1 Identification

- Product identifier
- Trade name: 1,2-Dichloropropane
- Part number: RHH-037
- CAS Number: 78-87-5
- EC number: 201-152-2
- Index number: 602-020-00-0
- Application of the substance / the mixture: Reagents and Standards for Analytical Chemical Laboratory Use

2 Hazard identification

- Classification of the substance or mixture
  
  GHS02 Flame
  
  Flammable Liquids - Category 2 H225 Highly flammable liquid and vapour.

- Label elements
- GHS label elements: The substance is classified and labeled according to the Globally Harmonized System (GHS).
- Hazard pictograms
  
  GHS02

- Signal word: Danger
- Hazard statements
  
  Highly flammable liquid and vapour.
- Precautionary statements
  
  If medical advice is needed, have product container or label at hand.
  Keep out of reach of children.
  Read label before use.
  Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  Keep container tightly closed.
  Ground and bond container and receiving equipment.
  Use explosion-proof [electrical/ventilating/lighting] equipment.
  Use non-sparking tools.
  Take actions to prevent static discharges.

(Contd. on page 2)
Safety Data Sheet  
according to HPR, Schedule 1

Trade name: 1,2-Dichloropropane

Wear protective gloves/protective clothing/eye protection/face protection.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. 
In case of fire: Use for extinction: CO2, powder or water spray. 
Store in a well-ventilated place. Keep cool.
Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**
  - Health = 0
  - Fire = 3
  - Reactivity = 0
- **HMIS-ratings (scale 0 - 4)**
  - HEALTH 1
  - FIRE 3
  - REACTIVITY 0

3 Composition/Information on ingredients

- **Chemical characterization:** Substances
- **CAS No. Description**  
  78-87-5 1,2-dichloropropane
- **Identification number(s)**
  - EC number: 201-152-2
  - Index number: 602-020-00-0

4 First aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
  - **After inhalation:** Supply fresh air; consult doctor in case of complaints.
  - **After skin contact:** Immediately rinse with water.
  - **After eye contact:** Rinse opened eye for several minutes under running water.
  - **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
  - **Most important symptoms and effects, both acute and delayed** No further relevant information available.
  - **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
  - **Suitable extinguishing agents:**
    - CO2, extinguishing 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:** No special measures required.

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### 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.

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### 7 Handling and storage

- **Handling:**
  - **Precautions for safe handling** No special precautions are necessary if used correctly.
  - **Information about protection against explosions and fires:**
    - Keep ignition sources away - Do not smoke.
    - Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
  - **Storage:**
    - **Requirements to be met by storerooms and receptacles:** Store in a cool location.
    - **Information about storage in one common storage facility:** Not required.
    - **Further information about storage conditions:**
      - Keep receptacle tightly sealed.
      - Store in cool, dry conditions in well sealed receptacles.
      - **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**

  | EL | Short-term value: 110 ppm |
  | 78-87-5 1,2-dichloropropane |
  | Long-term value: 75 ppm |
  | IARC 1, S(D) |
  | EV | Long-term value: 10 ppm |

**Additional information:** The lists that were valid during the creation were used as basis.
Trade name: 1,2-Dichloropropane

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
  Immediately remove all soiled and contaminated clothing.
  Wash hands before breaks and at the end of work.
- **Breathing equipment:**
  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 11-13 mil thickness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15 mil 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
- **Eye protection:**
  Tightly sealed goggles

### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
  **Appearance:**
  - Form: Fluid
  - Color: Clear
  - Odor: Like chlorine
  - Odor threshold: Not determined.
  - pH-value: Not determined.

- **Change in condition**
  - Melting point/Melting range: -100 °C
  - Boiling point/Boiling range: 95-96 °C

- **Flash point:**
  - 15 °C

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

- **Ignition temperature:** 555 °C
Trade name: 1,2-Dichloropropane

- Decomposition temperature: Not determined.
- Auto igniting: Not determined.
- Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
- Explosion limits:
  - Lower: 3.4 Vol %
  - Upper: 14.5 Vol %
- Vapor pressure at 25 °C: 66.17 hPa
- Density at 20 °C: 1.156 g/cm³
- Relative density: Not determined.
- Vapor density: Not determined.
- Evaporation rate: Not determined.
- Solubility in / Miscibility with Water at 20 °C: 3 g/l
- Partition coefficient (n-octanol/water): Not determined.
- Viscosity:
  - Dynamic: Not determined.
  - Kinematic: Not determined.
  - Organic solvents: 100.0 %
- Solids content: 0.0 %
- Other information: No further relevant information available.

10 Stability and reactivity

- Reactivity: No further relevant information available.
- Chemical stability:
  - Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
  - 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:
      - ATE (Acute Toxicity Estimate)
        - Oral LD₅₀: 2,196 mg/kg (rat)
      - 78-87-5 1,2-dichloropropane
        - Oral LD₅₀: 2,196 mg/kg (rat)
        - Dermal LD₅₀: 8,750 mg/kg (rabbit)
48.1.26

- Primary irritant effect:
  - on the skin: No irritant effect.
  - on the eye: No irritating effect.
- Sensitization: No sensitizing effects known.
- Additional toxicological information:

- Carcinogenic categories

  - IARC (International Agency for Research on Cancer)
  1
  - NTP (National Toxicology Program)
  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.
  - 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
  UN1279
- UN proper shipping name
  DOT
  1,2-Dichloropropane
  TDG
  1279 1,2-DICHLOROPROPAHE
  IMDG, IATA
  1,2-DICHLOROPROPAHE
Trade name: 1,2-Dichloropropane

- Transport hazard class(es)
  - DOT, TDG, IMDG, IATA

  - Class
    - 3 Flammable liquids

  - Label
    - 3

- Packing group
  - DOT, TDG, IMDG, IATA
    - II

- Environmental hazards:
  - Not applicable.

- Special precautions for user
  - Warning: Flammable liquids
  - Danger code (Kemler): 33
  - EMS Number: 3-07

- Segregation groups
  - Liquid halogenated hydrocarbons

- Stowage Category
  - B

- 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: 5 L
      - On cargo aircraft only: 60 L

  - Hazardous substance:
    - 1000 lbs, 454 kg

- TDG
  - Excepted quantities (EQ)
    - Code: E2
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 500 ml

- IMDG
  - Limited quantities (LQ)
    - 1L
  - Excepted quantities (EQ)
    - Code: E2
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 500 ml

- UN "Model Regulation":
  - UN 1279 1,2-DICHLOROPROPAINE, 3, II

15 Regulatory information

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

  - Section 355 (extremely hazardous substances):
    - Substance is not listed.

  - Section 313 (Specific toxic chemical listings):
    - Substance is listed.
Trade name: 1,2-Dichloropropane

<table>
<thead>
<tr>
<th>(Contd. of page 7)</th>
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<tbody>
<tr>
<td><strong>TSCA (Toxic Substances Control Act):</strong></td>
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<tr>
<td>Substance is listed.</td>
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<tr>
<td><strong>Canadian substance listings:</strong></td>
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<tr>
<td>- <strong>Canadian Domestic Substances List (DSL)</strong></td>
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<tr>
<td>Substance is listed.</td>
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<tr>
<td>- <strong>Canadian Ingredient Disclosure list (limit 0.1%)</strong></td>
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<tr>
<td>Substance is not listed.</td>
</tr>
<tr>
<td>- <strong>Canadian Ingredient Disclosure list (limit 1%)</strong></td>
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<tr>
<td>Substance is listed.</td>
</tr>
<tr>
<td><strong>Chemical safety assessment:</strong> A Chemical Safety Assessment has not been carried out.</td>
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</table>

### 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
- **Date of the latest revision of the safety data sheet:** 03/25/2019 / 1
- **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)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative