

**Version: February 2024** 

# Informations aux concurrents au sujet de l'Airgag obligatoire / Competitors' information concerning the compulsory airbag

Il y a seulement trois familles d'Airbag approuvé pour un usage en Rally Raid / There are only 3 brands of airbag approved for Rally Raid:

- Alpinestars
- Helite
- In&Motion (Furygan, Klim, RST, Held), attention des modèles de marque Ixon ressemblant ne sont pas valides / Please note no Ixon models are authorised for use.

Pour acheter son Airbag voici les contacts / To buy your airbag:

- Alpinestars: Vincenzo Gulino racing12@alpinestars.com
- Helite: s.france@helite.com
- In&Motion (Furygan, Klim, RST, Held) N'importe quel revendeur de chacune des marques / Any official dealers for each of the brands.

Au minimum 1 (ou 1 jeu suivant votre modèle) cartouches d'air de remplacement/secours correspondant au modèle d'airbag utilisé par le pilote doit être embarqué au départ de chaque journée / A minimum of 1 (or 1 set depending of your airbag type) spare cartridge of the right type must be fitted on your bike each morning at the start.





# Quelques points importants concernant les marques Furygan et Klim / Some important points concerning manufacturers Furygan and Klim :

- Vous devez choisir le modèle Rally (et pas la version route qui lui ressemble) / You must select the rally version (and not the road version which looks very similar).
- La différence est la protection pectorale présente seulement sur le modèle Rally / The difference is the chest integrated protector which is only fitted to the rally version.
- Vous devez prendre un abonnement auprès de In&Motion afin de rendre votre Airbag actif / You must take out a subscription with In&Motion to get activate your airbag:

https://www.inemotion.com/myinemotion/fr/moto-membership
Bien ajouter l'option ADVENTURE! / Make sure you add the 'ADVENTURE' option!

Bien anticiper cette activation en Europe bien avant votre départ / Anticipate this activation in Europe as soon as possible.



Voici les étiquettes et seulement celles là qui doivent êtres présentes sur votre Airbag / Here are the labels. Only these ones must be on your airbag



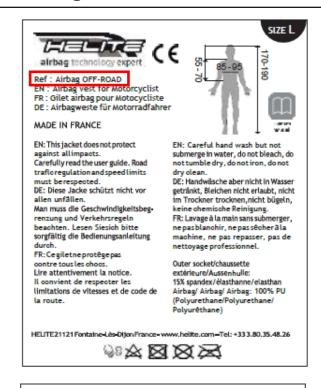


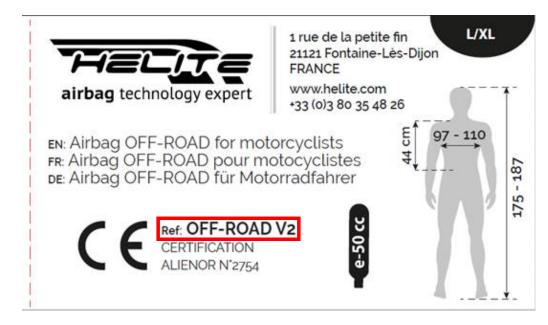




# Voici les étiquettes et seulement celles là qui doivent êtres présentes sur votre Airbag / Here are the labels. Only these ones must be on your airbag







Serial n°:



#### Ai-1 RALLY AIRBAG VEST

3.5 cm



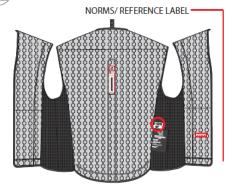




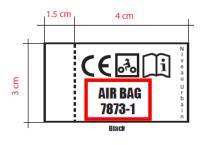




# **AIR BAG 7873-1 LABEL POSITION**

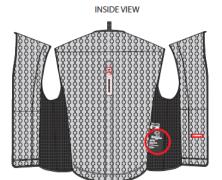


#### NORMS/ REFERENCE LABEL





4 cm











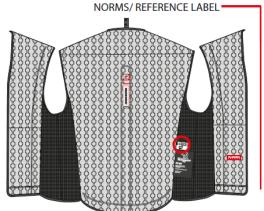
# Les deux modèles avec 1 ou 2 cartouches

/ Both models with 1 or 2 cartridges

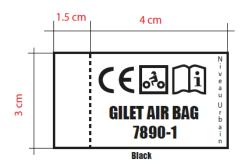




#### **AIR BAG 7890-1 LABEL POSITION**



#### NORMS/ REFERENCE LABEL





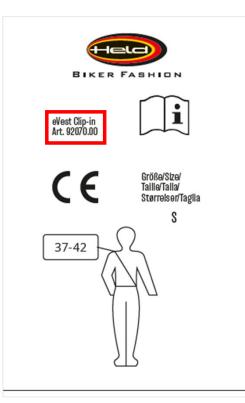




FIRST LABEL - FRONT

FIRST LABEL - BACK

35mm







17 mm Niet wassen. Geen bleekmiddel gebruiken Niet centrifugeren. Niet strijken. Niet stomen. SI CES INSTRUCTIONS NE SONT PAS SUIVI, VOUS POUVEZ CAUSER DES DOMMAGES. À VOTRE VÊTEMENT ET VOTRE LA GARANTIE NE SERA PAS VALIDE. MAX 78 mm Exterieur: 100% Poliester Doublure: 100% Poliester Ne pas laver. Ne pas utiliser de produit blanchissant. Ne pas sécher en sèche-linge. Ne pas repasser. Ne pas nettoyer à sec.



Le transport des cartouches par avion n'est pas recommandé, il faut présenter à l'embarquement des documents spécifiques comme celui-ci, et donc il est fortement recommandé de transporter son airbag ou au moins les cartouche avec le bateau de l'organisation /

Transportation of cartridges by plane is not recommended. You need to present at boarding a document similar to the one shown here. It is strongly recommended that you transport your airbag and especially your cartridges on the organiser's boat.







Self-inflating life jacket or safety vest Inflatable life jackets, motorcycle vests, riding vests

This entry is for inflatable lifejackets for water safety and inflatable safety vests used in activities like motorcycling and horseback riding. It does NOT include avalanche backpacks, which have a separate entry in the table.

Quantity limits: One self-inflating lifejacket or safety vest fitted with no more than two nonflammable gas cartridges for inflation purposes, plus no more than two spare gas cartridges.

The safety jacket/vest must be packaged to prevent accidental activation.

Airline approval required.

See the regulation: 49 CFR 175.10(a)(11)

https://www.faa.gov/about/initiatives/hazmat\_safety/ Self-inflating life jacket or safety vest can be transported as Checked Bag or Carry On luggage.



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

	Permitted in or as checked baggage							
		Permit	ed on o	on one's person				
			The approval of the operator(s) is required					
				The pi	lot-in-command must be informed of the location			
YES	YES	YES	YES	NO	Small non-flammable gas cartridges, containing carbon dioxide or other suitable gas in Division 2.2. Up to bee (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) spars small cartridges per passenger, not more than four (4) cartridges up to 50 mL water capacity for other devices (see 2.3.4.2).			
YES	YES	YES	NO	NO	Alcoholic beverages, when in retail packagings, containing more than 24% but not more shan 70% alcohol by volume, in receptacles not exceeding 5 L, with a total net quantity per person of 5 L.			
NO	YES	NO	NO	NO	Aerosols in Division 2.2, with no subsidiary risk, for sporting or home use.			

http://www.iata.org/whatwedo/cargo/dgr/Documents/DGR-59-EN-2.3a.pdf

1 rue de la petite fin 21121 Fontaine les Dijon, FRANCE Tel : +33(0)3.80.35.48.26

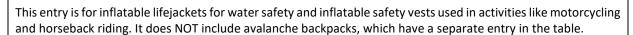
Web: www.helite.com
Email: helite@helite.com

# DATA SHEET: Carbon Dioxide Cartridge Air flight

Pack Safe (refer to https://www.faa.gov/hazmat/packsafe/more\_info/?hazmat=23)

## Self-inflating life jacket or safety vest

Inflatable life jackets, motorcycle vests, riding vests



Quantity limits: One self-inflating lifejacket or safety vest fitted with <u>no more than two nonflammable gas</u> cartridges for inflation purposes, plus no more than two spare gas cartridges.

The safety jacket/vest must be packaged to prevent accidental activation.

Airline approval required.

See the regulation: 49 CFR 175.10(a)(11)

https://www.faa.gov/hazmat/packsafe/more info/?hazmat=23

#### **Dangerous Goods Regulations**

Permitted in or as carry-on baggage: YES
 Permitted in or as checked baggage: YES



## **Dangerous Goods Regulations**

1

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

Dangerous goods must not be carried in or as passengers or crew, checked or carry-on baggage, except as otherwise provided below.

	Permit	mitted in or as checked baggage								
		Permit	ted on or	n one's person						
			The ap	proval of the operator(s) is required  The pilot-in-command must be informed of the location						
YES	YES	NO	YES	NO	Carbon dioxide, solid (dry ice), 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.					



Web : www.helite.com Email : helite@helite.com

#### **Cartridges DATA:**

	GG32 / 32cc	32ml	24g CO <sub>2</sub>	(Division 2,2)	
	GG50 / 50cc	50ml	35g CO <sub>2</sub>	(Division 2,2)	
Content	GG60 / 60cc	60ml	44g CO <sub>2</sub>	(Division 2,2)	
	GG85 / 85cc	85ml	60g CO <sub>2</sub>	(Division 2,2)	
	GG100/ 100cc	100ml	74g CO <sub>2</sub>	(Division 2,2)	
Filling	CO₂ (Carbon Dioxyde)				
Filling pressure	60 bar				
Test pressure	Individualy tested at 110°C				
Safety relief valve	>500 bar				
Canister material	Steel				

## **Reminder for Airbag:**

Mechanical Airbag: N/A

Electronic Airbag: Switch off: quickly press the ON/OFF button 3 times.



# MUST ACCOMPANY THE AIRBAG SYSTEM WHENEVER SHIPPED OR TRANSPORTED IN AN AIRCRAFT HOLD



# PRODUCT INFORMATION SHEET

#### **SAFETY DATA SHEET**

Revision 1 – 27 Jul 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: 699 7621 – Tech Air® Canister Kit (hereinafter may also be referred to as Canister Kit)

Manufacturer Information: Alpinestars SpA

Viale Fermi 5, Asolo (TV), 31011, ITALY

Tel: +39 0423 5286

The Tech-Air® Canister Kit is a box containing 50 high pressure argon gas, electrically initiated, type AHS, produced by ARC Automotive Inc., plus some additional small plastic screws used for Tech-Air® services.

#### 2. Hazard Identification

Refer to the AHS MSDS supplied by ARC Automotive Inc., and reported in Annex A

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

Refer to the AHS MSDS supplied by ARC Automotive Inc.

#### 4. First Aid Measures

Refer to the AHS MSDS supplied by ARC Automotive Inc.

#### 5. Fire Fighting measures

Refer to the AHS MSDS supplied by ARC Automotive Inc.

#### 6. Accidental Release Measures

Refer to the AHS MSDS supplied by ARC Automotive Inc.

#### 7. Handling and Storage

Refer to the AHS MSDS supplied by ARC Automotive Inc.

#### 8. Exposure Controls and Personal Protection

Refer to the AHS MSDS supplied by ARC Automotive Inc.

#### 9. Physical and Chemical Properties

Refer to the AHS MSDS supplied by ARC Automotive Inc.

#### 10. Stability and Reactivity

Refer to the AHS MSDS supplied by ARC Automotive Inc.

#### 11. Toxicological Information

Refer to the AHS MSDS supplied by ARC Automotive Inc.

#### 12. Ecological Information

Refer to the AHS MSDS supplied by ARC Automotive Inc.

#### 13. Disposal Information

The Canister Kit may not be disposed of while at least one inflation unit is still live. These must be all fired. Once this has been done the System may be disposed of in accordance with national waste regulations. It is suggested that the System is returned to Alpinestars for disposal at the end of its life, in case not all the inflators are used.

#### 14. Transportation Information

Refer to the AHS MSDS supplied by ARC Automotive Inc.

#### 15. Regulatory Information

Refer to the AHS MSDS supplied by ARC Automotive Inc.

#### 16. Additional Information

The information contained in this Safety Data Sheet relates only to the Tech-Air® Canister Kit. 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.

Refer to the AHS MSDS supplied by ARC Automotive Inc., for further information.

Page 1 of 4

Date: November 21, 2013

# ARC Automotive, Inc. Material Safety Data Sheet

#### 1. Product and Contact Information

Product Name: Hybrid Airbag Inflator Assembly

Chemical Name / Synonym / Trade Name:

Inflator Assembly

Pseudonyms/Programs:

APH, DAPH, AHS, SH5, CADH, PH7-120, PH7-90, PH5, PH5.1,

CH3, CH5, Piston, HC38, HD38, ADH89, MHS, Eco-Safe, DH8

Manufacturer's Name:

ARC Automotive, Inc.

Address:

1601 Midpark Road Suite 100

Knoxville, TN 37921

ARC Information Phone Number:

(865) 583-7851

Emergency Phone (Chemtrec) Inside USA

(800) 424-9300

Outside USA

(703) 527-3887

## 2. Hazards Identification

Appearance and Odor: The device is a Steel Cylinder containing pressurized gas and energetic material.

HMIS: Health:

0

Flammability:

0

Physical Hazard:

2

**Personal Protection:** 

Heat Protective Gloves, Eye Protection, Hearing Protection

May cause burns if deployed by hand

Relevant routes of exposure:

Skin, Eye, Hearing

Inhalation:

None. If device vents/functions, the products of combustion have been demonstrated to

comply with ACGIH exposure limits.

Skin contact:

May cause burns if deployed by hand

Eye contact:

Protect eyes from debris

Hearing:

Hearing protection from impact noise, exceeds 85 dBa

# 3. Composition / Information on Ingredients

Emergency Overview:

The tamper-resistant, sealed metal container poses limited risk of chemical exposure before deployment. It may cause some skin and respirable irritation after deployment. If inflator is incinerated, broken, drilled into, crushed, or electric current is connected to lead wires, a physical hazard may exist. This inflator contains solid gas generant. *Do not* drill, break, or breach the steel container.

Potential Health Effects

None expected when used as intended. Effluent gases from multiple deployments in testing situations may cause skin, eye, or mucous membrane irritation. Effluent gases in these situations must be effectively controlled through engineering systems designed and tested to remove applicable contaminants or PPE that will accomplish the same effect.

None expected when used as intended.

## Human Health Effects and Symptoms of Overexposure

Potential Environmental Effects

Inhalation

Skin Contact

Eyes

None expected when used as intended.

Page 2 of 4

Date: November 21, 2013

The inflator assembly is a steel pressure vessel containing igniter assemblies, compressed gas composed of between 0 and 170 grams of 75-98% argon / 2-50% helium mixture. It also contains the following potentially hazardous chemicals formulated into the gas generant components.

HAZARDOUS INGREDIENTS		CAS NO.	Carcinogen
ARCAIR 102A or 102H:  Ammonium Nitrate  Guanidine Nitrate  Potassium Nitrate  Potassium Perchlorate  Polyvinyl Alcohol  Graphite	up to 40g:	Not Listed 6484-52-2 506-93-4 7757-79-1 7778-74-7 9002-89-5 7782-42-5	No No No No No No No No
ARCADENE 459 or ARCITE 497L:  Polyurethane Binder System  Potassium Perchlorate  Dioctyl Adipate  Polyvinyl Chloride  Lithium Carbonate  FS01	up to 30.0g: up to 3.5 g:	Not Listed 68951-41-7 7778-74-7 103-23-1 9002-86-2 554-13-2 Not Listed	No No No No No No
<ul> <li>Proprietary Ingredients</li> <li>AIC</li> <li>Molybdenum</li> <li>Silver Nitrate</li> <li>Potassium Nitrate</li> <li>Guanidine Nitrate</li> <li>Cab-O-Sil</li> </ul>	up to 0.5 g:	None Not Listed 7439-98-1 7761-88-8 7758-09-0 506-93-4 112945-52-5	No No No No No No
Initiator:  • Zirconium Potassium Perchlorate	up to 2 at 260mg ea.	Not Listed Not listed	No No

#### 4. First Aid Measures

Inhalation:

None

**Skin Contact:** 

Treat for second degree burn, cool burn area

Eye contact:

Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention

Heating:

Avoid repeated exposure

#### 5. Fire and Explosive Data

Special Fire and Explosive Hazards:

N/A

Extinguishing Media:

Copious amounts of water

**Special Fire Fighting Procedures:** 

Apply water until the fire is extinguished and the device has cooled to a

temperature less than 130°C

The device will relieve pressure at relatively low temperatures and is designed to

move no more than 2 to 3 meters when pressure is relieved. No special protective equipment required for firefighters.

**Hazardous Combustion Products:** 

N/A

Conditions Which Cause Ignition:

When the device reaches a temperature in excess of 130 °C, it will release the stored gas. Additional heating will result in burning of the energetic materials. All energetic materials are consumed if the device reaches a temperature in excess of 300°C.

Date: November 21, 2013

If the igniter is stimulated with an electrical current in the excess of 1.2 amps, the device will function; result is rapid combustion of the energetic materials and release of the stored gas.

#### 6. Accidental Release Measures

Environmental precautions: None expected

Clean up & Containment Method: When handled and installed properly, no spills or leaks should occur. If inflator is

ruptured and gas generant is present, clean up with non-sparking tools. Avoid spark, static electricity, and open flame. Avoid raising dust. Ventilate area.

Wash spill site with water after material pick-up is complete.

Unusual Fire & Explosion Hazards: The device (inflator assembly) is a container with compressed gas at up to 7000

psig pressure supplemented by rapidly burning gas generant materials. If the device is exposed to high temperature, the pressure system will release

argon/helium gas mixture. Continued heating will cause the propellant to ignite and combustion gases to be released. The combustion gases are non-toxic, and

have demonstrated compliance with ACGIH exposure limits.

# 7. Handling and Storage

Handling: Avoid spark, ESD, impact, friction and open flame. Do not puncture or crush or drop. Post

deployment, the surface of the inflator may have trace amounts of particulate and is usually hot.

Residue may be irritating to the skin, eves and mucous membranes.

Storage: When not in use, devices should be stored in original shipping containers. Store away from high

temperatures, open flame, static electricity, and other ignition sources. Store in accordance with

federal, state, and local regulations. Recommend storage at ambient temperatures.

# 8. Exposure Controls Personal Protection

Engineering Controls: Do not expose to excessive heat or flame. Do not puncture or crush. Do not expose to

electrical current. Do not incinerate.

Respiratory Protection: None

Skin Protection: Heat Protection Gloves

Eye/Face Protection: Safety Glasses

Hearing Protection: Hearing Protection, Ear Muffs

#### 9. Physical and Chemical Properties

Boiling Point:N/AVapor Density:N/AMelting Point:N/ASpecific Gravity:N/AVapor Pressure:N/AEvaporation Rate:N/A

Solubility: N/A.

Appearance and Odor: The device is a Steel Cylinder/Toroid containing pressurized gas and energetic material.

#### 10. Stability and Reactivity

Stability: Sealed unit is stable when used as designed.

Conditions to Avoid: Sparks, static electricity, open flame, and hot temperatures

Incompatible Materials: None in present form.

#### 11. Toxicological Information

Carcinogen Status: None Known

Target Organ and Other Health Effects: None Known

Date: November 21, 2013

# 12. Ecological Information

California Proposition 65:

Could affect California's Perchlorate Contamination Prevention Act 2003 (AB

826)

## 13. Disposal Considerations

## Information provided is for unused product only

Recommended method of disposal:

Dispose in accordance with Federal, State and local regulations

EPA hazardous waste number:

Not a RCRA Waste

#### 14. Transportation Information

SPECIAL HANDLING, STORAGE, AND PACKAGING RECOMMENDATIONS: This MSDS is not intended to have all required shipping information. When not used, devices should be stored in original shipping containers. Do not drop or expose to temperatures above 107C.

Identification number

UN3268

Proper shipping name

Air bag Inflators

Hazard Classification

Class 9

Packaging Group

PGIII

DOT Approval Number

Specific to the individual program

For further information contact: ARC Automotive, Inc

1729 Midpark Rd. Knoxville, TN 37921

## 15. Regulatory Information

#### **United States Regulatory Information**

TSCA 8 (b) Inventory Status:

Contains none listed

TSCA 12 (b) Export Notification:

None

CERCLAS/Sara

None Listed

California Proposition 65:

Could affect California's Perchlorate Contamination Prevention Act

2003 (AB 826)

# 16. Other Information

For Technical Information: Vice President of Engineering ARC Automotive Inc.

Knoxville, TN 37921 (865) 583-7600 For Health and Safety Information:

Health, Safety, & Environmental Manager

ARC Automotive Inc. Knoxville, TN 37921 (865) 583-7851

DISCLAIMER: The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet. However, no warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without license. In addition, no responsibility can be assumed by vendor for any damage of injury resulting from abnormal use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the product.

Gabe Bucca

 $\frac{1-21-2013}{\text{Date}}$ 

VP Human Resources & Safety

My Commission Expires:
August 5, 2015



# PRODUCT INFORMATION SHEET

#### **SAFETY DATA SHEET**

Revision 3 – 29 Feb 2024

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 article31 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: 6996722 - TECH-AIR 3 SYSTEM INFLATOR KIT

6997023 - INFLATOR KIT - TECH-AIR OFF-ROAD, TECH-AIR 7X

(hereinafter may also be referred to as Canister Kit)

Manufacturer Information: Alpinestars SpA

The above indicated Canister Kits include a carton box (certified 4G, for the transport of dangerous goods, packaging group II, III) containing 1 high pressure argon and helium gas canister, electrically initiated, of type ACH-2.3, supplied by LIVBAG SAS (AUTOLIV GROUP).

#### 2. Hazard Identification

Refer to ACH-2 SDS supplied by Autoliv LIVBAG, reported as annex below.

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

Refer to ACH-2 SDS supplied by Autoliv LIVBAG, reported as annex below.

#### 4. First Aid Measures

Refer to ACH-2 SDS supplied by Autoliv LIVBAG, reported as annex below.

#### 5. Fire Fighting measures

Refer to ACH-2 SDS supplied by Autoliv LIVBAG, reported as annex below.

#### 6. Accidental Release Measures

Refer to ACH-2 SDS supplied by Autoliv LIVBAG, reported as annex below.

#### 7. Handling and Storage

Refer to ACH-2 SDS supplied by Autoliv LIVBAG, reported as annex below.

#### 8. Exposure Controls and Personal Protection

Refer to ACH-2 SDS supplied by Autoliv LIVBAG, reported as annex below.

#### 9. Physical and Chemical Properties

Refer to ACH-2 SDS supplied by Autoliv LIVBAG, reported as annex below.

#### 10. Stability and Reactivity

Refer to ACH-2 SDS supplied by Autoliv LIVBAG, reported as annex below.

#### 11. Toxicological Information

Refer to ACH-2 SDS supplied by Autoliv LIVBAG, reported as annex below.

#### 12. Ecological Information

Refer to ACH-2 SDS supplied by Autoliv LIVBAG, reported as annex below.

#### 13. Disposal Information

The canister contained in the Canister Kit must not be disposed if the canister itself is still live. For the disposal each canister must be fired. Fired canisters may be disposed in accordance with national waste regulations. Both fired and live canisters may be returned to Alpinestars for disposal at life end.

#### 14. Transportation Information

Refer to ACH-2 SDS supplied by Autoliv LIVBAG, reported as annex below.

#### 15. Regulatory Information

Refer to ACH-2 SDS supplied by Autoliv LIVBAG, reported as annex below.

#### 16. Additional Information

The information contained in this Product Information Sheet relates only to the above indicated Canister Kits. The information is correct to the best of Alpinestars' knowledge at the date of publication. This information is provided only for guidance on the product safe handling, use, processing, storage, transportation and disposal and is not to be considered as a warranty or quality specification.

Refer to ACH-2 SDS supplied by Autoliv LIVBAG for further information.



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# **HYBRID INFLATOR: ACH-2**

#### 1. Product and Company Identification:

- **1.1. Product identification :** Hybrid inflator ACH-2.
- 1.2. Intended use: Pyrotechnic article used for mobility safety solutions

#### 1.3. Manufacturers:

Autoliv LIVBAG Tél: +33.(0)2.98.81.30.00. 18 Route du Beuzit Fax: +33.(0)2.98.73.05.04.

29590 Pont de Buis, France. E-mail: liv.reception@autoliv.com

#### 1.4. Emergency phone number of approved company:

ORFILA (I.N.R.S.) Tél: +33.(0)1.45.42.59.59. (France)

#### 2. Hazards Identification.

#### 2.1. Classification de l'article

#### 2.1.1. Classification in compliance with regulation (EC) n° 1272/2008 [CLP]

Non applicable, classe 9 for transport

#### 2.1.2. Classification in compliance with regulation (US) OSHA [HCS]

Non applicable, manufactured article

#### 2.2. Labelling

Non applicable, classe 9 for transport

#### 2.3. Other hazards

The inflator is not dangerous if correctly handled. When ignited, gases are ejected radialy from the diffusion chamber and the metallic parts could reach 30°C.

In order to prevent unintentional ignition the handling and storage instructions must be adhered to (See Chapter 7). Mechanical reworking, or introduction of electrical energy is forbidden as well as shock waves, impacts, shocks and heating.

After functioning the inflator becomes inert, but direct contact to skin or eyes of any free pyrotechnic residues should be avoided, as should inhalation and ingestion.

#### 3. Composition and ingredient information

#### **3.1. Substances**: non applicable

#### 3.2. Mixtures inside object :

The inflator is a closed and hermetic object; data about substances filled in are given for information in case of rupture of external body.

	Initiator		
Substances	% max	CAS#	CE#
Additives	10	-	-
Potassium perchlorate	65	7778-74-7	231-912-9
Titanium dihydride (TiH2)	35	7704-98-5	231-726-8
Zirconium	20	7440-67-7	231-176-9



E6517491 000

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# **HYBRID INFLATOR: ACH-2**

#### 3.3. Object

#### **Total weight composition:**

Ingredients%ACGIH-TLVOSHA-PELMetallic components:85-95NA (non applicable)NAGas2-15NANAPyrotechnic components:1-2NE (non evaluated)NA

#### **Technical description:**

The ACH-2.x hybrid inflator consists of an ignition chamber, a mixing chamber and a diffusion chamber. The ignition chamber holds:

- an electrical squib with a maximum of 600mg of active substance - Net Explosive Content (NEC) = 0.6g, The mixing chamber, with a maximum volume of 350 cm3, is pressurised at 60 MPa maximum (at ambient temperature), with a mixture of compressed gases, Argon and Helium.

The diffusion chamber includes vents in order to split the combustion gases.

The housing of the inflator is metallic, inert and electrically conductive.

#### 4. First Aid Measures.

#### 4.1. First aid description

#### Following inhalation:

Consult a doctor if massive inhalation of combustion gases occurs. If inflator is ignited in a closed room this should be sufficiently aired

#### Following contact with eyes:

Wash eyes with clean water, and consult a doctor

#### 4.2. Most important symptoms/effects, acute and delayed

When handled as intended, the inflator shows no hazardous behaviour

# 4.3. Indication of immediate medical attention and special treatment needed, if necessary

Non applicable

#### 5. Fire fighting Measures.

In case of fire, keep away from fire.

#### 5.1. Extinguishing media

Extinction by water is very difficult in view of the short combustion time, however it would stop the fire from spreading.

#### 5.2. Specific hazards arising from object

This inflator will be activated at a temperature greater than those mentioned in section 9.

Even after a fire, inflators must be considered as active; so they must be ignited.

#### 5.3. Protective actions for fire-fighters

#### Fire near the storage area:

Evacuate the danger area. Spray storage area and containers with water.

#### Fire in the storage area:

Evacuate the danger area. Fight the fire from a safe distance and spray the non ignited inflators, to cool them.



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# **HYBRID INFLATOR: ACH-2**

#### 6. Accidental release measures.

#### 6.1. Personal precautions, protective equipment and emergency procedures

See section 7 et 8

#### 6.2. Environmental precautions

No specific precautions

#### 6.3. Methods and materials for containment and cleaning up

Collect released inflators, and wet them to reduce their reactivity. Damaged inflators should be sent back to the manufacturer in approved packaging in accordance with the certificate of transportation (see chapter 14), and correctly labelled.

#### 7. Handling and storage

#### 7.1. Precautions for safe handling

Inflators must be handled with care and only by personnel properly trained for the task. Never try to mount damaged inflators or to repair them. Never machine, drill, weld, solder or heat an inflator. Indeed the inflator contains materials sensitive to impact, friction and temperature. Therefore, the above mentioned actions could lead to unexpected inflator functioning.

Take measures to prevent electrostatic charge.

Never expose inflators to chemicals which could harm them.

When handled as intended, the inflator shows no hazardous behaviour.

This advice is only part of the many recommendations and instructions to be followed.

#### 7.2. Conditions for safe storage, including any incompatibilities

Store inflator only in storage and transportation approved containers. Never store the inflator above +60°C, for a long time, or in humid conditions. Never store inflators in areas with strong electromagnetic fields. Fire extinguishers must always be available in the storage area.

Take measures against electrostatic charge (adequate discharge capacity, e.g. concrete floors, grounding of the storage facility).

#### 8. Exposure control / Personal protection

#### 8.1. Control parameters

Non applicable to a closed and hermetic object

#### 8.2. Exposure controls

#### 8.2.1. Appropriate engineering controls:

Non applicable to a closed and hermetic object

#### 8.2.2. Individual protection measures, such as personal protective equipment (PPE):

#### 8.2.2.1. Eye/face protection:

Safety goggles or visor (EN166).

#### 8.2.2.2. Skin protection:

Hand protection: gloves against mechanical hazards (EN388),

Skin protection other than hands: working clothes (with cotton).

#### 8.2.2.3. Respiratory protection:

*Limited risk due to confined substance inside inflator body.* 

#### 8.2.2.4. Thermal hazards:

Non applicable.

#### 8.2.2.5. Exposure controls relative to environmental protection:

Limited risk due to confined substance inside inflator body.



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# **HYBRID INFLATOR: ACH-2**

#### 9. Physical and Chemical Properties

#### 9.1. Information on essential physical and chemical properties

Non applicable to a closed and hermetic object

9.2. Other information

Functioning temperature  $mini :-40^{\circ}C, maxi : +90^{\circ}C$ 

Electrical features:

All fire current 800 - 1200 mA durant 2 ms à - 35 °C

No fire current 200 - 500 mA durant 10 secondes a + 85 °C

Auto-ignition temperature >190°C Gas tank opening temperature >130°C

Integrity of inflator Impossible dismantling without deterioration

10. Stability and reactivity

If correctly handled, and stored, this inflator is stable and presents no danger.

10.1. Hazardous decomposition products

When ignited this inflator could give off low levels of CO, CO2 and NOx

10.2. Sensibility to external environment (tests according to norm ISO12097-3)

Drop test No functioning observed

(height 1,2 m at ambient temperature)

Mechanical shock test No functioning observed

(100 g at - 35 °C, + 20 °C, + 85 °C)

Vibration test with thermal cycle No functioning observed

(400 cycles / 500 Hz / 24 h / - 35 °C, + 85 °C)

Climatic ageing test No functioning observed

(- 35 °C, + 70 °C – 95 % HR, + 105 °C)

High temperature storage No functioning observed

(400 hours à 107 °C)

Electrostatic discharges 25 kV, 500 pF, 5 k $\Omega$  / No functioning observed

Acc.to MIL STD 1512 method 205

#### 11. Toxicological information

There is no risk in handling an undamaged inflator.

Contains Perchlorate Material - Special Handling May Apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate

#### 12. Ecological information

Do not dispose into the environment.

#### 13. Disposal considerations

Active inflators (non ignited) can be destroyed by an approved organization. In case of problems, contact LIVBAG.

Code according to Annex II of Article R 541-8 of French Environment code and European Regulation 1013/2006/EC: 16 01 10\* explosive components (e.g. air bags).



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# **HYBRID INFLATOR: ACH-2**

#### 14. Transportation Information

**14.1. UN number** : UN3268

14.2. UN proper shipping name: SAFETY DEVICES

14.3. Transport hazard class(es): 9

14.4. Packing group: None

14.5. Environmental hazards: None 14.6. Special precautions for users:

By land:

Packaging instruction P 902 and LP902

By see:

Packaging instruction P 902

intervention number: FS supplied by the loader

stowing and separation: category A

By air:

Packaging instruction: 961

Code of emergency intervention IDC: 9L

Authorised for Commercial flight: maximum 25kg net per parcel Authorised for Cargo flight: maximum 100kg net per parcel

#### 15. Regulatory information

European Directive 2013/29/EU on the harmonization of the laws of the Member States relating to the making available on the market of pyrotechnic articles.

#### 16. Miscellaneous

This « Safety Data Sheet » was edited by LIVBAG Technical department according to regulations valid at that date and to their knowledge at that time.

The information given in this document cannot therefore considered as exhaustive.

It is the responsibility of anyone handling these manufactured goods to:

- Draft his own security rules about handling, and manufacturing, taking the contents of this "Safety Data Sheet" into consideration together with any other unknown risks that the product or its functioning might present.
- Reproduce in all documentation that he might prepare, referring to the product or to the materials in which the product is incorporated, the appropriate safety instructions including the hazard warnings given above, and inform the next purchaser, handler, or user.

LIVBAG's Technical department is at the disposition of those who require further information.