1. **PRODUCT AND COMPANY IDENTIFICATION**

**Product Name**: Eversafe Dry Powder Cartridge Operated Portable Fire Extinguisher – EED-4c, EED-6c, EED-9c, EED-12c (Fire Extinguisher Agent)

**Manufacturer/Supplier**: Eversafe Extinguisher Sdn Bhd

**Address**: Lot 878, Jalan Subang 9, Taman Perindustrian Subang, 47500 Subang Jaya, Selangor Darul Ehsan, Malaysia

**Phone Number**: +60 3 8024 9898

**Website**: www.eversafe.net

**Date of MSDS Issued**: 09 November 2012

**MSDS Number**: QA-MSDS-13 (R3)

2. **COMPOSITION / INFORMATION ON THE COMPONENTS**

**Component Name**

a. **Extinguishing Agent: Dry Chemical Powder**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Content %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mono ammonium phosphate</td>
<td>7722-76-1</td>
<td>42.0±2.0</td>
</tr>
<tr>
<td>Ammonium sulphate</td>
<td>7783-20-2</td>
<td>46.0±2.0</td>
</tr>
<tr>
<td>Mica</td>
<td>12001-26-2</td>
<td>&lt;5.0</td>
</tr>
<tr>
<td>Methyl H Polysiloxane</td>
<td>63148-57-2</td>
<td>&lt;1.0</td>
</tr>
</tbody>
</table>

b. **Propellant: Carbon Dioxide, Cartridge**

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>124-38-9</td>
<td>&gt;99.0%</td>
</tr>
</tbody>
</table>

3. **HAZARD IDENTIFICATION**

**Extinguishing Media**

Non hazardous powder

**Propellant**

Compressed gas. High concentration may cause asphyxia. Contact with liquid product may cause frostbite. Contact with eye may cause damage.

**Emergency Overview** - Carbon Dioxide is colorless. At low concentrations, the gas is odorless. At higher concentrations it has a sharp, acidic odor. It was act as an asphyxiant and an irritant. Carbon Dioxide is a powerful cerebral dilator. At concentrations between 2 and 10%, Carbon Dioxide can nauseate, dizziness, headache, mental confusion, increased blood pressure and respiratory rate. Above 8% nausea and vomiting appear. Above 10%, suffocation and death can occur within minutes. Contact with the cold gas can cause freezing of exposed tissue. Moisture in the air can lead to formation of carbonic acid that can irritate the eyes. All forms of carbon Dioxide are noncombustible. Carbon Dioxide is heavier than air and should not be allowed to accumulate in low lying areas.

**Inhalation** - May cause Rapid Respiration, Muscular Incoordination, Fatigue, Nausea and Vomiting and Unconsciousness.

**Ingestion** - No Information found.

**Skin** - Pressure Drop through Valves and Piping may cause Extreme Cold and Frostbite on Contact No.

**Eye Contact** - No Information found.
4. FIRST AID MEASURES

**Extinguishing Media**
After inhalation – If inhaled, remove to fresh air. No serious effect.
After skin contact – Wash off with water and soap. No serious effect.
After eye contact – There might be a slight irritation which fades soon. Irrigate with water or eye
wash solution.
After swallowing – In case of persistent symptoms consult doctor.

**Propellant**
Inhalation- Immediately remove victim to fresh air. If breathing has stopped, give artificial respiration.
If breathing is difficult, give oxygen and get medical attention.
Skin contact – If frostbite occurs, flush affected areas with lukewarm water. Do not use hot water.
Get medical attention.
Eye contact – No Information found
Ingestion – No Information found

5. FIRE FIGHTING MEASURES

**Extinguishing Media**
This preparation is used as an extinguishing agent and therefore is not a problem when trying to
control a blaze. Keep pressurized extinguishers and surroundings cool with water spray as they may
rupture or burst in the heat of a fire.

**Unusual Fire and Explosion Hazards**
Pressurized containers may explode in heat of fire.

**Protective Equipment for Fire-Fighting**
Wear full protective clothing and self-contained breathing apparatus as appropriate for specific fire
conditions.

6. ACCIDENTAL RELEASE MEASURES

**Extinguishing Media**
Sweep up or vacuum. Prevent skin and eye contact. Wear appropriate protective equipment.

**Propellant**
Evacuate all personnel from affected area. Ensure adequate air ventilation.

7. HANDLING AND STORAGE

Pressurized extinguishers should be properly stored and secured to prevent falling or being knocked
over. Do not drag, slide or roll extinguisher. Do not drop extinguisher or permit them to strike against
each other. Never apply flame or localized heat directly to any part of the extinguisher. Store
pressurized extinguishers away from high heat sources. Storage area should be cool, dry, well
ventilated, under cover and out of direct sunlight.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

**Extinguishing Media**
Positive pressure air line with full-face mask and escape bottle or self-contained breathing apparatus
should be available for emergency use.

**Propellant**
**Respiratory Protection**
Full-face mask and self-contained breathing apparatus should be available for emergency use.

**Eye Protection**
Use safety goggles as appropriate for the job. A face shield is recommended for handling cryogenic
liquids.
**Skin Protection**
Use protective gloves of any material appropriate for the job. Insulated gloves are recommended for cryogenic liquids.

**Other/ General Protection**
Safety shoes.

### PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Properties</th>
<th>EED-6c</th>
<th>EED-9c</th>
<th>EED-12c</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class of Fire</td>
<td>A, B, C + Electrical</td>
<td>A, B, C + Electrical</td>
<td>A, B, C + Electrical</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-20°C to +60°C</td>
<td>-20°C to +60°C</td>
<td>-20°C to +60°C</td>
</tr>
<tr>
<td>Discharge Time</td>
<td>18 sec approx</td>
<td>25 sec approx</td>
<td>31 sec approx</td>
</tr>
<tr>
<td>Effective Range</td>
<td>5m approx</td>
<td>7m approx</td>
<td>7m approx</td>
</tr>
<tr>
<td>Discharge %</td>
<td>&gt;90%</td>
<td>&gt;90%</td>
<td>&gt;90%</td>
</tr>
<tr>
<td>Working Pressure</td>
<td>12 Bar @ 20°C</td>
<td>12 Bar @ 20°C</td>
<td>12 Bar @ 20°C</td>
</tr>
<tr>
<td>Test Pressure</td>
<td>25 Bar</td>
<td>25 Bar</td>
<td>25 Bar</td>
</tr>
<tr>
<td>Burst Pressure</td>
<td>&gt;69 Bar</td>
<td>&gt;69 Bar</td>
<td>&gt;69 Bar</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Properties</th>
<th>EED-4c</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class of Fire</td>
<td>A, B, C + Electrical</td>
</tr>
<tr>
<td>Fire Rating</td>
<td>21A : 89B</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-20°C to +60°C</td>
</tr>
<tr>
<td>Discharge Time</td>
<td>15 sec approx</td>
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<tr>
<td>Effective Range</td>
<td>5m approx</td>
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<tr>
<td>Discharge %</td>
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</tr>
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<tr>
<td>Burst Pressure</td>
<td>&gt;69 Bar</td>
</tr>
</tbody>
</table>

### STABILITY AND REACTIVITY

**Stability**
Stable under normal conditions.

**Conditions to Avoid**
Heat – High temperature, exposure to direct sunlight

**Materials to Avoid**
Strong oxidizing agents, strong acids, sodium hypochlorite.

**Hazardous Polymerization**
Will not occur

**Hazardous Decomposition Products**
Thermal decomposition may yield oxides of carbon, ammonia, oxides of phosphorus, nitrogen oxides and smoke.

### TOXICOLOGICAL INFORMATION

**Extinguishing Media**

**Acute Toxicity**
Low order of acute toxicity.

**Chronic Toxicity/ Carcinogenicity**
This product is not expected to cause long term adverse health effects.
Genotoxicity
This product is not expected to cause any mutagenic effects.

Reproductive/ Developmental Toxicity
This product is not expected to cause adverse reproductive effects.

Propellant
Carcinogenic References:
NTP Carcinogen – Known: No, IARC Category – None
Aggravated by Exposure:
Exposure to Carbon Dioxide at 1 to 4% concentrations result in increased respiratory volume. Material acts as a simple Asphyxiante by Displacing Air Necessary for life.

12. ECOLOGICAL INFORMATION

Extinguishing Agent: Dry Chemical Powder
Mobility
No relevant studies identified.

Persistence/ Degradability
No relevant studies identified.

Bio-accumulation
No relevant studies identified.

Ecotoxicity
No relevant studies identified.

Global Warming Potential (GWP)
The extinguishing media is completely non volatile and therefore, its GWP is zero.

Ozone-Depleting Substances (ODS)
The extinguishing media contains no ozone-depleting substance.

Propellant: Carbon Dioxide
When discharged in large quantities may contribute to the greenhouse effect.
No relevant studies identified.

Global Warming Potential (GWP)
1

Ozone-Depleting Substances (ODS)
None

13. DISPOSAL

Dispose of container in accordance with all applicable local and national regulations. Do not cut, puncture or weld on or near to the container. No harm to the environment is expected from this preparation.

14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>UN Proper Shipping Name</th>
<th>Fire extinguisher with compressed or liquified gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN Class</td>
<td>2.2</td>
</tr>
<tr>
<td>UN Number</td>
<td>1044</td>
</tr>
<tr>
<td>Flash Point</td>
<td>+0.0/CEL</td>
</tr>
</tbody>
</table>
15. REGULATORY INFORMATION

Designation according to EC guidelines:
Observe the normal safety regulations when handling chemicals
The product is not subject to identification regulations under EC Directives and the Ordinance on Hazardous Materials (GefStoffV).

National regulations

Water hazard class: Water hazard class 1 (self-assessment): slightly hazardous for water.

16. OTHER INFORMATION

These products are designed, manufactured and tested in accordance with requirements of BS EN 3. These products are also conforming to type as required by EC Pressure Equipment Directive PED 97/23/EC (CE Mark), EC Marine Equipment Directive MED 96/98/EC (Wheel Mark) and Kite Mark.

The information contained herein is based on data believed to be accurate. However, no representation, warranty, or guarantee is made to its accuracy, reliability or completeness. It is the user’s responsibility to satisfy himself as to the suitability and completeness of such information for its own particular use. Eversafe Extinguisher Sdn. Bhd. assumes no responsibility for personal injury or property damage resulting from use, handling or from contact with this product.

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