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

- **Product identifier**
- **Trade name:** 1,3-Dichloropropane
- **Part number:** RHH-038
- **CAS Number:** 142-28-9
- **EC number:** 205-531-3
- **Index number:** 602-020-00-0
- **Relevant identified uses of the substance or mixture and uses advised against**
  Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** Agilent Technologies Manufacturing GmbH & Co. KG
    Hewlett-Packard-Str.8
    76337 Waldbronn
    Germany
  - **Further information obtainable from:**
    Telephone: 0800 603 1000
    pdl-msds_author@agilent.com
  - **Emergency telephone number:** CHEMTREC®: +(44)-870-8200418

2 Hazards identification

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

  - **GHS02 flame**
    Flam. Liq. 3 H226 Flammable liquid and vapour.

  - **GHS07**
    Acute Tox. 4 H332 Harmful if inhaled.
    Skin Irrit. 2 H315 Causes skin irritation.
    Eye Irrit. 2  H319 Causes serious eye irritation.

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

- **Hazard pictograms**

  - **GHS02**
  - **GHS07**

- **Signal word** Warning

(Contd. on page 2)
Trade name: 1,3-Dichloropropane

- Hazard-determining components of labelling:
  1,3-dichloropropane

- Hazard statements
  H226 Flammable liquid and vapour.
  H332 Harmful if inhaled.
  H315 Causes skin irritation.
  H319 Causes serious eye irritation.

- Precautionary statements
  P101 If medical advice is needed, have product container or label at hand.
  P102 Keep out of reach of children.
  P103 Read label before use.
  P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  P233 Keep container tightly closed.
  P240 Ground/bond container and receiving equipment.
  P241 Use explosion-proof electrical/ventilating/lighting equipment.
  P242 Use only non-sparking tools.
  P243 Take precautionary measures against static discharge.
  P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
  P264 Wash thoroughly after handling.
  P271 Use only outdoors or in a well-ventilated area.
  P280 Wear protective gloves/protective clothing/eye protection/face protection.
  P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
  P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  P312 Call a POISON CENTER/doctor if you feel unwell.
  P311 Specific treatment (see on this label).
  P362+P364 Take off contaminated clothing and wash it before reuse.
  P332+P313 If skin irritation occurs: Get medical advice/attention.
  P337+P313 If eye irritation persists: Get medical advice/attention.
  P370+P378 In case of fire: Use for extinguish: CO2, powder or water spray.
  P403+P235 Store in a well-ventilated place. Keep cool.
  P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

3 Composition/information on ingredients

- Chemical characterisation: Substances
- CAS No. Description
  142-28-9 1,3-dichloropropane
- Identification number(s)
- EC number: 205-531-3
- Index number: 602-020-00-0
Trade name: 1,3-Dichloropropane

4 First aid measures

- **Description of first aid measures**
- **General information:**
  Immediately remove any clothing soiled by the product.
  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:**
  If symptoms persist consult doctor.
- **Information for doctor:**
  Most important symptoms and effects, both acute and delayed  No further relevant information available.
  Indication of any immediate medical attention and special treatment needed  No further relevant information available.

5 Firefighting measures

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

6 Accidental release measures

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

7 Handling and storage

- **Handling:**
  - **Precautions for safe handling**
    Ensure good ventilation/exhaustion at the workplace.
    Prevent formation of aerosols.
Trade name: 1,3-Dichloropropane

- **Information about fire - and explosion protection:**
  Keep ignition sources away - Do not smoke.
  Protect against electrostatic charges.

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
  - **Requirements to be met by storeroms 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:** Not required.
  - **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:**
      When used as intended with Agilent instruments the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.
      Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device equipment with appropriate organic or acid gas cartridge.
    - **Protection of hands:**
      Although not recommended for constant contact with the chemicals or for clean up, nitrile gloves 11-13mil thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.
  - **Material of gloves**
    For normal use: nitrile rubber, 11-13 mil thickness
    For direct contact with the chemical: butyl rubber, 12-15 mil thickness
    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**
    For normal use: nitrile rubber: 1 hour
    For direct contact with the chemical: butyl rubber: > 4 hours
**Trade name:** 1,3-Dichloropropane

- **Eye protection:**
  - Tightly sealed goggles

<table>
<thead>
<tr>
<th>9 Physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Information on basic physical and chemical properties</strong></td>
</tr>
<tr>
<td><strong>General Information</strong></td>
</tr>
<tr>
<td>Form: Fluid</td>
</tr>
<tr>
<td><strong>Appearance:</strong></td>
</tr>
<tr>
<td>Colour: Not determined.</td>
</tr>
<tr>
<td>Odour: Characteristic</td>
</tr>
<tr>
<td>Odour threshold: Not determined.</td>
</tr>
<tr>
<td><strong>pH-value:</strong> Not determined.</td>
</tr>
<tr>
<td><strong>Change in condition</strong></td>
</tr>
<tr>
<td>Melting point/freezing point: -99.5 °C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range: 120.4 °C</td>
</tr>
<tr>
<td><strong>Flash point:</strong> 36 °C</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas):</strong> Not applicable.</td>
</tr>
<tr>
<td><strong>Ignition temperature:</strong> 480 °C</td>
</tr>
<tr>
<td><strong>Decomposition temperature:</strong> Not determined.</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature:</strong> Not determined.</td>
</tr>
<tr>
<td><strong>Explosive properties:</strong> Product is not explosive. However, formation of explosive air/vapour mixtures are possible.</td>
</tr>
<tr>
<td><strong>Explosion limits:</strong></td>
</tr>
<tr>
<td>Lower: Not determined.</td>
</tr>
<tr>
<td>Upper: Not determined.</td>
</tr>
<tr>
<td><strong>Vapour pressure at 20 °C:</strong> 20 hPa</td>
</tr>
<tr>
<td><strong>Density at 20 °C:</strong> 1.19 g/cm³</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
</tr>
<tr>
<td><strong>Vapour density</strong></td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
</tr>
<tr>
<td><strong>Solubility in / Miscibility with water:</strong> Not miscible or difficult to mix.</td>
</tr>
<tr>
<td><strong>Partition coefficient: n-octanol/water:</strong> Not determined.</td>
</tr>
<tr>
<td><strong>Viscosity:</strong></td>
</tr>
<tr>
<td>Dynamic: Not determined.</td>
</tr>
<tr>
<td>Kinematic: Not determined.</td>
</tr>
<tr>
<td><strong>Solvent content:</strong></td>
</tr>
<tr>
<td>VOC (EC) 0.00 %</td>
</tr>
</tbody>
</table>
10 Stability and reactivity

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

11 Toxicological information

- Information on toxicological effects
- Acute toxicity
  - Harmful if inhaled.
- LD/LC50 values relevant for classification:
  - ATE (Acute Toxicity Estimates)
    - Inhalative LC50/4 h: 11 mg/L
  - 142-28-9 1,3-dichloropropane
    - Oral LD50: 3,300 mg/kg (rat)
- 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
  - Based on available data, the classification criteria are not met.
- Reproductive toxicity
  - Based on available data, the classification criteria are not met.
- STOT-single exposure
  - Based on available data, the classification criteria are not met.
- STOT-repeated exposure
  - Based on available data, the classification criteria are not met.
- Aspiration hazard
  - Based on available data, the classification criteria are not met.

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.
Trade name: 1,3-Dichloropropane

- Additional ecological information:
  - General notes:
    Water hazard class 3 (German Regulation) (Self-assessment): 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.

- European waste catalogue
  - HP 3 Flammable
  - HP 4 Irritant - skin irritation and eye damage

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

14 Transport information

- UN-Number
  - ADR, IMDG, IATA
    UN1993

- UN proper shipping name
  - ADR
    1993 FLAMMABLE LIQUID, N.O.S. (1,3-dichloropropane)
  - IMDG, IATA
    FLAMMABLE LIQUID, N.O.S. (1,3-dichloropropane)

- Transport hazard class(es)
  - ADR, IMDG, IATA
    ![Flammable]
    - Class
      3 Flammable liquids.
    - Label
      3

- Packing group
  - ADR, IMDG, IATA
    III

- Environmental hazards:
  Not applicable.

- Special precautions for user
  - Warning: Flammable liquids.
  - Danger code (Kemler):
    30
  - EMS Number:
    3-07
Trade name: 1,3-Dichloropropane

- Stowage Category
  - A

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

- Transport/Additional information:
  - ADR
  - Limited quantities (LQ): 5L
    - Code: E1
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 1000 ml
  - Excepted quantities (EQ)
  - Transport category
    - 3
  - Tunnel restriction code
    - D/E
  - IMDG
  - Limited quantities (LQ): 5L
    - Code: E1
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 1000 ml
  - Excepted quantities (EQ)

- UN "Model Regulation":
  - UN 1993 FLAMMABLE LIQUID, N.O.S. (1,3-DICHLOROPROPAINE), 3, III

15 Regulatory information

- 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 P5c FLAMMABLE LIQUIDS
  - Qualifying quantity (tonnes) for the application of lower-tier requirements: 5,000 t
  - Qualifying quantity (tonnes) for the application of upper-tier requirements: 50,000 t
  - REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3
  - Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent’s state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

- Department issuing SDS: Document Control / Regulatory
- Contact: regulatory@ultrasci.com
- 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)
  - VOC: Volatile Organic Compounds (USA, EU)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative

(Contd. on page 9)
Trade name: 1,3-Dichloropropane

Flam. Liq. 3: Flammable liquids – Category 3  
Acute Tox. 4: Acute toxicity – Category 4 
Skin Irrit. 2: Skin corrosion/irritation – Category 2  
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2  
* Data compared to the previous version altered.