



Survitec Group Life Jackets and Baby Cots RFD (Australia) Pty Ltd

Chemwatch: 5234-12

Version No: 3.1

Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

Chemwatch Hazard Alert Code: 1

Issue Date: 01/11/2019

Print Date: 10/11/2021

L.GHS.AUS.EN

SECTION 1 Identification of the substance / mixture and of the company / undertaking

Product Identifier

Product name	Survitec Group Life Jackets and Baby Cots
Chemical Name	carbon dioxide
Synonyms	Not Available
Proper shipping name	LIFE-SAVING APPLIANCES, SELF-INFLATING
Chemical formula	Not Applicable
Other means of identification	Not Available

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Self-inflating life-saving appliances and inflatable buoyant apparatus charged with a mixture of carbon dioxide and nitrogen gases. Self-inflating life-saving appliances and inflatable buoyant apparatus charged with carbon dioxide gas.
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Details of the supplier of the safety data sheet

Registered company name	RFD (Australia) Pty Ltd
Address	2 Burilda Close Wetherill Park NSW 2164 Australia
Telephone	+61 2 8797 4300 1800 646 086
Fax	+61 2 8797 4380
Website	www.rfd.com.au
Email	Australia@survitecgroup.com

Emergency telephone number

Association / Organisation	RFD (Australia) Pty Ltd
Emergency telephone numbers	+61 2 8797 4328
Other emergency telephone numbers	0420 963 243

SECTION 2 Hazards identification

Classification of the substance or mixture

Poisons Schedule	Not Applicable
Classification [1]	Not Applicable

Label elements

Hazard pictogram(s)	Not Applicable
Signal word	Not Applicable

Hazard statement(s)

Not Applicable

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

Survitec Group Life Jackets and Baby Cots

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
124-38-9	100	carbon dioxide
Legend: 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available		

SECTION 4 First aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with eyes: <ul style="list-style-type: none"> Wash out immediately with water. If irritation continues, seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. Generally not applicable.
Skin Contact	If skin or hair contact occurs: <ul style="list-style-type: none"> Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation. Generally not applicable.
Inhalation	Remove patient to fresh air and seek medical attention.
Ingestion	<ul style="list-style-type: none"> Generally not applicable. In case of accident seek medical attention

Indication of any immediate medical attention and special treatment needed

For gas exposures:

BASIC TREATMENT

- Establish a patent airway with suction where necessary.
- Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- Administer oxygen by non-rebreather mask at 10 to 15 l/min.
- Monitor and treat, where necessary, for pulmonary oedema.
- Monitor and treat, where necessary, for shock.
- Anticipate seizures.

ADVANCED TREATMENT

- Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- Positive-pressure ventilation using a bag-valve mask might be of use.
- Monitor and treat, where necessary, for arrhythmias.
- Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- Drug therapy should be considered for pulmonary oedema.
- Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- Treat seizures with diazepam.
- Proparacaine hydrochloride should be used to assist eye irrigation.

BRONSTEIN, A.C. and CURRANCE, P.L.

EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

Treat symptomatically.

SECTION 5 Firefighting measures

Extinguishing media

- Water spray or fog.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.
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Advice for firefighters

Fire Fighting	Slight hazard when exposed to heat, flame and oxidisers.
Fire/Explosion Hazard	Articles and manufactured articles may constitute a fire hazard where polymers form their outer layers or where combustible packaging remains in place. Certain substances, found throughout their construction, may degrade or become volatile when heated to high temperatures. This may create a secondary hazard. <ul style="list-style-type: none"> Combustible with explosion hazard. Detonation may occur from heavy impact or excessive heating. Heating may cause expansion or violent decomposition. Heat affected containers remain hazardous. May emit irritating or corrosive fumes. Decomposes on heating and produces:

Survitec Group Life Jackets and Baby Cots

	carbon dioxide (CO ₂) carbon monoxide (CO)
HAZCHEM	2Z

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<ul style="list-style-type: none"> ▶ Clean up all spills immediately. ▶ Secure load if safe to do so. ▶ Bundle/collect recoverable product. ▶ Collect remaining material in containers with covers for disposal.
Major Spills	<ul style="list-style-type: none"> ▶ Minor hazard. ▶ Clear area of personnel. ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear physical protective gloves e.g. Leather. ▶ Contain spill/secure load if safe to do so. ▶ Bundle/collect recoverable product and label for recycling. ▶ Collect remaining product and place in appropriate containers for disposal. ▶ Clean up/sweep up area. ▶ Water may be required.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	<p>Contains low boiling substance: Storage in sealed containers may result in pressure buildup causing violent rupture of containers not rated appropriately.</p> <ul style="list-style-type: none"> ▶ Check for bulging containers. ▶ Vent periodically ▶ Always release caps or seals slowly to ensure slow dissipation of vapours ▶ Limit all unnecessary personal contact. ▶ Wear protective clothing when risk of exposure occurs. ▶ Use in a well-ventilated area. ▶ Avoid contact with incompatible materials. ▶ When handling, DO NOT eat, drink or smoke. ▶ Keep containers securely sealed when not in use. ▶ Avoid physical damage to containers. ▶ Always wash hands with soap and water after handling. ▶ Work clothes should be laundered separately. ▶ Use good occupational work practice. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS. ▶ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.
Other information	<ul style="list-style-type: none"> ▶ Store in original containers. ▶ Keep containers securely sealed. ▶ Store in a cool, dry, well-ventilated area. ▶ Store away from incompatible materials and foodstuff containers. ▶ Protect containers against physical damage and check regularly for leaks. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS.

Conditions for safe storage, including any incompatibilities

Suitable container	▶ Packaging as recommended by manufacturer.
Storage incompatibility	▶ Store away from incompatible materials.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	carbon dioxide	Carbon dioxide in coal mines	12500 ppm / 22500 mg/m ³	54000 mg/m ³ / 30000 ppm	Not Available	Not Available
Australia Exposure Standards	carbon dioxide	Carbon dioxide	5000 ppm / 9000 mg/m ³	54000 mg/m ³ / 30000 ppm	Not Available	Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
Survitec Group Life Jackets and	Not Available	Not Available	Not Available

Continued...




Survitec Group Life Jackets and Baby Cots

Ingredient	TEEL-1	TEEL-2	TEEL-3
Baby Cots			

Ingredient	Original IDLH	Revised IDLH
carbon dioxide	40,000 ppm	Not Available

MATERIAL DATA

Exposure controls

Appropriate engineering controls	Articles or manufactured items, in their original condition, generally don't require engineering controls during handling or in normal use. Exceptions may arise following extensive use and subsequent wear, during recycling or disposal operations where substances, found in the article, may be released to the environment.
Personal protection	  
Eye and face protection	<ul style="list-style-type: none"> ▶ Safety glasses. ▶ Safety glasses with side shields. ▶ Chemical goggles. ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]
Skin protection	See Hand protection below
Hands/feet protection	Wear general protective gloves, eg. light weight rubber gloves.
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ▶ Overalls. ▶ PVC Apron. ▶ PVC protective suit may be required if exposure severe. ▶ Eyewash unit. ▶ Ensure there is ready access to a safety shower.

Respiratory protection

Respiratory protection not normally required due to the physical form of the product.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Colourless gas with no odour.		
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Physical state	Manufactured	Relative density (Water = 1)	Not Applicable
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Applicable	Decomposition temperature	Not Applicable
Melting point / freezing point (°C)	Not Applicable	Viscosity (cSt)	Not Applicable
Initial boiling point and boiling range (°C)	Not Applicable	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Applicable	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Applicable	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (%)	Not Applicable
Vapour density (Air = 1)	Not Applicable	VOC g/L	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7

Continued...

Survitec Group Life Jackets and Baby Cots

Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	Material is highly volatile and may quickly form a concentrated atmosphere in confined or unventilated areas. The vapour may displace and replace air in breathing zone, acting as a simple asphyxiant. This may happen with little warning of overexposure. 5455i
Ingestion	Not normally a hazard due to physical form of product. Considered an unlikely route of entry in commercial/industrial environments The form and packaging of an unopened item prevents any personal contamination by the chemical contents.
Skin Contact	Not normally a hazard due to physical form of product. Considered an unlikely route of entry in commercial/industrial environments The form and packaging of an unopened item prevents any personal contamination by the chemical contents.
Eye	Not normally a hazard due to physical form of product. Considered an unlikely route of entry in commercial/industrial environments The form and packaging of an unopened item prevents any personal contamination by the chemical contents.
Chronic	Carbon dioxide is an odourless gas which gives very poor warning of exposure. The gas can produce rapid unconsciousness and death from oxygen deficiency at concentrations of 10% in air. Even concentrations of 3% may produce shortness of breath and headache. Carbon dioxide is the most powerful cerebral vasodilator known. High levels, even in the presence of sufficient oxygen may produce rapid circulatory insufficiency leading to coma and death. Continuous exposure to 1.5% carbon dioxide may cause changes in some physiological processes. Increased concentrations of carbon dioxide in blood affect the rate of breathing. Even at low concentrations, regular exposure to carbon dioxide is potentially harmful as a consequence of cellular membrane effects and biochemical alterations; these may result in increased concentration of bicarbonate ions and acidosis. High concentrations of carbon dioxide (2-10%) may produce an acidic taste, dyspnea, headache, vertigo, nausea, laboured breathing, weakness, drowsiness, mental confusion, and increased blood pressure, pulse and respiratory rate. Exposure to 10% for a few minutes reportedly produces visual disturbances, tinnitus, tremors, profuse perspiration, restlessness, paraesthesia, general feeling of discomfort, loss of consciousness, and coma. Concentrations of 25-50% may cause coma and convulsions within one minute. Tachycardia and arrhythmias are possible. Concentrations of 50% may cause symptoms of hypocalcaemia including carpopedal spasms. Excessive carbon dioxide for a period of time (not more than five minutes) was reported to cause visual effects, enlargement of the blind spot, photophobia, loss of convergence and accommodation, and deficient dark adaptation as well as headache, insomnia and personality changes (largely depression and irritability). Even when there is sufficient oxygen present to prevent simple asphyxiation, high concentrations of carbon dioxide may cause adverse effects by interfering with its normal elimination from the body. Initial overexposure to carbon dioxide results in an compensatory increase in both rate and depth of ventilation. Beyond a certain point, however, this may reverse to hypoventilation resulting in respiratory acidosis. Death from asphyxia may occur if the concentration and duration of exposure are sufficient. The form and packaging of an unopened item prevents any personal contamination by the chemical contents.

Survitec Group Life Jackets and Baby Cots	TOXICITY	IRRITATION
	Not Available	Not Available
carbon dioxide	TOXICITY	IRRITATION
	Not Available	Not Available
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✗	Reproductivity	✗
Serious Eye Damage/Irritation	✗	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
 ✔ – Data available to make classification

SECTION 12 Ecological information

Toxicity

Survitec Group Life Jackets and Baby Cots	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
carbon dioxide	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96h	Fish	35mg/l	1

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment

Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

DO NOT discharge into sewer or waterways.**Persistence and degradability**

Ingredient	Persistence: Water/Soil	Persistence: Air
carbon dioxide	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
carbon dioxide	LOW (LogKOW = 0.83)

Mobility in soil

Ingredient	Mobility
carbon dioxide	HIGH (KOC = 1.498)

SECTION 13 Disposal considerations**Waste treatment methods**

Product / Packaging disposal	<ul style="list-style-type: none"> Recycle wherever possible or consult manufacturer for recycling options. Consult State Land Waste Management Authority for disposal.
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SECTION 14 Transport information**Labels Required**

	
Marine Pollutant	NO
HAZCHEM	2Z

Land transport (ADG)

UN number	2990				
UN proper shipping name	LIFE-SAVING APPLIANCES, SELF-INFLATING				
Transport hazard class(es)	<table> <tr> <td>Class</td><td>9</td></tr> <tr> <td>Subrisk</td><td>Not Applicable</td></tr> </table>	Class	9	Subrisk	Not Applicable
Class	9				
Subrisk	Not Applicable				
Packing group	Not Applicable				
Environmental hazard	Not Applicable				
Special precautions for user	<table> <tr> <td>Special provisions</td><td>296</td></tr> <tr> <td>Limited quantity</td><td>0</td></tr> </table>	Special provisions	296	Limited quantity	0
Special provisions	296				
Limited quantity	0				

Air transport (ICAO-IATA / DGR)

UN number	2990														
UN proper shipping name	Life-saving appliances, self-inflating														
Transport hazard class(es)	<table> <tr> <td>ICAO/IATA Class</td><td>9</td></tr> <tr> <td>ICAO / IATA Subrisk</td><td>Not Applicable</td></tr> <tr> <td>ERG Code</td><td>9L</td></tr> </table>	ICAO/IATA Class	9	ICAO / IATA Subrisk	Not Applicable	ERG Code	9L								
ICAO/IATA Class	9														
ICAO / IATA Subrisk	Not Applicable														
ERG Code	9L														
Packing group	Not Applicable														
Environmental hazard	Not Applicable														
Special precautions for user	<table> <tr> <td>Special provisions</td><td>A48 A87</td></tr> <tr> <td>Cargo Only Packing Instructions</td><td>955</td></tr> <tr> <td>Cargo Only Maximum Qty / Pack</td><td>No Limit</td></tr> <tr> <td>Passenger and Cargo Packing Instructions</td><td>955</td></tr> <tr> <td>Passenger and Cargo Maximum Qty / Pack</td><td>No Limit</td></tr> <tr> <td>Passenger and Cargo Limited Quantity Packing Instructions</td><td>Forbidden</td></tr> <tr> <td>Passenger and Cargo Limited Maximum Qty / Pack</td><td>Forbidden</td></tr> </table>	Special provisions	A48 A87	Cargo Only Packing Instructions	955	Cargo Only Maximum Qty / Pack	No Limit	Passenger and Cargo Packing Instructions	955	Passenger and Cargo Maximum Qty / Pack	No Limit	Passenger and Cargo Limited Quantity Packing Instructions	Forbidden	Passenger and Cargo Limited Maximum Qty / Pack	Forbidden
Special provisions	A48 A87														
Cargo Only Packing Instructions	955														
Cargo Only Maximum Qty / Pack	No Limit														
Passenger and Cargo Packing Instructions	955														
Passenger and Cargo Maximum Qty / Pack	No Limit														
Passenger and Cargo Limited Quantity Packing Instructions	Forbidden														
Passenger and Cargo Limited Maximum Qty / Pack	Forbidden														

Sea transport (IMDG-Code / GGVSee)

Continued...

Survitec Group Life Jackets and Baby Cots

UN number	2990	
UN proper shipping name	LIFE-SAVING APPLIANCES, SELF-INFLATING	
Transport hazard class(es)	IMDG Class	9
	IMDG Subrisk	Not Applicable
Packing group	Not Applicable	
Environmental hazard	Not Applicable	
Special precautions for user	EMS Number	F-A , S-V
	Special provisions	296
	Limited Quantities	0

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
carbon dioxide	Not Available

Transport in bulk in accordance with the ICG Code

Product name	Ship Type
carbon dioxide	Not Available

SECTION 15 Regulatory information

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

carbon dioxide is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

FEI Equine Prohibited Substances List - Controlled Medication

FEI Equine Prohibited Substances List (EPSL)

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (carbon dioxide)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	01/11/2019
Initial Date	15/12/2016

SDS Version Summary

Version	Date of Update	Sections Updated
3.1	01/11/2019	One-off system update. NOTE: This may or may not change the GHS classification

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Continued...

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit
IDLH: Immediately Dangerous to Life or Health Concentrations
ES: Exposure Standard
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index
AIIC: Australian Inventory of Industrial Chemicals
DSL: Domestic Substances List
NDSL: Non-Domestic Substances List
IECSC: Inventory of Existing Chemical Substance in China
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European List of Notified Chemical Substances
NLP: No-Longer Polymers
ENCS: Existing and New Chemical Substances Inventory
KECI: Korea Existing Chemicals Inventory
NZIoC: New Zealand Inventory of Chemicals
PICCS: Philippine Inventory of Chemicals and Chemical Substances
TSCA: Toxic Substances Control Act
TCSI: Taiwan Chemical Substance Inventory
INSQ: Inventario Nacional de Sustancias Químicas
NCI: National Chemical Inventory
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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