

# Tulmar Safety Systems Inc

## Safety Data Sheet

### SECTION 1. IDENTIFICATION

<b>Product Identifier</b>	Model: TSO-C13F – P/N 6750-( )*, 6750C-( )* ; Model: Training – P/N 6430-( ) ; Military Models: LPYMP: P/N 6105-001, LPYHD: P/N 6525-001**, PFDU P/N 6123-002, LPYLT P/N 6527-001 Model: Hammerhead™** – P/N 67003, 67004, 67006, 67006-001, 67007-001, 67008-001 Model: Galeo Alpha** – 67020-002, 67020-005, 67020-008, 67020-011, 67020- 014, 67020-017, 67020-020, 67020-023 Model: Galeo Manual – 67020-001, 67020-004, 67020-007, 67020-010, 67020- 013, 67020-016, 67020-019, 67020-022 *Water activated chemical battery **Water activated inflation available on these models
<b>Other Means of Identification</b>	Life vest, Life Preserver, Lifesaving appliance, self-inflating, UN2990 Class 9
<b>Recommended Use</b>	As a flotation / lifesaving device
<b>Restrictions on Use</b>	Inflated with compressed gas, do not use or store around sharp objects risk of puncture. Some models are setup for water activated inflation.
<b>Initial Supplier Identifier</b>	Tulmar Safety Systems Inc
<b>Emergency Telephone Number</b>	CANUTEC 613-996-6666

### SECTION 2. HAZARD IDENTIFICATION

<b>Classification</b>	Carbon dioxide CO <sub>2</sub> , compressed gas, CAS# 124-38-9, UN1013, Class 2.2 Lithium Battery, CR123A lithium or Alkaline battery packed with the Equipment, UN3481, Class 9.
<b>Unusual Hazards</b>	The packed life vest contains pressurized gas cylinder which may discharge or rupture under extreme temperatures or fire. Carbon dioxide displace air and is asphyxiant in high concentrations. The life vest could self-inflate without warning under fire or excessive heat conditions. Some life vest model has water activated inflators that depends on a soluble tablet to dissolve to trigger inflation. Life vest could self-inflate without warning if in contact with water.
<b>Other Hazards</b>	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 <sup>2</sup> ,	CO <sup>2</sup>
Lithium battery	N/A	N/A	Cells	UN3481

### SECTION 4. FIRST-AID MEASURES

In general, a single packaged life vest, when handled, activated, and worn properly, poses little risk to your health or safety.

If in contact with CO<sup>2</sup> gas;

**Inhalation** Provide fresh air and seek medical attention.

**Eye contact** 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<sup>2</sup>. 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.

The battery information below is applicable only to Life preserver models equipped with sea light powered by water activated battery or lithium battery.

Under normal conditions of use, batteries are hermetically sealed. The below first aid measures applies for open or leaking batteries;

**Inhalation** Provide fresh air and seek medical attention.

**Eye contact** Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.

**Skin Contact** Remove contaminated clothing and wash skin with soap and water.

**Ingestion** DO NOT induce vomiting, seek medical attention immediately.

Under normal conditions of use, chemical water activated batteries do not represent health hazard.

**Inhalation** Under normal conditions of use, the battery is not a health hazard

**Eye contact** Contact with battery contents may cause irritation. Under normal conditions of use, first Aid is not required. If battery is activated and material contacts the eye, flush thoroughly with copious amounts of running water for 15 minutes. If easy to do, remove contact lenses and continue to flush with water.

**Skin Contact** Under normal conditions of use, the battery is not a health hazard

**Ingestion** Under normal conditions of use, the battery is not a health hazard

## SECTION 5. FIRE-FIGHTING MEASURES

### Extinguishing Media

#### Suitable Extinguishing Media

Large volumes of water, carbon dioxide/ chemical extinguishers / powder, sand. Water may not extinguish burning batteries but will cool the adjacent batteries and control the spread of fire. Fires involving lithium batteries can be controlled by flooding with water. However, the contents of the battery will react with water and form hydrogen gas. In a confined space, hydrogen gas can form an explosive mixture. In this situation, smothering agents are recommended. A smothering agent will extinguish burning lithium batteries.

#### Unsuitable Extinguishing Media

Chemical water activated battery contains Magnesium which if ignited requires a Class D fire extinguishing agent or smother with sand.

N/A

### Specific Hazards Arising from the Product

When storing in large quantities, large amount of discharged CO<sup>2</sup> may displace oxygen and cause rapid suffocation.

Flame retardant urethane coated material will release toxic fumes during a fire.

### Special Protective Equipment and Precautions for Fire-Fighters

Ventilate area first and wear protective breathing equipment and protective clothing.

Emergency Responders should wear self-contained breathing apparatus. Burning lithium batteries produce toxic and corrosive lithium hydroxide fumes and sulfur dioxide gas.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment, and Emergency Procedures

Hazardous materials are contained in sealed units within packed life vest. Should pose no threat if the sealed units are not breached.

May contain wateractivated batteries, wear appropriate protective clothing.

Compressed gas, protect against frostbite and ventilate the area.

To avoid high concentration of CO<sup>2</sup> in case of accidental release, ventilate room or areas.

Avoid exposure to electrolyte fumes from open or leaking batteries.

Wear safety glasses with side shields if handling an open or leaking battery.

Ignition sources must be voided. Handle material with care.

### Methods for Containment and Cleaning Up

Released CO<sup>2</sup> will ventilate to the outside atmosphere and leave no waste behind other than the vest, which can be rearmed for future use. May contain batteries, dispose of as per local regulations.

## SECTION 7. HANDLING AND STORAGE

### Precautions for Safe Handling

Do not heat or rupture the CO<sup>2</sup> cylinder. Do not drop or crush packaged vests. If removed from packaging DO NOT PULL THE INFLATION TAB, this will activate the inflation system.

### Conditions for Safe Storage

Store in cool dry area away from excessive heat, open flame, and moisture. May contain water activated batteries

## 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

<b>Appropriate Engineering Controls</b>	Mechanical ventilation discharged to the outside, personal enclosure, remote or automated operation, supply replacement air
<b>Individual Protection Measures</b>	
<b>Eye/Face Protection</b>	Safety glasses
<b>Skin Protection</b>	Chemically resistant gloves
<b>Respiratory Protection</b>	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	N/A
Odour	N/A
Odour Threshold	N/A
pH	N/A
Melting Point and Freezing Point	N/A
Initial Boiling Point and Boiling Range	N/A
Flash Point	N/A
Evaporation Rate	N/A
Flammability (solid, gas)	N/A
Upper and Lower Flammability or Explosive Limit	N/A
Vapour Pressure	N/A
Vapour Density (air = 1)	N/A
Relative Density (water = 1)	N/A
Solubility in Water	N/A
Solubility in Other Liquids	N/A
Partition Coefficient, n-Octanol / Water (Log Kow)	N/A
Auto-ignition Temperature	N/A
Decomposition Temperature	N/A
Viscosity	N/A

**SECTION 10. STABILITY AND REACTIVITY**

**Reactivity** N/A  
**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<sup>2</sup> will discharge to the atmosphere, and the life vest will remain intact.

**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

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

**Notes**

**Reproductive Toxicity**

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

**SECTION 12. ECOLOGICAL INFORMATION**

<b>Ecotoxicity</b>	CO2 can be harmful to aquatic life
<b>Persistence and Degradability</b>	N/A
<b>Bioaccumulative Potential</b>	N/A
<b>Mobility in Soil</b>	N/A
<b>Other Adverse Effects</b>	N/A

**SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal Methods** Disposal as per local regulations and in accordance with applicable laws.

**SECTION 14. TRANSPORT INFORMATION**

Regulation	UN No.	Proper Shipping Name	Technical Name (for N.O.S. entry)	Transport Hazard Class(es)	Packing Instruction IATA
	2990	Life Vest	Life Saving Appliance, self inflating	9	955

<b>Special Precautions Environmental Hazards</b>	N/A
<b>Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code</b>	N/A

## **SECTION 15. REGULATORY INFORMATION**

**Safety, Health and  
Environmental  
Regulations**

To the best of our knowledge there are no chemicals at levels that require reporting for this product.

## **SECTION 16. OTHER INFORMATION**

**Date of Latest  
Revision**

March 20, 2023