



## NovaSpray HFO 1234ze / HFC 134a (90/10)



### PERFORMANCES

The **NovaSpray HFO 1234ze/HFC 134a (90/10)** is a specially aerosol grade blend of **NovaSpray HFO 1234ze** and **NovaSpray HFC 134a**. With a constant quality and controlled pressure, it meets all the requirements of a liquefied propellant.

#### Non-flammability:

**Non-flammable**, the **NovaSpray HFO 1234ze/HFC 134a (90/10)** has many potential uses in formulations which have safety requests (*regulation, risk environment, confined environment*). Its use enable to **decrease the non-flammability of many formulations until make them non-flammable regarding the Directive 2008/47/EC**.

Its application doesn't require particular investment regarding safety installation ATEX.

#### Low GWP:

The **NovaSpray HFO 1234ze/HFC 134a (90/10)** is a blend based on the 4<sup>th</sup> generation of fluorinated product. It is conformed with environmental regulations to the HFC substitution. It has no effect on ozone layer and its **impact on greenhouse effect is very negligible (GWP = 149.3)**. So, it is not concerned by the F-Gas I (regulation No 842/2006/EC) and the F-Gas II (regulation No 517/2014/EC).

**The Climalife aerosol laboratory is at your disposal to help you to replace the HFC 134a in your non-flammable formulation.**

### SPECIFICATIONS

Standard characteristics	Limit values
Appearance	<b>Clear</b>
<b>Composition:</b>	
HFO 1234ze	<b>90 - 92 % weight</b>
HFC 134a	<b>8 - 10 % weight</b>
Water content	<b>≤ 50 ppm weight</b>
Non volatile residue	<b>≤ 100 ppm weight</b>

### CHARACTERISTICS

		Units	Values
Molecular weight	average	g/mol	<b>113*</b>
Boiling point	below 1.013 bar	°C	<b>-26.4</b>
Liquid density	at 20°C at 50°C	kg/dm <sup>3</sup>	<b>1.18*</b> <b>1.08*</b>
Relative pressure	saturation vapor at 20°C saturation vapor at 50°C	bar	<b>3.4*</b> <b>9.3*</b>
Kauri-Butanol index			<b>10*</b>
Hydrocarbon solubility	in water at 20°C	% weight	<b>&lt; 0.1</b>
Water solubility	in hydrocarbon at 20°C	% weight	<b>&lt; 0.1</b>
Lower flammability limit	in the air at 20°C	% volume	<b>none</b>
Upper flammability limit	below 1.013 bar		
Auto-ignition temperature		°C	<b>368</b>

\*calculated



### PACKAGING

	Bottles			Container	Bulk
	Capacity (liter)	4.86	27	88	930
Tare (kg)	2.45	14	37	450	
Load (kg)	4.9	26	88	910	
Diameter (mm)	186	300	300	860	
Height (mm)	340	630	1517	2330	
Outflow external diameter (mm)	21.8	21.8	21.8	26.1	
Tap: right pitch (mm)	1.814	1.814	1.814	1.814	
Test pressure (bar)	31	33	33	33	

- Packaging technical characteristics are available upon request to the commercial department.
- Feasibility of filling packaging of the customers if they are in conformity with the legislation.
- Contact us for any other specific packaging.

### STORAGE AND SHELF LIFE

#### Precautions for handling and storage :

**French plants are controlled by the regulation of listed Establishments and have to comply with it (or with the local legislation).**

- All packaging will be stored in a dry, well ventilated, easily accessible place, sheltered from sunlight and bad weather, away from any ignition source.
- It is recommended to store all packaging either in a specific place or isolated and sheltered by a fence.
- All packaging and piping will be grounded to discharge static electricity.
- Leak detectors, put at ground level, will be connected to an audible alarm, which will trigger in the event of leaks.
- The whole equipment will be tested with an appropriate leak detector before use.
- Material and electrical equipment in an explosive atmosphere will comply with the regulations (*grounding, equipotential bonding, ATEX material*).

**Climalife can study the set up and assembling of your storage tanks, piping, and pumps, according to the prevailing regulations**

**Shelf life: unlimited** (if appropriate storage conditions)



## CONDITIONS OF USE

Please refer to the Material Safety Data Sheet (MSDS) before using the product.

Workers handling the product should be trained about risks and preventive measures.

The product is compatible with:

COMPATIBILITY	INCOMPATIBILITY
<p>Plastics:</p> <ul style="list-style-type: none"><li>▪ Polyurethane</li><li>▪ Polyvinyl chloride (PVC)</li><li>▪ Polypropylene</li><li>▪ Polyethylene</li><li>▪ Teflon</li></ul> <p>Elastomers:</p> <ul style="list-style-type: none"><li>▪ BUNA N®</li><li>▪ Natural rubber</li></ul> <p>Metals:</p> <ul style="list-style-type: none"><li>▪ Ordinary steel</li><li>▪ Stainless steel</li></ul>	<ul style="list-style-type: none"><li>▪ Strong bases</li><li>▪ Oxidizing agents</li></ul>

*The information above is intended as a guide only. We assume no liability for its accuracy on its use. The user should make its own tests under its conditions in order to determine the suitability of any compound in a peculiar application.*

**Handle :**

- away from heat sources (flames or hot metallic surfaces)
- in cool and aired premises

## HEALTH SAFETY ENVIRONMENT (HSE)

Consult the Material Safety Datasheet (MSDS) on the website: [www.quickfds.com](http://www.quickfds.com)

*This data is based on information that the manufacturer believed to be reliable and offered in good faith. In no event will Climalife be responsible for special, incidental and consequential damages. The user is responsible, to the Administrative Authorities (Regulation of the listed establishments for the protection of the environment), for the conformity of his installation.*