



SAFETY DATA SHEET

SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name : RECHARGE DE PRESSION - AEROSOL

Product code : BLUESTAR.011

1.2. Relevant identified uses of the substance or mixture and uses advised against

Aerosol.

1.3. Details of the supplier of the safety data sheet

Registered company name : BLUESTAR.

Address : 1 avenue Henri Dunant - 98000 MONACO

Telephone : +377 97 97 31 77.

info@bluestar-forensic.com

www.bluestar-forensic.com

1.4. Emergency telephone number : +33 (0) 1 45 42 59 59.

Association/Organisation : INRS / ORFILA <http://www.centres-antipoison.net>.

SECTION 2 : HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

HCS compliant.

This substance does not present a health hazard with the exception of possible occupational exposure thresholds (see paragraphs 3 and 8).

2.2. Label elements

Mixture for aerosol application.

HCS compliant.

Signal Word :

WARNING

Product identifiers :

CAS 29118-24-9 HFO-1234ZE

Hazard statements :

H229 Pressurised container: May burst if heated.

Precautionary statements - Prevention :

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P251 Do not pierce or burn, even after use.

Precautionary statements - Storage :

P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

2.3. Other hazards

No data available.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Composition :

Identification	HCS	Nota	%
CAS: 29118-24-9	GHS04	[1]	100%
EC: (471-480-0)	Wng	[7]	
REACH: (01-0000019758-54)	Press. Gas, H280		
HFO-1234ZE			

Information on ingredients :

[7] Propellant gas

[1] Substance for which maximum workplace exposure limits are available.

SECTION 4 : FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor.
NEVER induce swallowing by an unconscious person.

4.1. Description of first aid measures

In the event of exposure by inhalation :

If breathing is irregular or has stopped, proceed with artificial respiration and seek medical attention.

In the event of splashes or contact with eyes :

Wash thoroughly with soft, clean water for 15 minutes holding the eyelids open.

Refer the patient to an ophthalmologist, in particular if there is any redness, pain or visual impairment.

In the event of splashes or contact with skin :

In case of contact with liquid: treat frostbite as burns. Remove all soiled clothing or shoes immediately. Rinsing with immediate and abundant water. If skin burns occur, call a doctor immediately.

In the event of swallowing :

Seek medical attention, showing the label.

Not specifically concerned (gas).

4.2. Most important symptoms and effects, both acute and delayed

No data available.

4.3. Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5 : FIREFIGHTING MEASURES

Non-flammable.

5.1. Extinguishing media

Suitable methods of extinction

In the event of a fire, use :

- powder
- sprayed water or water mist
- foam
- carbon dioxide (CO₂)

Unsuitable methods of extinction

In the event of a fire, do not use :

- water jet

5.2. Special hazards arising from the substance or mixture

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.

Do not breathe in smoke.

In the event of a fire, the following may be formed :

- carbon monoxide (CO)
- carbon dioxide (CO₂)
- hydrogen fluoride (HF)
- fluorinated compounds

5.3. Advice for firefighters

Due to the toxicity of the gas emitted on thermal decomposition of the products, fire-fighting personnel are to be equipped with autonomous insulating breathing apparatus.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Consult the safety measures listed under headings 7 and 8.

For first aid worker

First aid workers will be equipped with suitable personal protective equipment (See section 8).

6.2. Environmental precautions

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal.

Prevent any material from entering drains or waterways.

6.3. Methods and material for containment and cleaning up

Clean preferably with a detergent, do not use solvents.

6.4. Reference to other sections

No data available.

SECTION 7 : HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the substance is handled.

7.1. Precautions for safe handling

Always wash hands after handling.

Fire prevention :

Do not pierce or burn, even after use.

Prevent access by unauthorised personnel.

Recommended equipment and procedures :

For personal protection, see section 8.

Observe precautions stated on label and also industrial safety regulations.

Do not breathe in aerosols.

Prohibited equipment and procedures :

No smoking, eating or drinking in areas where the substance is used.

7.2. Conditions for safe storage, including any incompatibilities

No data available.

Storage

Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C.

Packaging

Always keep in packaging made of an identical material to the original.

7.3. Specific end use(s)

No data available.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters****Occupational exposure limits :**

- Germany - AGW (BAuA - TRGS 900, 29/01/2018) :

CAS	VME :	VME :	Excess	Notes
29118-24-9		1000 ppm 4700 mg/m ³		2(II)

- Switzerland (SUVAPRO 2017) :

CAS	VME	VLE	Valeur plafond	Notations
29118-24-9	1000 ppm 4700 mg/m ³	2000 ppm 9400 mg/m ³		SSC

Derived no effect level (DNEL) or derived minimum effect level (DMEL):

HFO-1234ZE (CAS: 29118-24-9)

Final use:	Workers.
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	3902 mg of substance/m ³

Final use:	Consumers.
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	830 mg of substance/m ³

Predicted no effect concentration (PNEC):

HFO-1234ZE (CAS: 29118-24-9)

Environmental compartment:	Fresh water.
PNEC :	0.1 mg/l

8.2. Exposure controls**Personal protection measures, such as personal protective equipment**

Use personal protective equipment that is clean and has been properly maintained.

Store personal protective equipment in a clean place, away from the work area.

Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

- Eye / face protection

Avoid contact with eyes.
Use eye protectors designed to protect against liquid splashes
Before handling, wear safety goggles in accordance with standard EN166.

- Hand protection

Type of gloves recommended :
- Nitrile rubber (butadiene-acrylonitrile copolymer rubber (NBR))
- Viton® (Hexafluoropropylene copolymer and vinylidene fluoride)
- Leather

- Body protection

Work clothing worn by personnel shall be laundered regularly.
After contact with the product, all parts of the body that have been soiled must be washed.

- Respiratory protection

Anti-gas and vapour filter(s) (Combined filters) in accordance with standard EN14387 :
- AX (Brown)

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties****General information :**

Physical state :	Fluid liquid.
	Spray.
Colour:	Colourless.
Odour:	Light and ethereal.

Important health, safety and environmental information

pH :	Not relevant.
Boiling point/boiling range :	-19 °C.
Flash point interval :	Not relevant.
Vapour pressure (50°C) :	Not relevant.
Vapour density :	4 (20°C)
Density :	1.17 (21.1°C)
Water solubility :	Partially soluble. 0.373 g/l
Self-ignition temperature :	368 °C.
Chemical combustion heat :	< 20 kJ/g.

9.2. Other information

No data available.

SECTION 10 : STABILITY AND REACTIVITY**10.1. Reactivity**

No data available.

10.2. Chemical stability

This substance is stable under the recommended handling and storage conditions in section 7.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Avoid :
- heat

10.5. Incompatible materials

Keep away from :
- oxidising agents
- alkali metals

10.6. Hazardous decomposition products

The thermal decomposition may release/form :
- carbon monoxide (CO)
- carbon dioxide (CO₂)
- hydrogen fluoride (HF)
- fluorinated compounds

SECTION 11 : TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

No data available.

11.1.1. Substances

No toxicological data available for the substances.

SECTION 12 : ECOLOGICAL INFORMATION

The product must not be allowed to run into drains or waterways.

12.1. Toxicity

12.1.1. Substances

HFO-1234ZE (CAS: 29118-24-9)

Crustacean toxicity :

EC50 > 160 mg/l

Species : Daphnia magna

Duration of exposure : 48 h

12.2. Persistence and degradability

12.2.1. Substances

HFO-1234ZE (CAS: 29118-24-9)

Biodegradability :

Non-rapidly degradable.

12.3. Bioaccumulative potential

12.3.1. Substances

HFO-1234ZE (CAS: 29118-24-9)

Octanol/water partition coefficient :

log K_{ow} = 1.6

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

No data available.

SECTION 13 : DISPOSAL CONSIDERATIONS

The appropriate waste management of the substance and/or its container must be determined in accordance with local regulations.

13.1. Waste treatment methods

Do not pour into drains or waterways.

Waste :

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company.

Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

Soiled packaging :

Empty container completely. Keep label(s) on container.

Give to a certified disposal contractor.

SECTION 14 : TRANSPORT INFORMATION

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2017 - IMDG 2016 - ICAO/IATA 2017).

14.1. UN number

1950

14.2. UN proper shipping name

UN1950=AEROSOLS, asphyxiant

14.3. Transport hazard class(es)

- Classification :



2.2

14.4. Packing group

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14.5. Environmental hazards

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14.6. Special precautions for user

ADR/RID	Class	Code	Pack gr.	Label	Ident.	LQ	Provis.	EQ	Cat.	Tunnel
	2	5A	-	2.2	-	1 L	190 327 344 625	E0	3	E
IMDG	Class	2°Label	Pack gr.	LQ	EMS	Provis.	EQ			
	2	See SP63	-	See SP277	F-D,S-U	63 190 277 327 344 381 959	E0			
IATA	Class	2°Label	Pack gr.	Passager	Passager	Cargo	Cargo	note	EQ	
	2.2	-	-	203	75 kg	203	150 kg	A98 A145 A167 A802	E0	
	2.2	-	-	Y203	30 kg G	-	-	A98 A145 A167 A802	E0	

For limited quantities, see part 2.7 of the OACI/IATA and chapter 3.4 of the ADR and IMDG.

For excepted quantities, see part 2.6 of the OACI/IATA and chapter 3.5 of the ADR and IMDG.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

No data available.

SECTION 15 : REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

The following regulations have been used:

- OSHA Hazard Communication Standard 29 CFR 1910.1200

- Container information:

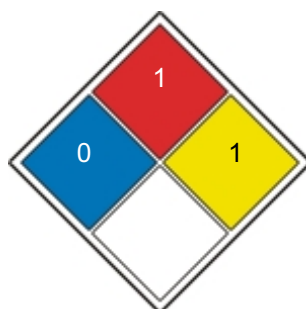
No data available.

- Particular provisions :

No data available.

- Standardised American system for the identification of hazards presented by the product in view of emergency procedures (NFPA 704) :

NFPA 704, Labelling: Health=0 Inflammability=1 Instability/Reactivity=1 Specific Risk=none

**- Clean Water Act : Toxic Pollutants (CWA 307A)**

Unlisted.

- Clean Water Act : Hazardous Substances (CWA 311)

Unlisted.

- Clean Water Act : Hazardous Substances (CWA 304b)

Unlisted.

- Clean Water Act : Priority Pollutants (CWA Priority)

Unlisted.

- **Clean Air Act : Hazardous Air Pollutants (CAA 112(b) HAP (188))**
Unlisted.
 - **Clean Air Act : Organic Hazardous Air Pollutants National Emission Standards (CAA 112(b) HON (387))**
Unlisted.
 - **Clean Air Act : Protection of Stratospheric Ozone (CAA 602)**
Unlisted.
 - **SARA 110**
Unlisted.
 - **SARA 302/304**
Unlisted.
 - **SARA 313**
Unlisted.
 - **California proposition 65 : Chemicals known to the state to cause cancer or reproductive toxicity**
Unlisted.
 - **Massachusetts : Right to Know**
Unlisted.
 - **New Jersey : Right to Know**
Unlisted.
 - **Pennsylvania : Hazardous Substance**
Unlisted.
 - **Rhode Island : Hazardous substance list**
Unlisted.
 - **TSCA (Toxic Substances Control Act) - USA**
All components are listed or exempted.
- 15.2. Chemical safety assessment**
No data available.

SECTION 16 : OTHER INFORMATION

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information in this safety data sheet must be regarded as a description of the safety requirements relating to the substance and not as a guarantee of the properties thereof.

Wording of the phrases mentioned in section 3 :

H280	Contains gas under pressure; may explode if heated.
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Abbreviations :

DNEL : Derived No-Effect Level

PNEC : Predicted No-Effect Concentration

ADR : European agreement concerning the international carriage of dangerous goods by Road.

IMDG : International Maritime Dangerous Goods.

IATA : International Air Transport Association.

ICAO : International Civil Aviation Organisation

RID : Regulations concerning the International carriage of Dangerous goods by rail.

PBT: Persistent, bioaccumulable and toxic.

vPvB : Very persistent, very bioaccumulable.

HCS : Hazard Communication standard (OSHA).