



## PRODUCT INFORMATION SHEET

### SAFETY DATA SHEET

Revision 4 – 15 Feb 2021

The products referred to in this document can be defined as 'articles' under regulation (EC) No 1907/2006 (REACH). In light of this, the requirements for a Safety Data Sheet, as set out under article 31 and Annex II of REACH, is not applicable to these products. Accordingly, this Product Information Sheet is provided in the form of a Safety Data Sheet only as a service to our customer and is not based upon any particular requirement of REACH.

#### 1. Product and manufacturer Identification

Alpinestars Commercial Reference: 650 3721 – Tech Air® Race -e R2 System  
(hereinafter may also be referred to as the System)  
Alpinestars Certification Reference: RAV1

The Tech-Air® Race -e R2 System is an airbag system which is subsequently installed into a compatible outer garment. Tech Air® Race -e R2 System is a device, which is intended to increase the level of protection offered to a motorcyclist in the event of an accident. An on-board Electronic Control Unit, powered by a lithium battery, monitors the rider acceleration to inflate the air bag if a dangerous situation is detected. The inflatable subassembly is not for any other use.

Manufacturer Information: Alpinestars SpA  
Viale Fermi 5, Asolo (TV), 31011, ITALY  
Tel: +39 0423 5286

#### 2. Hazard Identification

In case of function, the System will:

| Effect   | Hazard  |
|--|---|
| a. Rapidly inflate and attempt to form a predefined shape. | Possible Mechanical Injury if not worn correctly    |
| b. Create a bang at the instant of inflation               | Possible hearing discomfort                         |
| c. Slowly vent the filling gas                             | Possible irritant if inhaled in high concentrations |

Note that function of the System will only occur if commanded by the Electronic Control Unit, or if the conditions in section 5 are met.

In general, under normal conditions of use, lithium batteries are a safe power source for electronic devices and in the case of the System, the battery is completely sealed in a casing under the back protector.

A potential hazard may arise should the System's battery be unsealed, dismantled or tampered or punctured in which case the battery may spontaneously release a flammable gas mixture, which could cause burns and/or discharges  
The battery's content must not be exposed to water as if the negative electrode gets in contact with water, hydrogen gas is formed, which may be hazardous.

Battery must not be exposed to temperatures above 100° or be incinerated.

#### 3. Composition and information of the System

The System is composed by an Electronic Control Unit containing a lithium battery pack 19.2Wh, and an inflatable subassembly that consists of a sealed airbag chamber plus two Gas Inflators.

Airbag Chamber: Manufactured from Nylon 6,6 yarn, laminated with a Polyurethane coating  
Lithium Battery:

| Content   | CAS no.     | EC no.      | Material                  |
|-----------|-------------|-------------|---------------------------|
| 20 – 50 % | proprietary | proprietary | Metal oxide (proprietary) |
| 10 – 30 % | proprietary | proprietary | Carbon (proprietary)      |
| 10 – 20 % | proprietary | proprietary | Electrolyte (proprietary) |

|           |             |             |                 |
|-----------|-------------|-------------|-----------------|
| 2 – 10%   | 7429-90-5   | 231-072-3   | Aluminum foil   |
| 2 – 10%   | 7440-50-8   | 231-159-6   | Copper foil     |
| < 5%      | proprietary | proprietary | Binder          |
| Remainder | proprietary | proprietary | Inert materials |

Airbag Gas Inflators: A Steel vessel containing an igniter and 15-30g of a compressed gas mixture (96% Argon, CAS 7440-37-1 and 4% helium, CAS 7440-59-7)  
Each Igniter contains 0.350g of Zirconium Potassium Perchlorate

#### 4. First Aid Measures

In case of battery rupture provide maximum ventilation to clear out corrosive fumes/gases and pungent odor.

Eye contact: Flush with plenty of water (eyelids-held open).

Skin contact: Remove all contaminated clothing and flush affected areas with plenty of water and soap. Do not apply greases or ointments.

Seek for medical assistance.

#### 5. Fire Fighting measures

Suitable Extinguishing media: CO<sub>2</sub>, Dry chemical or Foam extinguishers  
In case only water is available, use large amounts of water.

When the temperature exceeds 125°C the Gas Inflators will start to release the gas stored inside. When the temperature exceeds 300°C the igniters will self combust.

#### 6. Accidental Release Measures

The material contained within the batteries would only be expelled under abusive conditions. On such occurrence, cover battery or spilled substances with dry sand or vermiculite, place in approved container (after cooling if necessary) and dispose in accordance with local regulations.

In case of battery rupture, use gloves, respiratory protection, safety goggles respiratory equipment

#### 7. Handling and Storage

##### Storage:

Where possible store inside original packaging: Temperatures between -20°C & +60°C with humidity < 80%. Where the original packaging is no longer available the System is best stored suspended vertically on a hanger.

##### Handling:

- When not worn, packaged in a box or unpackaged: No special handling is required.
- The Electronic Control Unit must be switched off. In this state no special handling is required. The System can be verified in the off state if there are no illuminated LEDs on the System.

#### 8. Exposure Controls and Personal Protection

##### Exposure Controls

N/A

##### Individual Protection:

No particular PPE is required

#### 9. Physical and Chemical Properties

##### Appearance:

The System is predominantly gray in color with black details. There is a cell-shaped back protector on the back of the System. The Electronic Control Unit. The Electronic Control Unit is visible on the back as well as the words "Tech-Air" in white.

#### 10. Stability and Reactivity

The System is inherently stable. Conditions to avoid are:

- Exposure to excessive heat or flame (See section 5)
- Crushing or puncturing of the System

#### 11. Toxicological Information

Nil

#### 12. Ecological Information

Nil

#### 13. Disposal Information

The System may not be disposed of while at least one inflation unit is still live. These must both be fired. Once this has been done the System may be disposed of in accordance with national waste regulations for fabrics, metals and electronic parts. It is suggested that the System is returned to Alpinestars for disposal at the end of its life.

#### **14. Transportation Information**

According to international rules for transport, the following classification applies to the Tech-Air® Race -e R2 System:

|                       |  |
|-----------------------|--|
| Identification number | UN2990                                 |
| Hazard Classification | Class 9                                |
| Proper shipping name  | Life-saving Appliance – Self Inflating |

For shipping with a professional carrier, see further instructions on Annex A.

Tech-Air® Race -e R2 System can be carried in passenger aircraft as a carry-on and/or checked baggage, subject to airline approval. Therefore, admission of the System onboard must be checked beforehand with the travel operator for each specific flight.

Information on Annex B may be useful in this case.

Tech-Air® Race -e R2 System contains 1 lithium battery pack < 20Wh, packed with the equipment, in compliance with UN3481 PI 967, Section II.

#### **15. Regulatory Information**

Tech Air® Race -e R2 System RAV1 has been CE certified under EU directive 2013/29/EU, registration number 0080.P1.15.0023




The airbag inflators have been CE certified under directive 2007/23/EC, registration number 0589.P1.000406

#### **16. Additional Information**

The information contained in this Safety Data Sheet relates only to the Tech-Air® Race -e R2 System. The information is correct to the best of Alpinestars' knowledge at the date of publication. This information is provided only for guidance on the System's safe handling, storing, use, processing, storage, transportation and disposal and is not to be considered as a warranty or quality specification.

# ANNEX A

Packaging Instruction for transportation with Professional carrier:

|                               | By Air   | By Sea/Road  |
|-------------------------------|--|--|
| Hazard and handling Labelling |   |  |
| Marking                       | UN2990 – Life Saving Appliances, Self Inflating<br><br>Name and address of the shipper<br><br>Name and address of the consignee<br><br>Net weight of the package                                       | UN2990 – Life Saving Appliances, Self Inflating                                    |
| Remarks                       | Contact Carrier in advance to check for further requirements. Some carriers may require the following label:<br><br> |  |

Example of labeling and Marking:



# ANNEX B

Instruction for transportation on passenger aircrafts.

Self-inflating life-saving appliances can be transported on passenger aircraft subject to IATA Provisions respect (see table below). Check-In baggage is preferred. Contact beforehand the travel operator to get the approval for transportation. In case of needs, the table below may be cited.



## Dangerous Goods Regulations

**TABLE 2.3.A**  
Provisions for Dangerous Goods Carried by Passengers or Crew  
(Subsection 2.3)

**2** Dangerous goods must not be carried in or as passengers or crew, checked or carry-on baggage, except as otherwise provided below. Dangerous goods permitted in carry-on baggage are also permitted "on one's person", except where otherwise specified.

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| The pilot-in-command must be informed of the location   |           |     |     |    |
|---|-----------|-----|-----|----|
| Permitted in or as carry-on baggage   |           |     |     |    |
| Permitted in or as checked baggage  |           |     |     |    |
| The approval of the operator is required  |           |     |     |    |
| Alcoholic beverages, when in retail packagings, containing more than 24% but not more than 70% alcohol by volume. In receptacles not exceeding 5 L, with a total net quantity per person of 5 L.  | NO        | YES | YES | NO |
| Ammunition, securely packaged (in Div. 1.4S, UN 0012 or UN 0014 only), in quantities not exceeding 5 kg gross weight per person for that person's own use. Allowances for more than one person must not be combined into one or more packages.  | YES       | YES | NO  | NO |
| ▲ <b>Avalanche rescue backpack</b> , one (1) per person, containing cartridges of compressed gas in Div. 2.2. May also be equipped with a pyrotechnic trigger mechanism containing no more than 200 mg net of Div. 1.4S. The backpack must be packed in such a manner that it cannot be accidentally activated. The airbags within the backpacks must be fitted with pressure relief valves.  | YES       | YES | YES | NO |
| <b>Baggage with installed lithium batteries</b> non-removable batteries exceeding 0.3 g lithium metal or 2.7 Wh.  | FORBIDDEN |     |     |    |
| <b>Baggage with installed lithium batteries:</b>  | NO        | YES | YES | NO |
| - non-removable batteries. Batteries must contain no more than 0.3 g lithium metal or for lithium ion must not exceed 2.7 Wh;   |           |     |     |    |
| - removable batteries. Batteries must be removed if baggage is to be checked in. Removed batteries must be carried in the cabin.  |           |     |     |    |
| <b>Batteries, spare/loose, including lithium metal or lithium ion cells or batteries</b> , for portable electronic devices must be carried in carry-on baggage only. For lithium metal batteries the lithium metal content must not exceed 2 g and for lithium ion batteries the Watt-hour rating must not exceed 100 Wh. Articles which have the primary purpose as a power source, e.g. power banks are considered as spare batteries. These batteries must be individually protected to prevent short circuits. Each person is limited to a maximum of 20 spare batteries. | NO*       | NO  | YES | NO |
| *The operator may approve the carriage of more than 20 batteries.   |           |     |     |    |
| <b>Camping stoves and fuel containers that have contained a flammable liquid fuel</b> , with empty fuel tank and/or fuel container (see 2.3.2.5 for details).   | YES       | YES | NO  | NO |
| <b>Chemical Agent Monitoring Equipment</b> , when carried by staff members of the Organization for the Prohibition of Chemical Weapons on official travel (see 2.3.4.4).  | YES       | YES | YES | NO |
| <b>Disabling devices</b> such as mace, pepper spray, etc. containing an irritant or incapacitating substance are forbidden on the person, in checked and carry-on baggage.  | FORBIDDEN |     |     |    |
| <b>Dry ice (carbon dioxide, solid)</b> , in quantities not exceeding 2.5 kg per person when used to pack perishables not subject to these Regulations in checked or carry-on baggage, provided the baggage (package) permits the release of carbon dioxide gas. Checked baggage must be marked "dry ice" or "carbon dioxide, solid" and with the net weight of dry ice or an indication that there is 2.5 kg or less dry ice.   | YES       | YES | YES | NO |
| <b>e-cigarettes</b> (including e-cigs, e-pipes, other personal vaporizers) containing batteries must be individually protected to prevent accidental activation.  | NO        | NO  | YES | NO |
| <b>Electro shock weapons</b> (e.g. Tasers) containing dangerous goods such as explosives, compressed gases, lithium batteries, etc. are forbidden in carry-on baggage or checked baggage or on the person.  | FORBIDDEN |     |     |    |
| <b>Fuel cells</b> containing fuel, powering portable electronic devices (e.g. cameras, cellular phones, laptop computers and camcorders), see 2.3.5.9 for details.  | NO        | NO  | YES | NO |
| <b>Fuel cell cartridges, spare</b> for portable electronic devices, see 2.3.5.9 for details.  | NO        | YES | YES | NO |
| <b>Gas cartridges, small, non-flammable</b> containing carbon dioxide or other suitable gas in Division 2.2. Up to two (2) small cartridges fitted into a self-inflating safety device such as a life jacket or vest. Not more than one (1) device per passenger and up to two (2) spare small cartridges per person, not more than four (4) cartridges up to 50 mL water capacity for other devices (see 2.3.4.2).   | YES       | YES | YES | NO |
| <b>Gas cylinders, non-flammable, non-toxic</b> worn for the operation of mechanical limbs. Also, spare cylinders of a similar size if required to ensure an adequate supply for the duration of the journey.  | NO        | YES | YES | NO |
| <b>Hair curlers containing hydrocarbon gas</b> , up to one (1) per passenger or crew-member, provided that the safety cover is securely fitted over the heating element. These hair curlers must not be used on board the aircraft at any time. Gas refills for such curlers are not permitted in checked or carry-on baggage.  | NO        | YES | YES | NO |
| <b>Heat producing articles</b> such as underwater torches (diving lamps) and soldering irons (See 2.3.4.6 for details).   | YES       | YES | YES | NO |
| <b>Insulated packagings containing refrigerated liquid nitrogen</b> (dry shipper), fully absorbed in a porous material containing only non-dangerous goods.   | NO        | YES | YES | NO |
| <b>Internal combustion or fuel cell engines</b> , must meet A70 (see 2.3.5.13 for details).   | NO        | YES | NO  | NO |
| <b>Lithium Batteries: Security-type equipment containing lithium batteries</b> (see 2.3.2.6 for details).   | YES       | YES | NO  | NO |

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|   |     |     |     |    |
|---|-----|-----|-----|----|
| <b>Fuel cell cartridges, spare</b> for portable electronic devices, see 2.3.5.9 for details.  | NO  | YES | YES | NO |
| <b>Gas cartridges, small, non-flammable</b> containing carbon dioxide or other suitable gas in Division 2.2. Up to two (2) small cartridges fitted into a self-inflating safety device such as a life jacket or vest. Not more than one (1) device per passenger and up to two (2) spare small cartridges per person, not more than four (4) cartridges up to 50 mL water capacity for other devices (see 2.3.4.2). | YES | YES | YES | NO |
| <b>Gas cylinders, non-flammable, non-toxic</b> worn for the operation of mechanical limbs. Also, spare  | NO  | YES | YES | NO |