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

Chemical Name	CAS No.	Content %
Mono ammonium phosphate	7722-76-1	42.0±2.0
Ammonium sulphate	7783-20-2	46.0±2.0
Mica	12001-26-2	<5.0
Methyl H Polysiloxane	63148-57-2	<1.0

b. Propellant: Carbon Dioxide, Cartridge
CAS Number: 124-38-9
Percentage: >99.0%

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 nausea, 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 arrears 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Properties	EED-6c	EED-9c	EED-12c
Class of Fire	A, B, C + Electrical	A, B, C + Electrical	A, B, C + Electrical
Fire Rating	27A:183B	34A:233B	43A:233B
Temperature Range	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C
Discharge Time	18 sec approx	25 sec approx	31 sec approx
Effective Range	5m approx	7m approx	7m approx
Discharge %	>90%	>90%	>90%
Working Pressure	12 Bar @ 20°C	12 Bar @ 20°C	12 Bar @ 20°C
Test Pressure	25 Bar	25 Bar	25 Bar
Burst Pressure	>69 Bar	>69 Bar	>69 Bar

Properties	EED-4c
Class of Fire	A, B, C + Electrical
Fire Rating	21A : 89B
Temperature Range	-20°C to +60°C
Discharge Time	15 sec approx
Effective Range	5m approx
Discharge %	>90%
Working Pressure	12 Bar @ 20°C
Test Pressure	25 Bar
Burst Pressure	>69 Bar

10. 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.

11. 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 Asphyxiate 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

UN Proper Shipping Name	Fire extinguisher with compressed or liquified gas
UN Class	2.2
UN Number	1044
Flash Point	+0.0/CEL

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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