

climalife®

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Novexpans HCFO 1233zd



PERFORMANCES

NOVEXPANS™ HCFO 1233zd is a hydrochlorofluoropropene as an expanding agent in **rigid polyurethane foam expansion**.

Its application doesn't require particular investment regarding safety installation ATEX. **NOVEXPANS™ HCFO 1233zd** is conceived for the **HFC 245fa substitution**. In comparison with HFC 245fa it has environmental benefits on greenhouse effect.

Low GWP:

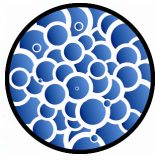
NOVEXPANS™ HCFO 1233zd is a 4th generation of fluorinated product. It is conformed with environmental regulations to the HFC substitution. It has no effect on ozone layer and its **impact on greenhouse effect is very negligible (GWP = 4.5)**. So, it is not concerned by the F-gas I (regulation No 842/2006/CE) and the F-gas II (regulation No 517/2014/EC).

SPECIFICATIONS

Standard characteristics	Limit values
Appearance	Clear
Purity	≥ 99.0 % weight
Water content	≤ 500 ppm weight
Acidity (HCl)	≤ 1 ppm weight

CHARACTERISTICS

		Units	Values
Chemical Formula			CF₃-CH=CClH
Molecular weight		g/mol	130.5
Boiling point	initial, at 1.013 bar	°C	19
Liquid density	at 20°C	kg/dm ³	1.30
	at 50°C	kg/dm ³	1.25
Absolute pressure	at 20°C	bar	1.1
	at 50°C	bar	2.9
Latent heat of vaporization	at boiling point	kJ/kg	194
Flash point	closed cup	°C	none
Lower flammability limit Upper flammability limit	in the air at 20°C below 1.013 bar	% volume	non-flammable
Auto-ignition temperature		°C	380
λ	at 20°C	mW/m.K	10.2



PACKAGING

	Bottles		Container	Bulk
Capacity (liter)	26	88	930	5 to 20 T
Tare (kg)	16	38	460	
Load (kg)	30	100	1100	
Diameter (mm)	300	300	860	
Height (mm)	630	1530	2330	
Outflow external diameter (mm)	21.7	21.7	26.1	
Tap: right pitch (mm)	1.814	1.814	1.814	
Test pressure (bar)	30	33	33	

- Packaging technical characteristics 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.

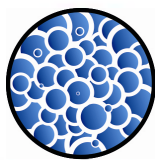
STORAGE AND SHELF LIFE

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.



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 and not compatible with:

COMPATIBILITY	NON COMPATIBILITY
<p>Plastics:</p> <ul style="list-style-type: none">▪ Polyvinyl chloride (PVC)▪ PTFE▪ Polyethylene <p>Elastomers:</p> <ul style="list-style-type: none">▪ Viton®▪ Neoprene▪ Butyl rubber <p>Metals:</p> <ul style="list-style-type: none">▪ Stainless steel	<ul style="list-style-type: none">▪ Oxidizing agents▪ Combustive agents▪ EPDM▪ Nitrile

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.

Measures while handling:

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

HEALTH SAFETY AND ENVIRONMENT (HSE)

Consult the Material Safety Datasheet (MSDS) on the website: www.quickfds.com

This data is based on information that the manufacturer believed to be reliable and offered in good faith. On no account, Climalife will 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.