1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name : Carbon dioxide
Product Number : 93508
Brand : Fluka
Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO  63103
USA
Telephone : +1 800-325-5832
Fax : +1 800-325-5052
Emergency Phone #: (314) 776-6555

2. HAZARDS IDENTIFICATION

Risk advice to man and the environment
Not a hazardous substance or preparation according to EC-directives 67/548/EEC or 1999/45/EC.
Other hazards which do not result in classification
Contact with liquid or refrigerated gas can cause cold burns and frostbite.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : CO2
Molecular Weight : 44,01 g/mol

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
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<tr>
<td>Carbon dioxide</td>
<td>124-38-9</td>
<td>204-696-9</td>
<td>-</td>
<td>-</td>
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4. FIRST AID MEASURES

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

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

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

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Avoid dust formation.

Methods for cleaning up
Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling
Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Storage
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
Recommended storage temperature: -70 °C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protective equipment

Respiratory protection
Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. 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
Safety glasses

Hygiene measures
General industrial hygiene practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form solid

Safety data

pH no data available
Melting point no data available
Boiling point no data available
Flash point not applicable
Ignition temperature no data available
Lower explosion limit no data available
Upper explosion limit no data available
Water solubility no data available

10. STABILITY AND REACTIVITY
Storage stability
Stable under recommended storage conditions.

Materials to avoid
Strong oxidizing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity
no data available

Irritation and corrosion
Causes skin burns.
no data available

Sensitisation
no data available

Chronic exposure

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.

Signs and Symptoms of Exposure
Difficulty in breathing, Unconsciousness, death

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. |

Additional Information
RTECS: FF6400000

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)
no data available

Ecotoxicity effects
no data available
no data available

Further information on ecology
no data available
no data available

13. DISPOSAL CONSIDERATIONS

Product
Observe all federal, state, and local environmental regulations.
14. TRANSPORT INFORMATION

**ADR/RID**
UN-Number: 1845  Class: 9  
Proper shipping name: Dry ice

**IMDG**
UN-Number: 1845  Class: 9  Packing group: III  EMS-No: F-C, S-V  
Proper shipping name: DRY ICE  
Marine pollutant: No

**IATA**
UN-Number: 1845  Class: 9  Packing group: III  
Proper shipping name: Dry ice

15. REGULATORY INFORMATION

Labelling according to EC Directives
Safety datasheet available on request for professional users.

16. OTHER INFORMATION

Further information
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