Propellants

HFO-1234ze

HFO-1234ze: Propellant for non-flammable applications.

HFO-1234ze is a hydro-fluoro-olefin with a very low global warming potential (GWP) and is a propellant particularly recommended for those applications in which the formulation must be non-flammable. Due to its low GWP its use is not restricted by regulation 517/2014 known as regulation F-gas. Its development is intended as a substitute for R134a in aerosol formulations.

Chemical Name:	CAS number:
(1*E*)-1,3,3,3-Tetrafluoroprop-1-ene	**29118 - 24 - 9**

Technical Characteristics:

> Non-flammable liquefied gas.
> Not excluded by F-gas due to its low GWP.
> Almost direct substitute for R134a in non-flammable formulations.
> Miscible with commonly used solvents (hydrocarbons, alcohols, ketones and chlorinated solvents).
> Can be mixed with other propellants.
> It requires the use of adapted gaskets both in the packaging equipment and in the aerosol valves.

Packaging:

- Cylinder
- Roll drum
- ISOtank

Applications:

Personal care (hairspray, deodorant, etc.)

Technical aerosol

Home care products

Properties:

Chemical Formula	$CHF=CH-CF_3$	
Molecular Weight	114	g/mol
Boiling Point	-19	ºC
Vapor pressure (20ºC)	3,3	bar
Vapor pressure (50ºC)	9	bar
Liquid Density (20ºC)	1,18	kg/l
Liquid Densit (50ºC)	1,0738	kg/l
Kauri - Butanol	<10	
Solubility in water (20ºC)	0,025	% weight
LEL (Lower Explosive Limit)	--	% volume
UEL (Upper Explosive Limit)	--	% volume
Autoignition temperature	368	ºC

Table of temperature, pressure and density:

Temperature (ºC)	Pressure (bar)	Liquid density (kg/l)
0	1,2	1,24
5	1,6	1,23
10	2,1	1,21
15	2,6	1,20
20	3,3	1,18
25	4,0	1,16
30	4,8	1,15
35	5,7	1,13
40	6,7	1,11
45	7,7	1,09
50	9,0	1,07
55	10,3	1,05
60	11,8	1,03
65	13,4	1,01

Normative:

GRIT (Gases Research Innovation & Technology) is committed to the continuous improvement of our inbuilt Quality Control, Environment and Major Accident Prevention Systems as well as close collaboration with our product and service providers. The scope of the system includes the packaging, commercialization, storage and innovation of technical gases and the management of residual fluorinated gas and halogenated solvents.

All this work is reflected in our certificates ISO 9001 & ISO 14001.

More information:

If you want more information about our products, contact us.

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