

SAFETY DATA SHEET INFORMATION

For further information: Please refer to the Safety Data Sheet following

Issue: May 19

PRODUCT: BlastBag™ ZERO
Other Names: Aerosol propellant (contents), Solstice™ 1234ze; HFO 1234ze
Uses: Blast hole blocker, inflatable borehole plug
Product Codes: 30-028, 30-039, 30-046, 30-051, 30-059
Proper Shipping Name: Dangerous Goods in Apparatus

UN No.:	3363
Dangerous Goods Class:	9
Subsidiary Risk:	None
Packing Group:	III
Hazchem Code:	1Z
IMDG (Air & Sea only):	1950

Hazardous Nature:	This product is classified as not hazardous in accordance with GHS criteria
GHS Classification:	No GHS Hazard Classification applies
Exposure Standards:	TWA: None specified: consider 1000 ppm; STEL: None specified: consider 2000 ppm; Peak Limitation (if any): None; Skin Sensitiser (if any): None. Refer to Section 8 for further information and definitions.

Physical Characteristics (Typical) **Section 9 of the SDS**

Appearance	Device: aerosol in packaging.
Vapour Pressure (@ 21°C) (bar):	3.4
Relative Density (g/100g @ 20°C):	1.12
Heat of Combustion:	10.2
Chemical Stability:	This product is stable at room temperature and pressure.
Reactivity:	Excessive heat, alkali metals.

Product Ingredients **Section 3 of the SDS**

Ingredient	CAS Number	Proportion w/w%
Trans - 1,3,3,3 - Tetrafluoropropene	29118-24-9	100

For further ingredients information, please refer to the full SDS

GHS Pictograms **Section 2 of the SDS**

Not hazardous: no pictogram required

DEFINITIONS

Dangerous Goods	Products that are regulated for transport under the UN International guidelines are classified as Dangerous Goods. Products can be classified by their physical characteristics and may have only one Dangerous Goods designation, although may have a subsidiary risk. These products may be Dangerous Goods for transport by Air and Sea, but may not be classed as Dangerous Goods by Road and Rail in Australia. Refer to the Australian Code for Transport of Dangerous Goods by Road and Rail (ADG) for more information.
Hazardous Substances	Hazardous Substances are those products that are intrinsically hazardous by virtue of their chemical nature, rather than as a condition of their misuse. These hazards include mutagens, teratogens, carcinogens, and products that are harmful or irritant in nature. These products may or may not carry a Dangerous Goods classification.
Poisons	Poisons are products that are regulated by the dose or exposure, often having physical and chemical effects at certain concentrations particular to the nature of the product. The associated warnings, cautions and First Aid instruction are prescriptive under the regulation in Australia.

1. IDENTIFICATION

Product Name: BlastBag™ ZERO
Other Names: Aerosol propellant (contents), Solstice™ 1234ze; HFO 1234ze
Chemical Family: Liquid: Fluorohydrocarbon
Recommended Use: Blast hole blocker, inflatable borehole plug
Supplier: MTI Group Pty Ltd
ABN: 94 112 212 236
Address: 37 Competition Way, Wangara, WA 6065
Telephone: +61 8 9303 6100
Emergency Phone: **+61 8 9303 6100**
All other inquiries: +61 8 9303 6100 (or 1300 684 476 in Australia)

2. HAZARDS IDENTIFICATION

Hazard Classification

This product is classified as not hazardous in accordance with GHS criteria

Hazard Category

Not hazardous: intentionally left blank

Hazard Statement

No GHS Hazard Classification applies

GHS Pictograms

Not hazardous: no pictogram required

Hazard Statements

Not Hazardous: intentionally left blank

Precautionary Statements

Not Hazardous: intentionally left blank

Dangerous Goods Classification 9

Poisons Schedule None

Signal Word None

3. COMPOSITION: Information on Ingredients

Chemical Ingredient	CAS Number	Proportion (% w/w)
Trans - 1,3,3,3 - Tetrafluoropropene	29118-24-9	100

Product Identifiers

Product	Product Code	Hole Size Suitable (mm)
Emu	33-034 03-090	311
Wombat	33-059 03-091	270
Platypus	33-046 03-095	230
Bilby	33-028 03-092	203
Koala	33-039 03-093	165
Quokka	33-051 03-094	76 – 115

4. FIRST AID MEASURES

For advice, contact Poisons Information Centre (Phone Australia: 13 1126) or a doctor.

Ingestion

If swallowed, do NOT induce vomiting.

Eye Contact

If in eyes wash out immediately with water.

Skin Contact

If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water

Inhalation

If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

First Aid Facilities

Ventilation and respiratory aid.

Medical Attention

Treat symptomatically.

5. FIRE FIGHTING MEASURES

Shut off product that may 'fuel' a fire if safe to do so. Allow trained personnel to attend a fire in progress providing fire fighters with this Material Safety Data Sheet. Prevent extinguishing media from escaping to drains and waterways.

Suitable Extinguishing Media

This product contains propellant gas under pressure. In the unlikely event that the product is involved in a fire, use water fog, fine spray mist, or dry chemical or foam to extinguish.

Hazards from combustion products

This product contains a non-combustible propellant under pressure. In the unlikely event of a fire, hazardous vapours such as Hydrogen fluoride may be emitted.

Hazardous Decomposition

Will not burn, however fluorocarbons, hydrogen fluoride may be produced in extreme conditions

Precautions for fire fighters and special protective equipment

If product is subject to fire, use fully self-contained breathing apparatus, chemical resistant protective clothing, and face mask while fighting the fire.

Hazchem Code

1Z

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures

This product will contribute confined explosions (aerosol) when heated excessively. The aerosol content is isolated from contact with other chemicals or likely incompatibles. In the event of a fire or explosion emergency: prevent product from escaping to drains and waterways; contain leaking packaging in a containment facility; prevent vapours or dusts from building up in confined areas; ensure that drain valves are closed at all times; and clean up and report spills immediately.

Methods and materials for containment***Major Land Spill***

- Eliminate sources of ignition.
- Warn occupants of downwind areas of possible fire and explosion hazard, where present.
- Prevent product from entering sewers, watercourses, or low-lying areas.
- Keep the public away from the area.
- Shut off the source of the spill if possible and safe to do so.
- Advise authorities if substance has entered a watercourse or sewer or has contaminated soil or vegetation.
- Take measures to minimise the effect on the ground water.
- Contain the spilled product using the resources in the spill kit.
- Recover by pumping – use explosion proof pump or hand pump – or with a suitable absorbent material.
- Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.
- See "First Aid Measures" and "Stability and Reactivity"

Major Water Spill

- Eliminate any sources of ignition.
- Warn occupants and shipping in downwind areas of possible fire and explosion hazard, where present.
- Notify the port or relevant authority and keep the public away from the area.
- Shut off the source of the spill if possible and safe to do so.
- Confine the spill if possible.
- Remove the product from the surface by skimming or with suitable absorbent material.
- Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.
- See “First Aid Measures” and “Stability and Reactivity”.

7. HANDLING AND STORAGE

Precautions for Safe Handling

This product can be safely handled in ambient conditions. Use only in accordance with manufacturers instructions. Do not handle if indications of overheating or expansion.

Conditions for Safe Storage

This product is sensitive to extreme heat conditions. Do not manually handle aerosol products that have overheated, or expanded into the packaging. Store in a cool, dry place away from direct sunlight. Check packaging indicator during warehousing for heat treatment.

Incompatible Materials

None known

8. EXPOSURE CONTROLS: PERSONAL PROTECTION

National Exposure Standards

The time weighted average concentration (TWA) for the liquid component of this product is: Recommended: None specified: consider 1000 ppm, which means the highest allowable exposure concentration in an eight-hour day for a five-day working week. The short term exposure limit (STEL) is: Recommended: None specified: consider 2000 ppm, which is the maximum allowable exposure concentration at any time. Some chemicals have a concentration exposure limit referred to as Peak Limitation, where applies in this case; and the risk of sensitisation in contact with or by inhalation of this product is , in this case. The liquid product component of this product is isolated in an aerosol device.

Biological Limit Values (BLV)

None specified

Engineering Controls: Temperature control

The device is fitted with a patented thermostat on the packaging to identify expiration, or hazardous use of over-heated product. Avoid overheating the product through appropriate storage of the device. Store out of direct sun light and convection heating, such as vehicle interiors, etc.

Personal Protective Equipment

Respiratory Protection: There is no specific requirement – all gases and vapours are isolated.

Eye Protection: Always use safety glasses or a face shield when handling this product.

Skin/Body Protection: Always wear long sleeves, long trousers, or coveralls, and enclosed footwear or safety boots when handling this product. Do not handle product that has overheated – indicated by the thermostat on the outside of the packaging. Aerosols of all varieties can be hazardous when the liquid contents have been heated beyond their boiling points. Avoid physical contact with aerosols that have overheated.

9. PHYSICAL AND CHEMICAL PROPERTIES

Property	Unit of measurement	Typical Value
Appearance	None	Device: aerosol in packaging.
Device: properties	None	
Aerosol Liquid contents:		
Boiling Range	°C	-19
Density	g/ml	1.12
Explosive Limits in Air	% vol/vol	None
Vapour Pressure (@ 21°C)	bar	3.4
Vapour Pressure (@ 54°C)	bar	10
Heat of Combustion	kJ/g	10.2
Flash Point	°C	None
Solubility of Product		
in Water	g/l	2040 mg/L
in other solvents	(name)	Hydrocarbons, organic solvents
Autoignition Temperature	°C	288

The values listed are indicative of this product's physical and chemical properties. For a full product specification, please consult the Technical Data Sheet.

10. STABILITY AND REACTIVITY

Chemical stability

Stable at room temperature and pressure

Conditions to avoid

None known

Hazardous reactions

Excessive heat, alkali metals.

Hazardous polymerisation

Will not occur

11. TOXICOLOGICAL INFORMATION

Acute Effects

Ingestion

This product is unlikely to be ingested. On discharge of the device, the product is a gas.

Eye Contact

This product is unlikely to be in contact with eyes or eye tissue; however, there are not expected to be any adverse effects with the contents.

Skin Contact

This product is unlikely to be in contact with skin or hair. There are no adverse effects expected with the contents.

Inhalation

This product is unlikely to be inhaled in general use; however, avoid inhalation of this product. Fluorohydrocarbons can result in adverse respiratory symptoms, and in a pressurised environment, could contribute to pulmonary oedema.

Chronic Effects

There are no expected chronic effects with this product.

Other Health Effects Information

There are no other effects with this product, except in the situations of intentional misuse. Always comply with the manufacturer's instructions when using this product.

Toxicological Information

Oral LD₅₀: Inhalation (rat): 1,500,000 mg/m³

Inhalation TC_{Lo}: No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity: Liquid Component (isolated)

Aquatic Toxicity:

Fish Toxicity LC₅₀: No data available: not expected to be harmful.

Daphnia Magna EC₅₀: No data available: not expected to be harmful.

Blue-green algae: No data available: not expected to be harmful.

Green algae: No data available: not expected to be harmful.

Mobility/Biodegradability: This product is not expected to biodegrade. The contents of this product is expected to evaporate and degrade naturally.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

This product must be disposed in accordance with chemical and aerosol handling requirements.

Special Precautions

This product is not suitable for disposal by either landfill or via municipal sewers, drains, natural streams or rivers. This product should be treated and disposed through chemical waste treatment in accordance with the local authority, or considered for use in recycling.

14. TRANSPORT INFORMATION

Road and Rail Transport		Marine Transport		Air Transport	
UN No.	3363	UN No.	1950	UN No.	1950
Proper Shipping Name	Dangerous Goods in Apparatus	Proper Shipping Name	Aerosols	Proper Shipping Name	Aerosols
DG Class	9	DG Class	2	DG Class	2
Sub. Risk	None	Sub. Risk	None	Sub. Risk	None
Packing Group	III	Packing Group	III	Packing Group	III
Hazchem	1Z	Hazchem	2YE	Hazchem	2YE

Dangerous Goods Segregation

This product is Class 9, packing group III, regulated for Transport via Road and Rail.

15. REGULATORY INFORMATION

Country/Region: Australia

Inventory: AICS

Status: Listed

Poisons Schedule: None

16. OTHER INFORMATION

Reasons for Issue: Updated information and amalgamated supplier changes in all sections.

Abbreviations:

AICS: Australian Inventory of Chemical Substances

CAS Number: Chemical Abstracts Number

IARC: International Agency for Research on Cancer

GHS: Global Harmonising System

PPE: Personal Protective Equipment

N/R: Non-regulated

N/A: Not applicable

References:

- Supplier Safety Data Sheets
- <http://hcis.safeworkaustralia.gov.au/HazardousChemical> (May 19)
- Animal toxicology data: <http://chem.sis.nlm.nih.gov/chemidplus> (May 19)
- Ecotoxicology data: <https://cfpub.epa.gov/ecotox> (May 19)

The information sourced for the preparation of this document was correct and complete at the time of writing to the best of the writer's knowledge. The document represents the commitment to the company's responsibilities surrounding the supply of this product, undertaken in good faith. This document should be taken as a safety guide for the product and its recommended uses, but is in no way an absolute authority. Please consult the relevant legislation and regulations governing the use and storage of this type of product. For further information, please contact MTI Group Pty Ltd.
