1 Identification

- **Product identifier**
  - **Trade name:** CHLOROFORM, REAGENT ACS
  - **Article number:** 12540, 12541, 12550, 12551
  - **CAS Number:** 67-66-3
  - **EC number:** 200-663-8
  - **Index number:** 602-006-00-4
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** Electron Microscopy Sciences
    1560 Industry Road
    USA-Hatfield, PA 19440
    Tel: 215-412-8400 Fax: 215-412-8450
    email: sgkcck@aol.com
    www.emsdiasum.com
  - **Information department:** Product safety department
  - **Emergency telephone number:**
    ChemTrec 1-800-424-9300 Contract CCN7661
    1-703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**
  - GHS06 Skull and crossbones
    Acute Tox. 3 H331 Toxic if inhaled.
  - GHS08 Health hazard
    Carc. 2 H351 Suspected of causing cancer.
    Repr. 2 H361 Suspected of damaging fertility or the unborn child.
    STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.
  - GHS07
    Acute Tox. 4 H302 Harmful if swallowed.
    Skin Irrit. 2 H315 Causes skin irritation.
    Eye Irrit. 2A H319 Causes serious eye irritation.
    STOT SE 3 H336 May cause drowsiness or dizziness.

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

GHS06  GHS07  GHS08

· Signal word Danger

· Hazard statements

Harmful if swallowed.
Toxic if inhaled.
Causes skin irritation.
Causes serious eye irritation.
Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.
May cause drowsiness or dizziness.
Causes damage to organs through prolonged or repeated exposure.

· Precautionary statements

Do not breathe dust/fume/gas/mist/vapors/spray.
Wear protective gloves.
Wear eye protection / face protection.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Specific treatment (see on this label).
IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF exposed or concerned: Get medical advice/attention.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Get medical advice/attention if you feel unwell.
Rinse mouth.
IF ON SKIN: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
Store locked up.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· Classification system:

· NFPA ratings (scale 0 - 4)

Health = 2
Fire = 0
Reactivity = 0

· HMIS-ratings (scale 0 - 4)

Health = 2
Fire = 0
Reactivity = 0
4 First-aid measures

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

5 Fire-fighting measures

- Extinguishing media
  - Suitable extinguishing agents:
    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:
  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.
Trade name: CHLOROFORM, REAGENT ACS

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.
· Information about protection against explosions and fires: No special measures required.
· 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>67-66-3 CHLOROFORM, REAGENT ACS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL Ceiling limit value: 240 mg/m³, 50 ppm</td>
</tr>
<tr>
<td>REL Short-term value: 9.78* mg/m³, 2* ppm</td>
</tr>
<tr>
<td>*60-min; See Pocket Guide App. A</td>
</tr>
<tr>
<td>TLV Long-term value: 49 mg/m³, 10 ppm</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.
  Avoid contact with the eyes and skin.
· Breathing equipment:
  In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
· Protection of hands:
  Protective gloves
  The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
  Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
  Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· Material of gloves
  The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
### 9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Form</strong>:</td>
<td>Fluid</td>
</tr>
<tr>
<td><strong>Color</strong>:</td>
<td>Colorless</td>
</tr>
<tr>
<td><strong>Odor</strong>:</td>
<td>Pleasant</td>
</tr>
<tr>
<td><strong>Odor threshold</strong>:</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>pH-value</strong>:</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Melting point/Melting range</strong>:</td>
<td>-63 °C (-81 °F)</td>
</tr>
<tr>
<td><strong>Boiling point/Boiling range</strong>:</td>
<td>62 °C (144 °F)</td>
</tr>
<tr>
<td><strong>Flash point</strong>:</td>
<td>0 °C (32 °F)</td>
</tr>
<tr>
<td><strong>Flammability (solid, gaseous)</strong></td>
<td>Not flammable.</td>
</tr>
<tr>
<td><strong>Ignition temperature</strong>:</td>
<td>982 °C (1800 °F)</td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong>:</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Auto igniting</strong>:</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Danger of explosion</strong>:</td>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td><strong>Explosion limits</strong>:</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Lower</strong>:</td>
<td></td>
</tr>
<tr>
<td><strong>Upper</strong>:</td>
<td></td>
</tr>
<tr>
<td><strong>Vapor pressure at 20 °C (68 °F)</strong>:</td>
<td>210 hPa (158 mm Hg)</td>
</tr>
<tr>
<td><strong>Density at 20 °C (68 °F)</strong>:</td>
<td>1.47988 g/cm³ (12.35 lbs/gal)</td>
</tr>
<tr>
<td><strong>Relative density</strong>:</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Vapor density</strong>:</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong>:</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Solubility in / Miscibility with Water at 20 °C (68 °F)</strong>:</td>
<td>8 g/l</td>
</tr>
<tr>
<td><strong>Partition coefficient (n-octanol/water)</strong>:</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Viscosity</strong>:</td>
<td></td>
</tr>
<tr>
<td><strong>Dynamic at 20 °C (68 °F)</strong>:</td>
<td>0.56 mPas</td>
</tr>
<tr>
<td><strong>Kinematic</strong>:</td>
<td>Not determined.</td>
</tr>
</tbody>
</table>
Trade name: CHLOROFORM, REAGENT ACS

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:
  
<table>
<thead>
<tr>
<th>Route</th>
<th>LD50/LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>908 mg/kg (rat)</td>
</tr>
<tr>
<td>Dermal</td>
<td>75 mg/kg (rat)</td>
</tr>
</tbody>
</table>

- Primary irritant effect:
  - on the skin: Irritant to skin and mucous membranes.
  - on the eye: Irritating effect.
  - Sensitization: No sensitizing effects known.
- Additional toxicological information:
  - Carcinogenic categories
    - IARC (International Agency for Research on Cancer)
      - 67-66-3 CHLOROFORM, REAGENT ACS 2B
    - NTP (National Toxicology Program)
      - 67-66-3 CHLOROFORM, REAGENT ACS R
    - OSHA-Ca (Occupational Safety Health Administration) Substance is not listed.

12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
- Behavior in environmental systems:
- Bioaccumulative potential: No further relevant information available.
- Mobility in soil: No further relevant information available.
- Additional ecological information:
- General notes:
  - Water hazard class 3 (Assessment by list): extremely hazardous for water
  - Do not allow product to reach ground water, water course or sewage system, even in small quantities.
  - Danger to drinking water if even extremely small quantities leak into the ground.
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.
13 Disposal considerations

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

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

14 Transport information

- UN-Number
  - DOT, ADR, IMDG, IATA
    UN1888

- UN proper shipping name
  - DOT
  - ADR
  - IMDG, IATA
    Chloroform
    1888 Chloroform
    CHLOROFORM

- Transport hazard class(es)
  - DOT
    - Class 6.1 Toxic substances
    - Label 6.1

  - ADR, IMDG, IATA
    - Class 6.1 Toxic substances
    - Label 6.1

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

- Environmental hazards:
  Not applicable.

- Special precautions for user
  Warning: Toxic substances

- Danger code (Kemler):
  60

- EMS Number:
  6.1-02

- Segregation groups
  Liquid halogenated hydrocarbons

- Stowage Category
  A

- Stowage Code
  SW2 Clear of living quarters.

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

- **DOT**
  - Quantity limitations
    - On passenger aircraft/rail: 60 L
    - On cargo aircraft only: 220 L
  - Hazardous substance:
    - 10 lbs, 4.54 kg

- **ADR**
  - Excepted quantities (EQ)
    - Code: E1
      - Maximum net quantity per inner packaging: 30 ml
      - Maximum net quantity per outer packaging: 1000 ml

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

- **UN "Model Regulation":**
  - UN 1888 CHLOROFORM, 6.1, III

### 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - **Sara**
  - **Section 355 (extremely hazardous substances):** Substance is listed.
  - **Section 313 (Specific toxic chemical listings):** Substance is listed.
  - **TSCA (Toxic Substances Control Act):** Substance is listed.
  - **Proposition 65**
    - **Chemicals known to cause cancer:** Substance is listed.
    - **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
    - **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
    - **Chemicals known to cause developmental toxicity:** Substance is listed.

- **Carcinogenic categories**
  - **EPA (Environmental Protection Agency)**
    - 67-66-3 CHLOROFORM, REAGENT ACS B2, L, NL
  - **TLV (Threshold Limit Value established by ACGIH)**
    - 67-66-3 CHLOROFORM, REAGENT ACS A3
  - **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is listed.
  - **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms**
    - GHS06
    - GHS07
    - GHS08

- **Signal word** Danger
- **Hazard statements**
  - Harmful if swallowed.
  - Toxic if inhaled.
  - Causes skin irritation.
  - Causes serious eye irritation.

(Contd. on page 9)
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**: 11/23/2016 / -
- **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
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - NIOSH: National Institute for Occupational Safety
  - OSHA: Occupational Safety Health
  - TLV: Threshold Limit Value
  - PEL: Permissible Exposure Limit
  - REL: Recommended Exposure Limit
  - Acute Tox. 4: Acute toxicity – Category 4
  - Acute Tox. 3: Acute toxicity – Category 3
  - Skin Irrit. 2: Skin corrosion/irritation – Category 2
**Trade name: CHLOROFORM, REAGENT ACS**

<table>
<thead>
<tr>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A</td>
</tr>
<tr>
<td>Carc. 2: Carcinogenicity – Category 2</td>
</tr>
<tr>
<td>Repir. 2: Reproductive toxicity – Category 2</td>
</tr>
<tr>
<td>STOT SE 3: Specific target organ toxicity (single exposure) – Category 3</td>
</tr>
<tr>
<td>STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1</td>
</tr>
</tbody>
</table>

(Contd. of page 9)
1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
  - **Trade name:** CHLOROFORM, REAGENT ACS
  - **Article number:** 12540, 12541, 12550, 12551
  - **CAS Number:** 67-66-3
  - **EC number:** 200-663-8
  - **Index number:** 602-006-00-4
  - **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: sgkcek@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**
  - **GHS06 skull and crossbones**
    Acute Tox. 3 H331 Toxic if inhaled.

  - **GHS08 health hazard**
    Carc. 2 H351 Suspected of causing cancer.
    Repr. 2 H361 Suspected of damaging fertility or the unborn child.
    STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.
Trade name: CHLOROFORM, REAGENT ACS

GHS07

Acute Tox. 4  H302  Harmful if swallowed.
Skin Irrit. 2  H315  Causes skin irritation.
Eye Irrit. 2  H319  Causes serious eye irritation.
STOT SE 3  H336  May cause drowsiness or dizziness.

· Label elements
· GHS label elements
  The substance is classified and labelled according to the Globally Harmonised System (GHS).
· Hazard pictograms

GHS06  GHS07  GHS08

· Signal word Danger
· Hazard statements
  Harmful if swallowed.
  Toxic if inhaled.
  Causes skin irritation.
  Causes serious eye irritation.
  Suspected of causing cancer.
  Suspected of damaging fertility or the unborn child.
  May cause drowsiness or dizziness.
  Causes damage to organs through prolonged or repeated exposure.
· Precautionary statements
  Do not breathe dust/fume/gas/mist/vapours/spray.
  Wear protective gloves.
  Wear eye protection / face protection.
  Wash thoroughly after handling.
  Do not eat, drink or smoke when using this product.
  Use only outdoors or in a well-ventilated area.
  Obtain special instructions before use.
  Do not handle until all safety precautions have been read and understood.
  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
  Continue rinsing.
  Specific treatment (see on this label).
  IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
  IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  IF exposed or concerned: Get medical advice/attention.
  If skin irritation occurs: Get medical advice/attention.
  If eye irritation persists: Get medical advice/attention.
  Get medical advice/attention if you feel unwell.
  Rinse mouth.
  IF ON SKIN: Wash with plenty of water.
  Take off contaminated clothing and wash it before reuse.
  Store locked up.
  Store in a well-ventilated place. Keep container tightly closed.
  Dispose of contents/container in accordance with local/regional/national/international regulations.
Trade name: CHLOROFORM, REAGENT ACS

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

3 Composition/information on ingredients

- Chemical characterisation: Substances
- CAS No. Description
  67-66-3 CHLOROFORM, REAGENT ACS
- Identification number(s)
  - EC number: 200-663-8
  - Index number: 602-006-00-4

4 First aid measures

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

5 Firefighting measures

- Extinguishing media
  - Suitable extinguishing agents:
    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: 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.
Trade name: CHLOROFORM, REAGENT ACS

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.
- **Information about fire - and explosion protection:** No special measures required.

- **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.

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

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Description</th>
<th>Limit Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-66-3</td>
<td>CHLOROFORM, REAGENT ACS</td>
<td>WES Long-term value: 10 mg/m³, 2 ppm Sk</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:**
      - Keep away from foodstuffs, beverages and feed.
      - Immediately remove all soiled and contaminated clothing
      - Wash hands before breaks and at the end of work.
      - Avoid contact with the eyes and skin.
    - **Respiratory protection:**
      - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

- **Protection of hands:**

  **Protective gloves**

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

- **Material of gloves**
  - The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- **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.
Trade name: CHLOROFORM, REAGENT ACS

- Eye protection:
  Safety glasses
  Tightly sealed goggles

9 Physical and chemical properties

- Information on basic physical and chemical properties
  - General Information
    - Appearance:
      - Form: Fluid
      - Colour: Colourless
    - Odour: Pleasant
    - Odour threshold: Not determined.
  - pH-value: Not determined.
  - Change in condition
    - Melting point/Melting range: -63 °C
    - Boiling point/Boiling range: 62 °C
  - Flash point: 0 °C
  - Flammability (solid, gaseous): Not applicable.
  - Ignition temperature: 982 °C
  - Decomposition temperature: Not determined.
  - Self-igniting: Not determined.
  - Danger of explosion: Product does not present an explosion hazard.
  - Explosion limits:
    - Lower: Not determined.
    - Upper: Not determined.
  - Vapour pressure at 20 °C: 210 hPa
  - Density at 20 °C: 1.47988 g/cm³
  - Relative density: Not determined.
  - Vapour density: Not determined.
  - Evaporation rate: Not determined.
  - Solubility in / Miscibility with water at 20 °C: 8 g/l
  - Partition coefficient (n-octanol/water): Not determined.
  - Viscosity:
    - Dynamic at 20 °C: 0.56 mPas
    - Kinematic: Not determined.
  - Other information: No further relevant information available.
10 Stability and reactivity

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

11 Toxicological information

- **Information on toxicological effects**
  - **Acute toxicity**
    - **LD/LC50 values relevant for classification**:
      - Oral LD50: 908 mg/kg (rat)
      - Dermal LD50: 75 mg/kg (rat)
  - **Primary irritant effect**:
    - Skin corrosion/irritation: Irritant to skin and mucous membranes.
    - Serious eye damage/irritation: Irritating effect.
    - Respiratory or skin sensitisation: No sensitising effects known.
  - **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**: Carc. 2, Repr. 2

12 Ecological information

- **Toxicity**
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
  - Behaviour in environmental systems:
    - Bioaccumulative potential: No further relevant information available.
    - Mobility in soil: No further relevant information available.
  - Additional ecological information:
    - General notes:
      - Water hazard class 3 (German Regulation) (Assessment by list): extremely hazardous for water.
      - Do not allow product to reach ground water, water course or sewage system, even in small quantities.
      - Danger to drinking water if even extremely 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.
### 14 Transport information

- **UN-Number**
  - ADG, IMDG, IATA: UN1888

- **UN proper shipping name**
  - ADG: 1888 CHLOROFORM
  - IMDG, IATA: CHLOROFORM

- **Transport hazard class(es)**
  - ADG, IMDG, IATA
    - **Class**: 6.1 Toxic substances.
    - **Label**: 6.1

- **Packing group**
  - ADG, IMDG, IATA: III

- **Environmental hazards**: Not applicable.

- **Special precautions for user**
  - Warning: Toxic substances.
  - Danger code (Kemler): 60
  - EMS Number: 6.1-02

- **Segregation groups**
  - Liquid halogenated hydrocarbons

- **Stowage Category**
  - A

- **Stowage Code**
  - SW2 Clear of living quarters.

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

- **Transport/Additional information**:
  - **ADG**
    - Limited quantities (LQ): 5L Code: E1
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 1000 ml

  - **Transport category**: 2
    - **Tunnel restriction code**: E

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

- **UN "Model Regulation"**: UN 1888 CHLOROFORM, 6.1, III
15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Australian Inventory of Chemical Substances Substance is listed.

- Standard for the Uniform Scheduling of Medicines and Poisons
  67-66-3 CHLOROFORM, REAGENT ACS
  S2, S4, S6

- GHS label elements
  The substance is classified and labelled according to the Globally Harmonised System (GHS).
- Hazard pictograms
  GHS06  GHS07  GHS08

- Signal word Danger
- Hazard statements
  Harmful if swallowed.
  Toxic if inhaled.
  Causes skin irritation.
  Causes serious eye irritation.
  Suspected of causing cancer.
  Suspected of damaging fertility or the unborn child.
  May cause drowsiness or dizziness.
  Causes damage to organs through prolonged or repeated exposure.

- Precautionary statements
  Do not breathe dust/fume/gas/mist/vapours/spray.
  Wear protective gloves.
  Wear eye protection / face protection.
  Wash thoroughly after handling.
  Do not eat, drink or smoke when using this product.
  Use only outdoors or in a well-ventilated area.
  Obtain special instructions before use.
  Do not handle until all safety precautions have been read and understood.
  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  Specific treatment (see on this label).
  IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
  IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  IF exposed or concerned: Get medical advice/attention.
  If skin irritation occurs: Get medical advice/attention.
  If eye irritation persists: Get medical advice/attention.
  Get medical advice/attention if you feel unwell.
  Rinse mouth.
  IF ON SKIN: Wash with plenty of water.
  Take off contaminated clothing and wash it before reuse.
  Store locked up.
  Store in a well-ventilated place. Keep container tightly closed.
  Dispose of contents/container in accordance with local/regional/national/international regulations.

- Directive 2012/18/EU
- Named dangerous substances - ANNEX I Substance is not listed.
- Seveso category H2 ACUTE TOXIC
Trade name: CHLOROFORM, REAGENT ACS

- Qualifying quantity (tonnes) for the application of lower-tier requirements: 50 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements: 200 t
- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

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

- Abbreviations and acronyms:
  ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  IMDG: International Maritime Code for Dangerous Goods
  IATA: International Air Transport Association
  EINECS: European Inventory of Existing Commercial Chemical Substances
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  LC50: Lethal concentration, 50 percent
  LD50: Lethal dose, 50 percent
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative
  Acute Tox. 4: Acute toxicity – Category 4
  Acute Tox. 3: Acute toxicity – Category 3
  Skin Irrit. 2: Skin corrosion/irritation – Category 2
  Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
  Carc. 2: Carcinogenicity – Category 2
  Repr. 2: Reproductive toxicity – Category 2
  STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
  STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
1 Identification

- Product identifier
  - Trade name: CHLOROFORM, REAGENT ACS
  - Article number: 12540, 12541, 12550, 12551
  - CAS Number: 67-66-3
  - EC number: 200-663-8
  - Index number: 602-006-00-4

- 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: sgkccck@aol.com
    www.emsdiasum.com

- Information department: Product safety department

- Emergency telephone number:
  - ChemTrec 1-800-424-9300 Contract CCN7661
  - 1-703-527-3887

2 Hazard(s) identification

- Classification of the substance or mixture
  - GHS06 Skull and crossbones
    Acute Toxicity (Inhalation) - Category 3 H331 Toxic if inhaled.
  - GHS08 Health hazard
    Carcinogenicity – Category 2 H351 Suspected of causing cancer.
    Reproductive Toxicity - Category 2 H361 Suspected of damaging fertility or the unborn child.
    Specific Target Organ Toxicity - Repeated Exposure - Category 1 H372 Causes damage to organs through prolonged or repeated exposure.
  - GHS07
    Acute Toxicity (Oral) - Category 4 H302 Harmful if swallowed.
    Skin Irritation - Category 2 H315 Causes skin irritation.
    Eye Irritation - Category 2 H319 Causes serious eye irritation.
    Specific Target Organ Toxicity - Single Exposure - Category 3 H336 May cause drowsiness or dizziness.

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

(Contd. on page 2)
Trade name: CHLOROFORM, REAGENT ACS

- **Hazard pictograms**

  ![GHS06](image1)
  ![GHS07](image2)
  ![GHS08](image3)

- **Signal word** Danger

- **Hazard statements**
  Harmful if swallowed.
  Toxic if inhaled.
  Causes skin irritation.
  Causes serious eye irritation.
  Suspected of causing cancer.
  Suspected of damaging fertility or the unborn child.
  May cause drowsiness or dizziness.
  Causes damage to organs through prolonged or repeated exposure.

- **Precautionary statements**
  Do not breathe dust/fume/gas/mist/vapours/spray.
  Wear protective gloves/protective clothing/eye protection/face protection.
  Wash thoroughly after handling.
  Do not eat, drink or smoke when using this product.
  Use only outdoors or in a well-ventilated area.
  Obtain special instructions before use.
  Do not handle until all safety precautions have been read and understood.
  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  Specific treatment (see on this label).
  IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
  IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  IF exposed or concerned: Get medical advice/attention.
  If eye irritation persists: Get medical advice/attention.
  Get medical advice/attention if you feel unwell.
  Rinse mouth.
  IF ON SKIN: Wash with plenty of water.
  Take off contaminated clothing and wash it before reuse.
  Store locked up.
  Store in a well-ventilated place. Keep container tightly closed.
  Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Hazard description:**

- **WHMIS-symbols:**
  B2 - Flammable liquid
  D1A - Very toxic material causing immediate and serious toxic effects
  D2A - Very toxic material causing other toxic effects
Trade name: CHLOROFORM, REAGENT ACS

3 Composition/information on ingredients

- Chemical characterization: Substances
- CAS No. Description
  67-66-3 CHLOROFORM, REAGENT ACS
- Identification number(s)
  - EC number: 200-663-8
  - Index number: 602-006-00-4

4 First-aid measures

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

5 Fire-fighting measures

- Extinguishing media
- Suitable extinguishing agents:
  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**: 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.
- **Information about protection against explosions and fires**: No special measures required.
- **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**:
    - **67-66-3 CHLOROFORM, REAGENT ACS**
      - **EL** Long-term value: 2 ppm
      - **IARC 2B; R**
      - **EV** Long-term value: 49 mg/m³, 10 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.
    - Avoid contact with the eyes and skin.
  - **Breathing equipment**:
    - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
Trade name: CHLOROFORM, REAGENT ACS

- 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.

- 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: Fluid
      Color: Colorless
      Odor: Pleasant
      Odor threshold: Not determined.
      pH-value: Not determined.
    - Change in condition
      Melting point/Melting range: -63 °C
      Boiling point/Boiling range: 62 °C
    - Flash point: 0 °C
    - Flammability (solid, gaseous): Not flammable.
    - Ignition temperature: 982 °C
    - Decomposition temperature: Not determined.
    - Auto igniting: Not determined.
    - Danger of explosion: Product does not present an explosion hazard.
    - Explosion limits:
      Lower: Not determined.
      Upper: Not determined.
    - Vapor pressure at 20 °C: 210 hPa
    - Density at 20 °C: 1.47988 g/cm³
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:

<table>
<thead>
<tr>
<th></th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>908 mg/kg (rat)</td>
<td>75 mg/kg (rat)</td>
</tr>
</tbody>
</table>

- Primary irritant effect:
- on the skin: Irritant to skin and mucous membranes.
- on the eye: Irritating effect.
- Sensitization: No sensitizing effects known.
- Additional toxicological information:
  - Carcinogenic categories
    - IARC (International Agency for Research on Cancer)
      67-66-3 CHLOROFORM, REAGENT ACS 2B
    - NTP (National Toxicology Program)
      67-66-3 CHLOROFORM, REAGENT ACS R

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.
Trade name: CHLOROFORM, REAGENT ACS

- Mobility in soil: No further relevant information available.
- Additional ecological information:
  - General notes:
    - Water hazard class 3 (Assessment by list): extremely hazardous for water
    - Do not allow product to reach ground water, water course or sewage system, even in small quantities.
    - Danger to drinking water if even extremely small quantities leak into the ground.
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.
- Other adverse effects: No further relevant information available.

13 Disposal considerations

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

14 Transport information

- UN-Number
  - DOT, TDG, IMDG, IATA: UN1888
- UN proper shipping name
  - DOT: Chloroform
  - TDG: 1888 Chloroform
  - IMDG, IATA: CHLOROFORM
- Transport hazard class(es)
  - DOT
    - Class: 6.1 Toxic substances
    - Label: 6.1
  - TDG, IMDG, IATA
    - Class: 6.1 Toxic substances
    - Label: 6.1
- Packing group
  - DOT, TDG, IMDG, IATA: III
- Environmental hazards:
  - Not applicable.
- Special precautions for user
  - Warning: Toxic substances
- Danger code (Kemler): 60
Safety Data Sheet  
acc. to OSHA HCS

Trade name: CHLOROFORM, REAGENT ACS

- EMS Number: 6.1-02
- Segregation groups: Liquid halogenated hydrocarbons
- Stowage Category: A
- Stowage Code: SW2 Clear of living quarters.

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

- Transport/Additional information:
  - DOT
    - Quantity limitations: On passenger aircraft/rail: 60 L
                             On cargo aircraft only: 220 L
  - Hazardous substance: 10 lbs, 4.54 kg

- TDG
  - Excepted quantities (EQ): Code: E1
    - Maximum net quantity per inner packaging: 30 ml
      - Maximum net quantity per outer packaging: 1000 ml

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

- UN "Model Regulation": UN 1888 CHLOROFORM, 6.1, III

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Sara
  - Section 355 (extremely hazardous substances): Substance is listed.
  - Section 313 (Specific toxic chemical listings): Substance is listed.
  - TSCA (Toxic Substances Control Act): Substance is listed.
  - Canadian substance listings:
    - Canadian Domestic Substances List (DSL) Substance is listed.
    - Canadian Ingredient Disclosure list (limit 0.1%) Substance is listed.
    - Canadian Ingredient Disclosure list (limit 1%) Substance is not listed.
  - GHS label elements: The substance is classified and labeled according to the Globally Harmonized System (GHS).
  - Hazard pictograms

  - Signal word: Danger
  - Hazard statements
    - Harmful if swallowed.
    - Toxic if inhaled.
    - Causes skin irritation.
    - Causes serious eye irritation.
    - Suspected of causing cancer.
    - Suspected of damaging fertility or the unborn child.
May cause drowsiness or dizziness.
Causes damage to organs through prolonged or repeated exposure.

· **Precautionary statements**
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Specific treatment (see on this label).
IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF exposed or concerned: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Get medical advice/attention if you feel unwell.
Rinse mouth.
IF ON SKIN: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
Store locked up.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container in accordance with local/regional/national/international regulations.

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

### 16 Other information

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

· **Date of preparation / last revision** 11/23/2016

· **Abbreviations and acronyms**:
- IMDG: International Maritime Code for Dangerous Goods
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- EINECS: European Inventory of Existing Commercial Chemical Substances
- 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
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

- Trade name: CHLOROFORM, REAGENT ACS
- Article number: 12540, 12541, 12550, 12551
- CAS Number: 67-66-3
- EC number: 200-663-8
- Index number: 602-006-00-4

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

No further relevant information available.

Application of the substance / the mixture Laboratory chemicals

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: 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

GHS06 skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.

GHS08 health hazard

Carc. 2 H351 Suspected of causing cancer.
Repr. 2 H361d Suspected of damaging the unborn child.
STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.

GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
STOT SE 3 H336 May cause drowsiness or dizziness.

(Contd. on page 2)
2.2 Label elements

- Labelling according to Regulation (EC) No 1272/2008
  The substance is classified and labelled according to the CLP regulation.
- Hazard pictograms
  
  GHS06  GHS08

- Signal word Danger
- Hazard statements
  H302  Harmful if swallowed.
  H331  Toxic if inhaled.
  H315  Causes skin irritation.
  H319  Causes serious eye irritation.
  H351  Suspected of causing cancer.
  H361d  Suspected of damaging the unborn child.
  H336  May cause drowsiness or dizziness.
  H372  Causes damage to organs through prolonged or repeated exposure.
- Precautionary statements
  P260  Do not breathe dust/fume/gas/mist/vapours/spray.
  P280  Wear protective gloves/protective clothing/eye protection/face protection.
  P305+P351+P338  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  P321  Specific treatment (see on this label).
  P405  Store locked up.
  P501  Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

- 3.1 Chemical characterisation: Substances
- CAS No. Description
  67-66-3 CHLOROFORM, REAGENT ACS
- Identification number(s)
  - EC number: 200-663-8
  - Index number: 602-006-00-4

SECTION 4: First aid measures

- 4.1 Description of first aid measures
- General information:
  Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- After inhalation:
  Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness place patient stably in side position for transportation.

(Contd. on page 3)
Trade name: CHLOROFORM, REAGENT ACS

- After skin contact:Immediately wash with water and soap and rinse thoroughly.
- After eye contact:
  Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing:Call for a doctor immediately.
- 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: 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.
- 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.
Trade name: CHLOROFORM, REAGENT ACS

- **8.1 Control parameters**

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

<table>
<thead>
<tr>
<th>Substance</th>
<th>Long-term value</th>
<th>Skin value</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-66-3 CHLOROFORM, REAGENT ACS</td>
<td>9.9 mg/m³, 2 ppm</td>
<td>Sk</td>
</tr>
</tbody>
</table>

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

- **8.2 Exposure controls**

- **Personal protective equipment:**

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

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

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

    - **Material of gloves**
      - The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

    - **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

<table>
<thead>
<tr>
<th><strong>9.1 Information on basic physical and chemical properties</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Information</strong></td>
</tr>
<tr>
<td><strong>Appearance:</strong></td>
</tr>
<tr>
<td>Form: Fluid</td>
</tr>
<tr>
<td>Colour: Colourless</td>
</tr>
<tr>
<td>Odour: Pleasant</td>
</tr>
<tr>
<td>Odour threshold: Not determined.</td>
</tr>
<tr>
<td>pH-value: Not determined.</td>
</tr>
</tbody>
</table>
Trade name: CHLOROFORM, REAGENT ACS

Change in condition
- Melting point/Melting range: -63 °C
- Boiling point/Boiling range: 62 °C

Flash point: 0 °C

Flammability (solid, gaseous): Not applicable.

Ignition temperature: 982 °C

Decomposition temperature: Not determined.

Self-igniting: Not determined.

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

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

Vapour pressure at 20 °C: 210 hPa

Density at 20 °C: 1.47988 g/cm³

Relative density: Not determined.

Vapour density: Not determined.

Evaporation rate: Not determined.

Solubility in / Miscibility with water at 20 °C: 8 g/l

Partition coefficient (n-octanol/water): Not determined.

Viscosity:
- Dynamic at 20 °C: 0.56 mPas
- Kinematic: Not determined.

9.2 Other information
No further relevant information available.

SECTION 10: Stability and reactivity

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

SECTION 11: Toxicological information

- 11.1 Information on toxicological effects
- Acute toxicity
  Harmful if swallowed.
  Toxic if inhaled.
- LD/LC50 values relevant for classification:

<table>
<thead>
<tr>
<th>Route</th>
<th>LD50</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>908 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>75 mg/kg (rat)</td>
<td></td>
</tr>
</tbody>
</table>
43.0

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

SECTION 12: Ecological information

· 12.1 Toxicity
· Aquatic toxicity: No further relevant information available.
· 12.2 Persistence and degradability No further relevant information available.
· 12.3 Bioaccumulative potential No further relevant information available.
· 12.4 Mobility in soil No further relevant information available.
· Additional ecological information:
· General notes:
  Water hazard class 3 (German Regulation) (Assessment by list): extremely hazardous for water
  Do not allow product to reach ground water, water course or sewage system, even in small quantities.
  Danger to drinking water if even extremely small quantities leak into the ground.
· 12.5 Results of PBT and vPvB assessment
· PBT: Not applicable.
· vPvB: Not applicable.
· 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

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

SECTION 14: Transport information

· 14.1 UN-Number
· ADR, IMDG, IATA
  UN1888
· 14.2 UN proper shipping name
· ADR
  1888 CHLOROFORM
Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 23.11.2016
Revision: 23.11.2016

Trade name: CHLOROFORM, REAGENT ACS

<table>
<thead>
<tr>
<th>IMDG, IATA</th>
<th>CHLOROFORM</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.3 Transport hazard class(es)</td>
<td>ADR, IMDG, IATA</td>
</tr>
<tr>
<td>Class</td>
<td>6.1 Toxic substances.</td>
</tr>
<tr>
<td>Label</td>
<td>6.1</td>
</tr>
<tr>
<td>14.4 Packing group</td>
<td>ADR, IMDG, IATA</td>
</tr>
<tr>
<td>Packing group</td>
<td>III</td>
</tr>
<tr>
<td>14.5 Environmental hazards:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>14.6 Special precautions for user</td>
<td>Warning: Toxic substances.</td>
</tr>
<tr>
<td>Danger code (Kemler):</td>
<td>60</td>
</tr>
<tr>
<td>EMS Number:</td>
<td>6.1-02</td>
</tr>
<tr>
<td>Segregation groups</td>
<td>Liquid halogenated hydrocarbons</td>
</tr>
<tr>
<td>Stowage Category</td>
<td>A</td>
</tr>
<tr>
<td>Stowage Code</td>
<td>SW2 Clear of living quarters.</td>
</tr>
<tr>
<td>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Transport/Additional information:</td>
<td></td>
</tr>
<tr>
<td>ADR</td>
<td></td>
</tr>
<tr>
<td>Limited quantities (LQ)</td>
<td>5L</td>
</tr>
<tr>
<td>Exception quantities (EQ)</td>
<td>Code: E1</td>
</tr>
<tr>
<td>Maximum net quantity per inner packaging:</td>
<td>30 ml</td>
</tr>
<tr>
<td>Maximum net quantity per outer packaging:</td>
<td>1000 ml</td>
</tr>
<tr>
<td>IMDG</td>
<td></td>
</tr>
<tr>
<td>Limited quantities (LQ)</td>
<td>5L</td>
</tr>
<tr>
<td>Exception quantities (EQ)</td>
<td>Code: E1</td>
</tr>
<tr>
<td>Maximum net quantity per inner packaging:</td>
<td>30 ml</td>
</tr>
<tr>
<td>Maximum net quantity per outer packaging:</td>
<td>1000 ml</td>
</tr>
<tr>
<td>UN &quot;Model Regulation&quot;:</td>
<td>UN 1888 CHLOROFORM, 6.1, III</td>
</tr>
</tbody>
</table>

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 Substance is not listed.
- Seveso category H2 ACUTE TOXIC
- Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 32
· **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.

· **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
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - Acute Tox. 4: Acute toxicity – Category 4
  - Acute Tox. 3: Acute toxicity – Category 3
  - Skin Irrit. 2: Skin corrosion/irritation – Category 2
  - Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
  - Carc. 2: Carcinogenicity – Category 2
  - Repr. 2: Reproductive toxicity – Category 2
  - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
  - STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
**ODDÍL 1: Identifikace látky/směsi a společnosti/podniku**

- **1.1 Identifikátor výrobku**
  - Obchodní označení: chloroform
  - Číslo výrobku: 12540, 12541, 12550, 12551
  - Číslo CAS: 67-66-3
  - Číslo ES: 200-663-8
  - Indexové číslo: 602-006-00-4
- **1.2 Příslušná určená použití látky nebo směsi a nedoporučená použití**
  - Další relevantní informace nejsou k dispozici.
  - Použití látky / přípravku: Laboratorní chemikálie
- **1.3 Podrobné údaje o dodavateli bezpečnostního listu**
  - Identifikace výrobce/dovozce:
    - 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
  - Obor poskytující informace: Product safety department
- **1.4 Telefonní číslo pro naléhavé situace:**
  - ChemTrec 1-800-424-9300 Contract CCN7661
  - 1-703-527-3887

**ODDÍL 2: Identifikace nebezpečnosti**

- **2.1 Klasifikace látky nebo směsi**
  - Klasifikace v souladu s nařízením (ES) č. 1272/2008
    - GHS06 lebka se zkrčenými hnáty
      - Acute Tox. 3 H331 Toxický při vdechování.
    - GHS08 nebezpečnost pro zdraví
      - Carc. 2 H351 Podezření na vyvolání rakoviny.
      - Repr. 2 H361d Podezření na poškození plodu v těle matky.
      - STOT RE 1 H372 Způsobuje poškození orgánů při prodloužené nebo opakované expozici.
    - GHS07
      - Acute Tox. 4 H302 Zdraví škodlivý při požití.
      - Skin Irrit. 2 H315 Dráždí kůži.
      - Eye Irrit. 2 H319 Způsobuje vážné podráždění očí.
      - STOT SE 3 H336 Může způsobit ospalost nebo závratě.

- **2.2 Prvky označení**
  - Označování v souladu s nařízením (ES) č. 1272/2008 Látka je klasifikována a označena podle nařízení CLP.

(pokračování na straně 2)
Bezpečnostní list
podle 1907/2006/ES, Článek 31

Datum vydání: 23.11.2016
Revize: 23.11.2016

Obchodní označení: chloroform

· Výstražné symboly nebezpečností

GHS06  GHS08

· Signální slovo Nebezpečí
· Standardní věty o nebezpečnosti
H302 Zdraví škodlivý při požití.
H331 Toxický při vdechování.
H315 Dráždí kůži.
H319 Způsobuje vážné podráždění očí.
H361d Podezření na poškození plodu v těle matky.
H336 Může způsobit ospalost nebo závratě.
H372 Způsobuje poškození orgánů při prodloužené nebo opakované expozičí.

· Pokyny pro bezpečné zacházení
P260 Nevdechujte prach/dým/plyn/mlhu/paří/ aerosoly.
P280 Používejte ochranné rukavice/ochranný oděv/ ochranné brýle/obliečkový štít.
P321 Odborné ošetření (viz na tomto štítku).
P405 Skladujte uzamčené.

2.3 Další nebezpečnost
· Výsledky posouzení PBT a vPvB
· PBT: Nedá se použít.
· vPvB: Nedá se použít.

ODDÍL 3: Složení/informace o složkách

· 3.1 Chemická charakteristika: Látky
· Číslo CAS:
  67-66-3 chloroform
· Identifikační číslo(číslo)
· Číslo ES: 200-663-8
· Indexové číslo: 602-006-00-4

ODDÍL 4: Pokyny pro první pomoc

4.1 Popis první pomoci
· Všeobecné pokyny:
  Příznaky otravy se mohou projevit až po mnoha hodinách, proto je nutný lékařský dohled nejméně 48 hodin po nechodě.
· Při nadýchaní:
  Přívod čerstvého vzduchu, případně kyslíkový přístroj, teplo. Při déle trvajících potížích konzultovat lékaře.
  Při bezvědomí uložit a přepravit ve stabilní poloze na boku.
· Při styku s kůží: Ihned omýt vodou a mýdlem a dobře opláchnout.
Bezpečnostní list
podle 1907/2006/ES, Článek 31

Datum vydání: 23.11.2016
Revize: 23.11.2016

Obchodní označení: chloroform

- Při zasažení očí:
  Oči s otevřenými včky vyplachovat po více minut proudem tekoucí vody. Při přetrvávajících potížích se poradit s lékařem.
- Při požití:
  Ihned vyhledat lékaře.

4.2 Nejdůležitější akutní a opožděné symptomy a účinky Další relevantní informace nejsou k dispozici.

4.3 Pokyny pro hasiče:
- Zvláštní ochranné prostředky pro hasiče: Použít ochranný dýchací přístroj.

5.1 Hasiva:
- Vhodná hasiva: CO2, hasící prášek nebo rozestříkané vodní paprsky. Větší ohně zdolat rozestříkanými vodními paprsky nebo pěnou odolnou vůči alkoholu.
- Zajistit dostatečné větrání.

5.2 Ostatní nebezpečí vyplývající z látky nebo směsi Další relevantní informace nejsou k dispozici.

6.1 Opatření na ochranu osob, ochranné prostředky a nouzové postupy
- Není nutné.

6.2 Opatření na ochranu životního prostředí:
- Nenechat proniknout do kanalizace/povrchových vod/podzemních vod.

7.1 Opatření pro bezpečné zacházení
- Na pracovišti zabezpečit dobré větrání a odsávání.
- Úpozornění k ochraně před ohněm a explozi: Nejsou nutné žádné zvláštní opatření.

7.2 Podmínky pro bezpečné skladování látek a směsí včetně neslučitelných látek a směsí
- Pokyny pro skladování:
  - Požadavky na skladovací prostory a nádoby: Žádné zvláštní požadavky.

7.3 Specifické konečné / specifická konečná použití
- Další relevantní informace nejsou k dispozici.

7.4 Specifické konečné / specifická konečná použití
- Technická opatření: Žádné další údaje, viz bod 7.
Obchodní označení: chloroform

- 8.1 Kontrolní parametry

<table>
<thead>
<tr>
<th>Kontrolní parametry:</th>
<th>67-66-3 chloroform</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPK</td>
<td>Krátkodobá hodnota: 20 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Dlouhodobá hodnota: 10 mg/m³</td>
</tr>
<tr>
<td></td>
<td>D, I, P</td>
</tr>
</tbody>
</table>

- Další upozornění: Jako podklad sloužily při zhotovení platné listiny.

- 8.2 Omezování expozice

- Osobní ochranné prostředky:
  - Všeobecná ochranná a hygienická opatření:
    Zdržovat od potravin, nápojů a krmiv.  
    Zašpiněné, nasáknuté šaty ihned vysvléci.  
    Před přestávkami a po práci umýt ruce.  
    Zamezit styku s pokožkou a zrakem.
  - Ochrana dýchacích orgánů:
    Při krátkodobém nebo nízkém zatížení použít dýchací přístroj s filtrem, při intenzivním nebo delším zatížení se musí použít dýchací přístroj nezávislý na okolním vzduchu.

- Ochrana rukou:
  Ochranné rukavice
  Materiál rukavic musí být nepropustný a odolný proti produktu / látce / směsi.  
  Vzhledem k tomu, že chybí testy, není možné doporučit materiál rukavic pro produkt / přípravek / chemickou směs.  
  Výběr materiálu rukavic provede podle času průniku, permeability a degradace.
  - Materiál rukavic
    Správný výběr rukavic nezávisí jen na materiálu, ale také na dalších kritériích, která se liší podle výrobce.
  - Doba průniku materiálem rukavic
    Je nutno u výrobce rukavic zjistit a dodržovat přesné časy průniku materiálem ochranných rukavic.
  - Ochrana očí:
    Ochranné brýle

Uzavřené ochranné brýle

ODDÍL 9: Fyzikální a chemické vlastnosti

- 9.1 Informace o základních fyzikálních a chemických vlastnostech

<table>
<thead>
<tr>
<th>Všeobecné údaje</th>
<th>Kapalná</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skupenství:</td>
<td>Kapalná</td>
</tr>
<tr>
<td>Barva:</td>
<td>Bezbarevá</td>
</tr>
<tr>
<td>Zápach (vůně):</td>
<td>Příjemný</td>
</tr>
<tr>
<td>Prachová hodnota zápachu:</td>
<td>Není určeno.</td>
</tr>
</tbody>
</table>

| Hodnota pH: | Není určeno. |

| Změna stavu | Teplota (rozmezí teplot) tání: | -63 °C |
**Bezpečnostní list**
*podle 1907/2006/ES, Článek 31*

**Datum vydání:** 23.11.2016  
**Revize:** 23.11.2016

---

<table>
<thead>
<tr>
<th>Obchodní označení: chloroform</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Teplota (rozmezí teplot) varu:</strong> 62 °C</td>
</tr>
<tr>
<td>· <strong>Bod vzplanutí:</strong> 0 °C</td>
</tr>
<tr>
<td>· <strong>Zápalnost (tuhé, plynné skupenství):</strong> Nedá se použít.</td>
</tr>
<tr>
<td>· <strong>Zápalná teplota:</strong> 982 °C</td>
</tr>
<tr>
<td>· <strong>Teplota rozkladu:</strong> Není určeno.</td>
</tr>
<tr>
<td>· <strong>Samozápalnost:</strong> Není určeno.</td>
</tr>
<tr>
<td>· <strong>Nebezpečí exploze:</strong> U produktu nehrozí nebezpečí exploze.</td>
</tr>
<tr>
<td>· <strong>Meze výbušnosti:</strong></td>
</tr>
<tr>
<td>· Dolní mez: Není určeno.</td>
</tr>
<tr>
<td>· Horní mez: Není určeno.</td>
</tr>
<tr>
<td>· <strong>Tenze par při 20 °C:</strong> 210 hPa</td>
</tr>
<tr>
<td>· <strong>Hustota při 20 °C:</strong> 1,47988 g/cm³</td>
</tr>
<tr>
<td>· <strong>Relativní hustota</strong> Není určeno.</td>
</tr>
<tr>
<td>· <strong>Hustota par</strong> Není určeno.</td>
</tr>
<tr>
<td>· <strong>Rychlost odpařování</strong> Není určeno.</td>
</tr>
<tr>
<td>· <strong>Rozpustnost ve / směsitelnost s vodou při 20 °C:</strong> 8 g/l</td>
</tr>
<tr>
<td>· <strong>Rozdělovací koeficient n-oktanol/voda:</strong> Není určeno.</td>
</tr>
<tr>
<td>· <strong>Viskozita:</strong></td>
</tr>
<tr>
<td>· Dynamicky při 20 °C: 0,56 mPas</td>
</tr>
<tr>
<td>· Kinematicky: Není určeno.</td>
</tr>
<tr>
<td>· <strong>9.2 Další informace</strong> Další relevantní informace nejsou k dispozici.</td>
</tr>
</tbody>
</table>

---

**ODDÍL 10: Stálost a reaktivita**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>10.1 Reaktivita</strong> Další relevantní informace nejsou k dispozici.</td>
<td></td>
</tr>
<tr>
<td><strong>10.2 Chemická stabilita</strong></td>
<td></td>
</tr>
<tr>
<td>Termický rozklad / Podmínky, kterých je nutno se vyvarovat:</td>
<td></td>
</tr>
<tr>
<td>Nedochází k rozkladu při doporučeném způsobu použití.</td>
<td></td>
</tr>
<tr>
<td><strong>10.3 Možnost nebezpečných reakcí</strong> Žádné nebezpečné reakce nejsou známy.</td>
<td></td>
</tr>
<tr>
<td><strong>10.4 Podmínky, kterým je třeba zabránit</strong> Další relevantní informace nejsou k dispozici.</td>
<td></td>
</tr>
<tr>
<td><strong>10.5 Neslučitelné materiály:</strong> Další relevantní informace nejsou k dispozici.</td>
<td></td>
</tr>
<tr>
<td><strong>10.6 Nebezpečné produkty rozkladu:</strong> Nejsou známy žádné nebezpečné produkty při rozkladu.</td>
<td></td>
</tr>
</tbody>
</table>

---

**ODDÍL 11: Toxikologické informace**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>11.1 Informace o toxikologických účincích</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Akutní toxicita</strong></td>
<td></td>
</tr>
<tr>
<td>Zdraví škodlivý při požití.</td>
<td></td>
</tr>
<tr>
<td>Toxický při vdechování.</td>
<td></td>
</tr>
<tr>
<td><strong>Zařazení relevantní hodnoty LD/LC 50:</strong></td>
<td></td>
</tr>
<tr>
<td>Orálně LD50: 908 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>Pokožkou LD50: 75 mg/kg (rat)</td>
<td></td>
</tr>
</tbody>
</table>

(pokračování na straně 6)
Bezpečnostní list
podle 1907/2006/ES, Článek 31

Datum vydání: 23.11.2016
Revize: 23.11.2016

Obchodní označení: chloroform

- Primární dráždivé účinky:
- Žíravost/dráždivost pro kůži
  Dráždí kůži.
- Vážné poškození očí / podráždění očí
  Způsobuje vážné podráždění očí.
- Sensibilizace dýchacích cest / sensibilizace kůže
  Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- Účinky CMR (karzinogenita, mutagenita a toxicita pro reprodukci)
- Mutagenita v zárodečných buňkách Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- Karcinogenita
  Podezření na vyvolání rakoviny.
- Toxicita pro reprodukci
  Podezření na poškození plodu v těle matky.
- Toxicita pro specifické cílové orgány – jednorázová expozice
  Může způsobit ospalost nebo závratě.
- Toxicita pro specifické cílové orgány – opakovaná expozice
  Způsobuje poškození orgánů při prodloužené nebo opakované expozici.
- Nebezpečnost při vdechnutí
  Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.

ODDÍL 12: Ekologické informace

- 12.1 Toxicita
- Aquatická toxicita: Další relevantní informace nejsou k dispozici.
- 12.2 Perzistence a rozložitelnost
  Další relevantní informace nejsou k dispozici.
- 12.3 Bioakumulační potenciál
  Další relevantní informace nejsou k dispozici.
- 12.4 Mobilita v půdě
  Další relevantní informace nejsou k dispozici.
- Další ekologické údaje:
  - Všeobecná upozornění:
    - Třída ohrožení vody 3 (zařazení v listině):silně ohrožuje vodu
    - Nesmí vniknout do spodní vody,povodí nebo do kanalizace,ani v malých množstvích.
    - Ohrožuje pitnou vodu už při proniknutí nepatrného množství do zeminy.
  - 12.5 Výsledky posouzení PBT a vPvB
    - PBT: Nedá se použít.
    - vPvB: Nedá se použít.
  - 12.6 Jiné nepříznivé účinky
    Další relevantní informace nejsou k dispozici.

ODDÍL 13: Pokyny pro odstraňování

- 13.1 Metody nakládání s odpady
- Doporučení: Nesmí se odstraňovat společně s odpady z domácností. Nepřipustit únik do kanalizace.
- Kontaminované obaly:
  - Doporučení: Odstranění podle příslušných předpisů.

ODDÍL 14: Informace pro přepravu

- 14.1 UN číslo
  ADR, IMDG, IATA
  UN1888
- 14.2 Oficiální (OSN) pojmenování pro přepravu
  ADR
  1888 CHLOROFORM
Bezpečnostní list
podle 1907/2006/ES, Článek 31

Datum vydání: 23.11.2016
Revize: 23.11.2016

Obchodní označení: chloroform

<table>
<thead>
<tr>
<th>· IMDG, IATA</th>
<th>CHLOROFORM</th>
</tr>
</thead>
<tbody>
<tr>
<td>· 14.3 Třída/třídy nebezpečností pro přepravu</td>
<td></td>
</tr>
<tr>
<td>· ADR, IMDG, IATA</td>
<td></td>
</tr>
<tr>
<td>· třída</td>
<td>6.1 Jedovaté látky</td>
</tr>
<tr>
<td>· Etiketa</td>
<td>6.1</td>
</tr>
<tr>
<td>· 14.4 Obalová skupina</td>
<td></td>
</tr>
<tr>
<td>· ADR, IMDG, IATA</td>
<td>III</td>
</tr>
<tr>
<td>· 14.5 Nebezpečnost pro životní prostředí:</td>
<td>Nedá se použít.</td>
</tr>
<tr>
<td>· 14.6 Zvláštní nebezpečnost opatření pro uživatele</td>
<td>Varování: Jedovaté látky</td>
</tr>
<tr>
<td>· Kemlerovo číslo:</td>
<td>60</td>
</tr>
<tr>
<td>· EMS-skupina:</td>
<td>6.1-02</td>
</tr>
<tr>
<td>· Segregation groups</td>
<td>Liquid halogenated hydrocarbons</td>
</tr>
<tr>
<td>· Stowage Category</td>
<td>A</td>
</tr>
<tr>
<td>· Stowage Code</td>
<td>SW2 Clear of living quarters.</td>
</tr>
<tr>
<td>· 14.7 Hromadná přeprava podle přílohy II úmluvy</td>
<td>Nedá se použít.</td>
</tr>
<tr>
<td>MARPOL a předpisu IBC</td>
<td></td>
</tr>
<tr>
<td>· Přeprava/další údaje:</td>
<td></td>
</tr>
<tr>
<td>· ADR</td>
<td></td>
</tr>
<tr>
<td>· Omezené množství (LQ)</td>
<td>5L</td>
</tr>
<tr>
<td>· Vyňatá množství (EQ)</td>
<td>Kód: E1</td>
</tr>
<tr>
<td></td>
<td>Nejvyšší čisté množství na vnitřní obal: 30 ml</td>
</tr>
<tr>
<td></td>
<td>Nejvyšší čisté množství na vnější obal: 1000 ml</td>
</tr>
<tr>
<td>· Přepravní kategorie</td>
<td>2</td>
</tr>
<tr>
<td>· kód omezení pro tunely:</td>
<td>E</td>
</tr>
<tr>
<td>· IMDG</td>
<td></td>
</tr>
<tr>
<td>· Limited quantities (LQ)</td>
<td>5L</td>
</tr>
<tr>
<td>· Excepted quantities (EQ)</td>
<td>Code: E1</td>
</tr>
<tr>
<td></td>
<td>Maximum net quantity per inner packaging: 30 ml</td>
</tr>
<tr>
<td></td>
<td>Maximum net quantity per outer packaging: 1000 ml</td>
</tr>
<tr>
<td>· UN &quot;Model Regulation&quot;:</td>
<td>UN 1888 CHLOROFORM, 6.1, III</td>
</tr>
</tbody>
</table>

ODDÍL 15: Informace o předpisech

· 15.1 Předpisy týkající se bezpečnosti, zdraví a životního prostředí/specifické právní předpisy týkající se látky nebo směsi
· Rady 2012/18/EU
· Nebezpečné látky jmenovitě uvedené - PŘÍLOHA I Látky neobsažena.
· Kategorie Seveso H2 AKUTNÍ TOXICITA
· Kvalifikační množství (v tunách) při uplatnění požadavků pro podlimitní množství 50 t
· Kvalifikační množství (v tunách) při uplatnění požadavků pro nadlimitní množství 200 t
· Rady (ES) č. 1907/2006 PŘÍLOHA XVII Omezujičí podmínky: 3, 32
15.2 Posouzení chemické bezpečnosti: Posouzení chemické bezpečnosti nebylo provedeno.

ODDÍL 16: Další informace

Údaje se opírají o dnešní stav našich vědomostí, nepředstavují však záruku vlastností produktu a nevznikají tak žádné smluvní právní vztahy.

Zkratky a akronymy:
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
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Akutní toxicita – Kategorie 4
Acute Tox. 3: Akutní toxicita – Kategorie 3
Skin Irrit. 2: Žíravost/dráždivost pro kůži – Kategorie 2
Eye Irrit. 2: Vážné poškození očí / podráždění očí – Kategorie 2
Carc. 2: Karcinogenita – Kategorie 2
Repr. 2: Toxicita pro reprodukci – Kategorie 2
STOT SE 3: Toxicita pro specifické cílové orgány (jednorázová expozice) – Kategorie 3
STOT RE 1: Toxicita pro specifické cílové orgány (opakovaná expozice) – Kategorie 1
RUBRIEK 1: Identificatie van de stof of het mengsel en van de vennootschap/onderneming

- 1.1 Productidentificatie
  - Handelsnaam: trichloormethaan
  - Artikelnummer: 12540, 12541, 12550, 12551
  - CAS-nummer: 67-66-3
  - EC-nummer: 200-663-8
  - Catalogusnummer: 602-006-00-4

- 1.2 Relevant geïdentificeerd gebruik van de stof of het mengsel en ontraden gebruik
  - Toepassing van de stof / van de bereiding Laboratoriumchemcaliën

- 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
  - Fabrikant/leverancier:
    Aurion
    Binnenhaven 5
    6709 PD Wageningen
    The Netherlands
    Tel: 31 317 415094
    Fax: 31 317 415955
    email: info@aurion.nl
  - Inlichtingengevende sector: Product safety department

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

RUBRIEK 2: Identificatie van de gevaren

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

  - GHS06 doodshoofd met gekruiste beenderen
  - Acute Tox. 3 H331 Giftig bij inademing.

  - GHS08 gezondheidsgevaar
  - Carc. 2 H351 Verdacht van het veroorzaken van kanker.
  - Repr. 2 H361d Wordt ervan verdacht het ongeboren kind te schaden.
  - STOT RE 1 H372 Veroorzaakt schade aan organen bij langdurige of herhaalde blootstelling.

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

datum van de druk: 23.11.2016
Herziening van: 23.11.2016

**Handelsnaam: trichloormethaan**

---

**2.2 Etiketteringselementen**

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

- **Gevarenpictogrammen**

  - GHS06
  - GHS08

- **Signaalwoord** Gevaar

- **Gevarenaanduidingen**
  - H302 Schadelijk bij inslikken.
  - H315 Veroorzaakt huidirritatie.
  - H319 Veroorzaakt ernstige oogirritatie.
  - H336 Kan slaperigheid of duizeligheid veroorzaken.

- **Veiligheidsaanbevelingen**
  - P260 Stof/rook/gas/nevel/damp/spuinevel niet inademen.
  - P280 Beschermende handschoenen/beschermende kleding/oogbescherming/gelaatsbescherming dragen.
  - P305+P351+P338 BIJ CONTACT MET DE OGEN: voorzichtig afspoelen met water gedurende een aantal minuten; contactlenzen verwijderen, indien mogelijk; blijven spoelen.
  - P321 Specifieke behandeling vereist (zie op dit etiket).
  - P405 Achter slot bewaren.
  - P501 De inhoud en de verpakking verwerken volgens de plaatselijke/regionale/nationale/internationale voorschriften.

- **2.3 Andere gevaren**
  - **Resultaten van PBT- en zPzB-beoordeling**
    - **PBT**: Niet bruikbaar.
    - **zPzB**: Niet bruikbaar.

---

**RUBRIEK 3: Samenstelling en informatie over de bestanddelen**

- **3.1 Chemische karakterisering: Stoffen**
  - **CAS-Nr. omschrijving**
    67-66-3 trichloormethaan
  - **Identificatienummer(s)**
  - **EC-nummer**: 200-663-8
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:
- Na huidcontact: Onmiddellijk met water en zeep afwassen en goed naspoelen.
- Na oogcontact:
  De ogen gedurende verscheidene minuten onder stromend water afspoelen terwijl de oogspleet geopend blijft. Bij aanhoudende klachten een dokter raadplegen.
- Na inslikken:
  Onmiddellijk arts raadplegen.

- 4.2 Belangrijkste acute en uitgestelde symptomen en effecten
  Geen verdere relevante informatie verkrijgbaar.

- 4.3 Vermelding van de vereiste onmiddellijke medische verzorging en speciale behandeling
  Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 5: Brandbestrijdingsmaatregelen

- 5.1 Blusmiddelen
  Geschikte blusmiddelen:
  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: Niet in de riolering/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.
- Informatie m.b.t. brand- en ontploffingsgevaar: Geen bijzondere maatregelen noodzakelijk.

(Vervolg van blz. 2)
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 zijn en 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:

8.1 Controleparameters

Bestanddelen met grenswaarden die m.b.t. de werkrui in acht genomen moeten worden:
- 67-66-3 trichloormethaan

| GWG | Korte termijn waarde: 25 mg/m³, 5 ppm | Lange termijn waarde: 5 mg/m³, 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 werk tijd handen wassen.
  Aanraking met de ogen en de huid vermijden.
- Ademhalingsbescherming:
  Bij korte of geringe belasting ademfiltertoestel; bij intensieve resp. langdurige expositie een van de omringende lucht onafhankelijk ademhalingsstoestel gebruiken.
- Handbescherming:

Veiligheidshandschoenen

Het handschoenmateriaal moet ondoorlatend en bestand zijn tegen het product / de stof / de bereiding.
Op grond van falende testen kan geen aanbeveling voor handschoenmateriaal voor het product / de bereiding / het chemicaliemengsel afgegeven worden.
Kies handschoenmateriaal rekening houdend met de penetratietijden, de permeatiegraden en de degradatie.
- Handschoenmateriaal
  De keuze van een geschikte handschoen is niet alleen afhankelijk van het materiaal, maar ook van andere kwaliteitskenmerken en verschilt van fabrikant tot fabrikant.
- Doordringingstijd van het handschoenmateriaal
  De precieze penetratietijd kunt u te weten komen bij de handschoenfabrikant; houd er rekening mee.
- Oogbescherming:
  Veiligheidsbril

Nauw aansluitende veiligheidsbril

(Vervolg op blz. 5)
**RUBRIEK 9: Fysische en chemische eigenschappen**

- **9.1 Informatie over fysische en chemische basiseigenschappen**
  - **Algemene gegevens**
    - **Vorm:** Vloeibaar
    - **Kleur:** Kleurloos
    - **Reuk:** Aangenaam
    - **Geurdrempelwaarde:** Niet bepaald.
  - **pH-waarde:** Niet bepaald.
  - **Toestandsverandering**
    - **Smeltpunt/smeltbereik:** -63 °C
    - **Kookpunt/kookpuntbereik:** 62 °C
  - **Vlampunt:** 0 °C
  - **Ontvlambaarheid (vast, gasvormig):** Niet bruikbaar.
  - **Ontstekingstemperatuur:** 982 °C
  - **Zelfonsteking:** Niet bepaald.
  - **Ontploffingsgevaar:** Het produkt is niet ontploffingsgevaarlijk.
  - **Ontploffingsgrenzen:**
    - **Onderste:** Niet bepaald.
    - **Bovenste:** Niet bepaald.
  - **Dampspanning bij 20 °C:** 210 hPa
  - **Dichtheid bij 20 °C:** 1,47988 g/cm³
  - **Relatieve dichtheid:** Niet bepaald.
  - **Dampdichtheid:** Niet bepaald.
  - **Verdampingssnelheid:** Niet bepaald.
  - **Oplosbaarheid in/mengbaarheid met Water bij 20 °C:** 8 g/l
  - **Verdelingscoëfficiënt (n-octanol/water):** Niet bepaald.
  - **Viscositeit**
    - **Dynamisch bij 20 °C:** 0,56 mPas
    - **Kinematisch:** Niet bepaald.
  - **9.2 Overige informatie**
    - Geen verdere relevante informatie verkrijgbaar.

- **RUBRIEK 10: Stabiliteit en reactiviteit**

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

· 10.6 Gevaarlijke ontleedingsproducten: Geen gevaarlijke ontleedingsproducten bekend.

RUBRIEK 11: Toxicologische informatie

· 11.1 Informatie over toxicologische effecten
· Acute toxiciteit
  Schadelijk bij inslikken.
  Giftig bij inademing.
· Indelingsrelevantie LD/LC50-waarden:
<table>
<thead>
<tr>
<th>Indeling</th>
<th>LD50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oraal</td>
<td>908 mg/kg (rat)</td>
</tr>
<tr>
<td>Dermaal</td>
<td>75 mg/kg (rat)</td>
</tr>
</tbody>
</table>
· Primaire aandoening:
  · Huidcorrosie/-irritatie
    Veroorzaakt huidirritatie.
  · Ernstig oogletsel/oogirritatie
    Veroorzaakt ernstige oogirritatie.
  · Sensibilisatie van de luchtwegen/de huid
    Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
  · CMR-effecten (kankerverwekkendheid, mutageniteit en giftigheid voor de voortplanting)
    · Mutageniteit in geslachtscellen
      Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
    · Kankerverwekkendheid
      Verdacht van het veroorzaken van kanker.
  · Giftigheid voor de voortplanting
    Wordt ervan verdacht het ongeboren kind te schaden.
  · STOT bij eenmalige blootstelling
    Kan slaperigheid of duizeligheid veroorzaken.
  · STOT bij herhaalde blootstelling
    Veroorzaakt schade aan organen bij langdurige of herhaalde blootstelling.
  · Gevaar bij inademing
    Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

RUBRIEK 12: Ecologische informatie

· 12.1 Toxiciteit
  · Aquatische toxiciteit: Geen verdere relevante informatie verkrijgbaar.
  · 12.2 Persistentie en afbreekbaarheid: Geen verdere relevante informatie verkrijgbaar.
  · 12.3 Bioaccumulatie: Geen verdere relevante informatie verkrijgbaar.
  · 12.4 Mobilitéit in de bodem: Geen verdere relevante informatie verkrijgbaar.
  · Verdere ecologische informatie:
    · Algemene informatie:
      Waterbezwaarlijkheid (NL) 10: Kan in het aquatisch milieu op lange termijn schadelijke effecten veroorzaken.
      Gevaar voor water klasse 3 (D) (Lijstclassificatie): gevaar voor water groot
      Niet lozen in grondwater, oppervlaktewater of riolering, ook niet in kleine hoeveelheden.
      Gevaar voor drinkwater zelfs bij het uitlopen van zeer 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 tøsamen met huisvuil gestort worden of in de riolering terechtkomen.
  - Niet gereinigde verpakkingen:
    - Aanbeveling: Afvalverwijdering volgens overheidsbepalingen.

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

- **14.1 VN-nummer**
  - ADR, IMDG, IATA: UN1888

- **14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN**
  - ADR: 1888 CHLOROFORM
  - IMDG, IATA: CHLOROFORM

- **14.3 Transportgevarenklasse(n)**
  - ADR, IMDG, IATA

- **14.4 Verpakkingsgroep:**
  - ADR, IMDG, IATA: III

- **14.5 Milieugevaren:**
  - Niet bruikbaar.

- **14.6 Bijzondere voorzorgen voor de gebruiker**
  - Kemler-getal: Waarschuwing: Giftige stoffen 60
  - EMS-nummer: 6.1-02
  - Segregation groups: Liquid halogenated hydrocarbons
  - Stowage Category: A
  - Stowage Code: SW2 Clear of living quarters.

- **14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code**
  - Niet bruikbaar.

- **Transport/verdere gegevens:**
  - ADR
    - Beperkte hoeveelheden (LQ): 5L
    - Uitgezonderde hoeveelheden (EQ): Code: E1
    - Grootste netto hoeveelheid per binnenverpakking: 30 ml
    - Grootste netto hoeveelheid per buitenverpakking: 1000 ml
  - Vervoerscategorie: 2
  - Tunnelbeperkingscode: E
  - IMDG
    - Limited quantities (LQ): 5L
Veiligheidsinformatieblad
volgens 1907/2006/EG, Artikel 31

datum van de druk: 23.11.2016
Herziening van: 23.11.2016

Handelsnaam: trichloormethaan

<table>
<thead>
<tr>
<th>· Excepted quantities (EQ)</th>
<th>Code: E1</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Maximum net quantity per inner packaging: 30 ml</td>
<td></td>
</tr>
<tr>
<td>· Maximum net quantity per outer packaging: 1000 ml</td>
<td></td>
</tr>
</tbody>
</table>

| · VN "Model Regulation": | UN 1888 CHLOROFORM, 6.1, III |

RUBRIEK 15: Regelgeving

| · 15.1 Specifieke veiligheids-, gezondheids- en milieureglementen en -wetgeving voor de stof of het mengsel |
| · SZW-lijst van kankerverwekkende stoffen | De stof is niet aanwezig. |
| · SZW-lijst van mutagene stoffen | De stof is niet aanwezig. |
| · NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Vruchtbaarheid | De stof is niet aanwezig. |
| · NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Ontwikkeling |

| · 67-66-3 trichloormethaan |

| · Richtlijn 2012/18/EU |
| · Gevaarlijke stoffen die met naam genoemd worden - BIJLAGE I | De stof is niet aanwezig. |
| · Seveso-categorie H2 | ACUUT TOXIJSCH |
| · Drempelwaarde (ton) voor toepassing van voorschriften voor lagedrempelinrichtingen | 50 t |
| · Drempelwaarde (ton) voor toepassing van voorschriften voor hogedrempelinrichtingen | 200 t |
| · Verordening (EG) nr. 1907/2006 BIJLAGE XVII | Beperkingsvoorwaarden: 3, 32 |
| · Nationale voorschriften: |
| · Gevaarklasse v. water: Waterbezwaarlijkheid (NL) 10: Saneringsinspanning A |
| · 15.2 Chemischeveiligheidsbeoordeling: Eine 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 produktigenschappen en vestigen geen contractuele rechtsbetrekking.

Afkortingen en acroniemen:
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxiciteit – Categorie 4
Acute Tox. 3: Acute toxiciteit – Categorie 3
Skin Irrit. 2: Huidirritatie – Categorie 2
Eye Irrit. 2: Ernstig oogirritatie – Categorie 2
Carc. 2: Kankerverwekkendheid – Categorie 2
Repr. 2: Voortplantingsstoornis – Categorie 2
STOT SE 3: Specifieke doelorgaanstoornis bij eenmalige blootstelling – Categorie 3
STOT RE 1: Specifieke doelorgaanstoornis bij herhaalde blootstelling – Categorie 1
RUBRIQUE 1: Identification de la substance/du mélange et de la société/l'entreprise

1.1 Identificateur de produit

Nom du produit: trichlorométhane
Code du produit: 12540, 12541, 12550, 12551
No CAS: 67-66-3
Numéro CE: 200-663-8
Numéro index: 602-006-00-4

1.2 Utilisations identifiées pertinentes de la substance ou du mélange et utilisations déconseillées

Pas d'autres informations importantes disponibles.

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

Acute Tox. 3 H331 Toxique par inhalation.

Carc. 2 H351 Susceptible de provoquer le cancer.
Repr. 2 H361d Susceptible de nuire au fœtus.
STOT RE 1 H372 Risque avéré d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.

Acute Tox. 4 H302 Nocif en cas d'ingestion.
Skin Irrit. 2 H315 Provoque une irritation cutanée.
Eye Irrit. 2 H319 Provoque une sévère irritation des yeux.
STOT SE 3 H336 Peut provoquer somnolence ou vertiges.
Fiche de données de sécurité
selon 1907/2006/CE, Article 31

Date d'impression : 23.11.2016
Révision: 23.11.2016

Nom du produit: trichlorométhane

2.2 Éléments d'étiquetage
- Étiquetage selon le règlement (CE) n° 1272/2008 La substance est classifiée et étiquetée selon le règlement CLP.
- Pictogrammes de danger

GHS06 GHS08

- Mention d'avertissement Danger
- Mentions de danger
  H302 Nocif en cas d’ingestion.
  H331 Toxique par inhalation.
  H315 Provoque une irritation cutanée.
  H331 Provoque une sévère irritation des yeux.
  H351 Susceptible de provoquer le cancer.
  H361d Susceptible de nuire au fœtus.
  H336 Peut provoquer somnolence ou vertiges.
  H372 Risque avéré d’effets graves pour les organes à la suite d’expositions répétées ou d’une exposition prolongée.
- Conseils de prudence
  P260 Ne pas 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.
  P305+P351+P338 EN CAS DE CONTACT AVEC LES YEUX: rincer avec précaution à l’eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.
  P321 Traitement spécifique (voir sur cette étiquette).
  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

3.1 Caractérisation chimique: Substances
- No CAS Désignation
  67-66-3 trichlorométhane
- Code(s) d'identification
  - Numéro CE: 200-663-8
  - Numéro index: 602-006-00-4

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.
Nom du produit: trichlorométhane

- **Après inhalation:**
  Donner de l’air frais. Assistance respiratoire si nécessaire. Tenir le malade au chaud. Si les troubles persistent, consulter un médecin.
  En cas d’inconscience, coucher et transporter la personne en position latérale stable.
- **Après contact avec la peau:** Laver immédiatement à l’eau et au savon et bien rincer.
- **Après contact avec les yeux:**
  Rincer les yeux, pendant plusieurs minutes, sous l’eau courante en écartant bien les paupières. Si les troubles persistent, consulter un médecin.
- **Après ingestion:** Consulter immédiatement un médecin.

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

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

**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.

**5.3 Conseils aux pompiers**

- Équipement spécial de sécurité: Porter un appareil de protection respiratoire.

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

- **6.1 Précautions individuelles, équipement de protection et procédures d’urgence**
  
  Pas nécessaire.

- **6.2 Précautions pour la protection de l’environnement:**
  
  Ne pas rejeter dans les canalisations, dans les eaux de surface et dans les nappes d’eau souterraines.

- **6.3 Méthodes et matériel de confinement et de nettoyage:**
  
  Recueillir les liquides à l’aide d’un produit absorbant (sable, kieselguhr, neutralisant d’acide, liant universel, sciure).
  Évacuer 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.

- **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.
RUBRIQUE 8: Contrôles de l'exposition/protection individuelle

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

· 8.1 Paramètres de contrôle

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

<table>
<thead>
<tr>
<th>67-66-3 trichlorométhane</th>
</tr>
</thead>
<tbody>
<tr>
<td>VME Valeur momentanée: 250 mg/m³, 50 ppm</td>
</tr>
<tr>
<td>Valeur à long terme: 10 mg/m³, 2 ppm</td>
</tr>
<tr>
<td>C2, (11), risque de pénétration percutanée</td>
</tr>
</tbody>
</table>

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

· 8.2 Contrôles de l'exposition

· Equipement de protection individuel:

· Mesures générales de protection et d'hygiène:
  Tenir à l'écart des produits alimentaires, des boissons et de la nourriture pour animaux.
  Retirer immédiatement les vêtements souillés ou humectés.
  Se laver les mains avant les pauses et en fin de travail.
  Éviter tout contact avec les yeux et avec la peau.

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

· Protection des mains:
  Gants de protection

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

· Matériau des gants
  Le choix de gants appropriés ne dépend pas seulement du matériau, mais également d'autres critères de qualité qui peuvent varier d'un fabricant à l'autre.

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

· Protection des yeux:
  Lunettes de protection

· Lunettes de protection hermétiques

(suite page 5)
### RUBRIQUE 9: Propriétés physiques et chimiques

- **9.1 Informations sur les propriétés physiques et chimiques essentielles**
  - **Indications générales**
  - **Aspect:**
    - Forme: Liquide
    - Couleur: Incolore
  - **Odeur:** Agréable
  - **Seuil olfactif:** Non déterminé.
  - **valeur du pH:** Non déterminé.

- **Changement d'état**
  - **Point de fusion:** -63 °C
  - **Point d'ébullition:** 62 °C
  - **Point d'éclair:** 0 °C
  - **Inflammabilité (solide, gazeux):** Non applicable.
  - **Température d'inflammation:** 982 °C
  - **Température de décomposition:** Non déterminé.
  - **Auto-inflammation:** Non déterminé.
  - **Danger d'explosion:** Le produit n'est pas explosif.

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

- **Pression de vapeur à 20 °C:** 210 hPa

- **Densité à 20 °C:** 1,47988 g/cm³
  - **Densité relative:** Non déterminé.
  - **Densité de vapeur:** Non déterminé.
  - **Vitesse d'évaporation:** Non déterminé.

- **Solubilité dans/miscibilité avec l'eau à 20 °C:** 8 g/l

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

- **Viscosité:**
  - Dynamique à 20 °C: 0,56 mPas
  - Cinématique: Non déterminé.

- **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**
- **Décomposition thermique/conditions à éviter:** Pas de décomposition en cas d'usage conforme.
- **10.3 Possibilité de réactions dangereuses:** Aucune réaction dangereuse connue.
- **10.4 Conditions à éviter** Pas d'autres informations importantes disponibles.
- **10.5 Matières incompatibles:** Pas d'autres informations importantes disponibles.
Nom du produit: trichlorométhane

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
  Nocif en cas d'ingestion.
  Toxique par inhalation.

- Valeurs LD/LC50 déterminantes pour la classification:

<table>
<thead>
<tr>
<th>Type</th>
<th>LD50</th>
<th>LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>908 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>Dermique</td>
<td>75 mg/kg (rat)</td>
<td></td>
</tr>
</tbody>
</table>

- Effet primaire d'irritation:
  - Corrosion cutanée/irritation cutanée
    Provoque une irritation cutanée.
  - Lésions oculaires graves/irritation oculaire
    Provoque une sévère irritation des yeux.
  - Sensibilisation respiratoire ou cutanée
    Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

- Effets CMR (cancérogène, mutagène et toxique pour la reproduction)
  - Mutagénicité sur les cellules germinales
    Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
  - Cancérogénicité
    Susceptible de provoquer le cancer.
  - Toxicité pour la reproduction
    Susceptible de nuire au fœtus.
  - Toxicité spécifique pour certains organes cibles - exposition unique
    Peut provoquer somnolence ou vertiges.
  - Toxicité spécifique pour certains organes cibles - exposition répétée
    Risque avéré d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.
  - Danger par aspiration Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

RUBRIQUE 12: Informations écologiques

12.1 Toxicité
- Toxicité aquatique: Pas d'autres informations importantes disponibles.
- Toxicité sur le sol: 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.

12.5 Résultats des évaluations PBT et VPVB
- PBT: Non applicable.
- VPV: Non applicable.

12.6 Autres effets néfastes Pas d'autres informations importantes disponibles.
Fiche de données de sécurité
selon 1907/2006/CE, Article 31

Date d'impression : 23.11.2016
Révision: 23.11.2016

Nom du produit: trichlorométhane

(suite de la page 6)

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.

(suite page 8)
**Nom du produit:** trichlorométhane

- **IMDG**
  - Limited quantities (LQ) 5L
  - Excepted quantities (EQ) Code: E1
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 1000 ml
- "Règlement type" de l'ONU: UN 1888 CHLOROFORME, 6.1, III

**RUBRIQUE 15: Informations relatives à la réglementation**

- **15.1 Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement**
  - Directive 2012/18/UE
  - Substances dangereuses désignées - ANNEXE I la substance n’est pas comprise
  - Catégorie SEVESO H2 TOXICITÉ AIGUË
  - Quantité seuil (tonnes) pour l’application des exigences relatives au seuil bas 50 t
  - Quantité seuil (tonnes) pour l’application des exigences relatives au seuil haut 200 t
  - RÈGLEMENT (CE) N° 1907/2006 ANNEXE XVII Conditions de limitation: 3, 32
- **15.2 Évaluation de la sécurité chimique:** Une évaluation de la sécurité chimique n’a pas été réalisée.

**RUBRIQUE 16: Autres informations**

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

- **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
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - Acute Tox. 4: Toxicité aiguë – Catégorie 4
  - Acute Tox. 3: Toxicité aiguë – Catégorie 3
  - Skin Irrit. 2: Corrosion cutanée/irritation cutanée – Catégorie 2
  - Eye Irrit. 2: Lésions oculaires graves/irritation oculaire – Catégorie 2
  - Carc. 2: Cancérogénicité – Catégorie 2
  - Repr. 2: Toxicité pour la reproduction – Catégorie 2
  - STOT SE 3: Toxicité spécifique pour certains organes cibles (exposition unique) – Catégorie 3
  - STOT RE 1: Toxicité spécifique pour certains organes cibles (exposition répétée) – Catégorie 1
ABSCHNITT 1: Bezeichnung des Stoffs beziehungsweise des Gemischs und des Unternehmens

1.1 Produktidentifikator

- **Handelsname:** Trichlormethan
- **Artikelnummer:** 12540, 12541, 12550, 12551
- **CAS-Nummer:** 67-66-3
- **EG-Nummer:** 200-663-8
- **Indexnummer:** 602-006-00-4

1.2 Relevante identifizierte Verwendungen des Stoffes oder Gemischs und Verwendungen, von denen abgeraten wird

Keine weiteren relevanten Informationen verfügbar.

- **Verwendung des Stoffes / des Gemisches:** Laborchemikalien

1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt

- **Hersteller/Lieferant:**
  - Electron Microscopy Sciences
  - 1560 Industry Road
  - USA-Hatfield, PA 19440
  - Tel: 215-412-8400  Fax: 215-412-8450
  - email: sgkck@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 München: +49 (0)89 19240
Toxikologische Abteilung der II. Medizinischen Klinik
rechts der Isar, Munich. - www.toxinfo.org

- **Auskunftgebender Bereich:** Product safety department
- **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**

  - **GHS06 Totenkopf mit gekreuzten Knochen**
  - **Acute Tox. 3 H331** Giftig bei Einatmen.

- **GHS08 Gesundheitsgefahr**

  - **Carc. 2 H351** Kann vermutlich Krebs erzeugen.
  - **Repr. 2 H361d** Kann vermutlich das Kind im Mutterleib schädigen.
  - **STOT RE 1 H372** Schädigt die Organe bei längerer oder wiederholter Exposition.

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GHS07

Acute Tox. 4 H302 Gesundheitsschädlich bei Verschlucken.
Skin Irrit. 2 H315 Verursacht Hautreizungen.
Eye Irrit. 2 H319 Verursacht schwere Augenreizung.
STOT SE 3 H336 Kann Schläfrigkeit und Benommenheit verursachen.

2.2 Kennzeichnungselemente

Kennzeichnung gemäß Verordnung (EG) Nr. 1272/2008
Der Stoff ist gemäß CLP-Verordnung eingestuft und gekennzeichnet.

Gefahrenpiktogramme

GHS06  GHS08

Signalwort Gefahr

Gefahrenhinweise
H302 Gesundheitsschädlich bei Verschlucken.
H331 Giftig bei Einatmen.
H315 Verursacht Hautreizungen.
H319 Verursacht schwere Augenreizung.
H351 Kann vermutlich Krebs erzeugen.
H361d Kann vermutlich das Kind im Mutterleib schädigen.
H336 Kann Schläfrigkeit und Benommenheit verursachen.
H372 Schädigt die Organe bei längerer oder wiederholter Exposition.

Sicherheitshinweise
P260 Staub/Rauch/Gas/Nebel/Dampf/Aerosol nicht einatmen.
P280 Schutzhandschuhe/Schutzkleidung/Augenschutz/Gesichtsschutz tragen.
Eventuell vorhandene Kontaktlinsen nach Möglichkeit entfernen. Weiter spülen.
P321 Besondere Behandlung (siehe auf diesem Kennzeichnungsetikett).
P405 Unter Verschluss aufbewahren.

2.3 Sonstige Gefahren

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

ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

3.1 Chemische Charakterisierung: Stoffe
CAS-Nr. Bezeichnung
67-66-3 Trichlormethan
Identifikationsnummer(n)
EG-Nummer: 200-663-8
Sicherheitsdatenblatt
gemäß 1907/2006/EG, Artikel 31

Druckdatum: 23.11.2016
überarbeitet am: 23.11.2016

Handelsname: Trichlormethan

- Indexnummer: 602-006-00-4

( Fortsetzung von Seite 2)

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:
  Frischluftzufuhr, gegebenenfalls Atemspende, Wärme. Bei anhaltenden Beschwerden Arzt konsultieren.
- Bewusstlosigkeit Lagerung und Transport in stabil er Seitenlage.
- Nach Hautkontakt:
  Sofort mit Wasser und Seife abwaschen und gut nachspülen.
- Nach Augenkontakt:
  Augen mehrere Minuten bei geöffnetem Lidspalt unter fließendem Wasser spülen. Bei anhaltenden Beschwerden Arzt konsultieren.
- Nach Verschlucken:
  Sofort Arzt aufsuchen.

ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

- 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.

ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

- 6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren
  Nicht erforderlich.
- 6.2 Umweltschutzmaßnahmen: Nicht in die Kanalisation/Oberflächenwasser/Grundwasser gelangen lassen.
- 6.3 Methoden und Material für Rückhaltung und Reinigung:
  Mit flüssigkeitsbindendem Material (Sand, Kieselgur, Säurebinder, Universalbinder, Sägemehl) aufnehmen. Kontaminiertes Material als Abfall nach Abschnitt 13 entsorgen.
  Für ausreichende Lüftung sorgen.
- 6.4 Verweis auf andere Abschnitte
  Informationen zur sicheren Handhabung siehe Abschnitt 7.
  Informationen zur persönlichen Schutzausrüstung siehe Abschnitt 8.
  Informationen zur Entsorgung siehe Abschnitt 13.

ABSCHNITT 7: Handhabung und Lagerung

- 7.1 Schutzmaßnahmen zur sicheren Handhabung
  Für gute Belüftung/Absaugung am Arbeitsplatz sorgen.
- Hinweise zum Brand- und Explosionsschutz: Keine besonderen Maßnahmen erforderlich.

(Fortsetzung auf Seite 4)
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

<table>
<thead>
<tr>
<th>Bestandteile mit arbeitsplatzbezogenen, zu überwachenden Grenzwerten:</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-66-3 Trichlormethan</td>
</tr>
<tr>
<td>AGW Langzeitwert: 2,5 mg/m³, 0,5 ml/m³</td>
</tr>
<tr>
<td>2(II); DFG, EU, Y, H, X</td>
</tr>
</tbody>
</table>

- 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.
    - Berührung mit den Augen und der Haut vermeiden.

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

  - Handschuh:
    - Schutzhandschuhe
    - Auswahl des Handschuhmaterials unter Beachtung der Durchbruchzeiten, Permeationsraten und der Degradation.

  - Handschuhandmaterial
    - Die Auswahl eines geeigneten Handschuhmaterials ist nicht nur vom Material, sondern auch von weiteren Qualitätsmerkmalen abhängig und von Hersteller zu Hersteller unterschiedlich.

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

  - Augenschutz:
    - Schutzbrille
### Abschnitt 9: Physikalische und chemische Eigenschaften

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

- **Allgemeine Angaben**
  - **Aussehen:** Flüssig
  - **Farbe:** Farblos
  - **Geruch:** Angenehm
  - **Geruchsschwelle:** Nicht bestimmt.
  - **pH-Wert:** Nicht bestimmt.

- **Zustandsänderung**
  - **Schmelzpunkt/Schmelzbereich:** -63 °C
  - **Siedepunkt/Siedebereich:** 62 °C

- **Flammpunkt:** 0 °C

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

- **Zündtemperatur:** 982 °C

- **Zersetzungstemperatur:** Nicht bestimmt.

- **Selbstentzündlichkeit:** Nicht bestimmt.

- **Explosionsgefahr:** Das Produkt ist nicht explosionsgefährlich.

- **Explosionsgrenzen:**
  - **Untere:** Nicht bestimmt.
  - **Obere:** Nicht bestimmt.

- **Dampfdruck bei 20 °C:** 210 hPa

- **Dichte bei 20 °C:** 1,47988 g/cm³

- **Relative Dichte:** Nicht bestimmt.

- **Dampfdichte:** Nicht bestimmt.

- **Verdampfungsgeschwindigkeit:** Nicht bestimmt.

- **Löslichkeit in / Mischbarkeit mit Wasser bei 20 °C:** 8 g/l

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

- **Viskosität:**
  - **Dynamisch bei 20 °C:** 0,56 mPas
  - **Kinematisch:** Nicht bestimmt.

- **9.2 Sonstige Angaben**
  - Keine weiteren relevanten Informationen verfügbar.

### Abschnitt 10: Stabilität und Reaktivität

#### 10.1 Reaktivität

Keine weiteren relevanten Informationen verfügbar.


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**10.2 Chemische Stabilität**
- **Thermische Zersetzung / zu vermeidende Bedingungen:** Keine Zersetzung bei bestimmungsgemäßer Verwendung.

**10.3 Möglichkeit gefährlicher Reaktionen** Keine gefährlichen Reaktionen bekannt.

**10.4 Zu vermeidende Bedingungen** Keine weiteren relevanten Informationen verfügbar.

**10.5 Unverträgliche Materialien:** Keine weiteren relevanten Informationen verfügbar.

**10.6 Gefährliche Zersetzungsprodukte:** Keine gefährlichen Zersetzungsprodukte bekannt.

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**ABSCHNITT 11: Toxikologische Angaben**

**11.1 Angaben zu toxikologischen Wirkungen**
- **Akute Toxizität**
  Gesundheitsschädlich bei Verschlucken. Giftig bei Einatmen.

**Einstufungsrelevante LD/LC50-Werte:**

<table>
<thead>
<tr>
<th>oral</th>
<th>LD₅₀</th>
<th>908 mg/kg (rat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>dermal</td>
<td>LD₅₀</td>
<td>75 mg/kg (rat)</td>
</tr>
</tbody>
</table>

- **Primäre Reizwirkung:**
  - Ätz-/Reizwirkung auf die Haut
  - Verursacht Hautreizungen.

- **Schwere Augenschädigung/-reizung**
  - Verursacht schwere Augenreizung.

- **Sensibilisierung der Atemwege/Haut**
  - Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

- **CMR-Wirkungen (krebszerzeugende, erbgutverändernde und fortpflanzungsgefährdende Wirkung)**
  - Keimzell-Mutagenität
  - Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

- **Karzinogenität**
  - Kann vermutlich Krebs erzeugen.

- **Reproduktionstoxizität**
  - Kann vermutlich das Kind im Mutterleib schädigen.

- **Spezifische Zielorgan-Toxizität bei einmaliger Exposition**
  - Kann Schlaflosigkeit und Benommenheit verursachen.

- **Spezifische Zielorgan-Toxizität bei wiederholter Exposition**
  - Schädigt die Organe bei längerer oder wiederholter Exposition.

- **Aspirationsgefahr**
  - Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

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**ABSCHNITT 12: Umweltbezogene Angaben**

**12.1 Toxizität**
- **Aquatische Toxizität:** Keine weiteren relevanten Informationen verfügbar.

**12.2 Persistenz und Abbaubarkeit**
- Keine weiteren relevanten Informationen verfügbar.

**12.3 Bioakkumulationspotenzial**
- Keine weiteren relevanten Informationen verfügbar.

**12.4 Mobilität im Boden**
- Keine weiteren relevanten Informationen verfügbar.

**Weitere ökologische Hinweise:**
- **Allgemeine Hinweise:** Wassergefährdungsklasse 3 (Listeneinstufung): stark wassergefährdend
  - Nicht in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen, auch nicht in kleinen Mengen. Trinkwassergefährdung bereits beim Auslaufen geringster Mengen in den Untergrund.

- **12.5 Ergebnisse der PBT- und vPvB-Beurteilung**
  - **PBT:** Nicht anwendbar.
  - **vPvB:** Nicht anwendbar.

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- 12.6 Andere schädliche Wirkungen Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 13: Hinweise zur Entsorgung

- 13.1 Verfahren der Abfallbehandlung

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

ABSCHNITT 14: Angaben zum Transport

- 14.1 UN-Nummer
  - ADR, IMDG, IATA UN1888

- 14.2 Ordnungsgemäße UN-Versandbezeichnung
  - ADR
  - IMDG, IATA 1888 CHLOROFORM

- 14.3 Transportgefahrenklassen
  - ADR, IMDG, IATA
    - Klasse 6.1 Giftige Stoffe
    - Gefahrzettel 6.1

- 14.4 Verpackungsgruppe
  - ADR, IMDG, IATA III

- 14.5 Umweltgefahren:
  - Nicht anwendbar.

- 14.6 Besondere Vorsichtsmaßnahmen für den Verwender
  - Achtung: Giftige Stoffe
  - Kemler-Zahl: 60
  - EMS-Nummer: 6.1-02
  - Segregation groups Liquid halogenated hydrocarbons
  - Stowage Category A
  - Stowage Code SW2 Clear of living quarters.

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

- Transport/weitere Angaben:
  - ADR
    - Begrenzte Menge (LQ) 5L
    - Freigestellte Mengen (EQ) Code: E1
      Höchste Nettomenge je Innenverpackung: 30 ml
      Höchste Nettomenge je Außenverpackung: 1000 ml
    - Beförderungskategorie 2
    - Tunnelbeschränkungscode E
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- IMDG
- Limited quantities (LQ) 5L
- Excepted quantities (EQ) Code: E1
  Maximum net quantity per inner packaging: 30 ml
  Maximum net quantity per outer packaging: 1000 ml
- UN "Model Regulation": UN 1888 CHLOROFORM, 6.1, III

ABSCHNITT 15: Rechtsvorschriften

- 15.1 Vorschriften zu Sicherheit, Gesundheits- und Umweltschutz/spezifische Rechtsvorschriften für den Stoff oder das Gemisch
- Richtlinie 2012/18/EU
- Namentlich aufgeführte gefährliche Stoffe - ANHANG I Der Stoff ist nicht enthalten.
- Seveso-Kategorie H2 AKUT TOXISCH
- Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der unteren Klasse 50 t
- Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der oberen Klasse 200 t
- VERORDNUNG (EG) Nr. 1907/2006 ANHANG XVII Beschränkungsbedingungen: 3, 32

- Nationale Vorschriften:
  - Technische Anleitung Luft:
    
    | Klasse | Anteil in % |
    |--------|-------------|
    | I      | 100,0       |

- Wassergefährdungsklasse: WGK 3 (Listeneinstufung): stark 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.

- Abkürzungen und Akronym e:
  - 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
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - Acute Tox. 4: Akute Toxizität – Kategorie 4
  - Acute Tox. 3: Akute Toxizität – Kategorie 3
  - Skin Irrit. 2: Hautreizende/-ätzende Wirkung – Kategorie 2
  - Eye Irrit. 2: Schwere Augenschädigung/Augenreizung – Kategorie 2
  - Carc. 2: Karzinogenität – Kategorie 2
  - Repr. 2: Reproduktionstoxizität – Kategorie 2
  - STOT SE 3: Spezifische Zielorgan-Toxizität (einmalige Exposition) – Kategorie 3
  - STOT RE 1: Spezifische Zielorgan-Toxizität (wiederholte Exposition) – Kategorie 1
**SEZIONE 1: Identificazione della sostanza o della miscela e della società/impresa**

- **1.1 Identificatore del prodotto**
  - **Denominazione commerciale:** triclorometano
  - **Articolo numero:** 12540, 12541, 12550, 12551
  - **Numero CAS:**
  - 67-66-3
  - **Numeri CE:**
  - 200-663-8
  - **Numero indice:**
  - 602-006-00-4
- **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 Ellba 140
    - 00138 Rome, Italy
    - Tel: 39 06 8800211
    - Fax: 39 30 06 8815313
    - Web: www.sichim.com
  - **Informazioni fornite da:** Product safety department
- **1.4 Numero telefonico di emergenza:**
  - ChemTrec 1-800-424-9300 Contract CCN7661
  - 1-703-527-3887

**SEZIONE 2: Identificazione dei pericoli**

- **2.1 Classificazione della sostanza o della miscela**
- **Classificazione secondo il regolamento (CE) n. 1272/2008**
  - **GHS06 teschio e tibie incrociate**
  - Acute Tox. 3 H331 Tossico se inalato.
  - **GHS08 pericolo per la salute**
  - Carc. 2 H351 Sospettato di provocare il cancro.
  - Repr. 2 H361d Sospettato di nuocere al feto.
  - STOT RE 1 H372 Provoca danni agli organi in caso di esposizione prolungata o ripetuta.
  - **GHS07**

(continua a pagina 2)
Scheda di dati di sicurezza
ai sensi del regolamento 1907/2006/CE, Articolo 31
Denominazione commerciale: triclorometano

Acute Tox. 4 H302 Nocivo se ingerito.
Skin Irrit. 2 H315 Provoca irritazione cutanea.
Eye Irrit. 2 H319 Provoca grave irritazione oculare.
STOT SE 3 H336 Può provocare sonnolenza o vertigini.

2.2 Elementi dell'etichetta
- Etichettatura secondo il regolamento (CE) n. 1272/2008
  La sostanza è classificata ed etichettata conformemente al regolamento CLP.
- Pittogrammi di pericolo
  GHS06 GHS08

- Avvertenza Pericolo
- Indicazioni di pericolo
  H302 Nocivo se ingerito.
  H331 Tossico se inalato.
  H315 Provoca irritazione cutanea.
  H319 Provoca grave irritazione oculare.
  H351 Sospettato di provocare il cancro.
  H361d Sospettato di nuocere al feto.
  H336 Può provocare sonnolenza o vertigini.
  H36 Può provocare sonnolenza o vertigini.
  H372 Provoca danni agli organi in caso di esposizione prolungata o ripetuta.
- Consigli di prudenza
  P260 Non respirare la polvere/i fumi/i gas/la nebbia/i vapor/i/gli aerosol.
  P280 Indossare guanti/indumenti protettivi/Proteggere gli occhi/il viso.
  P305+P351+P338 IN CASO DI CONTATTO CON GLI OCCHI: sciacquare accuratamente per parecchi minuti.
  Togliere le eventuali lenti a contatto se è agevole farlo. Continuare a sciacquare.
  P321 Trattamento specifico (vedere su questa etichetta).
  P405 Conservare sotto chiave.
  P501 Smaltire il prodotto/recipiente in conformità con le disposizioni locali / regionali / nazionali / internazionali.

2.3 Altri pericoli
- Risultati della valutazione PBT e vPvB
  - PBT: Non applicabile.
  - vPvB: Non applicabile.

SEZIONE 3: Composizione/informazioni sugli ingredienti

3.1 Caratteristiche chimiche: Sostanze
- Numero CAS
  67-66-3 triclorometano
- Numeri di identificazione
- Numeri CE: 200-663-8
- Numero indice: 602-006-00-4
SEZIONE 4: Misure di primo soccorso

- 4.1 Descrizione delle misure di primo soccorso
- Indicazioni generali:
  I sintomi di avvelenamento possono comparire dopo molte ore, per tale motivo è necessaria la sorveglianza di un medico nelle 48 ore successive all’incidente.
- Inalazione:
  Portare in zona ben areata, praticare eventualmente la respirazione artificiale, tenere al caldo. Se i disturbi persistono consultare il medico.
- Contatto con la pelle:
  Lavare immediatamente con acqua e sapone sciacquando accuratamente.
- Contatto con gli occhi:
  Lavare con acqua corrente per diversi minuti tenendo le palpebre ben aperte. Se persiste il dolore consultare il medico.
- Ingestione:
  Chiamare subito il medico.

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 resistenti 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: 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.
- Indicazioni in caso di incendio ed esplosione:
  Non sono richiesti provvedimenti particolari.
- 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.
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:

<table>
<thead>
<tr>
<th>67-66-3 triclorometano</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWA Valore a lungo termine: 49 mg/m³, 10 ppm</td>
</tr>
<tr>
<td>A3</td>
</tr>
<tr>
<td>VL Valore a lungo termine: 10 mg/m³, 2 ppm</td>
</tr>
<tr>
<td>Pelle</td>
</tr>
</tbody>
</table>

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

- 8.2 Controlli dell'esposizione

- Mezzi protettivi individuali:

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

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

- Guanti protettivi:

  Guanti protettivi

  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.

- Tempo di permeazione del materiale dei guanti
  Richiedere dal fornitore dei guanti il tempo di passaggio preciso il quale deve essere rispettato.

- Occhiali protettivi:

  Occhiali protettivi

  Occhiali protettivi a tenuta
### SEZIONE 9: Proprietà fisiche e chimiche

| · 9.1 Informazioni sulle proprietà fisiche e chimiche fondamentali |
| · Indicazioni generali |
| · Aspetto: |
|   · Forma: Liquido |
|   · Colore: Incolore |
| · Odore: Gradevole |
| · Soglia olfattiva: Non definito. |
| · valori di pH: Non definito. |
| · Cambiamento di stato |
|   · Temperatura di fusione/ambito di fusione: -63 °C |
|   · Temperatura di ebollizione/ambito di ebollizione: 62 °C |
| · Punto di infiammabilità: 0 °C |
| · Infiammabilità (solido, gassoso): Non applicabile. |
| · Temperatura di accensione: 982 °C |
| · Temperatura di decomposizione: Non definito. |
| · Autoaccensione: Non definito. |
| · Pericolo di esplosione: Prodotto non esplosivo. |
| · Limiti di infiammabilità: |
|   · Inferiore: Non definito. |
|   · Superiore: Non definito. |
| · Tensione di vapore a 20 °C: 210 hPa |
| · Densità a 20 °C: 1,47988 g/cm³ |
| · Densità relativa Non definito. |
| · Densità del vapore Non definito. |
| · Velocità di evaporazione Non definito. |
| · Solubilità in/Miscibilità con acqua a 20 °C: 8 g/l |
| · Coefficiente di distribuzione (n-Octanol/acqua): Non definito. |
| · Viscosità: |
|   · Dinamica a 20 °C: 0,56 mPas |
|   · Cinemática: Non definito. |
| · 9.2 Altre informazioni Non sono disponibili altre informazioni. |

### SEZIONE 10: Stabilità e reattività

| · 10.1 Reattività Non sono disponibili altre informazioni. |
| · 10.2 Stabilità chimica |
| · Decomposizione termica/condizioni da evitare: Il prodotto non si decompone se utilizzato secondo le norme. |
| · 10.3 Possibilità di reazioni pericolose Non sono note reazioni pericolose. |
| · 10.4 Condizioni da evitare Non sono disponibili altre informazioni. |
| · 10.5 Materiali incompatibili: Non sono disponibili altre informazioni. |

(continua a pagina 6)
Denominazione commerciale: triclorometano

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
  Nocivo se ingerito.
  Tossico se inalato.

- Valori LD/LC50 rilevanti per la classificazione:

<table>
<thead>
<tr>
<th></th>
<th>LD50</th>
<th>LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orale</td>
<td>908 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>Cutaneo</td>
<td>75 mg/kg (rat)</td>
<td></td>
</tr>
</tbody>
</table>

- Irritabilità primaria:

  - Corrosione/irritazione cutanea
    Provoca irritazione cutanea.
  - Lesioni oculari gravi/irritazioni oculari gravi
    Provoca grave irritazione oculare.
  - Sensibilizzazione respiratoria o cutanea
    Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
  - Effetti CMR (cancerogenicità, mutagenicità e tossicità per la riproduzione)
    - Mutagenicità delle cellule germinali
      Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
    - Cancerogenicità
      Sospettato di provocare il cancro.
    - Tossicità per la riproduzione
      Sospettato di nuocere al feto.
    - Tossicità specifica per organi bersaglio (STOT) - esposizione singola
      Può provocare sonnolenza o vertigini.
    - Tossicità specifica per organi bersaglio (STOT) - esposizione ripetuta
      Provoca danni agli organi in caso di esposizione prolungata o ripetuta.
    - Pericolo in caso di aspirazione
      Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

SEZIONE 12: Informazioni ecologiche

12.1 Tossicità

- Tossicità acquatica: Non sono disponibili altre informazioni.
- 12.2 Persistenza e degradabilità: Non sono disponibili altre informazioni.
- 12.3 Potenziale di bioaccumulo: Non sono disponibili altre informazioni.
- 12.4 Mobilità nel suolo: Non sono disponibili altre informazioni.

- Ulteriori indicazioni in materia ambientale:

  - Ulteriori indicazioni:
    Pericolosità per le acque classe 3 (D) (Classif. secondo le liste): molto pericoloso
    Non immettere nelle acque freatiche, nei corsi d’acqua o nelle fognature, anche in piccole dosi.
    Pericolo per le acque potabili anche in caso di perdite nel sottosuolo di quantità minime di prodotto.
  - 12.5 Risultati della valutazione PBT e vPvB
    - PBT: Non applicabile.
    - vPvB: Non applicabile.
  - 12.6 Altri effetti avversi: Non sono disponibili altre informazioni.
**SEZIONE 13: Considerazioni sullo smaltimento**

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

**SEZIONE 14: Informazioni sul trasporto**

- **14.1** Numero ONU
  - **ADR, IMDG, IATA** UN1888
- **14.2** Nome di spedizione dell'ONU
  - **ADR**
  - **IMDG, IATA** 1888 CLOROFORMIO
  - **CHLOROFORM**
- **14.3** Classi di pericolo connesso al trasporto
  - **ADR, IMDG, IATA**
  - **Classe** 6.1 Materie tossiche
  - **Etichetta** 6.1
- **14.4** Gruppo di imballaggio
  - **ADR, IMDG, IATA** III
- **14.5** Pericoli per l'ambiente:
  - **Non applicabile.**
- **14.6** Precauzioni speciali per gli utilizzatori
  - **Attenzione:** Materie tossiche
  - **Numero Kemler:** 60
  - **Numero EMS:** 6.1-02
  - **Segregation groups**
  - **Stowage Category** A
  - **Stowage Code** SW2 Clear of living quarters.
- **14.7** Trasporto di rinfuse secondo l'allegato II di MARPOL ed il codice IBC
  - **Non applicabile.**

**Trasporto/alteriori indicazioni:**

- **ADR**
  - **Quantità limitate (LQ)** 5L
  - **Codice: E1**
  - **Quantità massima netta per imballaggio interno:** 30 ml
  - **Quantità massima netta per imballaggio esterno:** 1000 ml
- **Categoria di trasporto** 2
- **Codice di restrizione in galleria** E
- **IMDG**
  - **Limited quantities (LQ)** 5L

(continua a pagina 8)
Denominazione commerciale: triclorometano

### SEZIONE 15: Informazioni sulla regolamentazione

- **Excepted quantities (EQ)**
  - Code: E1
  - Maximum net quantity per inner packaging: 30 ml
  - Maximum net quantity per outer packaging: 1000 ml

- **UN "Model Regulation":**
  - UN 1888 CLOROFORMIO, 6.1, III

- **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 La sostanza non è contenuta
  - Categoria Seveso H2 TOSSICITÀ ACUTA
  - Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia inferiore 50 t
  - Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia superiore 200 t
  - REGOLAMENTO (CE) n. 1907/2006 ALLEGATO XVII Restrizioni: 3, 32

- **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.

### 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
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Acute Tox. 4: Tossicità acuta – Categoria 4
- Acute Tox. 3: Tossicità acuta – Categoria 3
- Skin Irrit. 2: Corrosione/irritazione della pelle – Categoria 2
- Eye Irrit. 2: Gravi lesioni oculari/irritazione oculare – Categoria 2
- Carc. 2: Cancerogenicità – Categoria 2
- Repr. 2: Tossicità per la riproduzione – Categoria 2
- STOT SE 3: Tossicità specifica per organi bersaglio (esposizione singola) – Categoria 3
- STOT RE 1: Tossicità specifica per organi bersaglio (esposizione ripetuta) – Categoria 1
물질안전보건자료

1 화학제품과 회사에 관한 정보

· 제품 식별자
· 제품명: CHLOROFORM, REAGENT ACS
· 상품번호: 12540, 12541, 12550, 12551
· CAS-번호: 67-66-3
· EC-번호: 200-663-8
· 색인 번호: 602-006-00-4
· 제품의 권고 용도와 사용성의 제한: 실험실 화학용
· 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

· 손상질 또는 혼합물의 분류
  두개골과 대퇴골
  급성 독성 - 증상 - 구분 3 H331 흡입하면 유독함
  건강에 위험
  발암성 - 구분 2 H351 암을 일으킬 것으로 의심됨
  생식독성 - 구분 2 H361 태아 또는 생식능력에 손상을 일으킬 것으로 의심됨
  특정표적장기 독성 - 반복 노출 - 구분 1 H372 장기간 또는 반복노출 되면 신체 중에 손상을 일으킴

! 급성 독성·경구 - 구분 4 H302 삽키면 유해함
피부 부식성/피부 자극성 - 구분 2 H315 피부에 자극을 일으킴

(2쪽에계속)
제품명: CHLOROFORM, REAGENT ACS

- 심한 눈 손상성/눈 자극성 - 구분 2  
  H319 눈에 심한 자극을 일으킴
- 특정조직장기 독성 - 1회 노출 - 구분 3  
  H336 중독 또는 허혈증을 일으킬 수 있음

GHS 라벨 요소

GHS06  GHS08

신호어 위험

유해 위험 문구
- 심한 눈 손상성, 눈 자극성
- 눈에 심한 자극을 일으킴
- 특정조직장기 독성 - 1회 노출 - 중독 또는 허혈증을 일으킬 수 있음

물질안전보건자료

3 구성성분의 명칭 및 함유량

- 화학적 특성: 화학물질
- CAS-번호 표시
  67-66-3 CHLOROFORM, REAGENT ACS
- 식별 번호
  EC 번호: 200-663-8
  색인 번호: 602-006-00-4

4 응급조치 요령

응급조치요령 내용

- 중독 중상은 몇 시간이 지난 뒤에 발생할 수 있다. 따라서 사고가 발생한 후에 적어도 48시간 동안 의료진의 관찰을 받아야 한다.
물질안전보건자료
GHS에 따라

제품명: CHLOROFORM, REAGENT ACS

- 흡입했을 때:
  신선한 공기를 씨고, 필요할 경우에는 산소 호흡기를 도우는 도움을 받는다. 환자를 따뜻하게 하고, 중상이 지속될 경우에는 의료진의 도움을 구한다.
  환자가 의식을 잃었을 경우에는 안전한 자세에서 환자를 운반한다.
- 피부에 접촉했을 때: 즉시물과 비누로 씻고 잘씻는다.
- 눈에 들어갔을 때: 흐르는 물에 눈을 몇분동안 씻어내고, 중상이 지속될 경우에는 의사와 상담한다.
- 맥았을 때: 즉시 의사의 도움을 구한다.
- 기타 의사의 주의사항:
  가장 중요한 급·단순 증상 및 영향 추가적인 정보가 존재하지 않습니다.
  특화적인 의료조치 및 특별조치가 필요함을 시사하는 징후 추가적인 정보가 존재하지 않습니다.

5 폭발 화재시 대처방법

- 소화제:
  적절한 소화제:
  이산화탄소, 산화응석, 허이가루 또는 물 방사용을 사용하고, 다른 화재는 물을 분사하거나 암코올을 함유한 거품으로 한다.
- 본 화학물질이나 화합물에서 발생하는 특별 유해성 추가적인 정보가 존재하지 않습니다.
- 소방관에 대한 경고사항:
  화재 진압 시 심취할 보호구 및 예방조치: 호흡보호장비설치.

6 누출 사고 시 대처방법

- 개인적 예방조치, 보호장비 및 용급처치 절차 필요없음.
- 환경 관련 예방조치: 하수도망/해수면위의물/지하수로도달하지 않게한다.
- 필수 및 정화 방법과 소재:
  액체 가공합된 물질(모래, 규조토, 산성갈물, 일반갈물, 톱밥)에 흡입되도록 한다.
  황록 13에 따라 오염된 물질을 쓰레기로 처분한다.
- 충분한 환기가 되도록 한다.
- 탈색처치 조사
  안전관리자에 대한 정보는 제7장을 참고하시오.
  개인보호장비에 대한 정보는 제8장을 참고하시오.
  쓰레기 처리에 대한 정보는 제13장을 참고하시오.

7 취급 및 저장방법

- 취급:
  안전 취급을 위한 예방조치 작업장에서는 통풍이 잘되고/습기제거기가 잘되게 주의한다.
  화재 및 폭발 사고 예방책에 관한 정보: 특별한 조치가 필요없음.
- 환경위험성 등 안전 저장 조건
  보관:
  안전한 저장 방법: 특별한 요구사항이 없음.
  화학물질 보관 시설에 대한 보관 관련 정보: 필요없음
  보관 조건에 관한 추가적인 정보: 용기형제지갑형폐쇄보관한다.
  구체적 최소 사용자 추가적인 정보가 존재하지 않습니다.

8 노출방지 및 개인보호구

- 현장시설 디자인에 대한 추가정보: 다이아 상의 자료는 없음. 항목 7을 참고하시오.
제품명: CHLOROFORM, REAGENT ACS

<table>
<thead>
<tr>
<th>물리적 특성</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>색상:</td>
<td>색소가없는</td>
</tr>
<tr>
<td>냄새:</td>
<td>유쾌한 (5쪽에계속)</td>
</tr>
</tbody>
</table>

9 물리화학적 특성

- 기본 물리 및 화학적 특성에 대한 정보
- 일반정보
- 외형
  - 물리적 상태: 액체의
  - 색: 색소가없는
  - 냄새: 유쾌한

-exp

- 통제 변수

화학물질의 노출기준, 생물학적 노출기준 등:

67-66-3 CHLOROFORM, REAGENT ACS

<table>
<thead>
<tr>
<th>TLV (KR)</th>
<th>장기간의값: 50 mg/m³, 10 ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>IOELV (EU)</td>
<td>장기간의값: 10 mg/m³, 2 ppm</td>
</tr>
<tr>
<td>Skin</td>
<td></td>
</tr>
<tr>
<td>PEL (US)</td>
<td>최고노출기준: 240 mg/m³, 50 ppm</td>
</tr>
<tr>
<td>REL (US)</td>
<td>단기간의값: 9.78* mg/m³, 2* ppm</td>
</tr>
<tr>
<td>*60-min; See Pocket Guide App. A</td>
<td></td>
</tr>
<tr>
<td>TLV (US)</td>
<td>장기간의값: 49 mg/m³, 10 ppm</td>
</tr>
</tbody>
</table>

추가 정보: 제조할 당시에 유호한 복록을 기초로 사용했다.

- 보호장비

보호용 장갑

장갑재질은제품/원료/조제물투과시키지않아야하고, 내구성이있어야한다.

테스트를 하지 않아기 때문에 제품/조제/화학혼합물에 적합한 장갑재질에 대한 추천이 없다.

투과 시간, 투과율과 저하를 고려해서 장갑 제료를 선택한다.

- 보호안경

착조이있는 보안경
제품명: CHLOROFORM, REAGENT ACS

<table>
<thead>
<tr>
<th>물질안전보건자료</th>
<th>GHS에 따라</th>
</tr>
</thead>
<tbody>
<tr>
<td>후각역치: 악취하지 않음.</td>
<td></td>
</tr>
<tr>
<td>pH: 악취하지 않음.</td>
<td></td>
</tr>
<tr>
<td>상태변화: 녹는점/얼어지는점: -63 °C</td>
<td>초기 걸은점과 끓는점 범위: 62 °C</td>
</tr>
<tr>
<td>인화점: 0 °C</td>
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</tr>
<tr>
<td>인화성(고체, 기체):</td>
<td>해당사항 없음.</td>
</tr>
<tr>
<td>점화온도: 982 °C</td>
<td></td>
</tr>
<tr>
<td>인화성:</td>
<td></td>
</tr>
<tr>
<td>인화성(고체, 기체):</td>
<td></td>
</tr>
<tr>
<td>반응성:</td>
<td></td>
</tr>
<tr>
<td>추가적인 정보가 존재하지 않습니다.</td>
<td></td>
</tr>
<tr>
<td>증기압: 20 °C: 210 hPa</td>
<td></td>
</tr>
<tr>
<td>밀도: 20 °C: 1.47988 g/cm³</td>
<td></td>
</tr>
<tr>
<td>비용: 악취하지 않음.</td>
<td></td>
</tr>
<tr>
<td>증기밀도: 악취하지 않음.</td>
<td></td>
</tr>
<tr>
<td>증발 속도: 악취하지 않음.</td>
<td></td>
</tr>
<tr>
<td>용해도: 물의 경우: 8 g/l</td>
<td></td>
</tr>
<tr>
<td>n 옥탄올/물 분배계수: 악취하지 않음.</td>
<td></td>
</tr>
<tr>
<td>점도:</td>
<td></td>
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<tr>
<td>역학성의 경우: 0.56 mPas</td>
<td></td>
</tr>
<tr>
<td>동점성: 악취하지 않음.</td>
<td></td>
</tr>
<tr>
<td>기타 정보: 추가적인 정보가 존재하지 않습니다.</td>
<td></td>
</tr>
</tbody>
</table>

10 안정성 및 반응성

- 반응성 추가적인 정보가 존재하지 않습니다.
- 화학적 안정성: 추가적인 정보가 존재하지 않습니다.
- 화학적 안정성 및 유해 반응의 가능성 / 피해가 할 조건: 규정에따라 사용할 경우해체는없다
- 유해반응 가능성 위험한반응으로는알려지지않았다.
- 피해가 할 조건: 추가적인 정보가 존재하지 않습니다.
- 응화 금지 물질: 추가적인 정보가 존재하지 않습니다.
- 유해분해물질: 위험성있는분해물들은알려지지 않았다.

11 독성에 관한 정보

- LD/LC50-수치에 따른 분류:
  - 구강의 LD50: 908 mg/kg (rat)
제품명: CHLOROFORM, REAGENT ACS

피부의 LD50: 75 mg/kg (rat)

· 일반적 자극 효과:
  · 피부 부식성 또는 자극성: 피부와 접촉을 자극한다.
  · 심한 눈 손상 또는 자극성: 자극
  · 감각성: 민감한 영향을 앓는 것으로 알려져있다.
  · 다음 종류의 잠재적인 효과에 대한 정보
    · CMR-효과 (암 유발, 돌연변이성 그리고 생식 독성): 발암성 - 구분 2, 생식독성 - 구분 2

12 환경에 미치는 영향

· 독성
  · 수생특성: 추가적인 정보가 존재하지 않습니다.
  · 지속성 및 분해성: 추가적인 정보가 존재하지 않습니다.
  · 환경 시스템에서의 행동:
    · 생물농축 잠재성: 추가적인 정보가 존재하지 않습니다.
    · 토양내 이동성: 추가적인 정보가 존재하지 않습니다.
    · 추가적인 생태학 정보:
      · 일반 특성:
        수질오염등급 3(목록분류): 심하게수질오염이된다.
      · PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 전투성, 고 생물농축성 물질) 평가 결과
        PBT(잔류성, 생물농축성, 독성 물질): 해당사항 없음.
        vPvB(고 전투성, 고 생물농축성 물질): 해당사항 없음.
      · 기타 부작용 추가적인 정보가 존재하지 않습니다.

13 폐기시 주의사항

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

14 운송에 필요한 정보

· 유전 번호: UN1888
· UN 적정 선적명: CHLOROFORM
· ADR, IMDG, IATA: 1888 CHLOROFORM
제품명: CHLOROFORM, REAGENT ACS

교통 위험 클래스
ADR, IMDG, IATA

등급
6.1 독성물질
위험 물질 라벨
6.1

용기등급
ADR, IMDG, IATA
III

환경적 유해물질
해당사항 없음.

이용자 특별 예방조치
경고: 독성물질
위험 코드:
60
EMS-번호:
6.1-02
Separation groups
Liquid halogenated hydrocarbons
Stowage Category
A
Stowage Code
SW2 Clear of living quarters.

MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(bulk) 운송
해당사항 없음.

운송/추가 정보:

ADR

한정 수량 (LQ)
5L
게임 코드 (EQ)
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

운송 구분
터널 제한 코드
2
E

IMDG

한정 수량 (LQ)
5L
게임 코드 (EQ)
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

UN "모범 규제":
UN 1888 CHLOROFORM, 6.1, III

15 법적 규제현황

해당 순물질 또는 혼합물에 대한 안전, 보건 및 환경 규제/법률

Korean Existing Chemical Inventory
67-66-3 CHLOROFORM, REAGENT ACS
KE-34076

화학물질관리법
사고대비물질 성분이 포함되어있지 않다
급지는 물질 성분이 포함되어있지 않다
재활물질 성분이 포함되어있지 않다
유독물질 성분이 포함되어있다
허가물질 성분이 포함되어있다
제품명: CHLOROFORM, REAGENT ACS

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

- 그림분자

GHS06   GHS08

- 신호어 위험
  유해 위험 문구
  삽입면 유해함
  흡입하면 유독함
  피부에 자극을 입으킴
  눈에 심한 자극을 입을 수 있음
  암을 일으킬 것으로 의심됨
  태어나는 생식능력에 손상을 입을 것으로 의심됨
  출생 또는 현기증을 일으킬 수 있음
  장기간 또는 반복노출되면 신체 중에 순상을 입을 수 있음

- 예방조치 문구
  (분전, 흄, 가스, 미스트, 증기, 스프레이)를 흡입하지 마십시오.
  (보호장갑, 보호의, 보안경, 안면보호구)를 착용하시오.
  (라벨 참조) 처치를 하십시오.
  잠금장치가 있는 저장장소에 저장하시오.
  현지/지역/국가/국제 규정에 따라서 내용물/용기 노출

화학물질 안전성 평가: 화학물질 안전성 평가가 수행되지 않았음
SECÇÃO 1: Identificação da substância/mistura e da sociedade/empresa

1.1 Identificador do produto

- Nome comercial: triclorometano
- Código do produto: 12540, 12541, 12550, 12551
- N° CAS: 67-66-3
- Número CE: 200-663-8
- Número de índice: 602-006-00-4

1.2 Utilizações identificadas relevantes da substância ou mistura e utilizações desaconselhadas

Não existe mais nenhuma informação relevante disponível.

1.3 Identificação do fornecedor da ficha de dados de segurança

- Fabricante/fornecedor: 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

- Entidade para obtenção de informações adicionais: Product safety department

1.4 Número de telefone de emergência:

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

SECÇÃO 2: Identificação dos perigos

2.1 Classificação da substância ou mistura

Classificação em conformidade com o Regulamento (CE) n.º 1272/2008

- GHS06 caveira sobre tibias cruzadas

Acute Tox. 3 H331 Tóxico por inalação.

- GHS08 perigo para a saúde

Carc. 2 H351 Suspeito de provocar cancro.
Repr. 2 H361d Suspeito de afectar o nascituro.
STOT RE 1 H372 Afecta os órgãos após exposição prolongada ou repetida.

- GHS07

Acute Tox. 4 H302 Nocivo por ingestão.
Skin Irrit. 2 H315 Provoca irritação cutânea.
Eye Irrit. 2 H319 Provoca irritação ocular grave.
STOT SE 3 H336 Pode provocar sonolência ou vertigens.

(continuação na página 2)
Nome comercial: triclorometano

- **2.2 Elementos do rótulo**
- Rotulagem em conformidade com o Regulamento (CE) n.º 1272/2008
  A substância classificou-se e está etiquetado em conformidade com o regulamento CLP.
- **Pictogramas de perigo**
  
  ![Pictogramas de perigo](image)
  
  GHS06  GHS08

- **Palavra-sinal** Perigo
- **Advertências de perigo**
  - H302 Nocivo por ingestão.
  - H331 Tóxico por inalação.
  - H315 Provoca irritação cutânea.
  - H319 Provoca irritação ocular grave.
  - H351 Suspeito de provocar cancro.
  - H361d Suspeito de afectar o nascituro.
  - H336 Pode provocar sonolência ou vertigens.
  - H372 Afecta os órgãos após exposição prolongada ou repetida.
- **Recomendações de prudência**
  - P260 Não respirar as poeiras/fumos/gases/névoas/vapores/aerossóis.
  - P280 Usar luvas de protecção/vestuário de protecção/proteção ocular/protecção facial.
  - P305+P351+P338 SE ENTRAR EM CONTACTO COM OS OLHOS: enxaguar cuidadosamente com água durante vários minutos. Se usar lentes de contacto, retire-as, se tal lhe for possível. Continuar a enxaguar.
  - P321 Tratamento específico (ver no presente rótulo).
  - P405 Armazenar em local fechado à chave.
  - P501 Eliminar o conteúdo/recipiente de acordo com a legislação local/regional/nacional/internacional.

- **2.3 Outros perigos**
- **Resultados da avaliação PBT e mPmB**
  - PBT: Não aplicável.
  - mPmB: Não aplicável.

---

**SECÇÃO 3: Composição/informação sobre os componentes**

- **3.1 Caracterização química: Substâncias**
  - **Designação CAS n°**
    - 67-66-3 triclorometano
  - **Número(s) de identificação**
    - **Número CE:** 200-663-8
    - **Número de índice:** 602-006-00-4

---

**SECÇÃO 4: Medidas de primeiros socorros**

- **4.1 Descrição das medidas de primeiros socorros**
  - **Indicações gerais:**
    - Os sintomas de envenenamento podem surgir apenas após várias horas, por isso é necessária vigilância médica pelo menos 48 horas após o acidente.
Nome comercial: triclorometano

- **Em caso de inalação:**
  Remover a vítima para um local arejado. Se necessário administrar respiração artificial. Manter a vítima aquecida. Se os sintomas persistirem, consultar o médico.
  Se a vítima estiver inconsciente, posicioná-la e transportá-la com estabilidade, deitada lateralmente.

- **Em caso de contacto com a pele:**
  Lavar imediatamente com água e sabão e enxaguar abundantemente.

- **Em caso de contacto com os olhos:**
  Enxaguar os olhos durante alguns minutos sob água corrente, mantendo as pálpebras abertas. Em caso de persistência dos sintomas, consultar o médico.

- **Em caso de ingestão:**
  Consultar imediatamente o médico.

---

**SECÇÃO 5: Medidas de combate a incêndios**

- **5.1 Meios de extinção**
  Meios adequados de extinção:
  CO2, pó extintor ou jacto de água. Um incêndio de grandes dimensões deve ser combatido com jacto de água ou espuma resistente ao álcool.

- **5.2 Perigos especiais decorrentes da substância ou mistura**
  Não existe mais nenhuma informação relevante disponível.

- **5.3 Recomendações para o pessoal de combate a incêndios**
  Equipamento especial de proteção: Colocar máscara de respiração.

---

**SECÇÃO 6: Medidas a tomar em caso de fugas acidentais**

- **6.1 Precauções individuais, equipamento de protecção e procedimentos de emergência**
  Não necessário.

- **6.2 Precauções ao nível ambiental**
  Evitar que penetre na canalização / águas superficiais / águas subterrâneas.

- **6.3 Métodos e materiais de confinamento e limpeza**
  Recolher com produtos que absorvam líquidos (areia, seixos, absorventes universais, serradura ).
  Eliminar residualmente as substâncias contaminadas como um resíduo segundo o Ponto 13.
  Assegurar uma ventilação adequada.

- **6.4 Remissão para outras secções**
  Para informações sobre uma manipulação segura, ver o capítulo 7.
  Para informações referentes ao equipamento de protecção individual, ver o capítulo 8.
  Para informações referentes à eliminação residual, ver o capítulo 13.

---

**SECÇÃO 7: Manuseamento e armazenagem**

- **7.1 Precauções para um manuseamento seguro**
  Assegurar uma boa ventilação / exaustão no local de trabalho.

- **7.2 Condições de armazenagem segura, incluindo eventuais incompatibilidades**
  Armazenagem:
  - Requisitos para espaços ou contentores para armazenagem: Sem requisitos especiais.
  - Avisos para armazenagem conjunta: Não necessário.
  - Outros avisos sobre as condições de armazenagem: Manter o recipiente hermeticamente fechado.

- **7.3 Utilização(ões) final(is) específica(s)**
  Não existe mais nenhuma informação relevante disponível.
Ficha de dados de segurança
Em conformidade com 1907/2006/CE, Artigo 31.º

Nome comercial: triclorometano

(continuação da página 3)

SECÇÃO 8: Controlo da exposição/Proteção individual

· Indicações adicionais para concepção de instalações técnicas: Não existem outras informações, ver ponto 7.

· 8.1 Parâmetros de controlo

· Componentes cujo valor do limite de exposição no local de trabalho deve ser monitorizado:

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<tbody>
<tr>
<td>67-66-3 triclorometano</td>
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</tr>
<tr>
<td>VLE</td>
<td>Valor para exposição longa: 10 ppm</td>
</tr>
<tr>
<td>A3</td>
<td>Lesão hepática, embrião/feto; afecção do SNC</td>
</tr>
</tbody>
</table>

· Indicações adicionais: Foram utilizadas como base as listas válidas à data da elaboração.

· 8.2 Controlo da exposição

· Equipamento de proteção individual:

· Medidas gerais de proteção e higiene:
  Manter afastado de alimentos, bebidas e forragens.
  Despir imediatamente a roupa contaminada e embebidida.
  Lavar as mãos antes das pausas e no fim do trabalho.
  Evitar o contacto com os olhos e com a pele.

· Protecção respiratória:
  Utilizar uma máscara respiratória se a exposição for reduzida ou durante um curto espaço de tempo; se esta for mais prolongada ou mais intensa, utilizar uma máscara respiratória independente do ar ambiente.

· Protecção das mãos:

  Luvas de proteção

O material das luvas tem de ser impermeável e resistente ao produto / à substância / preparação. Uma vez que não foram realizados testes nesta área, não podemos recomendar um determinado tipo de material para as luvas que seja adequado para o produto / a preparação / a mistura de químicos. Escolher o material das luvas tendo em consideração a durabilidade, a permeabilidade e a degradação.

· Material das luvas
  A escolha das luvas mais adequadas não depende apenas do material, mas também de outras características qualitativas e varia de fabricante para fabricante.

· Tempo de penetração no material das luvas
  Deve informar-se sobre a validade exacta das suas luvas junto do fabricante e respeitá-la.

· Protecção dos olhos:
  Óculos de proteção

Óculos de proteção totalmente fechados

(continuação na página 5)

SECÇÃO 9: Propriedades físico-químicas

· 9.1 Informações sobre propriedades físicas e químicas de base

· Informações gerais

· Aspecto:
  Forma: Líquido
  Cor: Incolor
  Odor: Agradável

(continuação na página 5)
Nome comercial: triclorometano

- Limiar olfativo: Não classificado.
- valor pH: Não classificado.
- Mudança do estado:
  - Ponto / intervalo de fusão: -63 °C
  - Ponto / intervalo de ebulação: 62 °C
- Ponto de inflamação: 0 °C
- Inflamabilidade (sólido, gás): Não aplicável.
- Temperatura de ignição: 982 °C
- Temperatura de decomposição: Não classificado.
- Auto-inflamabilidade: Não classificado.
- Perigos de explosão: O produto não corre o risco de explosão.
- Limites de explosão:
  - Inferior: Não classificado.
  - Superior: Não classificado.
- Pressão de vapor em 20 °C: 210 hPa
- Densidade em 20 °C: 1,47988 g/cm³
- Densidade relativa: Não classificado.
- Densidade de vapor: Não classificado.
- Velocidade de evaporação: Não classificado.
- Solubilidade em / miscibilidade com água em 20 °C: 8 g/l
- Coeficiente de distribuição (n-octanol/água): Não classificado.
- Viscosidade:
  - Dinâmico em 20 °C: 0,56 mPas
  - Cinemático: Não classificado.
- 9.2 Outras informações: Não existe mais nenhuma informação relevante disponível.

SECÇÃO 10: Estabilidade e reactividade

- 10.1 Reactividade: Não existe mais nenhuma informação relevante disponível.
- 10.2 Estabilidade química
- Decomposição térmica / condições a evitar: Não existe decomposição se usado de acordo com as especificações.
- 10.3 Possibilidade de reações perigosas: Não se conhecem reacções perigosas.
- 10.4 Condições a evitar: Não existe mais nenhuma informação relevante disponível.
- 10.5 Materiais incompatíveis: Não existe mais nenhuma informação relevante disponível.
- 10.6 Produtos de decomposição perigosos: Não se conhecem produtos de decomposição perigosos.

SECÇÃO 11: Informação toxicológica

- 11.1 Informações sobre os efeitos toxicológicos
- Toxicidade aguda
  - Nocivo por ingestão.
  - Tóxico por inalação.
Nome comercial: triclorometano

- Valores LD/LC50 relevantes para a classificação:
  - por via oral LD50 908 mg/kg (rat)
  - por via dérmica LD50 75 mg/kg (rat)

- Efeito de irritabilidade primário:
  - Corrosão/irritação cutânea
    Provéa irritação cutânea.
  - Lesões oculares graves/irritação ocular
    Provéa irritação ocular grave.
  - Sensibilização respiratória ou cutânea
    Com base nos dados disponíveis, os critérios de classificação não são preenchidos.
  - Efeitos CMR (carcinogenicidade, mutagenicidade e efeitos tôxicos na reprodução)
    - Mutagenicidade em células germinativas
      Com base nos dados disponíveis, os critérios de classificação não são preenchidos.
    - Carcinogenicidade
      Suspeito de provocar cancro.
  - Toxicidade reprodutiva
    Suspeito de afectar o nascituro.
  - Toxicidade para órgãos-alvo específicos (STOT) - exposição única
    Pode provocar sonolência ou vertigens.
  - Toxicidade para órgãos-alvo específicos (STOT) - exposição repetida
    Afecta os órgãos após exposição prolongada ou repetida.
  - Perigo de aspiração
    Com base nos dados disponíveis, os critérios de classificação não são preenchidos.

SECÇÃO 12: Informação ecológica

- 12.1 Toxicidade
  - Toxicidade aquática: Não existe mais nenhuma informação relevante disponível.
  - 12.2 Persistência e degradabilidade
    Não existe mais nenhuma informação relevante disponível.
  - 12.3 Potencial de bioacumulação
    Não existe mais nenhuma informação relevante disponível.
  - 12.4 Mobilidade no solo
    Não existe mais nenhuma informação relevante disponível.
  - Outras indicações ecológicas:
    - Indicações gerais:
      Classe de perigo para a água 3 (D) (classificação pelas listas): muito perigoso para a água
      Não deixar chegar às águas subterrâneas, aos cursos de água nem à canalização, nem em pequenas quantidades.
      Perigo de poluição da água potável mesmo se forem derramadas quantidades muito pequenas no subsolo.
    - 12.5 Resultados da avaliação PBT e mPmB
      - PBT: Não aplicável.
      - mPmB: Não aplicável.
    - 12.6 Outros efeitos adversos
      Não existe mais nenhuma informação relevante disponível.

SECÇÃO 13: Considerações relativas à eliminação

- 13.1 Métodos de tratamento de resíduos
  - Recomendação:
    Não se pode eliminar juntamente com o lixo doméstico. Não permita que chegue à canalização.
  - Embalagens contaminadas:
    - Recomendação:
      Eliminação residual conforme o regulamento dos serviços públicos.
<table>
<thead>
<tr>
<th>SEÇÃO 14: Informações relativas ao transporte</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>· 14.1 Número ONU</strong></td>
</tr>
<tr>
<td>· ADR, IMDG, IATA</td>
</tr>
<tr>
<td><strong>· 14.2 Designação oficial de transporte da ONU</strong></td>
</tr>
<tr>
<td>· ADR</td>
</tr>
<tr>
<td>· IMDG, IATA</td>
</tr>
<tr>
<td><strong>· 14.3 Classes de perigo para efeitos de transporte</strong></td>
</tr>
<tr>
<td>· ADR, IMDG, IATA</td>
</tr>
<tr>
<td><strong>· 14.4 Grupo de embalagem</strong></td>
</tr>
<tr>
<td>· ADR, IMDG, IATA</td>
</tr>
<tr>
<td><strong>· 14.5 Perigos para o ambiente:</strong></td>
</tr>
<tr>
<td>· Não aplicável.</td>
</tr>
<tr>
<td><strong>· 14.6 Precauções especiais para o utilizador</strong></td>
</tr>
<tr>
<td>· Nº Kemler:</td>
</tr>
<tr>
<td>· Nº EMS:</td>
</tr>
<tr>
<td>· Segregation groups</td>
</tr>
<tr>
<td>· Stowage Category</td>
</tr>
<tr>
<td>· Stowage Code</td>
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<tr>
<td>· Stowage Code</td>
</tr>
<tr>
<td><strong>· 14.7 Transporte a granel em conformidade com o anexo II da Convenção MARPOL e o Código IBC</strong></td>
</tr>
<tr>
<td>· Não aplicável.</td>
</tr>
<tr>
<td><strong>· Transporte/outras informações:</strong></td>
</tr>
<tr>
<td>· ADR</td>
</tr>
<tr>
<td>· Quantidades Limitadas (LQ)</td>
</tr>
<tr>
<td>· Código: E1</td>
</tr>
<tr>
<td>· Quantidades exceptuadas (EQ)</td>
</tr>
<tr>
<td>· Quantidade líquida máxima por embalagem interior: 30 ml</td>
</tr>
<tr>
<td>· Quantidade líquida máxima por embalagem exterior: 1000 ml</td>
</tr>
<tr>
<td>· Categoría de transporte</td>
</tr>
<tr>
<td>· 2</td>
</tr>
<tr>
<td>· Código de restrição em túneis</td>
</tr>
<tr>
<td>· E</td>
</tr>
<tr>
<td>· IMDG</td>
</tr>
<tr>
<td>· Limited quantities (LQ)</td>
</tr>
<tr>
<td>· Code: E1</td>
</tr>
<tr>
<td>· Maximum net quantity per inner packaging: 30 ml</td>
</tr>
<tr>
<td>· Excepted quantities (EQ)</td>
</tr>
<tr>
<td>· UN &quot;Model Regulation&quot;:</td>
</tr>
<tr>
<td>· UN 1888 CLOROFÓRMIO, 6.1, III</td>
</tr>
</tbody>
</table>
Ficha de dados de segurança
Em conformidade com 1907/2006/CE, Artigo 31.º

Nome comercial: triclorometano

SEÇÃO 15: Informação sobre regulamentação

- 15.1 Regulamentação/legislação específica para a substância ou mistura em matéria de saúde, segurança e ambiente
  - Diretiva 2012/18/UE
  - Substâncias perigosas designadas - ANEXO I A substância não está listada.
  - Categoria “Seveso” H2 TOXICIDADE AGUDA
  - Quantidades-limiar (em toneladas), para a aplicação de requisitos de nível inferior 50 t
  - Quantidades-limiar (em toneladas), para a aplicação de requisitos de nível superior 200 t
  - Regulamento (CE) n.º 1907/2006 ANEXO XVII Condições de limitação: 3, 32
- 15.2 Avaliação da segurança química: Não foi realizada nenhuma Avaliação de Segurança Química.

SEÇÃO 16: Outras informações

As informações fornecidas baseiam-se no estado actual dos nossos conhecimentos, embora não representem uma garantia das propriedades do produto e não fundamentam uma relação contratual.

- Abreviaturas e 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
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  LC50: Lethal concentration, 50 percent
  LD50: Lethal dose, 50 percent
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative
  Acute Tox. 4: Toxicidade aguda – Categoria 4
  Acute Tox. 3: Toxicidade aguda – Categoria 3
  Skin Irrit. 2: Corrosão/irritação cutânea – Categoria 2
  Eye Irrit. 2: Lesões oculares graves/irritação ocular – Categoria 2
  Carc. 2: Carcinogenicidade – Categoria 2
  Repr. 2: Toxicidade reprodutiva – Categoria 2
  STOT SE 3: Toxicidade para órgãos-alvo específicos (exposição única) – Categoria 3
  STOT RE 1: Toxicidade para órgãos-alvo específicos (exposição repetida) – Categoria 1
SECCIÓN 1: Identificación de la sustancia o la mezcla y de la sociedad o la empresa

1.1 Identificador del producto
- Nombre comercial: triclorometano
- Número del artículo: 12540, 12541, 12550, 12551
- Número CAS: 67-66-3
- Número CE: 200-663-8
- Número de clasificación: 602-006-00-4

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: sgkcek@aol.com
  www.emsdiasco.com

- 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

GHS06 calavera y tibias cruzadas
Acute Tox. 3 H331 Tóxico en caso de inhalación.

GHS08 peligro para la salud
Carc. 2 H351 Se sospecha que provoca cáncer.
Repr. 2 H361d Se sospecha que daña al feto.
STOT RE 1 H372 Provoca daños en los órganos tras exposiciones prolongadas o repetidas.
Ficha de datos de seguridad
según 1907/2006/CE, Artículo 31

Nombre comercial: triclorometano

GHS07

Acute Tox. 4 H302 Nocivo en caso de ingestión.
Skin Irrit. 2 H315 Provo ca irritación cutánea.
Eye Irrit. 2 H319 Provo ca irritación ocular grave.
STOT SE 3 H336 Puede provocar somnolencia o vértigo.

2.2 Elementos de la etiqueta

Etiquetado con arreglo al Reglamento (CE) n° 1272/2008
La sustancia se ha clasificado y etiquetado de conformidad con el reglamento CLP.

Pictogramas de peligro

GHS06 GHS08

Palabra de advertencia Peligro

Indicaciones de peligro
H302 Nocivo en caso de ingestión.
H331 Tóxico en caso de inhalación.
H315 Provo ca irritación cutánea.
H319 Provo ca irritación ocular grave.
H351 Se sospecha que provoca cáncer.
H361d Se sospecha que daña al feto.
H336 Puede provocar somnolencia o vértigo.
H372 Provo ca daños en los órganos tras exposiciones prolongadas o repetidas.

Consejos de prudencia
P260 No respirar el polvo/el humo/el gas/la niebla/los vapores/el aerosol.
P280 Llevar guantes/prendas/gafas/máscara de protección.
P305+P351+P338 EN CASO DE CONTACTO CON LOS OJOS: Aclarar cuidadosamente con agua durante varios minutos. Quitar las lentes de contacto, si lleva y resulta fácil. Seguir aclarando.
P321 Se necesita un tratamiento específico (ver en esta etiqueta).
P405 Guardar bajo llave.
P501 Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional.

2.3 Otros peligros

Resultados de la valoración PBT y mPmB

PBT: No aplicable.
mPmB: No aplicable.

SECCIÓN 3: Composición/información sobre los componentes

3.1 Caracterización química: Sustancias

Denominación N° CAS
67-66-3 triclorometano

Número(s) de identificación
Número CE: 200-663-8
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 aire fresco; eventualmente hacer respiración artificial, calor. Si los trastornos persisten, consultar al médico.
  Las personas desmayadas deben tenderse y transportarse de lado con la suficiente estabilidad.
- En caso de contacto con la piel:
  Lavar inmediatamente con agua y jabón y enjuagar bien.
- En caso de contacto con los ojos:
  Limpiar los ojos abiertos durante varios minutos con agua corriente. En caso de trastornos persistentes consultar un médico.
- En caso de ingestión:
  Consultar inmediatamente un médico.

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

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

SECCIÓN 5: Medidas de lucha contra incendios

- 5.1 Medios de extinción
  Sustancias extintoras apropiadas:
  CO2, polvo extintor o chorro de agua rociada. Combatir incendios mayores con chorro de agua rociada o espuma resistente al alcohol.
- 5.2 Peligros específicos derivados de la sustancia o la mezcla
  No existen más datos relevantes disponibles.
- 5.3 Recomendaciones para el personal de lucha contra incendios
  - Equipo especial de protección: 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:
  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, kieselgar, aglutinante de ácidos, aglutinante universal, aserrín).
  Desechar el material contaminado como vertido según ítem 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.
- Prevención de incendios y explosiones:
  No se requieren medidas especiales.
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:

<table>
<thead>
<tr>
<th>Componente</th>
<th>LEP Valor de larga duración: 10 mg/m³, 2 ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-66-3 triclorometano</td>
<td></td>
</tr>
</tbody>
</table>

- 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.
    Quitar de inmediato la ropa ensuciada o impregnada.
    Lavarse la ropa antes de las pausas y al final del trabajo.
    Evitar el contacto con los ojos y la piel.
  - Protección respiratoria:
    Si la exposición va a ser breve o de poca intensidad, colocarse una máscara respiratoria. Para una exposición más intensa o de mayor duración, usar un aparato de respiración autónomo.
  - Protección de manos:

    Guantes de protección

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

- 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

( se continua en página 5 )
### SECCIÓN 9: Propiedades físicas y químicas

- **9.1 Información sobre propiedades físicas y químicas básicas**
  - **Datos generales**
    - **Aspecto:** Líquido
    - **Forma:** Líquido
    - **Color:** Incoloro
    - **Olor:** Agradable
    - **Umbral olfativo:** No determinado.
    - **valor pH:** No determinado.
  - **Cambio de estado**
    - **Punto de fusión /campo de fusión:** -63 °C
    - **Punto de ebullición /campo de ebullición:** 62 °C
  - **Punto de inflamación:** 0 °C
  - **Inflamabilidad (sólido, gaseiforme):** No aplicable.
  - **Temperatura de ignición:** 982 °C
  - **Temperatura de descomposición:** No determinado.
  - **Autoinflamabilidad:** No determinado.
  - **Peligro de explosión:** El producto no es explosivo.
  - **Límites de explosión:**
    - **Inferior:** No determinado.
    - **Superior:** No determinado.
  - **Presión de vapor a 20 °C:** 210 hPa
  - **Densidad a 20 °C:** 1,47988 g/cm³
  - **Densidad relativa**
    - No determinado.
  - **Densidad de vapor**
    - No determinado.
  - **Velocidad de evaporación**
    - No determinado.
  - **Solubilidad en / miscibilidad con agua a 20 °C:** 8 g/l
  - **Coeficiente de reparto (n-octanol/agua):** No determinado.
  - **Viscosidad:**
    - **Dinámica a 20 °C:** 0,56 mPas
    - **Cinemática:** No determinado.
  - **9.2 Otros datos**
    - No existen más datos relevantes disponibles.

### SECCIÓN 10: Estabilidad y reactividad

- **10.1 Reactividad** No existen más datos relevantes disponibles.
Nombre comercial: triclorometano

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
  Nocivo en caso de ingestión.
  Tóxico en caso de inhalación.
· Valores LD/LC50 (dosis letal /dosis letal = 50%) relevantes para la clasificación:
<table>
<thead>
<tr>
<th>Oral</th>
<th>LD50</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>908 mg/kg (rat)</td>
</tr>
<tr>
<td>Dermal</td>
<td>LD50</td>
</tr>
<tr>
<td></td>
<td>75 mg/kg (rat)</td>
</tr>
</tbody>
</table>
· Efecto estimulante primario:
· Corrosión o irritación cutáneas
  Provea irritación cutánea.
· Lesiones o irritación ocular graves
  Provea irritación ocular grave.
· Sensibilización respiratoria o cutánea
  A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
· Efectos CMR (carcinogenicidad, mutagenicidad y toxicidad para la reproducción)
· Mutagenicidad en células germinales
  A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
· Carcinogenicidad
  Se sospecha que provoca cáncer.
· Toxicidad para la reproducción
  Se sospecha que daña al feto.
· Toxicidad específica en determinados órganos (STOT) – exposición única
  Puede provocar somnolencia o vértigo.
· Toxicidad específica en determinados órganos (STOT) – exposición repetida
  Provoca daños en los órganos tras exposiciones prolongadas o repetidas.
· Peligro de aspiración A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

SECCIÓN 12: Información ecológica

12.1 Toxicidad
· Toxicidad acuática: No existen más datos relevantes disponibles.
· 12.2 Persistencia y degradabilidad No existen más datos relevantes disponibles.
· 12.3 Potencial de bioacumulación No existen más datos relevantes disponibles.
· 12.4 Movilidad en el suelo No existen más datos relevantes disponibles.
· Indicaciones medioambientales adicionales:
· Indicaciones generales:
  Nivel de riesgo para el agua 3 (clasificación de listas): muy peligroso para el agua
  No dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados, ni siquiera en pequeñas cantidades.
  Una cantidad ínfima vertida en el subsuelo ya representa un peligro para el agua potable.
· 12.5 Resultados de la valoración PBT y mPmB
· PBT: No aplicable.
Nombre comercial: triclorometano

- **mPmB**: No aplicable.
- **12.6 Otros efectos adversos** No existen más datos relevantes disponibles.

### SECCIÓN 13: Consideraciones relativas a la eliminación

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

### SECCIÓN 14: Información relativa al transporte

- **14.1 Número ONU**
- **ADR, IMDG, IATA**: UN1888

- **14.2 Designación oficial de transporte de las Naciones Unidas**
- **ADR**: 1888 CLOROFORMO
- **IMDG, IATA**: CHLOROFORM

- **14.3 Clase(s) de peligro para el transporte**
- **ADR, IMDG, IATA**

- **Clase**: 6.1 Materias tóxicas
- **Etiqueta**: 6.1

- **14.4 Grupo de embalaje**
- **ADR, IMDG, IATA**: III

- **14.5 Peligros para el medio ambiente**: No aplicable.

- **14.6 Precauciones particulares para los usuarios**
- **Número Kemler**: 60
- **Número EMS**: 6.1-02
- **Segregation groups**: Liquid halogenated hydrocarbons
- **Stowage Category**: A
- **Stowage Code**: SW2 Clear of living quarters.

- **14.7 Transporte a granel con arreglo al anexo II del Convenio MARPOL y el Código IBC**
- **Recomendación**: No aplicable.

- **Transporte/datos adicionales**:

  - **ADR**
  - **Cantidades limitadas (LQ)**: 5L
  - **Cantidades exceptuadas (EQ)**
    - Código: E1
    - Cantidad neta máxima por envase interior: 30 ml
    - Cantidad neta máxima por embalaje exterior: 1000 ml

  - **Categoría de transporte**: 2
  - **Código de restricción del túnel**: E
Ficha de datos de seguridad  
según 1907/2006/CE, Artículo 31

fecha de impresión 23.11.2016  
Revisión: 23.11.2016

Nombre comercial: triclorometano

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

- "Reglamentación Modelo" de la UNECE: UN 1888 CLOROFORMO, 6.1, III

SECCIÓN 15: Información reglamentaria

- 15.1 Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla
  - Directiva 2012/18/UE
  - Sustancias peligrosas nominadas - ANEXO I No contiene la sustancia.
  - Categoría Seveso H2 TOXICIDAD AGUDA
  - Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel inferior 50 t
  - Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel superior 200 t
  - REGLAMENTO (CE) nº 1907/2006 ANEXO XVII Restricciones: 3, 32

- 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 contratual.

- 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
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  LC50: Lethal concentration, 50 percent
  LD50: Lethal dose, 50 percent
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative
  Acute Tox. 4: Toxicidad aguda – Categoría 4
  Acute Tox. 3: Toxicidad aguda – Categoría 3
  Skin Irrit. 2: Corrosión o irritación cutáneas – Categoría 2
  Eye Irrit. 2: Lesiones oculares graves o irritación ocular – Categoría 2
  Carc. 2: Carcinogenicidad – Categoría 2
  Repr. 2: Toxicidad para la reproducción – Categoría 2
  STOT SE 3: Toxicidad específica en determinados órganos (exposición única) – Categoría 3
  STOT RE 1: Toxicidad específica en determinados órganos (exposiciones repetidas) – Categoría 1