1. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>1,2-Dichlorobenzene</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Number</td>
<td>240664</td>
</tr>
<tr>
<td>Brand</td>
<td>Sigma-Aldrich</td>
</tr>
<tr>
<td>Supplier</td>
<td>Sigma-Aldrich</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 # (For both supplier and manufacturer)</td>
<td>(314) 776-6555</td>
</tr>
<tr>
<td>Preparation Information</td>
<td>Sigma-Aldrich Corporation</td>
</tr>
<tr>
<td></td>
<td>Product Safety - Americas Region</td>
</tr>
<tr>
<td></td>
<td>1-800-521-8956</td>
</tr>
</tbody>
</table>

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Combustible Liquid, Target Organ Effect, Toxic by ingestion, Irritant

Target Organs
Liver, Kidney, Central nervous system

GHS Classification
Flammable liquids (Category 4)
Acute toxicity, Oral (Category 4)
Skin irritation (Category 2)
Eye irritation (Category 2A)
Specific target organ toxicity - single exposure (Category 3)
Acute aquatic toxicity (Category 1)

GHS Label elements, including precautionary statements

Pictogram

Signal word Warning

Hazard statement(s)
H227 Combustible liquid
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.

Precautionary statement(s)
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P273 Avoid release to the environment.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
HMIS Classification

- Health hazard: 2
- Chronic Health Hazard: *
- Flammability: 2
- Physical hazards: 1

NFPA Rating

- Health hazard: 2
- Fire: 2
- Reactivity Hazard: 0

Potential Health Effects

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

- Formula: C₆H₄Cl₂
- Molecular Weight: 147.00 g/mol

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2-Dichlorobenzene</td>
<td></td>
</tr>
<tr>
<td>CAS-No.</td>
<td>95-50-1</td>
</tr>
<tr>
<td>EC-No.</td>
<td>202-425-9</td>
</tr>
<tr>
<td>Index-No.</td>
<td>602-034-00-7</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
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

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

5. FIREFIGHTING MEASURES

Conditions of flammability
Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

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

Further information
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES
Personal precautions
Use personal protective equipment. 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. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. 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. Light sensitive.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
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</thead>
<tbody>
<tr>
<td>1,2-Dichlorobenzene</td>
<td>95-50-1</td>
<td>TWA</td>
<td>25 ppm</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
</tr>
<tr>
<td>Remarks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye &amp; Upper Respiratory Tract irritation</td>
<td>Liver damage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>50 ppm</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
</tr>
<tr>
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<td></td>
<td>Eye &amp; Upper Respiratory Tract irritation</td>
<td>Liver damage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C</td>
<td>50 ppm 300 mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>The value in mg/m3 is approximate. Ceiling limit is to be determined from breathing-zone air samples.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C</td>
<td>50 ppm 300 mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C</td>
<td>50 ppm 300 mg/m3</td>
</tr>
</tbody>
</table>

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 ABEK (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
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Eye protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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, clear
- Colour: colourless

Safety data
- pH: no data available
- Melting point/freezing point: Melting point/range: -18 - -17 °C (0 - 1 °F) - lit.
- Boiling point: 178 - 180 °C (352 - 356 °F) - lit.
- Flash point: 66.0 °C (150.8 °F) - closed cup
- Ignition temperature: 648 °C (1,198 °F)
- Autoignition temperature: 648.0 °C (1,198.4 °F)
- Lower explosion limit: 2.2 % (V)
- Upper explosion limit: 9.2 % (V)
- Vapour pressure: 2.1 hPa (1.6 mmHg) at 35.0 °C (95.0 °F)
- 1.6 hPa (1.2 mmHg) at 20.0 °C (68.0 °F)
- Density: 1.306 g/cm³ at 25 °C (77 °F)
- Water solubility: no data available
- Partition coefficient: n-octanol/water: no data available
- Relative vapour density: no data available
- Odour: no data available
- Odour Threshold: no data available
- Evaporation rate: no data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
no data available

Conditions to avoid
Heat, flames and sparks.

Materials to avoid
Strong oxidizing agents
11. TOXICOLOGICAL INFORMATION

Acute toxicity

**Oral LD50**
LD50 Oral - rat - 500.0 mg/kg

**Inhalation LC50**
no data available

**Dermal LD50**
LD50 Dermal - rabbit - > 10,000 mg/kg

**Other information on 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**
- **IARC:** 3 - Group 3: Not classifiable as to its carcinogenicity to humans (1,2-Dichlorobenzene)
- **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

**Teratogenicity**
no data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**
May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**
no data available

**Aspiration hazard**
no data available

**Potential health effects**

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

**Synergistic effects**
no data available

**Additional Information**
RTECS: CZ4500000

12. ECOLOGICAL INFORMATION
Toxicity

Toxicity to fish
- LC50 - Oncorhynchus mykiss (rainbow trout) - 1.58 mg/l - 96.0 h
- NOEC - Cyprinodon variegatus (sheepshead minnow) - 9.7 mg/l - 96.0 h

Toxicity to daphnia and other aquatic invertebrates
- Immobilization EC50 - Daphnia magna (Water flea) - 0.74 mg/l - 48 h

Toxicity to algae
- Growth inhibition LOEC - Desmodesmus subspicatus (green algae) - 50 mg/l - 72 h

Persistence and degradability

Bioaccumulative potential
- Bioaccumulation: Lepomis macrochirus (Bluegill) - 14 d
- Bioconcentration factor (BCF): 89

Mobility in soil
- no data available

PBT and vPvB assessment
- no data available

Other adverse effects
- An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
- Very toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

Product
- This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. 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: 1591 Class: 6.1 Packing group: III
- Proper shipping name: o-Dichlorobenzene
- Reportable Quantity (RQ): 100 lbs
- Marine pollutant: No
- Poison Inhalation Hazard: No

IMDG
- UN number: 1591 Class: 6.1 Packing group: III EMS-No: F-A, S-A
- Proper shipping name: ortho-DICHLOROBENZENE
- Marine pollutant: No

IATA
- UN number: 1591 Class: 6.1 Packing group: III
- Proper shipping name: o-Dichlorobenzene

15. REGULATORY INFORMATION

OSHA Hazards
- Combustible Liquid, Target Organ Effect, Toxic by ingestion, Irritant

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
- The following components are subject to reporting levels established by SARA Title III, Section 313:
<table>
<thead>
<tr>
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<th>Revision Date</th>
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<tr>
<td>95-50-1</td>
<td>2007-07-01</td>
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**SARA 311/312 Hazards**
Fire Hazard, Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

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**Pennsylvania Right To Know Components**

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**New Jersey Right To Know Components**

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**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**
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