

HEALTH AND SAFETY DATA SHEETControl of Substances Hazardous to Human
Health**Evolution Ballistic Pin Propellant Fuel Cell**

Note: This document is prepared in accordance with European Directive 91/155/EEC "Safety Data Sheet Directive".

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16. Other Information**1.0 – Identification of the Substance and Company**

Trade Name: Evolution EVP “Ballistic Pins Propellant Fuel Cell”.
 Company: Evolution Fasteners (U.K.) Limited.
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2.0 – Composition and Information on Ingredients

Chemical Nature: Pressurised Gas. Propellant for direct fastening tool.

Hazardous ingredients in accordance with European Directive 67/548/EEC
 “Dangerous Substances Directive”.

Chemical Composition: Mixture consists of the following:

Dangerous Components/ Ingredients			
Identifier	Description	Hazard(s)	Percentage
CAS: 75-28-5 EINECS: 200-857-2	Isobutane	F+; R12	30 – 80%
CAS: 115-07-1 EINECS: 204-062-1	Propene	F+; R12	2 – 20%
CAS: 74-98-6 EINECS: 200-827-9	Propane (Liquefied)	F+; R12	25 – 75%

Additional Information: Pressurised gas remains in the canister after use.

For the wording of the listed risk phases, please refer to section 16.

3.0 – Hazards Identification

This product and associated packaging carries the following recognised and/or outlined identification markings within the “Control of Substances Hazardous to Human Health Act (2002)”:



F+ “EXTREMELY FLAMMABLE”

Information pertaining to the particular dangers to man and environment are listed below:

The product has to be labelled due to the calculation procedure of the "General Classification Guideline for Preparations of the European Union" in the latest current version.

This product carries the rating: R12 "Extremely Flammable"

Pressurised Container: Protect from the sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.

Do not spray onto a naked flame or any incandescent material. Keep away from sources of ignition. No smoking in the vicinity of the product, even when not being used.

53.0% of the products contents by mass are flammable.

Build up of explosive mixtures is possible in environments without suitable ventilation.

Keep out of reach of children.

4.0 – First Aid Measures

General: In case of doubt or persisting symptoms, obtain medical attention. Never pass anything through the mouth of an unconscious person.

No special measures required.

Inhalation: Remove patient from exposure and into fresh air, keep patient warm and at rest.

Eye Contact: Irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 10 minutes. Obtain medical attention.

Skin Contact: Remove contaminated clothing. Wash skin with soap and water. Do **not** use solvents or thinners.

Ingestion: Do **not** induce vomiting. Wash out mouth with water and obtain medical attention. Never give water to an unconscious person.

5.0 – Fire Fighting Measures

Extinguishing Media: Recommended forms are water jet, foam, powder or carbon dioxide. Fight larger fires with water jets.

Special hazards caused by the material, its products of combustion or resulting gases:

Carbon Monoxide (CO)
Nitrogen Oxides (NO_x)

This product can form an explosive gas-air mixture.

Protective equipment: Wear self contained breathing apparatus.

Store away from foodstuffs.

(Further information about storage conditions)

Do not transport in the passenger compartment or cabin of a motor vehicle.

Protect from sources of heat and direct sunlight.

8.0 – Exposure Controls and Personal Protection

Additional information about design of technical systems:

No further data; see section 7.

Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional Information:

The lists that were valid during the compilation were used as basis.

Personal Protective Equipment:

The following signs require to be displayed:



Operators should wear the following:

Appropriate helmet,
 Appropriate facial/ eye protection (i.e. tightly sealed goggles or face shield),
 Appropriate ear protection (i.e. ear plugs or ear defenders),
 Appropriate hand protection (i.e. leather or Kevlar gloves),
 Appropriate body clothing (i.e. flame retardant overalls),
 Appropriate breathing apparatus (i.e. respirator),
 Appropriate footwear (i.e. steel toed boots).

Note: Use breathing apparatus in areas where suitable ventilation is not achievable.

General protective and hygienic measures:

Do not eat, drink or smoke while working.

Wash hands during breaks and at the end of the work.

9.0 – **Physical and Chemical Properties**

General Information:

Form:	Gaseous.
Colour:	Colourless.
Odour:	Sweetish.

Change in condition:

Melting point/ Melting range:	Not determined.
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Flash point:	Not applicable.
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Ignition temperature:	greater than 460 °C.
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Self inflammability:	Product is not self igniting.
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Danger of explosion:	The product contains flammable propellant. Under conditions of inadequate ventilation, flammable or explosive air-vapour mixtures may form.
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Critical values for explosion:

Upper:	11.1 Vol %.
Lower:	1.30 Vol %.

Vapour pressure at 20 °C:	6390 hPa.
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Density at 20 °C:	1.28 g/cm ³ (DIN 51757).
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Solubility in/ Miscibility with water:	Not miscible or difficult to mix.
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Thermal decomposition/ conditions to be avoided:	No decomposition if used according to specifications.
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Dangerous reactions:	Danger of bursting. Reacts with oxidising agents. Forms explosive gas mixture with air.
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Dangerous products of decomposition:	No dangerous decomposition products known.
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10.0 – **Stability and Reactivity**

When stored and handled in accordance with the provisions set out in chapter 7, the product is stable.

Hazardous Reactions:	None.
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Hazardous Decomposition Products: None.

11.0 – Toxicological Information

Acute toxicity:

Primary irritant effect:

On the skin: Generally the product is not skin irritant.

On the eye: Slight irritation possible.

Sensitisation: No sensitisation effect known.

Additional toxicological information: Do not inhale vapours, aerosol or spray. The inhalation of large quantities of the gasses can lead to narcotic effects.

Long periods of exposure or repeated exposure can present a health hazard.

12.0 – Ecological Information

Excotoxic effect: Not determined.

General notes: Generally not hazardous to water.
Do not allow to enter drains, sewers or watercourses.

13.0 – Disposal Considerations

Do not discharge into drains or the environment, dispose to an authorised waste collection point.

Disposal should be in accordance with local, state or national legislation.

Use the entire contents of the canister.

The pressure gas remains in the canister.

European Waste Catalogue	
140000	Waste Organic Solvents, Refrigerants and Propellants. (Except 07 and 08).
140600	Waste Organic Solvents, Refrigerants and Foam/ Aerosol Propellants.
140603	Other Solvents and Solvent Mixtures.

14.0 – Transport Information

Land Transport (ADR/ RID) (Cross Border):



ADR/RID-GGVS/E Class:	2. 2F (Gases)
Kemler Number:	23
UN Number:	1965
Packaging Group:	N/A
Label:	2.1
Description of Goods:	1965 Hydrocarbon Gas Mixture, Liquefied, N.O.S. (Propane, Isobutane).

Maritime Transport (IMDG):



IMDG Class:	2.1
UN Number:	1965
Packaging Group:	N/A
Label:	2.1
EMS Number:	F-D, S-U
Marine Pollutant:	No
Correct Technical Name:	1965 Hydrocarbon Gas Mixture, Liquefied, N.O.S. (Propane, Isobutane).

Air Transport (ICAO-TI and IATA-DGR):



ICAO/ IATA Class:	2.1
UN/ ID Number:	1965

Packaging Group: N/A
Label: 2.1
Correct Technical Name: 1965 Hydrocarbon Gas Mixture, Liquefied, N.O.S. (Propane, Isobutane).

15.0 – Regulatory Information

Designation according to EC guidelines:

The product has been classified and labelled in accordance with EC Directives/ Ordinance on hazardous materials (GefStoffV).

Observe the normal safety regulations when handling chemicals.

Code letter and hazard designation of product:



F+ “EXTREMELY FLAMMABLE”

Risk phases:

12 Extremely flammable.

Safety phases:

2 Keep out of reach of children.

3 Keep in a cool place.

29/56 Do not empty into drains, dispose of this material and its container or special waste collection point.

33 Take precautionary measures against static charges.

43 In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.

46 If swallowed, seek medical advice immediately and show this container and label.

51 Use only in well ventilated areas.

60 This material and its container must be disposed of as hazardous waste.

Special designation of certain preparations:

Pressurised container: Protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use.

Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition. No smoking when in vicinity of, or when using the product.

53.0% by mass of the contents are flammable.

Build up of explosive mixtures possible without sufficient ventilation.

Keep out of reach of children.

Water Hazard Class: Generally not hazardous for water.

16.0 – Other Information

The information in this Health and Safety Data Sheet is based on the knowledge at the issue date and in accordance with National Law, European Community Regulations and European Directives.

Without written instructions for use, the product may not be used for the purposes other than that which are specified in the provisions of chapter 1.

The information in this sheet is intended as a description of safety measures for this product, and is not meant as a warranty for quality of the product regarding the technical specifications.

The information in this Health and Safety Data Sheet is prepared in accordance with European Directives 91/155/EEC “Safety Data Sheet Directive” and 88/379/EEC “Classification and Labelling of Dangerous Preparation”. This document is also in accordance with the United Kingdom’s Building Regulations Act (2009) and Health and Safety at Work Act (2007).

The information provided within this Health and Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not considered as a warranty or quality specification. The information relates only to the specific materials and processes specified in the text.

Relevant R Phases: 12 “Extremely Flammable”.

Note: This document was prepared for release by the Evolution Technical Department. Any comments or queries regarding this information should be directed to:

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This document was approved for release on Monday 28th September 2009 by:

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