

Material Safety Data Sheet

Product Name: Firex Carbon Dioxide Extinguisher
Yuyao Carbon Dioxide Extinguisher
Date Revised: 02 May 2018

SECTION 1 - IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name:	Firex Carbon Dioxide Extinguisher Yuyao Carbon Dioxide Extinguisher
Other Names:	FXC20 Firex Carbon Dioxide Fire Extinguisher – 2.0kg FXC35 Firex Carbon Dioxide Fire Extinguisher – 3.5kg FXC50 Firex Carbon Dioxide Fire Extinguisher – 5.0kg YC20 Yuyao Carbon Dioxide Fire Extinguisher – 2.0kg YC35 Yuyao Carbon Dioxide Fire Extinguisher – 3.5kg YC50 Yuyao Carbon Dioxide Fire Extinguisher – 5.0kg
Recommended use of the chemical and restrictions on use:	Fire extinguishing agent.
Supplier Name:	Firex Distribution (Australia) Pty Ltd
Address:	Unit 5, 11 Packard Ave Castle Hill NSW 2154 Australia
Telephone Number:	+61 2 9680 8811 (9am – 5pm AET, Mon-Fri)
Emergency Number:	Emergency 000 Firex +61 415 528 974
Website:	www.firex.com.au
Email:	info@firex.com.au

SECTION 2 - HAZARDS IDENTIFICATION

Classification of the hazardous chemical

Classification according to the WHS Regulations Australia and the ADG Code.

Classified as Dangerous – Gases under Pressure – Compressed Gas

Label Elements

Hazard Pictograms:



Pictogram Code: GHS04 Gas Cylinder

Signal Word: WARNING

Hazard Statements

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H280 Contains gas under pressure; may explode in heated

Precautionary Statements

Prevention:

Response:

Storage:

P410 + P403

Protect from sunlight. Store in a well-ventilated place.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical identity of ingredients:

Carbon Dioxide CO₂

Proportion of ingredients:

100%

CAS No.:

124-38-9

SECTION 4 – FIRST AID MEASURES

Eye contact (symptoms, special & medical treatment):

No adverse effects not expected from normal use of this product.

Skin contact (symptoms, special & medical treatment):

In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.

Chronic overexposure can lead to cold burns. Seek medical advice under such circumstances.

Inhalation (symptoms, special & medical treatment):

In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Under such circumstance seek immediate medical attention.

Low concentrations of CO₂ cause increased respiration and headache. Remove victim to uncontaminated area wearing self-contained breathing apparatus. Keep victim warm and rested and seek immediate medical attention. Apply artificial respiration if breathing is stopped.

Ingestion (symptoms, special & medical treatment):

Not an expected route of entry.

Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

SECTION 5 - FIRE FIGHTING MEASURES

Suitable extinguishing

This preparation is an extinguishing media.

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equipment:	
Specific hazards arising from the chemical:	None.
Special protective equipment and precautions for fire fighters:	In confined space use self-contained breathing apparatus.
Hazchem Code:	Not applicable

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Emergency procedures:	Evacuate area. Ensure adequate air ventilation. Monitor oxygen levels. Wear self-contained breathing apparatus in confined spaces.
Personal precautions, protective equipment and emergency procedures:	Evacuate area. Ensure adequate air ventilation. Monitor oxygen levels. Wear self-contained breathing apparatus in confined spaces.
Environmental precautions:	Refer Section 12.
Methods and materials for containment and cleaning up:	Not Applicable.

SECTION 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Safe handling:	<ul style="list-style-type: none"> As it is a high pressure vessel caution should be taken to prevent damage to cylinder. Limit all unnecessary personal contact Wear protective clothing when risk of exposure occurs Use in a well-ventilated area Do not eat, drink or smoke when handling Always wash hands with soap and water after handling Avoid physical damage to containers Use good occupational work practice
Other information:	<ul style="list-style-type: none"> Observe manufacturer's storage and handling recommendations contained within this MSDS Do not expose to temperatures exceeding 50°C. Store away from sources of heat or ignition / naked lights

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	<ul style="list-style-type: none"> • Store in a cool, dry, well-ventilated area • Store in original container or fire extinguisher • Keep containers securely sealed when not in use
Conditions for safe storage, including any incompatibilities:	
Storage requirements:	<ul style="list-style-type: none"> • Observe manufacturer's storage and handling recommendations contained within this MSDS • Store in a cool, dry, well-ventilated area • Store away from direct sunlight, heat and ignition sources. • Store in original container or fire extinguisher • Keep containers securely sealed when not in use • Store away from combustible materials. • Do not expose to temperatures exceeding 50°C. • Cylinders should be stored in a vertical position and secured to prevent toppling.
Unsuitable storage containers:	Not known.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Biological limit values:	Carbon dioxide: ILV (EU) – 8H – (mg.m ³) : 9,000 Carbon dioxide: ILV (EU) – 8H (ppm) : 5,000 Carbon dioxide: TLV [Ⓞ] – TWA (ppm) : 5,000 Carbon dioxide: TLV [Ⓞ] – STEL (ppm) : 30,000
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Occupational Exposure Limits

Occupational exposure limits according to the *Workplace Exposure Standards for Airborne Contaminants*, Safe Work Australia.

Chemical Name	CAS No.	TWA ¹	STEL ²
Carbon Dioxide	124-38-9	ppm: - 5,000 mg/m ³ : 9,000	ppm: - 30,000 mg/m ³ : - 54,000

¹ TWA (8-hour Time Weighted Average)- means the maximum average airborne concentration of a substance when calculated over an eight-hour working day, for a five-day working week.

² STEL (Short Term Exposure Limit)- means the time-weighted average maximum airborne concentration of a substance calculated over a 15 minute period.

Engineering controls:	Check regularly for leakages.
Personal protective equipment:	Eye protection - safety goggles. Skin protection - protective gloves. Respiratory protection – ensure adequate ventilation

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance (colour, physical form,	Liquefied gas. Colourless.
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shape):	
Odour:	None.
Odour threshold:	Data not available
pH:	Data not available
Vapour pressure:	57.3 bar at 20°C
Vapour density:	Gas - 1.52 (air=1) Liquid – 1.03 (water=1)
Boiling point:	-78.5°C
Melting point:	-56.6°C
Evaporation rate:	Data not available
Flammability	Not applicable
Upper / Lower Flammability or Explosive limits:	Not flammable.
Solubility (specify solvent, e.g. water):	2,000 mg/l
Relative density:	1.522 (water = 1)
Partition coefficient (n-octanol/water):	Not Applicable.
Ignition temperature:	Does not ignite.
Decomposition temperature	Data not available
Viscosity	Not Applicable

SECTION 10 - STABILITY AND REACTIVITY

Reactivity:	Refer to Section 7
Chemical stability:	Stable
Possibility of Hazardous reactions:	See below.
Conditions to avoid:	Refer to Section 7.
Incompatible materials:	None.
Hazardous decomposition products:	None under normal storage and use.

SECTION 11 - TOXICOLOGICAL INFORMATION

Information on Toxicological effects

This product has not been tested for toxicological effects.

Acute toxicity: In high concentrations may cause rapid circulatory insufficiency.

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	Symptoms are headache, nausea and vomiting, which may lead to unconsciousness.
Skin corrosion / irritation:	In circumstances of prolonged exposure can cause chilling sensation even frost bite.
Serious eye damage/irritation:	In liquid form CO2 can cause an irritating sensation to the eyes.
Respiratory or skin sensitisation:	In high concentrations may cause rapid circulatory insufficiency. Symptoms are headache, nausea and vomiting, which may lead to unconsciousness.
Germ cell mutagenicity:	Data not available.
Carcinogenicity:	Data not available.
Reproductive toxicity:	Data not available.
Specific Target Organ Toxicity (STOT) – single exposure:	Data not available.
Specific Target Organ Toxicity (STOT) – repeated exposure:	Data not available.
Aspiration hazard:	Data not available.
Information on possible routes of exposure	
Eye contact:	In liquid form CO2 can cause an irritating sensation to the eyes.
Skin contact:	In high concentrations may cause rapid circulatory insufficiency. Symptoms are headache, nausea and vomiting, which may lead to unconsciousness.
Inhalation:	In high concentrations may cause rapid circulatory insufficiency. Symptoms are headache, nausea and vomiting, which may lead to unconsciousness.
Ingestion:	Not an expected route of entry.
Early onset symptoms related to exposure	
Data not available.	
Delayed health effects from exposure	
Data not available.	
Exposure levels and health effects	
Data not available.	
Interactive effects	
Data not available.	
Mixture of chemicals	
Data not available.	
Other information	

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No other information available.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	Not determined.
Persistence and degradability:	
Mobility:	
Environmental fate (exposure):	In extreme cases, when discharged in large quantities may contribute to greenhouse effect.
Bioaccumulative potential:	Not determined.

Ecotoxicity:

Classification according to Registered Substances – Ecotoxicological Information – Aquatic Toxicity, ECHA.

Substance	Endpoint	Test Duration (hr)	Species	Value
Carbon Dioxide	Not classified			

Persistence and degradability:	Data not available.
Mobility in soil:	Data not available.
Bioaccumulative potential:	Data not available.
Other adverse effects:	In extreme cases, when discharged in large quantities may contribute to greenhouse effect.


SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal methods and containers:	Discharge slowly into the atmosphere. Dispose of in compliance with national, regional and local provisions that may be in force.
Physical / Chemical Properties that may affect disposal options:	Not known
Effects of Sewerage Disposal:	Not known
Special precautions for landfill or incineration:	None.

SECTION 14 - TRANSPORT INFORMATION

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Labels Required	 2.2 Non flammable, non toxic gas
Land Transport (ADG)	
Classification as Dangerous Goods according to the <i>Australian Code for the Transport of Dangerous Goods by Road & Rail (Ed 7.3, August 2014), National Transport Commission.</i>	
UN Number:	1044
Proper Shipping Name:	FIRE EXTINGUISHERS with compressed gas or liquefied gas
Transport hazard class:	Class 2.2 Subrisk Not Applicable
Packing Group:	Not Applicable
Environmental hazards for Transport Purposes:	Not Applicable
Special precautions for user:	Special Provisions: 225
Hazchem Code:	Not Applicable
Air Transport (ICAO, IATA - DGR)	
Classification as Dangerous Goods according to the <i>Dangerous Goods Regulations, International Air Transport Association (IATA).</i>	
UN Number:	1044
Proper Shipping Name:	FIRE EXTINGUISHERS with compressed gas or liquefied gas
Transport hazard class:	Class 2.2 Subrisk Not Applicable
Packing Group:	Not Applicable
Environmental hazards for Transport Purposes:	Not Applicable
Special precautions for user:	Special Provisions: A19 Cargo Only Packing Instructions: 213 Passenger and Cargo Packing Instructions: 213
Hazchem Code:	Not Applicable
Sea Transport (IMO - IMDG)	
Classification as Dangerous Goods according to the <i>International Maritime Dangerous Goods Code (IMDG), International Maritime Organisation (IMO).</i>	
UN Number:	1044
Proper Shipping Name:	FIRE EXTINGUISHERS with compressed gas or liquefied gas

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Transport hazard class:	Class 2.2 Subrisk Not Applicable
Packing Group:	Not Applicable
Environmental hazards for Transport Purposes:	Not Applicable
Special precautions for user:	EMS Number: F-C, S-V Special Provisions: 225
Hazchem Code:	Not Applicable

SECTION 15 - REGULATORY INFORMATION

Safety, health and environmental regulations / legislation specific for the substance or mixture

All components of this product are listed on the Australian Inventory of Chemical Substances (AICS) or exempted.

SECTION 16 - OTHER INFORMATION

Date of preparation or last revision of the MSDS:	Rev C, 02 May 2018
Disclaimer	The above information is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. Firex Distribution (Australia) Pty Ltd shall not be held liable for any damage or loss resulting from handling or from contact with the above product.

End MSDS