1 Identification

- **Product identifier**
- **Trade name:** 2-Chloroaniline
- **Part number:** RCA-001
- **CAS Number:** 95-51-2
- **EC number:** 202-426-4
- **Index number:** 612-010-00-8
- **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 Australia Pty Ltd
    679 Springvale Road
    Mulgrave
    Victoria 3170, Australia
  - **Further information obtainable from:**
    Telephone: 1800 802 402
    e-mail: pdl-msds_author@agilent.com
  - **Emergency telephone number:** CHEMTREC®: +(61) - 290372994

2 Hazard(s) Identification

- **Classification of the substance or mixture**
  - skull and crossbones
  
  Acute Tox. 3 H301 Toxic if swallowed.
  Acute Tox. 3 H311 Toxic in contact with skin.
  Acute Tox. 3 H331 Toxic if inhaled.
  
  health hazard
  
  STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

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

- **Signal word** Danger
Trade name: 2-Chloroaniline

- **Hazard-determining components of labelling:**
  2-chloroaniline
- **Hazard statements**
  Toxic if swallowed.
  Toxic in contact with skin.
  Toxic if inhaled.
  May cause damage to organs through prolonged or repeated exposure.
- **Precautionary statements**
  If medical advice is needed, have product container or label at hand.
  Keep out of reach of children.
  Read label before use.
  Do not breathe dust/fume/gas/mist/vapours/spray.
  Wash thoroughly after handling.
  Do not eat, drink or smoke when using this product.
  Use only outdoors or in a well-ventilated area.
  Wear protective gloves / protective clothing.
  IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
  Rinse mouth.
  IF ON SKIN: Wash with plenty of water.
  IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
  Call a POISON CENTER/doctor.
  Call a POISON CENTER/doctor if you feel unwell.
  Get medical advice/attention if you feel unwell.
  Specific measures (see on this label).
  Remove/Take off immediately all contaminated clothing.
  Wash contaminated clothing before reuse.
  Store in a well-ventilated place. Keep container tightly closed.
  Store locked up.
  Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Other hazards**
- **Results of PBT and vPvB assessment**
  - **PBT:** Not applicable.
  - **vPvB:** Not applicable.

### 3 Composition and Information on Ingredients

- **Chemical characterisation:** Substances
- **CAS No. Description**
  95-51-2 2-chloroaniline
- **Identification number(s)**
  - **EC number:** 202-426-4
  - **Index number:** 612-010-00-8

### 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.
Remove breathing equipment only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.

· **After inhalation:**
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.

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

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:** Do not induce vomiting; call for medical help 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 Fire Fighting 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**
  During heating or in case of fire poisonous gases are produced.

· **Advice for firefighters**
  · **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental Release Measures

· **Personal precautions, protective equipment and emergency procedures** Mount respiratory protective device.

· **Environmental precautions:**
  Do not allow product to reach sewage system or any water course.
  Inform respective authorities in case of seepage into water course or sewage system.
  Do not allow to enter sewers/ surface or ground water.

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

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

### 7 Handling and Storage

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

· **Information about fire - and explosion protection:** Keep respiratory protective device available.
Trade name: 2-Chloroaniline

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 and 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.
Store protective clothing separately.
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

Eye protection:

Tightly sealed goggles
9 Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Information on basic physical and chemical properties</strong></td>
<td></td>
</tr>
<tr>
<td><strong>General Information</strong></td>
<td></td>
</tr>
<tr>
<td>Appearance:</td>
<td></td>
</tr>
<tr>
<td>Form:</td>
<td>Fluid</td>
</tr>
<tr>
<td>Colour:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Odour:</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Odour threshold:</td>
<td>Not determined</td>
</tr>
<tr>
<td>pH-value:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Change in condition</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point:</td>
<td>-14 °C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>209 °C</td>
</tr>
<tr>
<td>Flash point:</td>
<td>98 °C</td>
</tr>
<tr>
<td>Flammability (solid, gas):</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Auto-ignition temperature:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Explosive properties:</td>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td>Explosion limits:</td>
<td></td>
</tr>
<tr>
<td>Lower:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Upper:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapour pressure at 20 °C:</td>
<td>0.1 hPa</td>
</tr>
<tr>
<td>Density at 20 °C:</td>
<td>1.213 g/cm³</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined</td>
</tr>
<tr>
<td>Solubility in / Miscibility with water:</td>
<td>Not miscible or difficult to mix.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Viscosity:</td>
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</tr>
<tr>
<td>Dynamic:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Kinematic:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Solvent content:</td>
<td></td>
</tr>
<tr>
<td>VOC (EC)</td>
<td>0.00 %</td>
</tr>
<tr>
<td>Other information</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

10 Stability and Reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivity</td>
<td>No further relevant information available.</td>
</tr>
<tr>
<td>Chemical stability</td>
<td></td>
</tr>
<tr>
<td>Thermal decomposition / conditions to be avoided:</td>
<td>No decomposition if used according to specifications.</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>No dangerous reactions known.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>No further relevant information available.</td>
</tr>
<tr>
<td>Incompatible materials:</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>
Trade name: 2-Chloroaniline

- Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological Information

- Information on toxicological effects
- Acute toxicity

- LD/LC50 values relevant for classification:

<table>
<thead>
<tr>
<th></th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalative LC50/4 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE</td>
<td>256 mg/kg (mouse)</td>
<td>300 mg/kg</td>
<td>4.1 mg/L (rat)</td>
</tr>
<tr>
<td>95-51-2 2-chloroaniline</td>
<td>256 mg/kg (mouse)</td>
<td>4.1 mg/L (rat)</td>
<td></td>
</tr>
</tbody>
</table>

- Primary irritant effect:
  - Skin corrosion/irritation: No irritant effect.
  - Serious eye damage/irritation: No irritating effect.
  - Respiratory or skin sensitisation: No sensitising effects known.

12 Ecological Information

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

13 Disposal considerations

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

- **UN-Number**
  - ADG, IMDG, IATA: UN2019

- **UN proper shipping name**
  - ADG: 2019 CHLOROANILINES, LIQUID, ENVIRONMENTALLY HAZARDOUS
  - IMDG, IATA: CHLOROANILINES, LIQUID

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

  - IMDG, IATA
    - Class: 6.1 Toxic substances.
    - Label: 6.1

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

- **Environmental hazards:**
  - Special marking (ADG): Symbol (fish and tree)

- **Special precautions for user**
  - Danger code (Kemler): 60
  - EMS Number: 6.1-02
  - Stowage Category: A
  - Segregation Code: SG35 Stow "separated from" acids.

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

- **Transport/Additional information:**
  - ADG
    - Limited quantities (LQ): 100 ml
    - Excepted quantities (EQ): Code: E4
      - Maximum net quantity per inner packaging: 1 ml
      - Maximum net quantity per outer packaging: 500 ml
    - Transport category: 2

(Contd. on page 8)
Tunnel restriction code: D/E

IMDG

Limited quantities (LQ): 100 ml
Excepted quantities (EQ): Code: E4
   Maximum net quantity per inner packaging: 1 ml
   Maximum net quantity per outer packaging: 500 ml

UN "Model Regulation":
   UN 2019 CHLOROANILINES, LIQUID, 6.1, II,
   ENVIRONMENTALLY HAZARDOUS

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
   Substance is not listed.

Directive 2012/18/EU
   Named dangerous substances - ANNEX I Substance is not listed.
   Seveso category
      H2 ACUTE TOXIC
      E1 Hazardous to the Aquatic Environment
   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

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
- 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
- Acute Tox. 3: Acute toxicity – Category 3
- STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2