# 1. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product name</td>
<td>2-Chloro-2-methylpropane</td>
</tr>
<tr>
<td>Product Number</td>
<td>C56352</td>
</tr>
<tr>
<td>Brand</td>
<td>Aldrich</td>
</tr>
<tr>
<td>Company</td>
<td>Sigma-Aldrich</td>
</tr>
<tr>
<td>Address</td>
<td>3050 Spruce Street</td>
</tr>
<tr>
<td></td>
<td>SAINT LOUIS MO 63103 USA</td>
</tr>
<tr>
<td>Telephone</td>
<td>+1 800-325-5832</td>
</tr>
<tr>
<td>Fax</td>
<td>+1 800-325-5052</td>
</tr>
<tr>
<td>Emergency Phone #</td>
<td>(314) 776-6555</td>
</tr>
</tbody>
</table>

# 2. HAZARDS IDENTIFICATION

**Emergency Overview**

- **OSHA Hazards**
  - Flammable liquid

**GHS Label elements, including precautionary statements**

- **Pictogram**: 

  ![Pictogram](image)

- **Signal word**: Danger

- **Hazard statement(s)**
  - H225: Highly flammable liquid and vapour.

- **Precautionary statement(s)**
  - P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

**HMIS Classification**

- Health hazard: 0
- Flammability: 3
- Physical hazards: 0

**NFPA Rating**

- Health hazard: 0
- Fire: 3
- Reactivity Hazard: 0

**Potential Health Effects**

- **Inhalation**: May be harmful if inhaled. May cause respiratory tract irritation.
- **Skin**: May be harmful if absorbed through skin. May cause skin irritation.
- **Eyes**: May cause eye irritation.
- **Ingestion**: May be harmful if swallowed.

# 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synonyms</td>
<td>tert-Butyl chloride</td>
</tr>
<tr>
<td>Formula</td>
<td>C₄H₉Cl</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>92.57 g/mol</td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

Further information
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place.

Refrigerate before opening. Hygroscopic. Handle and open container with care.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

**Personal protective equipment**

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**
For prolonged or repeated contact use protective gloves.

**Eye protection**
Face shield and safety glasses

**Skin and body protection**
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**Hygiene measures**
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**
Form liquid

**Safety data**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>no data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>-25 °C (-13 °F) - lit.</td>
</tr>
<tr>
<td>Boiling point</td>
<td>51 - 52 °C (124 - 126 °F) - lit.</td>
</tr>
<tr>
<td>Flash point</td>
<td>-23 °C (-9 °F) - closed cup</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>540 °C (1,004 °F)</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>no data available</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>no data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>350.1 hPa (262.6 mmHg) at 20 °C (68 °F)</td>
</tr>
<tr>
<td>Density</td>
<td>0.851 g/cm3 at 25 °C (77 °F)</td>
</tr>
<tr>
<td>Water solubility</td>
<td>no data available</td>
</tr>
<tr>
<td>Partition coefficient:</td>
<td>log Pow: 2.4</td>
</tr>
<tr>
<td>n-octanol/water</td>
<td></td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>- (Air = 1.0)</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

**Chemical stability**
Stable under recommended storage conditions.

**Possibility of hazardous reactions**
Vapours may form explosive mixture with air.

**Conditions to avoid**
hygroscopic
Heat, flames and sparks.
**Materials to avoid**
Strong oxidizing agents, Strong bases

**Hazardous decomposition products**
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas

### 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**
no data available

**Skin corrosion/irritation**
no data available

**Serious eye damage/eye irritation**
no data available

**Respiratory or skin sensitization**
no data available

**Germ cell mutagenicity**
no data available

**Carcinogenicity**
Carcinogenicity - mouse - Intraperitoneal
Tumorigenic:Neoplastic by RTECS criteria. Lungs, Thorax, or Respiration:Tumors.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**
no data available

**Specific target organ toxicity - single exposure (GHS)**
no data available

**Specific target organ toxicity - repeated exposure (GHS)**
no data available

**Aspiration hazard**
no data available

**Potential health effects**

<table>
<thead>
<tr>
<th>Mode</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>May be harmful if inhaled. May cause respiratory tract irritation.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>May be harmful if swallowed.</td>
</tr>
<tr>
<td>Skin</td>
<td>May be harmful if absorbed through skin. May cause skin irritation.</td>
</tr>
<tr>
<td>Eyes</td>
<td>May cause eye irritation.</td>
</tr>
</tbody>
</table>

**Signs and Symptoms of Exposure**
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Additional Information**
RTECS: TX5040000

### 12. ECOLOGICAL INFORMATION

**Toxicity**
no data available

**Persistence and degradability**
Bioaccumulative potential
no data available

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects
no data available

13. DISPOSAL CONSIDERATIONS

Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN-Number: 1127 Class: 3 Packing group: II
Proper shipping name: Chlorobutanes
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
UN-Number: 1127 Class: 3 Packing group: II EMS-No: F-E, S-D
Proper shipping name: CHLOROBUTANES
Marine pollutant: No

IATA
UN-Number: 1127 Class: 3 Packing group: II
Proper shipping name: Chlorobutanes

15. REGULATORY INFORMATION

OSHA Hazards
Flammable liquid

DSL Status
All components of this product are on the Canadian DSL list.

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Fire Hazard

Massachusetts Right To Know Components

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Chloro-2-methylpropane</td>
<td>507-20-0</td>
<td>1993-04-24</td>
</tr>
</tbody>
</table>

Pennsylvania Right To Know Components

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Chloro-2-methylpropane</td>
<td>507-20-0</td>
<td>1993-04-24</td>
</tr>
</tbody>
</table>
New Jersey Right To Know Components

2-Chloro-2-methylpropane

CAS-No. 507-20-0

Revision Date 1993-04-24

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Further information
Copyright 2010 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.