Marine Liferafts

SUPPLIER:
Survitec Group Limited,
Kingsway, Dunmurry
Belfast, BT17 9AF
Northern Ireland
Tel: 028 90 301531

SECTION 1. PRODUCT IDENTIFICATION

This Material Safety Data Sheet complies with self-inflating Life-Saving Appliances and Inflatable Buoyant Apparatus charged with a mixture of Carbon Dioxide and Nitrogen gases that during transport present a danger (UN2990 Class 9). This applies to all Marine Liferaft Part Numbers within Survitec Group Limited.

SECTION 2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: Carbon Dioxide Gas, UN1013

CAS NUMBER: 124-38-9

PERCENTAGE: 95%

COMPONENT: Nitrogen, Compressed Gas, UN1066

CAS NUMBER: 7727-37-9

PERCENTAGE: BALANCE

COMPONENT: Pyrotechnic Signalling Devices including:

Signal Devices, Hand, UN0191, 1.4G
Cartridges, Signal, UN0405, 1.4S
Signals, Smoke, UN0197, 1.4G
Articles Pyrotechnic, UN0432, 1.4G
Flares, Aerial, UN0403, 1.4G
Cartridges, Signal, UN0312, 1.4G
Signals, Distress, Ship, UN0505, 1.4G
Signals, Distress, Ship, UN0506, 1.4S
Signals, Smoke, UN0507, 1.4S

SECTION 3. HAZARDS IDENTIFICATION

3.1 **CLASS 1 - EXPLOSIVES**
Life-Saving Appliances MAY contain signal devices which include smoke and illumination signal flares. These signal devices are packed in plastic or fibreboard inner and contain no risk of mass explosion. However toxic gases may evolve from a fire distress signal.

3.2 **CLASS 2.2 - GASES**
The cylinder or cylinders contain a combination of Nitrogen and Carbon Dioxide which are both non-flammable and are connected to the Life-Saving Appliances. These gases may vent from cylinder or inflate the liferaft / life-saving appliances if heated excessively or under fire conditions.

3.3 **CLASS 3 - FLAMMABLE LIQUIDS**
A Life-Saving Appliance contains a repair kit, which is packed in a strong inner packaging and has a flash point of 10.6°C. A small steel tube of adhesive (32g) is supplied which is flammable. It may also be harmful by inhalation and may cause skin irritation.

SECTION 4. FIRST AID MEASURES

If contact is made with either the gases from the distress signals, gases from the cylinders or flammable liquids, the following measures should be taken:

4.1 **INHALATION -** Provide patient with fresh air and seek medical assistance.

4.2 **EYE CONTACT -** Irrigate thoroughly with water and seek medical assistance.

4.3 **SKIN CONTACT -** Wipe excess adhesive off with paper towel, then clean with resin removing cream. Finally wash with soap and water. The use of solvents should not be used.

4.4 **INGESTION -** Do not induce vomiting. Seek medical assistance.

SECTION 5. FIRE FIGHTING MEASURES

5.1 **FIRE EXTINGUISHING MEDIA:**
- Large volumes of water should be used.

5.2 **FLASH POINT (METHOD USED):**
- Auto Ignition > 350ºF

5.3 **SPECIAL FIRE FIGHTING PROCEDURES:**
- Pyrotechnic signally devices may include material that contains its own Oxygen to maintain burning.

- The use of dry chemicals should not be used.

5.4 **UNUSUAL FIRE AND EXPOLSION HAZARDS:**

- These self-inflating Life-Saving Appliances and Inflatable Buoyant Apparatus contains cylinder of gases under pressure. These may discharge or rupture under extreme temperatures.
- Life-Saving appliances and Inflatable Buoyant apparatus contain Pyrotechnic signal devices that are explosive and will burn with intense heat when exposed to fire.
- Caution should be taken when flame or flame producing sources are evident.

SECTION 6. ACCIDENTAL RELEASE OR SPILLAGE MEASURES

- The Pyrotechnic Signal devices are packed in plastic or fibreboard inner material and contain no risk of mass explosion. Spillages should pose no threat if the sealed units are not breached.
- If the Pyrotechnic Signal Device ruptures, material spilled from the unit should be swept away and burned by trained personnel.
- Ignition sources must be avoided.
- Handle materials with care.

SECTION 7. HANDLING AND STORAGE

The Life-Saving Appliance is stable if stored in the original package in cool, dry conditions. This appliance should not be subject to high temperatures or excessively humid conditions.

SECTION 8. EXPOSURE CONTROL/PERSONAL PROTECTION

If inflated in a confined space, either intentionally or by accident, ventilation should be provided to disperse Carbon Dioxide and Nitrogen gases. The surrounding areas should be monitored for Carbon Dioxide and Oxygen levels. The level of Carbon Dioxide must be below 3%, and the atmosphere must have at least 19.5% Oxygen before personnel can be allowed in the area with out Self-Contained Breathing Apparatus.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE - Gas
COLOUR - Colourless
ODOUR - Odourless
BOILING POINT - Not Available
FREEZING POINT - Not Available
VAPOUR PRESSURE - Not Available
VAPOUR DENSITY - Not Available
DENSITY - Not Available
WATER SOLUBILITY - Not Available
PH - Not Applicable

VOLATILITY - Not Applicable
ODOUR THRESHOLD - Not Available
EVAPORATION RATE - Not Applicable
COEFFICIENT OF WATER/OIL DISTRIBUTION - Not Applicable

SECTION 10. STABILITY AND REACTIVITY

Stable under normal temperature conditions. However, the conditions that should be avoided are open flames, sparks, or high temperatures.

SECTION 11. TOXICOLOGY INFORMATION

Carbon Dioxide and Nitrogen occur naturally in the atmosphere but medical conditions such as heart or cardiovascular disorders and respiratory disorders could be aggravated by excess Carbon Dioxide exposure.

SECTION 12. ECOLOGICAL INFORMATION

Carbon Dioxide and Nitrogen occur naturally in the atmosphere and due to the small cylinder size; no adverse effect on animals or plants is anticipated if one cylinder of this product is released.

SECTION 13. WASTE DISPOSAL CONSIDERATIONS

Waste disposal should be in accordance with applicable regulations.

- Incineration is the preferred method of disposal of pyrotechnic materials.
- Any compressed gas released will dissipate into the atmosphere and leave no hazardous waste.

SECTION 14. TRANSPORT INFORMATION

PROPER SHIPPING NAME & LABELLING REQUIREMENTS: Life Saving Appliances, Self Inflating, UN2990
ID NUMBER: UN 2990 Class 9

SECTION 15. REGULATORY INFORMATION

N/A

SECTION 16. OTHER INFORMATION

When two or more gases or liquefied gases are mixed, their hazardous properties may combine to create additional, unexpected hazards.