

Tulmar Safety Systems Inc

Safety Data Sheet

SECTION 1. IDENTIFICATION

Product Identifier Model: Hammerhead Rearming Kit – 5675-100 and loose rearming cylinder 3168
Other Means of Identification Life Vest / Life Preserver Rearming Kit, UN1013 Class 2.2
Rearming CO₂ cylinders, UN1013 Class 2.2
Recommended Use Maintenance, Rearming Kit
Restrictions on Use Contains 1 unit of small compressed gas cylinder (part 3168). See Tulmar Life Vests SDS sheet for details once installed on device (re-armed).
Cylinders can be sold without alone.
Initial Supplier Identifier Tulmar Safety Systems Inc
Emergency Telephone Number CANUTEC 613-996-6666

SECTION 2. HAZARD IDENTIFICATION

Classification Carbon dioxide CO₂, compressed gas, CAS# 124-38-9, UN1013, Class 2.2
Gases under pressure – Liquefied gas Simple asphyxiant
OSHA/HCS Status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910. 1200) when used in a workplace.
The rearming contains pressurized gas cylinder which may discharge or rupture under extreme temperatures or fire.
Unusual Hazards Carbon dioxide displace air and is asphyxiant in high concentrations.
Other Hazards See section 5

Label Elements



SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration	Common name / Synonyms	Other identifiers
Carbon dioxide	124-38-9	Compressed	CO ₂ ,	UN1013

SECTION 4. FIRST-AID MEASURES

Description of necessary first aid measures

Inhalation Provide fresh air and seek medical attention.

Eye contact	Direct exposure to the compressed gas stream may cause frostbite. If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation, pain, swelling or impact on vision persist, get medical attention as soon as possible.
Skin Contact	Can cause frostbite / numbness if in contact to liquified CO ² or direct exposure to the compressed gas discharge. DO NOT rub the affected area(s) or flush them with water: Quickly remove source of contamination; Carefully cut around clothing that sticks to the skin and remove the rest of the garment. Loosely cover the affected area with a sterile dressing. Immediately seek medical attention.
Ingestion	DO NOT induce vomiting, seek medical attention immediately.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media	CO ² is a nonflammable gas
Unsuitable Extinguishing Media	N/A
Specific Hazards Arising from the Product	When storing in large quantities, large amount of discharged CO ² may displace oxygen and cause rapid suffocation. Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	Decomposition products may include the following materials: Carbon dioxide Carbon monoxide
Special Protective Equipment and Precautions for Fire-Fighters	Use water spray to keep fire-exposed containers cool. Fire-fighters should wear appropriate equipment and self-contained breathing apparatus (SCBA).

SECTION 6. ACCIDENTAL RELEASE MEASURES

For non-emergency personnel	No action shall be taken involving any personal risk or without suitable training.
Personal Precautions, Protective Equipment, and Emergency Procedures	Compressed gas, protect against frostbite and ventilate the area. To avoid high concentration of CO ² in case of accidental release, ventilate room or areas.
Methods for Containment and Cleaning Up	Released CO ² will ventilate to the outside atmosphere and leave no waste behind other than the life preserver, which can be rearmed for future use.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling	Contains gas under pressure. Do not heat or rupture the CO ² cylinder. Do not drop or crush packaged kits.
Conditions for Safe	Store in cool dry area away from heat source, open flame, and moisture.

Storage

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH® TLV®		OSHA PEL	
	TWA	STEL	TWA	STEL
Carbon Dioxide	5,000 ppm	30,000 ppm	5,000 ppm	30, 000 ppm

Notes

Appropriate Engineering Controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants. Mechanical ventilation discharged to the outside, personal enclosure, remote or automated operation.

Individual Protection Measures Eye/Face Protection

Safety glasses should be used when dispensing a cartridge.

Skin Protection

Wear protective gloves. Do not touch a cartridge when discharging as it may cause frost burns.

Respiratory Protection

Air supplied breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed OEL.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical State

Gas at normal temperature and pressure

Colour

Colorless

Molecular Weight

44.01 g/mol

Molecular formula

C-O₂

Melting/freezing point

Sublimation temperature: -79C (-110.2F)

Critical temperature

30.85C (87.5F)

Odour

Odorless

Odour Threshold

N/A

pH

N/A

Melting Point and Freezing Point

N/A

Initial Boiling Point and Boiling Range

N/A

Flash Point

Product does not sustain combustion

Evaporation Rate

N/A

Flammability (solid,gas)

N/A

Upper and Lower

N/A

Flammability or Explosive Limit

Vapour Pressure

830 psig at 70F

Vapour Density (air = 1)

1.53 (Air = 1), Liquid Density@BP: Solid Density = 97.5

	lb/ft ³ (1562 kg/m ³)
Specific Volume	8.7719 ft ³ /lb (m ³ /g)
Gas Density	0.114 lb/ft ³ (178.6 g/m ³)
Relative Density(water = 1)	N/A
Solubility in Water	N/A
Solubility in Other Liquids	N/A
Partition Coefficient,n-Octanol / Water (Log Kow)	0.83
Auto-ignition Temperature	N/A
Decomposition Temperature	N/A
Viscosity	N/A

SECTION 10. STABILITY AND REACTIVITY

Reactivity	No specific test data related to reactivity is available for this product or its ingredients.
Chemical Stability	Stable under normal conditions
Possibility of Hazardous Reactions	N/A
Conditions to Avoid	Keep away from heat and sharp objects. May form harmful fumes under fire conditions.
Incompatible Materials	N/A
Hazardous Decomposition Products	The CO ² will discharge to the atmosphere. Other items in the kit will not be impacted.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

☐ Inhalation ☐ Skin contact ☐ Eye contact ☐ Ingestion

Acute Toxicity	
LC50	Not classified
LD50 (oral)	Not classified
LD50 (dermal)	Not classified

Notes

Skin Corrosion / Irritation	Not a skin irritant
Serious Eye Damage / Irritation	May cause mild eye irritation.
STOT (Specific Target Organ Toxicity) - Single Exposure	N/A
Aspiration Hazard	N/A
STOT (Specific Target Organ Toxicity) - Repeated Exposure	N/A
Respiratory and/or Skin Sensitization	N/A

Carcinogenicity: No carcinogenic components identified
Hammerhead Rearming Kit SDS 2025-09-24

© Tulmar Safety Systems Inc.

TULMAR

Chemical Name	IARC	ACGIH®	OSHA
N/A	N/A	N/A	N/A

Notes

Reproductive Toxicity

Development of Offspring	No reported effects
Sexual Function And Fertility	No reported effects
Effects on or Via Lactation	No reported effects
Germ Cell Mutagenicity	N/A
Interactive Effects	N/A

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity	CO2 can be harmful to aquatic life
Persistence and Degradability	N/A

Bioaccumulative Potential


Product / Ingredient name	Log P _{ow}	BCF	Potential
Carbon Dioxide	0.83	-	Low

Mobility in Soil	Soil/Water partition coefficient (K _{oc})	Other adverse effects
Other Adverse Effects	N/A	

SECTION 13. DISPOSAL CONSIDERATIONS

Discharge of Carbon Dioxide	Gradually release in open air.
Disposal of Cylinders and Cartridges	Disposal as per local regulations and in accordance with applicable laws. Larger cylinders with an integrated valve; use a device to empty and recycle. Do not dispose of or recycle cylinders without first checking that all gas has been released.
Disposal of empty cylinders and cartridges	Cartridges with a puncture hole are considered empty and may be recycled

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Technical Name (for N.O.S. entry)	Transport Hazard Class(es)	Packing Instruction IATA
	1013	Nonflammable Gas	Carbon Dioxide	2 (2.2)	CFR 49, 172.101

Special Precautions

N/A

Environmental Hazards

N/A



Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Limited Quantity (Authorized per 49 CFR 173.306)

Special Notes regarding transportation:

All CO2 filled cartridges less than 114 ml of water capacity offered for ground transportation qualify for the exceptions provided in 49CFR 173.306 so that the proper shipping name of "Limited Quantity" may be used for shipping papers and carton identification labels.

IATA/IACO/FedEx/UPS each have their own unique requirements regarding transportation of CO2 filled cartridges of less than 114ml of water capacity. With a few limited exceptions, cartridges filled with CO2 less than 114ml of water capacity need to be offered as Carbon Dioxide UN1013.

49CFR requires that employers shall provide specific training/certification for employees who handle and offer Dangerous Goods for any mode of transportation.

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

SARA 311/312 Hazardous Category: Sudden release of pressure (Yes)

Canada: Listed or exempted

SECTION 16. OTHER INFORMATION

Hazard Rating Systems

NFPA Ratings

Health = 2
Flammability = 0
Reactivity = 0
Special = SA

HMIS Ratings

Health = 1
Flammability = 0
Physical hazards = 3

Date of Latest Revision

September 24, 2025