1 Identification

- Product identifier
- Trade name: 1,2,3,5-Tetrachlorobenzene
- Part number: RCP-028
- CAS Number: 634-90-2
- EC number: 211-217-7
- Application of the substance / the mixture: Reagents and Standards for Analytical Chemical Laboratory Use
- Details of the supplier of the safety data sheet
- Manufacturer/Supplier:
  Agilent Technologies, Inc.
  5301 Stevens Creek Blvd.
  Santa Clara, CA  95051  USA
- Information department:
  Telephone: 800-227-9770
  e-mail: pdl-msds_author@agilent.com
- Emergency telephone number: CHEMTREC®: 1-800-424-9300

2 Hazard identification

- Classification of the substance or mixture
  ![GHS07]
  Acute Toxicity (Oral) - Category 4  H302  Harmful if swallowed.

- Label elements
  - GHS label elements: The substance is classified and labeled according to the Globally Harmonized System (GHS).
  - Hazard pictograms
    ![GHS07]

- Signal word: Warning

- Hazard-determining components of labeling:
  1,2,3,5-tetrachlorobenzene

- Hazard statements
  Harmful if swallowed.

- Precautionary statements
  If medical advice is needed, have product container or label at hand.
  Keep out of reach of children.
  Read label before use.
  Wash thoroughly after handling.
  Do not eat, drink or smoke when using this product.
  If swallowed: Call a poison center/doctor if you feel unwell.
  Rinse mouth.
  Dispose of contents/container in accordance with local/regional/national/international regulations.
Trade name: 1,2,3,5-Tetrachlorobenzene

3 Composition/Information on ingredients

- Chemical characterization: Substances
- CAS No. Description
  634-90-2 1,2,3,5-tetrachlorobenzene
- Identification number(s)
- EC number: 211-217-7

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; consult doctor in case of complaints.
- After skin contact: Generally the product does not irritate the skin.
- After eye contact: Rinse opened eye for several minutes under running water.
- 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 Firefighting measures

- Extinguishing media
- Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- Special hazards arising from the substance or mixture No further relevant information available.
- Advice for firefighters
- Protective equipment: No special measures required.

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.
Trade name: 1,2,3,5-Tetrachlorobenzene

- Methods and material for containment and cleaning up: Dispose contaminated material as waste according to item 13.
- 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 No special precautions are necessary if used correctly.
  - Information about protection against explosions and fires: No special measures required.
- Information about storage in one common storage facility: Not required.
- 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: Not required.
  - 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.
      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.

(Contd. on page 4)
### 9 Physical and chemical properties

<table>
<thead>
<tr>
<th>· Information on basic physical and chemical properties</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>· General Information</td>
<td></td>
</tr>
<tr>
<td>· Appearance:</td>
<td></td>
</tr>
<tr>
<td>Form:</td>
<td>Solid</td>
</tr>
<tr>
<td>Color:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Odor:</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Odor threshold:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· pH-value:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>· Change in condition</td>
<td></td>
</tr>
<tr>
<td>Melting point/Melting range:</td>
<td>Undetermined.</td>
</tr>
<tr>
<td>Boiling point/Boiling range:</td>
<td>246 °C</td>
</tr>
<tr>
<td>· Flash point:</td>
<td>113 °C</td>
</tr>
<tr>
<td>· Flammability (solid, gaseous):</td>
<td>Product is not flammable.</td>
</tr>
<tr>
<td>· Decomposition temperature:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Auto igniting:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Danger of explosion:</td>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td>· Explosion limits:</td>
<td></td>
</tr>
<tr>
<td>Lower:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Upper:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Vapor pressure:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>· Density:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Relative density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Vapor density</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>· Evaporation rate</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>· Solubility in / Miscibility with</td>
<td></td>
</tr>
<tr>
<td>Water:</td>
<td>Insoluble.</td>
</tr>
<tr>
<td>· Partition coefficient (n-octanol/water):</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Viscosity:</td>
<td></td>
</tr>
<tr>
<td>Dynamic:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Kinematic:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>· Solids content:</td>
<td>100.0 %</td>
</tr>
<tr>
<td>· Other information</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>
10 Stability and reactivity

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

11 Toxicological information

- Information on toxicological effects
  - Acute toxicity:
    - LD/LC50 values that are relevant for classification:
      - ATE (Acute Toxicity Estimate)
        - Oral LD50 1,727 mg/kg (rat)
      634-90-2 1,2,3,5-tetrachlorobenzene
        - Oral LD50 1,727 mg/kg (rat)
      - 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)
      Substance is not listed.
    - 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 1 (Self-assessment): slightly hazardous for water
    Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.
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
  - UN3077

- UN proper shipping name
- DOT
- TDG
  - 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (1,2,3,5-tetrachlorobenzene)
- IMDG, IATA
  - ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (1,2,3,5-tetrachlorobenzene)

- Transport hazard class(es)
- DOT
  - Class not regulated

- TDG, IATA
  - Class not regulated
  - Label 9 Miscellaneous dangerous substances and articles

- IMDG
  - Class not regulated
  - Label 9 Miscellaneous dangerous substances and articles

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

- Environmental hazards:
  - Product contains environmentally hazardous substances: 1,2,3,5-tetrachlorobenzene

- Special marking (TDG):
  - Symbol (fish and tree)
### 48.1.26

<table>
<thead>
<tr>
<th>Special marking (IATA):</th>
<th>Symbol (fish and tree)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special precautions for user</td>
<td>Warning: Miscellaneous dangerous substances and articles</td>
</tr>
<tr>
<td>Danger code (Kemler):</td>
<td>90</td>
</tr>
<tr>
<td>EMS Number:</td>
<td>F-A,S-F</td>
</tr>
<tr>
<td>Stowage Category</td>
<td>A</td>
</tr>
<tr>
<td>Stowage Code</td>
<td>SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.</td>
</tr>
</tbody>
</table>

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

- **Transport/Additional information:**
  - **TDG**
    - **Excepted quantities (EQ)**
      - Code: E1
      - Maximum net quantity per inner packaging: 30 g
      - Maximum net quantity per outer packaging: 1000 g
  - **IMDG**
    - **Limited quantities (LQ)**: 5 kg
    - **Excepted quantities (EQ)**
      - Code: E1
      - Maximum net quantity per inner packaging: 30 g
      - Maximum net quantity per outer packaging: 1000 g

- **UN "Model Regulation"**: UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (1,2,3,5-TETRACHLOROBENZENE), 9, III

### 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 not listed.
  - **TSCA (Toxic Substances Control Act):** Substance is listed.

- **Canadian substance listings**
  - **Canadian Domestic Substances List (DSL)** Substance is not listed.
  - **Canadian Ingredient Disclosure list (limit 0.1%)** Substance is not listed.
  - **Canadian Ingredient Disclosure list (limit 1%)** Substance is not listed.
  - **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
· **Date of the latest revision of the safety data sheet** 03/25/2019 / 3

· **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

· *Data compared to the previous version altered.*