
    - 50-00-0 formaldehyde \textit{B1}
  - **TLV (Threshold Limit Value established by ACGIH)**
    - 50-00-0 formaldehyde \textit{A2}
  - **NIOSH-Ca (National Institute for Occupational Safety and Health)**
    - 50-00-0 formaldehyde

- **Canadian substance listings:**
  - **Canadian Domestic Substances List (DSL)**
    - All ingredients are listed.
  - **Canadian Ingredient Disclosure list (limit 0.1%)**
    - 50-00-0 formaldehyde
  - **Canadian Ingredient Disclosure list (limit 1%)**
    - None of the ingredients is listed.

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

  ![GHS07](image1) ![GHS08](image2)

- **Signal word** Danger

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

- **Hazard statements**
  - May cause an allergic skin reaction.
  - Suspected of causing genetic defects.
  - May cause cancer.

- **Precautionary statements**
  - Avoid breathing dust/fume/gas/mist/vapours/spray.
  - Wear protective gloves/protective clothing/eye protection/face protection.
  - Contaminated work clothing should not be allowed out of the workplace.
  - Obtain special instructions before use.
  - Do not handle until all safety precautions have been read and understood.
  - Specific treatment (see on this label).
  - IF exposed or concerned: Get medical advice/attention.
  - IF skin irritation or rash occurs: Get medical advice/attention.
  - IF ON SKIN: Wash with plenty of water.
  - Take off contaminated clothing and wash it before reuse.
  - Store locked up.
  - Dispose of contents/container in accordance with local/regional/national/international regulations.

- **National regulations:**

- **Information about limitation of use:**
  - Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.
  - Exceptions can be made by the authorities in certain cases.
Trade name: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

- **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:** 03/28/2016 / -
- **Abbreviations and acronyms:**
  - IMDG: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - ACGIH: American Conference of Governmental Industrial Hygienists
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - ELINCS: European List of Notified Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - WHMIS: Workplace Hazardous Materials Information System (Canada)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - NIOSH: National Institute for Occupational Safety
  - OSHA: Occupational Safety Health
  - Skin Sensitizer - Category 1: Sensitisation - Skin, Hazard Category 1
  - Germ Cell Mutagenicity - Category 2: Germ cell mutagenicity, Hazard Category 2
  - Carcinogenicity - Category 1B: Carcinogenicity, Hazard Category 1B
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

- **Trade name:** PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER
- **Article number:** 15735-40S, 15735-30S

1.2 Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

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: sgkck@aol.com
  www.emsdiasum.com

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

1.4 Emergency telephone number:

ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

- Classification according to Regulation (EC) No 1272/2008

![GHS08 health hazard](image)

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

---

![GHS07](image)

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

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

![GHS07](image)  ![GHS08](image)

- Signal word Danger

- Hazard-determining components of labelling:
  formaldehyde
- Hazard statements
  H317  May cause an allergic skin reaction.
  H341  Suspected of causing genetic defects.
  H350  May cause cancer.

(Contd. on page 2)
Trade name: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

- Precautionary statements
  P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P321 Specific treatment (see on this label).
P308+P313 IF exposed or concerned: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

SECTION 3: Composition/information on ingredients

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

  - Dangerous components:
    - CAS: 50-00-0 formaldehyde
    - EINECS: 200-001-8
    - Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Muta. 2, H341; Carc. 1B, H350; Skin Corr. 1B, H314; Skin Sens. 1, H317
    - 2,5-10%
    - 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 and to be sure call for a doctor.
  - After skin contact:
    Immediately wash with water and soap and rinse thoroughly.
  - After eye contact:
    Rinse opened eye for several minutes under running water.
  - After swallowing:
    If symptoms persist consult doctor.

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

- 4.3 Indication of any immediate medical attention and special treatment needed
  No further relevant information available.

SECTION 5: Firefighting measures

- 5.1 Extinguishing media
  - Suitable extinguishing agents:
    CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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

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

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures
  Not required.
6.2 Environmental precautions:
Dilute with plenty of water.
Do not allow to enter sewers/surface or ground water.

6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.

6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.

Information about fire - and explosion protection: Keep respiratory protective device available.

7.2 Conditions for safe storage, including any incompatibilities
Storage:
Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: Not required.
Further information about storage conditions: Keep container tightly sealed.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

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

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Short-term value</th>
<th>Long-term value</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-00-0 formaldehyde</td>
<td>2.5 mg/m³, 2 ppm</td>
<td>2.5 mg/m³, 2 ppm</td>
</tr>
</tbody>
</table>

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

8.2 Exposure controls

General protective and hygienic measures:
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.

Respiratory protection:
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/the substance/the preparation. Due to missing tests no recommendation to the glove material can be given for the product/the preparation/the chemical mixture.

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

Material of gloves

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

Penetration time of glove material

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

Eye protection:

Safety glasses

Tightly sealed goggles

SECTION 9: Physical and chemical properties

- 9.1 Information on basic physical and chemical properties

- General Information

  - Appearance:
    - Form: Liquid
    - Colour: Clear
    - Odour: Characteristic
    - Odour threshold: Not determined.

  - pH-value at 20 °C:
    - 7.4

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

  - Flash point:
    - Not applicable.

  - Flammability (solid, gaseous):
    - Not applicable.

  - Ignition temperature:
    - Decomposition temperature: Not determined.

  - Self-igniting:
    - Product is not selfigniting.

  - Danger of explosion:
    - Product does not present an explosion hazard.

  - Explosion limits:
    - Lower: Not determined.
    - Upper: Not determined.

  - Vapour pressure:
    - Not determined.
### SECTION 10: Stability and reactivity

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

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**: Based on available data, the classification criteria are not met.
- **LD/LC50 values relevant for classification**:
  - 50-00-0 formaldehyde
    - Oral LD50 >200 mg/kg (rat)

- **Primary irritant effect**
- **Skin corrosion/irritation**: Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**: Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation**: May cause an allergic skin reaction.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity**: Suspected of causing genetic defects.
- **Carcinogenicity**: May cause cancer.
- **Reproductive toxicity**: Based on available data, the classification criteria are not met.
- **STOT-single exposure**: Based on available data, the classification criteria are not met.
- **STOT-repeated exposure**: Based on available data, the classification criteria are not met.
Trade name: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

Aspiration hazard: Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

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

SECTION 13: Disposal considerations

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

- Uncleaned packaging:
  - Recommendation: Disposal must be made according to official regulations.
  - Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- 14.1 UN-Number
- ADR, ADN, IMDG, IATA: not regulated

- 14.2 UN proper shipping name
- ADR, ADN, IMDG, IATA: not regulated

- 14.3 Transport hazard class(es)
- ADR, ADN, IMDG, IATA
- Class: not regulated

- 14.4 Packing group
- ADR, IMDG, IATA: not regulated

- 14.5 Environmental hazards:
  Not applicable.

- 14.6 Special precautions for user
  Not applicable.

- 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
  Not applicable.

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

SECTION 16: Other information

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

· Relevant phrases
  H301 Toxic if swallowed.
  H311 Toxic in contact with skin.
  H314 Causes severe skin burns and eye damage.
  H317 May cause an allergic skin reaction.
  H331 Toxic if inhaled.
  H341 Suspected of causing genetic defects.
  H350 May cause cancer.

· Abbreviations and acronyms:
  ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  IMDG: International Maritime Code for Dangerous Goods
  IATA: International Air Transport Association
  GHS: Globally Harmonised System of Classification and Labelling of Chemicals
  EINECS: European Inventory of Existing Commercial Chemical Substances
  ELINCS: European List of Notified Chemical Substances
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  VOC: Volatile Organic Compounds (USA, EU)
  LC50: Lethal concentration, 50 percent
  LD50: Lethal dose, 50 percent
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative
  Acute Tox. 3: Acute toxicity, Hazard Category 3
  Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
  Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
  Muta. 2: Germ cell mutagenicity, Hazard Category 2
  Carc. 1B: Carcinogenicity, Hazard Category 1B
RUBRIEK 1: Identificatie van de stof of het mengsel en van de vennootschap/onderneming

1.1 Productidentificatie

- Handelsnaam: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER
- Artikelnummer: 15735-40S, 15735-30S

1.2 Relevant geïdentificeerd gebruik van de stof of het mengsel en ontraden gebruik
Geen verdere relevante informatie verkrijgbaar.

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: sgkcek@aol.com  
  www.emsdiasum.com

- Inlichtingengevende sector: Product safety department

1.4 Telefoonnummer voor noodgevallen:
  ChemTrec 1-800-424-9300 Contract CCN7661  
  1-703-527-3887

RUBRIEK 2: Identificatie van de gevaren

2.1 Indeling van de stof of het mengsel

- Indeling overeenkomstig Verordening (EG) nr. 1272/2008
  
  ![GHS08 gezondheidsgevaar]
  
  Muta. 2  H341 Verdacht van het veroorzaken van genetische schade.
  Carc. 1B  H350 Kan kanker veroorzaken.

![GHS07]

Skin Sens. 1  H317 Kan een allergische huidreactie veroorzaken.

2.2 Etiketteringselementen

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

- Gevarenpictogrammen

![GHS07  GHS08]

(Vervolg op blz. 2)
Veiligheidsinformatieblad
volgens 1907/2006/EG, Artikel 31

datum van de druk: 28.03.2016
Herziening van: 28.03.2016

Handelsnaam: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

(Vervolg van blz. 1)

- Signaalwoord Gevaar

- Gevaaraanduidende componenten voor de etikettering:
formaldehyde

- Gevarenaanduidingen
H317 Kan een allergische huidreactie veroorzaken.
H341 Verdacht van het veroorzaken van genetische schade.
H350 Kan kanker veroorzaken.

- Veiligheidsaanbevelingen
P261 Inademing van stof/rook/gas/nevel/damp/spuitnevel vermijden.
P280 Beschermende handschoenen/beschermende kleding/ogebescherming/gelaatsbescherming dragen.
P312 Specifieke behandeling vereist (zie op dit etiket).
P308+313 NA (mogelijke) blootstelling: een arts raadplegen.
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:

<table>
<thead>
<tr>
<th>CAS</th>
<th>EINECS</th>
<th>Formaldehyde</th>
<th>Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Mutat. 2, H341; Carc. 1B, H350; Skin Corr. 1B, H314; Skin Sens. 1, H317</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-00-0</td>
<td>200-001-8</td>
<td></td>
<td>2.5-10%</td>
</tr>
</tbody>
</table>

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

RUBRIEK 4: Eerstehulpmaatregelen

- 4.1 Beschrijving van de eerstehulpmaatregelen
- Algemene informatie:
Het is mogelijk dat vergiftigingssymptomen pas na vele uren optreden. Om deze reden is medische controle gedurende minstens 48 uur na een ongeval noodzakelijk.

- Na het inademen:
Veel verse lucht toedienen en voor alle zekerheid een arts raadplegen.
Bij bewusteloosheid liggen en vervoer in stabiele zijligging.

- Na huidcontact: Ommiddelijk met water en zeep afwassen en goed naspoelen.

- Na oogcontact: Ogen bij geopend ooglid meerdere minuten met stromend water spoelen

- 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.

(Vervolg op blz. 3)
Handelsnaam: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

RUBRIEK 5: Brandbestrijdingsmaatregelen

- 5.1 Blusmiddelen
- Geschikte blusmiddelen:
  CO2, bluspoeder of waterstraal. Grotere brand met waterstraal bestrijden of met schuim, dat tegen alcohol bestand is.
- 5.2 Speciale gevaren die door de stof of het mengsel worden veroorzaakt
  Geen verdere relevante informatie verkrijgbaar.
- 5.3 Advies voor brandweerlieden
  Speciale beschermende kleding: Ademhalingstoestel aantrekken.

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

- 6.1 Persoonlijke voorzorgsmaatregelen, beschermde uitrusting en noodprocedures
  Niet nodig.
- 6.2 Milieuvoorzorgsmaatregelen:
  Met veel water verdunnen. Niet in de riolerings/het oppervlaktewater/het grondwater laten terechtkomen.
- 6.3 Insluitings- en reinigingsmethoden en -materiaal:
- 6.4 Verwijzing naar andere rubrieken
  Informatie inzake veilig gebruik - zie hoofdstuk 7.
  Informatie inzake persoonlijke beschermingsuitrusting - zie hoofdstuk 8.
  Informatie inzake berging - zie hoofdstuk 13.

RUBRIEK 7: Hantering en opslag

- 7.1 Voorzorgsmaatregelen voor het veilig hanteren van de stof of het mengsel
  Voor goede ventilatie/afzuiging op de werkplaatsen zorgen. Tanks voorzichtig openen en behandelen. Aërosolvorming vermijden.
- Informatie m.b.t. brand- en ontploffingsgevaar: Ademhalingstoestellen gereedhouden.
- 7.2 Voorwaarden voor een veilige opslag, met inbegrip van incompatibele producten
- Opslag:
  - Eisen ten opzichte van opslagruimte en tanks: Geen bijzondere eisen.
  - Informatie m.b.t. gezamenlijke opslag: Niet noodzakelijk.
  - Verdere inlichtingen over eisen m.b.t. de opslag: Tanks ondoorzichtig zeker gesloten houden.
  - 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 werkruiuente in acht genomen moeten worden:

  50-00-0 formaldehyde

  WGW Korte termijn waarde: 0,5 mg/m³, 0,4 ppm
  Lange termijn waarde: 0,15 mg/m³, 0,1 ppm

- Aanvullende gegevens:
  Als basis dienden lijsten die bij opstelling geldig waren.
8.2 Maatregelen ter beheersing van blootstelling

Persoonlijke beschermingsvoorzieningen:

Algemene beschermings- en gezondheidsmaatregelen:
- Verwijderd houden van eet- en drinkwaren.
- Verontreinigde kleding onmiddellijk uittrekken.
- Vóór de pauze en aan het einde van werktijd handen wassen.
- Beschermende kleding afzonderlijk bewaren.

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

Handbescherming:

Veiligheidshandschoenen


Handschoenmateriaal

De keuze van een geschikte handschoen is niet alleen afhankelijk van het materiaal, maar ook van andere kwaliteitskenmerken en verschil van fabrikant tot fabrikant. Aangezien het product uit meerdere stoffen is samengesteld, is de duurzaamheid van de handschoenmateriaal 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:

Veiligheidsbril

Nauw aansluitende veiligheidsbril

RUBRIEK 9: Fysische en chemische eigenschappen

9.1 Informatie over fysische en chemische basiseigenschappen

Algemene gegevens

Vorm:
- Vloeistof

Kleur:
- Helder

Reuk:
- Karakteristiek

Geurdrempelwaarde:
- Niet bepaald.

pH-waarde bij 20 °C:
- 7,4

Toestandsverandering

Smeltpunt/smeltbereik:
- Niet bepaald.

Kookpunt/kookpuntbereik:
- -21 °C

Vlampunt:
- Niet bruikbaar.

Ontvlambaarheid (vast, gasvormig):
- Niet bruikbaar.
### Handelsnaam: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

<table>
<thead>
<tr>
<th>Eigenschap</th>
<th>Gegeven</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onstekingstemperatuur:</td>
<td>Niet bepaald.</td>
</tr>
<tr>
<td>Ontbindingstemperatuur:</td>
<td>Niet bepaald.</td>
</tr>
<tr>
<td>Zelfonsteking:</td>
<td>Het produkt ontbrandt niet uit zichzelf.</td>
</tr>
<tr>
<td>Ontplofingsgevaar:</td>
<td>Het produkt is niet ontplofingsgevaarlijk.</td>
</tr>
<tr>
<td>Ontplofingsgrenzen:</td>
<td></td>
</tr>
<tr>
<td>Onderste:</td>
<td>Niet bepaald.</td>
</tr>
<tr>
<td>Bovenste:</td>
<td>Niet bepaald.</td>
</tr>
<tr>
<td>Dampspanning:</td>
<td>Niet bepaald.</td>
</tr>
<tr>
<td>Dichtheid bij 20 °C:</td>
<td>0.9905 g/cm³</td>
</tr>
<tr>
<td>Relatieve dichtheid</td>
<td>Niet bepaald.</td>
</tr>
<tr>
<td>Dampdichtheid</td>
<td>Niet bepaald.</td>
</tr>
<tr>
<td>Verdampingssnelheid</td>
<td>Niet bepaald.</td>
</tr>
<tr>
<td>Oplosbaarheid in mengbaarheid met Water:</td>
<td>Volledig mengbaar.</td>
</tr>
<tr>
<td>Dampdichtheid</td>
<td>Niet bepaald.</td>
</tr>
<tr>
<td>Viscositeit</td>
<td></td>
</tr>
<tr>
<td>Dynamisch:</td>
<td>Niet bepaald.</td>
</tr>
<tr>
<td>Kinematisch:</td>
<td>Niet bepaald.</td>
</tr>
<tr>
<td>Oplosmiddelgehalte:</td>
<td></td>
</tr>
<tr>
<td>Organisch oplosmiddel:</td>
<td>4.0 %</td>
</tr>
<tr>
<td>Water:</td>
<td>95.9 %</td>
</tr>
<tr>
<td>VOC (EG):</td>
<td>4,00 %</td>
</tr>
<tr>
<td>9.2 Overige informatie:</td>
<td>Geen verdere relevante informatie verkrijgbaar.</td>
</tr>
</tbody>
</table>

### RUBRIEK 10: Stabiliteit en reactiviteit

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

### RUBRIEK 11: Toxicologische informatie

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

<table>
<thead>
<tr>
<th>Indelingsrelevantie LD/LC50-waarden:</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-00-0 formaldehyde</td>
</tr>
<tr>
<td>Oraal LD50 &gt;200 mg/kg (rat)</td>
</tr>
</tbody>
</table>

- **Primaire aandoening:**
- **Huidcorrosie/-irritatie** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Ernstig oogletsel/oogirritatie** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
**Veiligheidsinformatieblad**  
volgens 1907/2006/EG, Artikel 31

**Handelsnaam:** PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

---

- **Sensibilisatie van de luchtwegen/de huid**  
  Kan een allergische huidreactie veroorzaken.

- **CMR-effecten (kankerverwekkendheid, mutageniteit en giftigheid voor de voortplanting)**

- **Mutageniteit in geslachtscellen**  
  Verdacht van het veroorzaken van genetische schade.

- **Kankerverwekkendheid**

  Kan kanker veroorzaken.

- **Giftigheid voor de voortplanting** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

- **STOT bij eenmalige blootstelling** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

- **STOT bij herhaalde blootstelling** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

---

**RUBRIEK 12: Ecologische informatie**

- **12.1 Toxiciteit**

  - **Aquatische toxiciteit:** Geen verdere relevante informatie verkrijgbaar.
  - **12.2 Persistentie en abreekbaarheid** 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) 3: Kan kanker veroorzaken.

      Gevaar voor water klasse 2 (D) (Zelfclassificatie): gevaar voor water

      Niet lozen in grondwater, in oppervlaktewater of in riolering.

      Gevaar voor drinkwater zelfs bij uitspreiden van geringe hoeveelheden in de ondergrond.

    - **12.5 Resultaten van PBT- en zPzB-beoordeling**

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

    - **12.6 Andere schadelijke effecten** Geen verdere relevante informatie verkrijgbaar.

---

**RUBRIEK 13: Instructies voor verwijdering**

- **13.1 Afvalverwerkingsmethoden**

  - **Aanbeveling:** Mag niet terechtkomen in de riolering of in het landbouwbedrijf.

  - **Niet gereinigde verpakkingen:**

    - **Aanbeveling:** Afvalverwijdering volgens overheidsbepalingen.

  - **Aanbevolen reinigingsmiddel:** Water, eventueel met toevoeging van reinigingsmiddelen.

---

**RUBRIEK 14: Informatie met betrekking tot het vervoer**

- **14.1 VN-nummer**

  - **ADR, ADN, IMDG, IATA**

    - Niet van toepassing

- **14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN**

  - **ADR, ADN, IMDG, IATA**

    - Niet van toepassing

- **14.3 Transportgevarenklasse(n)**

  - **ADR, ADN, IMDG, IATA**

    - klasse

    - Niet van toepassing

---

(Vervolg op blz. 7)
**Handelsnaam:** PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

<table>
<thead>
<tr>
<th>14.4 Verpakkingsgroep:</th>
<th>ADR, IMDG, IATA</th>
<th>Niet van toepassing</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.5 Milieugevaar:</td>
<td>Niet bruikbaar.</td>
<td></td>
</tr>
<tr>
<td>14.6 Bijzondere voorzorgen voor de gebruiker</td>
<td>Niet bruikbaar.</td>
<td></td>
</tr>
<tr>
<td>14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code</td>
<td>Niet bruikbaar.</td>
<td></td>
</tr>
<tr>
<td>VN &quot;Model Regulation&quot;:</td>
<td>Niet van toepassing</td>
<td></td>
</tr>
</tbody>
</table>

**RUBRIEK 15: Regelgeving**

| 15.1 Specifieke veiligheids-, gezondheids- en milieureglementen en -wetgeving voor de stof of het mengsel |
| SZW-lijst van kankerverwekkende stoffen |
| 50-00-0 formaldehyde |
| SZW-lijst van mutagene stoffen |
| geen der bestanddelen staat op de lijst. |
| NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Vruchtbaarheid |
| geen der bestanddelen staat op de lijst. |
| NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Ontwikkeling |
| geen der bestanddelen staat op de lijst. |
| 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 formaldehyde |
| Nationale voorschriften: |
| Aanwijzingen m.b.t. tewerkstellingsbeperking: Werknemers mogen aan de kankerverwekkende gevaarlijke stoffen van deze toebereiding niet blootgesteld worden. In uitzonderingsgevallen kan de overheid speciale vergunnings afgeven. |
| Gevaarklasse v. water: Waterbezwaarlijkheid (NL) 3: 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 produkt eigenschappen en vestigen geen contractuele rechtsbetrekking.

**Relevante zinnen**

H301 Giftig bij inslikken.
H311 Giftig bij contact met de huid.
H314 Veroorzaakt ernstige brandwonden en oogletsel.
H317 Kan een allergische huidreactie veroorzaken.
H331 Giftig bij inademing.
H341 Verdacht van het veroorzaken van genetische schade.
H350 Kan kanker veroorzaken.

**Afkortingen en acroniemen:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
**Handelsnaam:** PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMDG</td>
<td>International Maritime Code for Dangerous Goods</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonised System of Classification and Labelling of Chemicals</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Commercial Chemical Substances</td>
</tr>
<tr>
<td>ELINCS</td>
<td>European List of Notified Chemical Substances</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service (division of the American Chemical Society)</td>
</tr>
<tr>
<td>VOC</td>
<td>Volatile Organic Compounds (USA, EU)</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal concentration, 50 percent</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal dose, 50 percent</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>vPvB</td>
<td>very Persistent and very Bioaccumulative</td>
</tr>
<tr>
<td>Acute Tox. 3: Acute toxicity, Hazard Category 3</td>
<td></td>
</tr>
<tr>
<td>Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B</td>
<td></td>
</tr>
<tr>
<td>Skin Sens. 1: Sensitisation - Skin, Hazard Category 1</td>
<td></td>
</tr>
<tr>
<td>Muta. 2: Germ cell mutagenicity, Hazard Category 2</td>
<td></td>
</tr>
<tr>
<td>Carc. 1B: Carcinogenicity, Hazard Category 1B</td>
<td></td>
</tr>
</tbody>
</table>
RUBRIQUE 1: Identification de la substance/du mélange et de la société/l'entreprise

· 1.1 Identificateur de produit
· Nom du produit: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER
· Code du produit: 15735-40S, 15735-30S
· 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: sgkck@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

RUBRIQUE 2: Identification des dangers

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

  GHS08 danger pour la santé
  
  Muta. 2  H341 Susceptible d'induire des anomalies génétiques.
  Carc. 1B  H350 Peut provoquer le cancer.

  GHS07

  Skin Sens. 1  H317 Peut provoquer une allergie cutanée.

  GHS07  GHS08

  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

  · Mention d'avertissement Danger
  · Composants dangereux déterminants pour l'étiquetage:
    Formaldéhyde
  · Mentions de danger
    H317 Peut provoquer une allergie cutanée.
    H341 Susceptible d'induire des anomalies génétiques.
    H350 Peut provoquer le cancer.

(suite page 2)
**Nom du produit:** PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

**Conseils de prudence**
- **P261** Éviter de respirer les poussières/fumées/gaz/brouillards/vapeurs/aérosols.
- **P280** Porter des gants de protection/des vêtements de protection/un équipement de protection des yeux/du visage.
- **P321** Traitement spécifique (voir sur cette étiquette).
- **P308+P313** EN CAS d’exposition prouvée ou suspectée: consulter un médecin.
- **P405** Garder sous clef.
- **P501** Éliminer le contenu/récipient conformément à la réglementation locale/régionale/nationale/internationale.

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

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

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

- **Composants dangereux:**
  - **CAS:** 50-00-0
  - **EINECS:** 200-001-8
  - **Formaldéhyde**
  - **Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Muta. 2, H341; Carc. 1B, H350; Skin Corr. 1B, H314; Skin Sens. 1, H317**
  - **2,5-10%**

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

**RUBRIQUE 4: Premiers secours**

- **4.1 Description des premiers secours**
  - **Remarques générales:** Les symptômes d’intoxication peuvent apparaître après de nombreuses heures seulement; une surveillance médicale est donc nécessaire au moins 48 heures après un accident.
  - **Après inhalation:** Donner de l’air frais en abondance et consulter un médecin pour plus de sécurité. En cas d’inconscience, coucher et transporter la personne en position latérale stable.
  - **Après contact avec la peau:** Laver immédiatement à l’eau et au savon et bien rincer.
  - **Après contact avec les yeux:** Rincer les yeux, sous l’eau courante, pendant plusieurs minutes, en écartant bien les paupières.
  - **Après ingestion:** Si les troubles persistent, consulter un médecin.
  - **4.2 Principaux symptômes et effets, aigus et différés** Pas d'autres informations importantes disponibles.

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

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

- **5.1 Moyens d'extinction**
  - **Moyens d'extinction:** CO2, poudre d'extinction ou eau pulvérisée. Combattre les foyers importants avec de l’eau pulvérisée ou de la mousse résistant à l’alcool.

- **5.2 Dangers particuliers résultant de la substance ou du mélange** Pas d'autres informations importantes disponibles.
Nom du produit: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

- 5.3 Conseils aux pompiers
  - Equipement spécial de sécurité: Porter un appareil de protection respiratoire.

RUBRIQUE 6: Mesures à prendre en cas de dispersion accidentelle

- 6.1 Précautions individuelles, équipement de protection et procédures d'urgence: Pas nécessaire.
- 6.2 Précautions pour la protection de l'environnement:
  - Diluer avec beaucoup d'eau.
  - Ne pas rejeter dans les canalisations, dans les eaux de surface et dans les nappes d'eau souterraines.
- 6.3 Méthodes et matériel de confinement et de nettoyage:
  - Recueillir les liquides à l'aide d'un produit absorbant (sable, kieselguhr, neutralisant d'acide, liant universel, sciure).
  - Evacuer les matériaux contaminés en tant que déchets conformément au point 13.
  - Assurer une aération suffisante.
- 6.4 Référence à d'autres rubriques
  - Afin d'obtenir des informations pour une manipulation sûre, consulter le chapitre 7.
  - Afin d'obtenir des informations sur les équipements de protection personnels, consulter le chapitre 8.
  - Afin d'obtenir des informations sur l'élimination, consulter le chapitre 13.

RUBRIQUE 7: Manipulation et stockage

- 7.1 Précautions à prendre pour une manipulation sans danger
  - Veiller à une bonne ventilation/aspiration du poste de travail.
  - Ouvrir et manipuler les récipients avec précaution.
  - Éviter la formation d'aérosols.
- 7.2 Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités
  - Stockage:
    - Exigences concernant les lieux et conteneurs de stockage: Aucune exigence particulière.
    - Indications concernant le stockage commun: Pas nécessaire.
    - Autres indications sur les conditions de stockage: Tenir les emballages hermétiquement fermés.
- 7.3 Utilisation(s) finale(s) particulière(s)
  - Pas d'autres informations importantes disponibles.

RUBRIQUE 8: Contrôles de l'exposition/protection individuelle

- 8.1 Paramètres de contrôle
- 8.2 Contrôles de l'exposition
  - Equipement de protection individuel:
  - Mesures générales de protection et d'hygiène:
    - Tenir à l'écart des produits alimentaires, des boissons et de la nourriture pour animaux.

Remarques supplémentaires:
Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.
**Nom du produit:** PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

Retirer immédiatement les vêtements souillés ou humectés.
Se laver les mains avant les pauses et en fin de travail.
Conserver à part les vêtements de protection.

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

- **Protection des mains:**
  **Gants de protection**
  Le matériau des gants doit être imperméable et résistant au produit / à la substance / à la préparation.
  À cause du manque de tests, aucune recommandation pour un matériau de gants pour le produit / la préparation / le mélange de produits chimiques ne peut être donnée.
  Choix du matériau des gants en fonction des temps de pénétration, du taux de perméabilité et de la dégradation.

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

---

**RUBRIQUE 9: Propriétés physiques et chimiques**

- **9.1 Informations sur les propriétés physiques et chimiques essentielles**
  - **Indications générales**
    - **Aspect:** Liquide
    - **Couleur:** Transparent
    - **Odeur:** Caractéristique
    - **Seuil olfactif:** Non déterminé.
    - **valeur du pH à 20 °C:** 7.4
  - **Changement d'état**
    - Point de fusion: Non déterminé.
    - Point d'ébullition: -21 °C
  - **Point d'éclair**
    - Non applicable.
  - **Inflammabilité (solide, gazeux):**
    - Non applicable.
  - **Température d'inflammation:**
    - Non déterminé.
  - **Température de décomposition:**
    - Non déterminé.
  - **Auto-inflammation:**
    - Le produit ne s'enflamme pas spontanément.
danger d'explosion: Le produit n'est pas explosif.

- Limites d'explosion:
  - Inférieure: Non déterminé.
  - Supérieure: Non déterminé.

- Pression de vapeur: Non déterminé.

- Densité à 20 °C: 0.9905 g/cm³
- Densité relative: Non déterminé.
- Densité de vapeur: Non déterminé.
- Vitesse d'évaporation: Non déterminé.

- Solubilité dans/miscibilité avec l'eau: Entièrement miscible
- Coefficient de partage (n-octanol/eau): Non déterminé.

- Viscosité:
  - Dynamique: Non déterminé.
  - Cinématique: Non déterminé.

- Teneur en solvants:
  - Solvants organiques: 4.0 %
  - Eau: 95.9 %
  - VOC (CE): 4.00 %
- 9.2 Autres informations: Pas d'autres informations importantes disponibles.

RUBRIQUE 10: Stabilité et réactivité

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

RUBRIQUE 11: Informations toxicologiques

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

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

<table>
<thead>
<tr>
<th>Formulé</th>
<th>LD50/ LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral 50-00-0 Formaldéhyde</td>
<td>&gt;200 mg/kg (rat)</td>
</tr>
</tbody>
</table>

- Effet primaire d’irritation:
- Corrosion cutanée/irritation cutanée
  Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- Lésions oculaires graves/irritation oculaire
  Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- Sensibilisation respiratoire ou cutanée
  Peut provoquer une allergie cutanée.
**Nom du produit:** PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

- **Effets CMR (cancérogène, mutagène et toxique pour la reproduction)**
  - Mutagénicité sur les cellules germinales
    Susceptible d'induire des anomalies génétiques.
  - Cancérogénicité
    Peut provoquer le cancer.
  - Toxicité pour la reproduction
    Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
  - Toxicité spécifique pour certains organes cibles - exposition unique
    Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
  - Toxicité spécifique pour certains organes cibles - exposition répétée
    Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
  - Danger par aspiration
    Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

**RUBRIQUE 12: Informations écologiques**

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

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

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

**RUBRIQUE 14: Informations relatives au transport**

<table>
<thead>
<tr>
<th>14.1 Numéro ONU</th>
<th>néant</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR, ADN, IMDG, IATA</td>
<td>néant</td>
</tr>
<tr>
<td>14.2 Désignation officielle de transport de l'ONU</td>
<td>néant</td>
</tr>
<tr>
<td>ADR, ADN, IMDG, IATA</td>
<td>néant</td>
</tr>
<tr>
<td>14.3 Classe(s) de danger pour le transport</td>
<td>néant</td>
</tr>
</tbody>
</table>
**RUBRIQUE 15: Informations relatives à la réglementation**

- **15.1 Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement**
  - Directive 2012/18/UE
  - Substances dangereuses désignées - ANNEXE I Formaldéhyde

- **Prescriptions nationales:**
  - Indications sur les restrictions de travail: 
    Le personnel ne doit pas être exposé aux substances dangereuses cancérigènes contenues dans cette préparation. Les autorités peuvent autoriser des exceptions dans des cas particuliers.
  - **15.2 Évaluation de la sécurité chimique:** Une évaluation de la sécurité chimique n'a pas été réalisée.

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**RUBRIQUE 16: Autres informations**

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

- **Phrases importantes**
  
  H301 Toxique en cas d'ingestion.
  H311 Toxique par contact cutané.
  H314 Provoque des brûlures de la peau et des lésions oculaires graves.
  H317 Peut provoquer une allergie cutanée.
  H331 Toxique par inhalation.
  H341 Susceptible d'induire des anomalies génétiques.
  H350 Peut provoquer le cancer.

- **Acronymes et abréviations:**
  
  ADR: Accord 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
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative
  Acute Tox. 3: Acute toxicity, Hazard Category 3
  Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
  Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
  Muta. 2: Germ cell mutagenicity, Hazard Category 2
  Carc. 1B: Carcinogenicity, Hazard Category 1B
ABSCHNITT 1: Bezeichnung des Stoffs beziehungsweise des Gemischs und des Unternehmens

- 1.1 Produktidentifikator
  - Handelsname: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER
  - Artikelnummer: 15735-40S, 15735-30S

- 1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird
  Keine weiteren relevanten Informationen verfügbar.

- 1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt
  - Hersteller/Lieferant:
    Electon Microscopy Sciences
    1560 Industry Road
    USA-Hatfield, PA 19440
    Tel: 215-412-8400  Fax: 215-412-8450
    email: sgkcck@aol.com
    www.emsdiasum.com
  - Science Services GmbH
    Unterhachinger Str. 75
    81737 München Germany
    Tel: +49(0)89 18 93 668-0
    safety@scienceservices.de

  24h Giftnotruf Munchen: +49 (0)89 19240
  Toxikologische Abteilung der II. Medizinischen Klinik
  rechts der Isar, Munchen. - www.toxinfo.org

- Auskunftgebender Bereich: Product safety department
- 1.4 Notrufnummer:
  - ChemTrec 1-800-424-9300 Contract CCN7661
  1-703-527-3887

ABSCHNITT 2: Mögliche Gefahren

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

  GHS08 Gesundheitsgefahr

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

  GHS07

  Skin Sens. 1 H317 Kann allergische Hautreaktionen verursachen.

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

(Fortsetzung auf Seite 2)
Handelsname: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

· Gefahrenpiktogramme

GHS07  GHS08

· Signalwort Gefahr

· Gefahrbestimmende Komponenten zur Etikettierung:
  Formaldehyd

· Gefahrenhinweise
  H317 Kann allergische Hautreaktionen verursachen.
  H341 Kann vermutlich genetische Defekte verursachen.
  H350 Kann Krebs erzeugen.

· Sicherheitshinweise
  P261 Einatmen von Staub/Rauch/Gas/Nebel/Dampf/Aerosol vermeiden.
  P280 Schutzhandschuhe/Schutzkleidung/Augenschutz/Gesichtsschutz tragen.
  P321 Besondere Behandlung (siehe auf diesem Kennzeichnungsetikett).
  P308+P313 BEI Exposition oder falls betroffen: Ärztlichen Rat einholen/ärztliche Hilfe hinzuziehen.
  P405 Unter Verschluss aufbewahren.

· Zusätzliche Angaben:
  Nur für gewerbliche Anwender.
  · 2.3 Sonstige Gefahren

· Ergebnisse der PBT- und vPvB-Beurteilung
  · PBT: Nicht anwendbar.
  · vPvB: Nicht anwendbar.

ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

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

· Gefährliche Inhaltsstoffe:

<table>
<thead>
<tr>
<th>CAS:  50-00-0</th>
<th>Formaldehyd</th>
<th>Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Mut. 2, H341; Carc. 1B, H350; Skin Corr. 1B, H314; Skin Sens. 1, H317</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS: 200-001-8</td>
<td>2,5-10%</td>
<td></td>
</tr>
</tbody>
</table>

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

ABSCHNITT 4: Erste-Hilfe-Maßnahmen

· 4.1 Beschreibung der Erste-Hilfe-Maßnahmen
  · Allgemeine Hinweise:
    Vergiftungssymptome können erst nach vielen Stunden auftreten, deshalb ärztliche Überwachung mindestens 48 Stunden nach einem Unfall.
  · Nach Einatmen:
    Reichlich Frischluftzufuhr und sicherheitshalber Arzt aufsuchen.
    Bei Bewußtlosigkeit Lagerung und Transport in stabiler Seitenlage.
  · Nach Hautkontakt: Sofort mit Wasser und Seife abwaschen und gut nachspülen.
  · Nach Augenkontakt: Augen bei geöffnetem Lidspalt mehrere Minuten mit fließendem Wasser spülen.
  · Nach Verschlucken: Bei anhaltenden Beschwerden Arzt konsultieren.

(Fortsetzung auf Seite 3)
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.

5.1 Löschmittel
· Geeignete Löschmittel:

5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren
Keine weiteren relevanten Informationen verfügbar.

5.3 Hinweise für die Brandbekämpfung
· Besondere Schutzausrüstung: Atemschutzgerät anlegen.

6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren
Nicht erforderlich.

6.2 Umweltschutzmaßnahmen:
Mit viel Wasser verdünnen.
Nicht in die Kanalisation/Oberflächenwasser/Grundwasser gelangen lassen.

6.3 Methoden und Material für Rückhaltung und Reinigung:
Mit flüssigkeitsbindendem Material (Sand, Kieselgur, Säurebinder, Universalbinder, Sägemehl) aufnehmen.
Kontaminiertes Material als Abfall nach Abschnitt 13 entsorgen.
Für ausreichende Lüftung sorgen.

6.4 Verweis auf andere Abschnitte
Informationen zur sicheren Handhabung siehe Abschnitt 7.
Informationen zur persönlichen Schutzausrüstung siehe Abschnitt 8.
Informationen zur Entsorgung siehe Abschnitt 13.

7.1 Schutzmaßnahmen zur sicheren Handhabung
Für gute Belüftung/Absaugung am Arbeitsplatz sorgen.
Behälter mit Vorsicht öffnen und handhaben.
Aerosolbildung vermeiden.

Hinweise zum Brand- und Explosionsschutz: Atemschutzgeräte bereithalten.

7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten
· Lagerung:
Anforderung an Lagerräume und Behälter: Keine besonderen Anforderungen.
Zusammenlagerungshinweise: Nicht erforderlich.
Weitere Angaben zu den Lagerbedingungen: Behälter dicht geschlossen halten.
Lagerklasse:
Klassifizierung nach Betriebssicherheitsverordnung (BetrSichV): -

7.3 Spezifische Endanwendungen Keine weiteren relevanten Informationen verfügbar.
ABSCHNITT 8: Begrenzung und Überwachung der Exposition/Persönliche Schutzausrüstungen

- Zusätzliche Hinweise zur Gestaltung technischer Anlagen: Keine weiteren Angaben, siehe Abschnitt 7.
- 8.1 Zu überwachende Parameter
- Bestandteile mit arbeitsplatzbezogenen, zu überwachenden Grenzwerten:
  | 50-00-0 Formaldehyd | AGW Langzeitwert: 0,37 mg/m³, 0,3 ml/m³ |
  | 2(I);X, Y, Sh, AGS |

- Zusätzliche Hinweise: Als Grundlage dienten die bei der Erstellung gültigen Listen.
- 8.2 Begrenzung und Überwachung der Exposition
- Persönliche Schutzausrüstung:
  - Allgemeine Schutz- und Hygienemaßnahmen:
    Von Nahrungsmitteln, Getränken und Futtermitteln fernhalten.
    Beschmutzte, getränkte Kleidung sofort ausziehen.
    Vor den Pausen und bei Arbeitsende Hände waschen.
    Getrennte Aufbewahrung der Schutzkleidung.
  - Atemschutz:
    Bei kurzzeitiger oder geringer Belastung Atemfiltergerät; bei intensiver bzw. längerer Exposition umluftunabhängiges Atemschutzgerät verwenden.
  - Handschutz:
    Die Auswahl eines geeigneten Handschuhs ist nicht nur vom Material, sondern auch von weiteren Qualitätsmerkmalen abhängig und von Hersteller zu Hersteller unterschiedlich. Da das Produkt eine Zubereitung aus mehreren Stoffen darstellt, ist die Beständigkeit von Handschuhmaterialien nicht vorausberechenbar und muß deshalb vor dem Einsatz überprüft werden.
    Durchdringungszeit des Handschuhmaterials
    Die genaue Durchbruchzeit ist beim Schutzhandschuhersteller zu erfahren und einzuhalten.
  - Augenschutz:
    Schutzbrille
    Dichtschließende Schutzbrille

(Fortsetzung auf Seite 5)
**ABSCHNITT 9: Physikalische und chemische Eigenschaften**

- **9.1 Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften**
  - **Allgemeine Angaben**
  - **Aussehen:**
    - Form: Flüssigkeit
    - Farbe: Klar
  - **Geruch:** Charakteristisch
  - **Geruchsschwelle:** Nicht bestimmt.
  - **pH-Wert bei 20 °C:** 7.4
  - **Zustandsänderungen**
    - Schmelzpunkt/Schmelzbereich: Nicht bestimmt.
    - Siedepunkt/Siedebereich: -21 °C
  - **Flammpunkt:** Nicht anwendbar.
  - **Entzündlichkeit (fest, gasförmig):** Nicht anwendbar.
  - **Zündtemperatur:**
  - **Zersetzungstemperatur:** Nicht bestimmt.
  - **Selbstentzündlichkeit:** Das Produkt ist nicht selbstentzündlich.
  - **Explosionsgefahr:** Das Produkt ist nicht explosionsgefährlich.
  - **Explosionsgrenzen:**
    - Untere: Nicht bestimmt.
    - Obere: Nicht bestimmt.
  - **Dampfdruck:** Nicht bestimmt.
  - **Dichte bei 20 °C:** 0.9905 g/cm³
  - **Relative Dichte**
    - Dynamisch: Nicht bestimmt.
    - Kinematisch: Nicht bestimmt.
  - **Verdampfungsgeschwindigkeit**
    - Nicht bestimmt.
  - **Löslichkeit in / Mischbarkeit mit Wasser:** Vollständig mischbar.
  - **Verteilungskoeffizient (n-Octanol/Wasser):** Nicht bestimmt.
  - **Viskosität:**
    - Dynamisch: Nicht bestimmt.
    - Kinematisch: Nicht bestimmt.
  - **Lösemittelgehalt:**
    - Organische Lösemittel: 4.0 %
    - Wasser: 95.9 %
    - VOC (EU): 4.00 %
  - **9.2 Sonstige Angaben** Keine weiteren relevanten Informationen verfügbar.

**ABSCHNITT 10: Stabilität und Reaktivität**

- **10.1 Reaktivität** Keine weiteren relevanten Informationen verfügbar.
- **10.2 Chemische Stabilität**
  - **Thermische Zersetzung / zu vermeidende Bedingungen:**
    Keine Zersetzung bei bestimmungsgemäßer Verwendung.

(Fortsetzung auf Seite 6)
Handelsname: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

10.3 Möglichkeit gefährlicher Reaktionen
Keine gefährlichen Reaktionen bekannt.

10.4 Zu vermeidende Bedingungen
Keine weiteren relevanten Informationen verfügbar.

10.5 Unverträgliche Materialien
Keine weiteren relevanten Informationen verfügbar.

10.6 Gefährliche Zersetzungsprodukte
Keine gefährlichen Zersetzungsprodukte bekannt.

ABSCHNITT 11: Toxikologische Angaben

11.1 Angaben zu toxikologischen Wirkungen

Akute Toxizität
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

Einstufungsrelevante LD/LC50-Werte:

50-00-0 Formaldehyd

Oral LD50 >200 mg/kg (rat)

Primäre Reizwirkung

Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

Schwere Augenschädigung/-reizung
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

Sensibilisierung der Atemwege/Haut
Kann allergische Hautreaktionen verursachen.

CMR-Wirkungen (krebsverursendende, erbgutverändernde und fortpflanzungsgefährdende Wirkung)

Keimzell-Mutagenität
Kann vermutlich genetische Defekte verursachen.

Krebsverursendung
Kann Krebs erzeugen.

Reproduktionstoxizität
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

Spezifische Zielorgan-Toxizität bei einmaliger Exposition
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

Spezifische Zielorgan-Toxizität bei wiederholter Exposition
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

Aspirationsgefahr
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

ABSCHNITT 12: Umweltbezogene Angaben

12.1 Toxizität

Aquatische Toxizität: Keine weiteren relevanten Informationen verfügbar.

12.2 Persistenz und Abbaurate
Keine weiteren relevanten Informationen verfügbar.

12.3 Bioakkumulationspotential
Keine weiteren relevanten Informationen verfügbar.

12.4 Mobilität im Boden
Keine weiteren relevanten Informationen verfügbar.

12.5 Allgemeine Hinweise:

Wassergefährdungsklasse 2 (Selbsteinstufung): wassergefährdend
Nicht in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen.
Trinkwasserzufuhr bereits beim Auslaufen geringer Mengen in den Untergrund.

12.6 Ergebnisse der PBT- und vPvB-Beurteilung

PBT: Nicht anwendbar.

vPvB: Nicht anwendbar.

ABSCHNITT 13: Hinweise zur Entsorgung

13.1 Verfahren der Abfallbehandlung

Empfehlung: Darf nicht zusammen mit Hausmüll entsorgt werden. Nicht in die Kanalisation gelangen lassen.
Handelsname: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

- Ungereinigte Verpackungen:
  - Empfehlung: Entsorgung gemäß den behördlichen Vorschriften.

### ABSCHNITT 14: Angaben zum Transport

- **14.1 UN-Nummer**
  - ADR, ADN, IMDG, IATA entfällt

- **14.2 Ordnungsgemäße UN-Versandbezeichnung**
  - ADR, ADN, IMDG, IATA entfällt

- **14.3 Transportgefahrenklassen**
  - ADR, ADN, IMDG, IATA entfällt

- **14.4 Verpackungsgruppe**
  - ADR, IMDG, IATA entfällt

- **14.5 Umweltgefahren:**
  - Nicht anwendbar.

- **14.6 Besondere Vorsichtsmaßnahmen für den Verwender**
  - Nicht anwendbar.

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

- **UN "Model Regulation":**
  - entfällt

### 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 Formaldehyd

- **Nationale Vorschriften:**
  - Hinweise zur Beschäftigungsbeschränkung:
    Arbeitnehmer dürfen den in dieser Zubereitung enthaltenen krebserzeugenden Gefahrstoffen nicht ausgesetzt sein. Im Einzelfall kann die Behörde Ausnahmen zulassen.

- **Technische Anleitung Luft:**

<table>
<thead>
<tr>
<th>Klasse</th>
<th>Anteil in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wasser</td>
<td>95,9</td>
</tr>
<tr>
<td>I</td>
<td>4,0</td>
</tr>
</tbody>
</table>

- **Wassergefährdungsklasse:** WGK 2 (Selbsteinstufung): wassergefährdend.
- **15.2 Stoffsicherheitsbeurteilung:** Eine Stoffsicherheitsbeurteilung wurde nicht durchgeführt.

### ABSCHNITT 16: Sonstige Angaben

Die Angaben stützen sich auf den heutigen Stand unserer Kenntnisse, sie stellen jedoch keine Zusicherung von Produkteigenschaften dar und begründen kein vertragliches Rechtsverhältnis.
Handelsname: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

(Fortsetzung von Seite 7)

- Relevante Sätze
  H301 Giftig bei Verschlucken.
  H311 Giftig bei Hautkontakt.
  H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.
  H317 Kann allergische Hautreaktionen verursachen.
  H331 Giftig bei Einatmen.
  H341 Kann vermutlich genetische Defekte verursachen.
  H350 Kann Krebs erzeugen.

- Abkürzungen und Akronymen:
  ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  IMDG: International Maritime Code for Dangerous Goods
  IATA: International Air Transport Association
  GHS: Globally Harmonised System of Classification and Labelling of Chemicals
  EINECS: European Inventory of Existing Commercial Chemical Substances
  ELINCS: European List of Notified Chemical Substances
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  VOC: Volatile Organic Compounds (USA, EU)
  LC50: Lethal concentration, 50 percent
  LD50: Lethal dose, 50 percent
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative
  Acute Tox. 3: Acute toxicity, Hazard Category 3
  Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
  Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
  Muta. 2: Germ cell mutagenicity, Hazard Category 2
  Carc. 1B: Carcinogenicity, Hazard Category 1B

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

1.1 Identifier del prodotto
- Denominazione commerciale: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER
- Articolo numero: 15735-40S, 15735-30S

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

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: sgkcek@aol.com
  www.emsdiasum.com

  Società Italiana Chimici
  Via Rio Nell Elba 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
  - GHS08 pericolo per la salute
    Muta. 2  H341 Sospettato di provocare alterazioni genetiche.
    Carc. 1B  H350 Può provocare il cancro.
  - GHS07
    Skin Sens. 1  H317 Può provocare una reazione allergica cutanea.

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
  - GHS07
  - GHS08

Avvertenza Pericolo (continua a pagina 2)
Denominazione commerciale: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

Componenti pericolosi che ne determinano l'etichettatura:
formaldeide

Indicazioni di pericolo
H317 Può provocare una reazione allergica cutanea.
H341 Sospettato di provocare alterazioni genetiche.
H350 Può provocare il cancro.

Consigli di prudenza
P261 Evitare di respirare la polvere/i fumi/i gas/la nebbia/i vapori/gli aerosol.
P280 Indossare guanti/indumenti protettivi/Proteggere gli occhi/il viso.
P321 Trattamento specifico (vedere su questa etichetta).
P308+P313 IN CASO di esposizione o di possibile esposizione, consultare un medico.
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: Miscele
- Descrizione: Miscela delle seguenti sostanze con additivi non pericolosi.

- Sostanze pericolose:
  - CAS: 50-00-0
  - EINECS: 200-001-8
  - formaldeide
  - Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Mutag. 2,
  - H341; Carc. 1B, H350; Skin Corr. 1B, H314; Skin Sens. 1, H317

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

SEZIONE 4: Misure di primo soccorso

- 4.1 Descrizione delle misure di primo soccorso
- Indicazioni generali:
  I sintomi di avvelenamento possono comparire dopo molte ore, per tale motivo è necessaria la sorveglianza di un medico nelle 48 ore successive all'incidente.
  - Inalazione:
    Portare il soggetto in zona molto ben areata e per sicurezza consultare un medico.
    Se il soggetto è svenuto provvedere a tenerlo durante il trasporto in posizione stabile su un fianco.
  - Contatto con la pelle:
    Lavare immediatamente con acqua e sapone sciacciando accuratamente.
  - Contatto con gli occhi:
    Lavare con acqua corrente per alcuni minuti tenendo le palpebre ben aperte.
  - Ingestione:
    Se il dolore persiste consultare il medico.

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

(continua a pagina 3)
SEZIONE 5: Misure antincendio

- **5.1 Mezzi di estinzione**
  - **Mezzi di estinzione idonei:**
    - CO₂, polvere o acqua nebulizzata. Estinguere gli incendi di grosse dimensioni con acqua nebulizzata o con schiuma resistente all'alcool.
- **5.2 Pericoli speciali derivanti dalla sostanza o dalla miscela**
  - Non sono disponibili altre informazioni.
- **5.3 Raccomandazioni per gli addetti all'estinzione degli incendi**
  - **Mezzi protettivi specifici:** Indossare il respiratore.

SEZIONE 6: Misure in caso di rilascio accidentale

- **6.1 Precauzioni personali, dispositivi di protezione e procedure in caso di emergenza**
  - Non necessario.
- **6.2 Precauzioni ambientali:**
  - Diluire abbondantemente con acqua.
  - Impedire infiltrazioni nella fognatura/nelle acque superficiali/nelle acque freatiche.
- **6.3 Metodi e materiali per il contenimento e per la bonifica:**
  - Raccogliere il liquido con materiale assorbente (sabbia, tripoli, legante di acidi, legante universale, segatura).
  - Smaltimento del materiale contaminato conformemente al punto 13.
  - Provvedere ad una sufficiente areazione.
- **6.4 Riferimento ad altre sezioni**
  - Per informazioni relative ad un manipolazione sicura, vedere capitolo 7.
  - Per informazioni relative all'equipaggiamento protettivo ad uso personale vedere Capitolo 8.
  - Per informazioni relative allo smaltimento vedere Capitolo 13.

SEZIONE 7: Manipolazione e immagazzinamento

- **7.1 Precauzioni per la manipolazione sicura**
  - Accurata ventilazione/aspirazione nei luoghi di lavoro.
  - Aprire e manipolare i recipienti con cautela.
  - Evitare la formazione di aerosol.
- **Indicazioni in caso di incendio ed esplosione:**
  - Tener pronto il respiratore.
- **7.2 Condizioni per lo stoccaggio sicuro, comprese eventuali incompatibilità**
- **Stoccaggio:**
  - **Requisiti dei magazzini e dei recipienti:** Non sono richiesti requisiti particolari.
  - **Indicazioni sullo stoccaggio misto:** Non necessario.
  - **Ulteriori indicazioni relative alle condizioni di immagazzinamento:** Mantenere i recipienti ermeticamente chiusi.
- **7.3 Usi finali particolari**
  - Non sono disponibili altre informazioni.

SEZIONE 8: Controllo dell'esposizione/protezione individuale

- **Ulteriori indicazioni sulla struttura di impianti tecnici:**
  - Nessun dato ulteriore, vedere punto 7.
- **8.1 Parametri di controllo**
  - **Componenti i cui valori limite devono essere tenuti sotto controllo negli ambienti di lavoro:**
    - **TWA Limite Ceiling:** 0,37 mg/m³, 0,3 ppm sen, A2
  - **Ulteriori indicazioni:**
    - Le liste valide alla data di compilazione sono state usate come base.
### Scheda di dati di sicurezza
ai sensi del regolamento 1907/2006/CE, Articolo 31


<table>
<thead>
<tr>
<th>Denominazione commerciale: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER</th>
</tr>
</thead>
</table>

- **8.2 Controlli dell'esposizione**
- **Mezzi protettivi individuali:**
  - **Norme generali protettive e di igiene del lavoro:**
    - Tenere lontano da cibo, bevande e foraggi.
    - Togliere immediatamente gli abiti contaminati.
    - Lavarsi le mani prima dell'intervallo o a lavoro terminato.
    - Custodire separatamente l'equipaggiamento protettivo.
  - **Maschera protettiva:**
    - Nelle esposizioni brevi e minime utilizzare la maschera; nelle esposizioni più intense e durature indossare l'autorespiratore.
  - **Guanti protettivi:**
    - Guanti protettivi
    - Il materiale dei guanti deve essere impermeabile e stabile contro il prodotto/la sostanza/la formulazione. A causa della mancanza di test non può essere consigliato alcun tipo di materiale per i guanti con cui manipolare il prodotto/la formulazione/la miscela di sostanze chimiche. Scelta del materiale dei guanti in considerazione dei tempi di passaggio, dei tassi di permeazione e della degradazione.
    - **Materiale dei guanti**
      - La scelta dei guanti adatti non dipende soltanto dal materiale bensì anche da altre caratteristiche di qualità variabili da un produttore a un altro. Poiché il prodotto rappresenta una formulazione di più sostanze, la stabilità dei materiali dei guanti non è calcolabile in anticipo e deve essere testata prima dell’impiego
    - **Tempo di permeazione del materiale dei guanti**
      - Richiedere dal fornitore dei guanti il tempo di passaggio preciso il quale deve essere rispettato.
  - **Occhiali protettivi:**
    - Occhiali protettivi a tenuta

---

### SEZIONE 9: Proprietà fisiche e chimiche

- **9.1 Informazioni sulle proprietà fisiche e chimiche fondamentali**
- **Indicazioni generali**
  - **Aspetto:**
    - **Forma:** Liquido
    - **Colore:** Chiaro
  - **Odore:** Caratteristico
  - **Soglia olfattiva:** Non definito.
- **valori di pH a 20 °C:** 7.4
- **Cambiamento di stato**
  - **Temperatura di fusione/ambito di fusione:** Non definito.
  - **Temperatura di ebollizione/ambito di ebollizione:** -21 °C
- **Punto di infiammabilità:** Non applicabile.
- **Infiammabilità (solido, gassoso):** Non applicabile.
Denominazione commerciale: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperatura di accensione:</td>
<td>Non definito.</td>
</tr>
<tr>
<td>Temperatura di decomposizione:</td>
<td>Non definito.</td>
</tr>
<tr>
<td>Autoaccensione:</td>
<td>Prodotto non autoinfiammabile.</td>
</tr>
<tr>
<td>Pericolo di esplosione:</td>
<td>Prodotto non esplosivo.</td>
</tr>
<tr>
<td>Limiti di infiammabilità:</td>
<td></td>
</tr>
<tr>
<td>Inferiore:</td>
<td>Non definito.</td>
</tr>
<tr>
<td>Superiore:</td>
<td>Non definito.</td>
</tr>
<tr>
<td>Tensione di vapore:</td>
<td>Non definito.</td>
</tr>
<tr>
<td>Densità a 20 °C:</td>
<td>0.9905 g/cm³</td>
</tr>
<tr>
<td>Densità relativa:</td>
<td>Non definito.</td>
</tr>
<tr>
<td>Densità del vapore:</td>
<td>Non definito.</td>
</tr>
<tr>
<td>Velocità di evaporazione:</td>
<td>Non definito.</td>
</tr>
<tr>
<td>Solubilità in/Miscibilità con acqua:</td>
<td>Completamente miscibile.</td>
</tr>
<tr>
<td>Coefficiente di distribuzione (n-Octanol/acqua):</td>
<td>Non definito.</td>
</tr>
<tr>
<td>Viscosità:</td>
<td></td>
</tr>
<tr>
<td>Dinamica:</td>
<td>Non definito.</td>
</tr>
<tr>
<td>Cinematica:</td>
<td>Non definito.</td>
</tr>
<tr>
<td>Tenore del solvente:</td>
<td></td>
</tr>
<tr>
<td>Solventi organici:</td>
<td>4.0 %</td>
</tr>
<tr>
<td>Acqua:</td>
<td>95.9 %</td>
</tr>
<tr>
<td>VOC (CE)</td>
<td>4.00 %</td>
</tr>
<tr>
<td>9.2 Altre informazioni</td>
<td>Non sono disponibili altre informazioni.</td>
</tr>
</tbody>
</table>

SEZIONE 10: Stabilità e reattività

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

SEZIONE 11: Informazioni tossicologiche

- **11.1 Informazioni sugli effetti tossicologici**: Tossicità acuta Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Valori LD/LC50 rilevanti per la classificazione**: 50-00-0 formaldeide
  - Orale LD50 >200 mg/kg (rat)
- **Irritabilità primaria**: Corrosione/irritazione cutanea Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- Lesioni oculari gravi/Irritazioni oculari gravi Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
SEZIONE 12: Informazioni ecologiche

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

SEZIONE 13: Considerazioni sullo smaltimento

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

SEZIONE 14: Informazioni sul trasporto

- 14.1 Numero ONU
  - ADR, ADN, IMDG, IATA: non applicabile
- 14.2 Nome di spedizione dell’ONU
  - ADR, ADN, IMDG, IATA: non applicabile
- 14.3 Classi di pericolo connesso al trasporto
  - ADR, ADN, IMDG, IATA: non applicabile

(continua a pagina 7)
Scheda di dati di sicurezza
ai sensi del regolamento 1907/2006/CE, Articolo 31

Stampato il: 28.03.2016
Revisione: 28.03.2016

Denominazione commerciale: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

| · 14.4 Gruppo di imballaggio | non applicabile |
| · ADR, IMDG, IATA         | Non applicabile. |
| · 14.5 Pericoli per l'ambiente: |
| · 14.6 Precauzioni speciali per gli utilizzatori | Non applicabile. |
| · 14.7 Trasporto di rinfuse secondo l'allegato II di MARPOL ed il codice IBC | Non applicabile. |
| · UN "Model Regulation": | non applicabile |

SEZIONE 15: Informazioni sulla regolamentazione

· 15.1 Disposizioni legislative e regolamentari su salute, sicurezza e ambiente specifiche per la sostanza o la miscela
· Direttiva 2012/18/UE
· Sostanze pericolose specificate - ALLEGATO I formaldeide
· Disposizioni nazionali:
· Indicazioni relative alla limitazione delle attività lavorative:
  Il personale non deve essere esposto alle sostanze cancerogene contenute in questo preparato. L'autorità può ammettere nei singoli casi delle eccezioni.
· Istruzione tecnica aria:
  Classe | quota in %
  NC     | 4,0

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

SEZIONE 16: Altre informazioni

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

· Frasi rilevanti
  H301 Tossico se ingerito.
  H311 Tossico per contatto con la pelle.
  H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.
  H317 Può provocare una reazione allergica cutanea.
  H331 Tossico se inalato.
  H341 Sospettato di provocare alterazioni genetiche.
  H350 Può provocare il cancro.
· Abbreviazioni e acronimi:
  ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  IMDG: International Maritime Code for Dangerous Goods
  IATA: International Air Transport Association
  GHS: Globally Harmonised System of Classification and Labelling of Chemicals
  EINECS: European Inventory of Existing Commercial Chemical Substances
  ELINCS: European List of Notified Chemical Substances
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  VOC: Volatile Organic Compounds (USA, EU)
  LC50: Lethal concentration, 50 percent
  LD50: Lethal dose, 50 percent
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative

(continua a pagina 8)
<table>
<thead>
<tr>
<th>Denominazione commerciale: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute Tox. 3</strong>: Acute toxicity, Hazard Category 3</td>
</tr>
<tr>
<td><strong>Skin Corr. 1B</strong>: Skin corrosion/irritation, Hazard Category 1B</td>
</tr>
<tr>
<td><strong>Skin Sens. 1</strong>: Sensitisation - Skin, Hazard Category 1</td>
</tr>
<tr>
<td><strong>Muta. 2</strong>: Germ cell mutagenicity, Hazard Category 2</td>
</tr>
<tr>
<td><strong>Carc. 1B</strong>: Carcinogenicity, Hazard Category 1B</td>
</tr>
</tbody>
</table>
안전지침서
제31조의 1907/2006/EC에 따라

기압점: 2016.03.28
개정: 2016.03.28

1 화학제품과 회사에 관한 정보

· 제품 식별자
  · 제품명: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER
  · 상품번호: 15735-40S, 15735-30S
  · 해당 순열면이나 혼합물의 관련 하위용도 및 사용금지용도 추가적인 정보가 존재하지 않습니다.
  · 제품의 전고용도와 사용상의 제한: 실험 실화 학품

· 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

· 순열면 또는 혼합물의 분류
  · 건강에 위험
    생식세포 변이원성 구분2 H341 유전적인 결함을 일으킬 것으로 의심됨
    발암성 구분1B H350 암을 일으킬 수 있음

  · 피부과민성 구분1 H317 알레르기성 피부 반응을 일으킬 수 있음

· 라벨표기 요소
  · GHS 라벨 요소
    본 제품은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.
  · 그림문자
    GHS07  GHS08

· 신호어 위험
  · 상표상의명이하여위험성이표시된성분: formaldehyde

(2쪽에계속)
제품명: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

3 구성성분의 명칭 및 함유량

- 화학적 특성: 혼합물
- 설명: 무해한 첨가 물이 함유된 아래에 열거된 물질로 만들어진 혼합물.

위험요소:

<table>
<thead>
<tr>
<th>formaldehyde</th>
<th>50-00-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>☡ 급성 독성(경구)</td>
<td>☢ 구분3, H301</td>
</tr>
<tr>
<td>☡ 급성 독성(흡입), 구분3, H331</td>
<td>☢ 긍정적 변이원성 구분2, H311</td>
</tr>
</tbody>
</table>

4 용급조치요령

- 용급조치요령 내용:
- 일반적 정보: 중독 중상은 몇 시간이 지난 뒤에 발생할 수 있다. 따라서 사고가 발생한 후에 적어도 48시간동안 의료진의 관찰을 받아야 한다.
- 흡입했을 때:
- 신선한 공기를 써보고 나서 반드시 의료진의 도움을 구한다.
- 환자가 의식을 잃었을 경우에는 안전한 차에서 환자를 운반한다.
- 피부에 접촉했을 때: 즉시 물과 비누로 싹고 장갑을 벗어낸다.
- 눈에 들어갔을 때: 흐르는 물에 눈을 몇 분 동안 씻어낸다.
- 먹었을 때: 종상이 지속될 경우에는 의사와 상담한다.
- 기타 의사의 주의사항:
- 가장 중요한 급·반성 중상 및 약물 추가적인 정보가 존재하지 않습니다.
- 독각적인 치료처치 및 특별치료가 필요함을 시사하는 것 후 추가적인 정보가 존재하지 않습니다.

5 독발/화재시 대처방법

- 소화제
- 적절한 소화제: 이산화 탄소, 진화용식, 구리 또는 물 방사수를 사용하고, 더 큰 화재는 물을 분사하지거나 알코올이 함유된 젖으로 크고, 큰 화학물질이나 혼합물에서 발생하는 특별 유해성 추가적인 정보가 존재하지 않습니다.
안전지침서
제31조의 1907/2006/EC에 따라

제품명: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

- 소방관에 대한 권고사항
- 화재 진압 시 악취발한 보호구 및 예방조치: 호흡보호장비설치.

6 누출 사고 시 대처방법

- 개인적 예방조치, 보호장비 및 응급처치 절차 필요없음.
- 환경 관련 예방조치:
  - 설비 및 장비 및 시설과 소재:
    - 액체가 혼합된 물질, 물질이 온도, 상성, 속성, 화학적 등에 따라 혼합될 수 있는 물질.
    - 희석된 물질로, 희석된 물질으로 희석된 물질을 사용할 수 있습니다.
    - 호흡보호장비를 사용하는 것이 필요합니다.
    - 화재 및 폭발 사고 예방대책에 관한 정보: 호흡보호장비를 항상 비치합니다.
- 화학물질의 노출기준, 생물학적 노출기준 등:
  - TLV (KR) 단기간의값: 1.5 mg/m³, 1 ppm
  - 장기간의값: 0.75 mg/m³, 0.5 ppm
  - PEL (US) 단기간의값: 2 ppm
  - 장기간의값: 0.75 ppm
  - REL (US) 장기간의값: 0.016 ppm
  - 최고노출기준: 0.1* ppm
  - 최고노출기준: 0.37 mg/m³, 0.3 ppm

7 취급 및 저장방법

- 취급:
  - 안전 취급을 위한 예방조치
    - 작업장에서는 통풍이 잘되고 습기 제거가 잘되게 주의합니다.
    - 조심스럽게 용기를 개봉하거나 취급합니다.
    - 연무질이 형성되는 것을 피합니다.
- 화재 및 폭발 사고 예방대책에 관한 정보: 호흡보호장비를 항상 비치합니다.
- 화학물질의 노출기준, 생물학적 노출기준 등:
  - TLV (US) 최고노출기준: 0.37 mg/m³, 0.3 ppm

8 노출방지 및 개인보호구

- 혼합시설 디자인에 대한 추가정보: 더 이상의 자료는 없음. 항목 7을 참고하시오.
- 통제 변수
  - 화학물질의 노출기준, 생물학적 노출기준 등:
    - 50-00-0 formaldehyde
      - TLV (KR) 단기간의값: 1.5 mg/m³, 1 ppm
      - 장기간의값: 0.75 mg/m³, 0.5 ppm
      - PEL (US) 단기간의값: 2 ppm
      - 장기간의값: 0.75 ppm
      - REL (US) 장기간의값: 0.016 ppm
      - 최고노출기준: 0.1* ppm
      - 최고노출기준: 0.37 mg/m³, 0.3 ppm
      - DSEN; RSEN

(4쪽(계속))
제품명: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

추가 정보: 제조할 당시에 유효한 목록을 기초로 사용했다.

노출 통제
개인 보호구

일반적보호조치

식료품, 음료수와 사료로부터 멀리 벌어 빠르게 놓는다.
더러워지거나 옷이 묻은 옷은 즉시 청소한다.
식사 전이나 작업이 끝나고 나서야 손을 씻는다.
방호복은 따로 보관한다.

호흡기 보호:

단시간 또는 경미한 오염의 경우에는 호흡구와 기름을 사용한다.
심각한 경우에는 장기 노출시에는 호흡보호 장비를 사용한다.

손 보호:

보호용 장갑

장갑제절은 제품/원료/조제물투과시키지 않아야하고, 내구성이 있어야한다.

개방형 투과 시간은 보호장갑 제조자에 의해 주어지되며, 준수되어야 한다.

눈 보호:

보호안경

9 물리화학적 특성

<table>
<thead>
<tr>
<th>기본 물리 및 화학적 특성</th>
<th>기초 사항</th>
</tr>
</thead>
<tbody>
<tr>
<td>물리적 상태:</td>
<td>액체</td>
</tr>
<tr>
<td>색:</td>
<td>밝은</td>
</tr>
<tr>
<td>냄새:</td>
<td>특색있는</td>
</tr>
<tr>
<td>후각적:</td>
<td>알맞지 않아요</td>
</tr>
<tr>
<td>pH 의경우 20 °C:</td>
<td>7.4</td>
</tr>
<tr>
<td>상태변화</td>
<td>접촉이 불가능</td>
</tr>
<tr>
<td>녹는점/화는점:</td>
<td>맞지 않아요</td>
</tr>
<tr>
<td>최고 녹는점과 화는점 범위:</td>
<td>-21 °C</td>
</tr>
<tr>
<td>인화성:</td>
<td>해당사항 없음</td>
</tr>
<tr>
<td>인화성(고체, 기체):</td>
<td>해당사항 없음</td>
</tr>
</tbody>
</table>
제품명: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

- 점화온도:alamat지나.
- 자기점화:이제품은 자연발화성이 없다.
- 폭발위험:이제품은 폭발 위험이 없다.
- 자극성:이제품은 완전히 혼합할 수 있는
- n 옥탄올/물 분배계수:alamat지나.
- 점도:알맞지나.
- 용매내용물 유기용매:4.0% 
- 용해도:alamat지나.
- 밀도:0.9905 g/cm³
- 비중:alamat지나.
- 증기밀도:alamat지나.
- 증발 속도:alamat지나.
- 용해도:alamat지나.
- 용매내용물 유기용매:4.0% 
- 밀도:95.9% 
- 비중:alamat지나.
- 증기밀도:alamat지나.
- 증발속도:alamat지나.
- 용해도:alamat지나.
- 밀도:0.9905 g/cm³
- 비중:alamat지나.
- 증기밀도:alamat지나.
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- 용해도:alamat지나.
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- 비중:alamat지나.
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- 용해도:alamat지나.
제품명: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

12 환경에 미치는 영향

· 독성
  - 추가적인 특성에 관한 정보: 이 제품은 유럽 공동체의 공동분류원칙의 분류와 합법적 절차에 근거하여 최근에 발표된 원고에서 아래의 위험을 지시하고 있습니다. 
  - 지속적 및 반해성
  - 환경시스템에서의 지속성
  - 토양내 이동성: 추가적인 정보가 존재하지 않습니다.
  - 하수도망에서의 환경: 추가적인 정보가 존재하지 않습니다.

13 폐기시 주의사항

· 폐기물 처리 방법
  - 원료: 생활쓰레기와 함께 처리되어야 합니다. 하수도망으로 유입되어서는 안됩니다.
  - 비위생적 포장: 추가적인 정보가 존재하지 않습니다.

14 운송에 필요한 정보

- 유엔 번호
  - ADR, ADN, IMDG, IATA 누락됩니다

- UN 적정 선적명
  - ADR, ADN, IMDG, IATA 누락됩니다
제품명: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

15 법적 규제현황

· 해당 손실물 또는 혼합물에 대한 안전, 보건 및 환경 규제/법률

Korean Existing Chemical Inventory

<table>
<thead>
<tr>
<th>ICD</th>
<th>Chemical Name</th>
<th>UN No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-00-0</td>
<td>formaldehyde</td>
<td>KE-17074</td>
</tr>
<tr>
<td>7778-77-0</td>
<td>potassium dihydrogenorthophosphate</td>
<td>KE-28622</td>
</tr>
<tr>
<td>7758-11-4</td>
<td>dipotassium hydrogenorthophosphate</td>
<td>KE-12167</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>water, distilled, conductivity or of similar purity</td>
<td>KE-35400</td>
</tr>
</tbody>
</table>

GHS 라벨 요소
전제품은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.

· 신호어 위험
· 상표상 명확히 위험성표시된성분 및 문구
formaldehyde

· 유해 위험 문구
알레르기성 피부 반응을 일으킬 수 있음
유전적인 결합을 일으킬 것으로 의심됨
알을 일으킬 수 있음

· 예방조치 문구
(분진/가스/미스트/증기/스프레이)의 흡입을 피하시오.
(보호장갑, 보호의, 보안경, 안면보호구)를 착용하시오
(라벨 참조) 처치를 하시오.
노출되거나 노출이 우려되면 의학적인 조치/조언을 구하시오.

· 국내규정

· 사용자에 대한 정보:
노동자들은 이러한 위험물질에 노출을 예방하기 위한 절차를 실행해야 합니다.

· 화학물질 안전성 평가: 화학물질 안전성 평가가 수행되지 않음
제품명: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

16 그 밖의 참고사항

이보고는 우리지식에 대한 오늘날의 상태에 대하여평가하고있다. 하지만이보고서는생산특성에관한보증은
기술하지 않았으며계약적인법률관계에기반을두고있지도않다

- 최초 작성일자: 2016.03.28
- 개정 횟수 및 최종 개정일자: 1 / 2016.03.28
- 약어와 두문자어:
  ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  IMDG: International Maritime Code for Dangerous Goods
  IATA: International Air Transport Association
  EINECS: European Inventory of Existing Commercial Chemical Substances
  ELINCS: European List of Notified Chemical Substances
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  VOC: Volatile Organic Compounds (USA, EU)
  LC50: Lethal concentration, 50 percent
  LD50: Lethal dose, 50 percent
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative
  급성독성(경구) 구분1: Acute toxicity, Hazard Category 3
  피부부식성/자극성 구분1: Skin corrosion/irritation, Hazard Category 1
  피부과민성 구분1: Sensitisation - Skin, Hazard Category 1
  생식세포변이원성 구분2: Germ cell mutagenicity, Hazard Category 2
  발암성 구분1B: Carcinogenicity, Hazard Category 1B
SECCIÓN 1: Identificación de la sustancia o la mezcla y de la sociedad o la empresa

1.1 Identificador del producto
- Nombre comercial: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER
- Número del artículo: 15735-40S, 15735-30S

1.2 Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados
- No existen más datos relevantes disponibles.

1.3 Datos del proveedor de la ficha de datos de seguridad
- Fabricante/distribuidor: Electron Microscopy Sciences
  1560 Industry Road
  USA-Hatfield, PA 19440
  Tel: 215-412-8400  Fax: 215-412-8450
  email: sgkcck@aol.com
  www.emsdiasum.com
  Aname
  C/ Perez Galdos no. 2
  28693 Quijorna
  Madrid, Spain
  Tel: +34.91.816.89.50
  Fax: +34.91.816.85.94
  email: ventas@aname.es
- Área de información: Product safety department
- 1.4 Teléfono de emergencia:
  ChemTrec 1-800-424-9300 Contract CCN7661
  1-703-527-3887

SECCIÓN 2: Identificación de los peligros

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

GHS08 peligro para la salud
- Muta. 2 H341 Se sospecha que provoca defectos genéticos.
- Carc. 1B H350 Puede provocar cáncer.

GHS07

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

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

GHS07  GHS08

( se continúa en página 2 )
Ficha de datos de seguridad
según 1907/2006/CE, Artículo 31

Fecha de impresión: 28.03.2016
Revisión: 28.03.2016

Nombre comercial: PARA-FORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

- Palabra de advertencia Peligro
- Componentes peligrosos a indicar en el etiquetaje:
  formaldehído
- Indicaciones de peligro
  H317 Puede provocar una reacción alérgica en la piel.
  H341 Se sospecha que provoca defectos genéticos.
  H350 Puede provocar cáncer.
- Consejos de prudencia
  P261 Evitar respirar el polvo/el humo/el gas/la niebla/los vapores/el aerosol.
  P280 Llevar guantes/prendas/gafas/máscara de protección.
  P321 Se necesita un tratamiento específico (ver en esta etiqueta).
  P308+P313 EN CASO DE exposición manifiesta o presunta: Consultar a un médico.
  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 substancias especificadas a continuación con adiciones no peligrosas.
  - Componentes peligrosos:
    | CAS: 50-00-0 | formaldehído |
    | EINECS: 200-001-8 | Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Muta. 2, H341; Carc. 1B, H350; Skin Corr. 1B, H314; Skin Sens. 1, H317 |

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

SECCIÓN 4: Primeros auxilios

- 4.1 Descripción de los primeros auxilios
  - Instrucciones generales:
    Los síntomas de intoxicación pueden presentarse después de muchas horas, por lo que se requiere una supervisión médica durante un mínimo de 48 horas después del accidente.

  - En caso de inhalación del producto:
    Suministrar suficiente aire fresco y, para mayor seguridad, consultar el médico.

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

  - En caso de con los ojos: Limpiar los ojos abiertos durante varios minutos con agua corriente.

  - 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.

(se continua en página 3)
SECCIÓN 5: Medidas de lucha contra incendios

- 5.1 Medios de extinción
- Sustancias extintoras apropiadas:
  CO2, polvo extintor o chorro de agua rociada. Combatir incendios mayores con chorro de agua rociada o espuma resistente al alcohol.
- 5.2 Peligros específicos derivados de la sustancia o la mezcla No existen más datos relevantes disponibles.
- 5.3 Recomendaciones para el personal de lucha contra incendios
  Equipo especial de protección: Colocarse la protección respiratoria.

SECCIÓN 6: Medidas en caso de vertido accidental

- 6.1 Precauciones personales, equipo de protección y procedimientos de emergencia No es necesario.
- 6.2 Precauciones relativas al medio ambiente:
  Diluir con mucha agua.
  Evitar que penetre en la canalización /aguas de superficie /agua subterráneas.
- 6.3 Métodos y material de contención y de limpieza:
  Quitar con material absorbente (arena, kieselgur, aglutinante de ácidos, aglutinante universal, aserrín).
  Desechar el material contaminado como vertido según item 13.
  Asegurar suficiente ventilación.
- 6.4 Referencia a otras secciones
  Ver capítulo 7 para mayor información sobre una manipulación segura.
  Ver capítulo 8 para mayor información sobre el equipo personal de protección.
  Para mayor información sobre cómo desechar el producto, ver capítulo 13.

SECCIÓN 7: Manipulación y almacenamiento

- 7.1 Precauciones para una manipulación segura
  Asegurar suficiente ventilación /aspiración en el puesto de trabajo.
  Abrir y manejar el recipiente con cuidado.
  Evitar la formación de aerosoles.
  Prevención de incendios y explosiones: Tener preparados los aparatos respiratorios.
- 7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades
  Almacenamiento:
  - Exigencias con respecto al almacén y los recipientes: No se requieren medidas especiales.
  - Normas en caso de un almacenamiento conjunto: No es necesario.
  - Indicaciones adicionales sobre las condiciones de almacenamiento:
    Mantener el recipiente cerrado herméticamente.
  - 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:
  50-00-0 formaldehído
  |   |   |
  | LEP | Valor de corta duración: 0,37 mg/m³, 0,3 ppm
  | Sen, s |
Nombre comercial: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

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

- **8.2 Controles de la exposición**
  - **Equipo de protección individual:**
  - **Medidas generales de protección e higiene:**
    
  Mantener alejado de alimentos, bebidas y alimentos para animales.
  - Quitarse de inmediato la ropa ensuciada o impregnada.
  - Lavarse las manos antes de las pausas y al final del trabajo.
  - Guardar la ropa protectora por separado.
  - **Protección respiratoria:**
    
    Si la exposición va a ser breve o de poca intensidad, colocarse una máscara respiratoria. Para una exposición más intensa o de mayor duración, usar un aparato de respiración autónomo.
  - **Protección de manos:**

    Guantes de protección

El material del guante deberá ser impermeable y resistente al producto / substancia / 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 avaluada de antemano, de modo que los guantes deberán ser controlados antes de su utilización.

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

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

- **Protección de ojos:**

  Gafas de protección

  Gafas de protección herméticas

---

SECCIÓN 9: Propiedades físicas y químicas

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

  - **Datos generales**
    - **Aspecto:**
      - **Forma:** Liquido
      - **Color:** Claro
    - **Olor:** Característico
    - **Umbral olfativo:** No determinado.
  - **valor pH a 20 °C:** 7.4
  - **Cambio de estado**
    - **Punto de fusión /campo de fusión:** Indeterminado.
    - **Punto de ebullición /campo de ebullición:** -21 °C
  - **Punto de inflamación:** No aplicable.

( se continúa en página 5 )
nombre comercial: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

- Inflamabilidad (sólido, gaseiforme): No aplicable.
- Temperatura de ignición:
- Temperatura de descomposición: No determinado.
- Autoinflamabilidad: El producto no es autoinflamable.
- Peligro de explosión: El producto no es explosivo.
- Límites de explosión:
  - Inferior: No determinado.
  - Superior: No determinado.
- Presión de vapor: No determinado.
- Densidad a 20 °C: 0.9905 g/cm³
- Densidad relativa: No determinado.
- Densidad de vapor: No determinado.
- Velocidad de evaporación: No determinado.
- Solubilidad en / miscibilidad con agua: Completamente mezclable.
- Coeficiente de reparto (n-octanol/agua): No determinado.
- Viscosidad:
  - Dinámica: No determinado.
  - Cinemática: No determinado.
- Concentración del disolvente:
  - Disolventes orgánicos: 4.0 %
  - Agua: 95.9 %
  - VOC (CE) 4.00 %
- 9.2 Otros datos No existen más datos relevantes disponibles.

SECCIÓN 10: Estabilidad y reactividad
- 10.1 Reactividad No existen más datos relevantes disponibles.
- 10.2 Estabilidad química
- Descomposición térmica / condiciones que deben evitarse: No se descompone al emplearse adecuadamente.
- 10.3 Posibilidad de reacciones peligrosas No se conocen reacciones peligrosas.
- 10.4 Condiciones que deben evitarse No existen más datos relevantes disponibles.
- 10.5 Materiales incompatibles: No existen más datos relevantes disponibles.
- 10.6 Productos de descomposición peligrosos: No se conocen productos de descomposición peligrosos.

SECCIÓN 11: Información toxicológica
- 11.1 Información sobre los efectos toxicológicos
- Toxicidad aguda A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- Valores LD/LC50 (dosis letal /dosis letal = 50%) relevantes para la clasificación:
  50-00-0 formaldehído
  Oral LD50 >200 mg/kg (rat)
- Efecto estimulante primario:
- Corrosión o irritación cutáneas A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
Ficha de datos de seguridad
según 1907/2006/CE, Artículo 31

Nombre comercial: PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

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

SECCIÓN 12: Información ecológica

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

SECCIÓN 13: Consideraciones relativas a la eliminación

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

SECCIÓN 14: Información relativa al transporte

- 14.1 Número ONU
  - ADR, ADN, IMDG, IATA: suprimido
- 14.2 Designación oficial de transporte de las Naciones Unidas
  - ADR, ADN, IMDG, IATA: suprimido

( se continua en página 7 )
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 formaldehído

- Indicaciones sobre las limitaciones de trabajo:
  Los empleados no deben exponerse a las sustancias cancerígenas contenidas en el producto. En casos aislados las autoridades pueden hacer excepciones.

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

SECCIÓN 16: Otra información

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

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

- Abreviaturas y acrónimos:
  ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  IMDG: International Maritime Code for Dangerous Goods
  IATA: International Air Transport Association
  GHS: Globally Harmonised System of Classification and Labelling of Chemicals
  EINECS: European Inventory of Existing Commercial Chemical Substances
  ELINCS: European List of Notified Chemical Substances
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  VOC: Volatile Organic Compounds (USA, EU)
  LC50: Lethal concentration, 50 percent
  LD50: Lethal dose, 50 percent
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative
**Nombre comercial:** PARAFORMALDEHYDE 4% IN 0.2M PHOSPHATE BUFFER

- **Acute Tox. 3:** Acute toxicity, Hazard Category 3
- **Skin Corr. 1B:** Skin corrosion/irritation, Hazard Category 1B
- **Skin Sens. 1:** Sensitisation - Skin, Hazard Category 1
- **Muta. 2:** Germ cell mutagenicity, Hazard Category 2
- **Carc. 1B:** Carcinogenicity, Hazard Category 1B