



TULSTAR PRODUCTS, INC.

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HCFC 142b

(1-Chloro-1, 1-Difluoroethane)

HCFC 142b is an effective replacement for CFC-12 in rigid polyurethane, polystyrene and polyethylene in foam insulation applications. Specific uses include both residential and commercial construction, as well as, process piping.

PHYSICAL PROPERTIES

Appearance:	Colorless liquefied gas with a faint ethereal odor.
Molecular Formula:	CF ₂ ClCH ₃
Molecular Weight:	100.5
Normal Boiling Point (°F):	-14.4
Normal Freezing Point (°F):	-20.4
Specific Gravity @ 70°F:	1.11
Vapor Pressure psia @ 70°F:	43.5
Vapor Density (Air = 1):	3.49
Vapor Thermal Conductivity @ 77°F, (Btu in/ft ² hr °F):	0.0838
Liquid Density @ 77°F (lbs/ft ³):	69.3
Flash Point:	None
Auto Ignition Temperature °F:	1170

MATERIALS COMPATIBILITY

HCFC 142b is compatible with carbon steel, stainless steel, phenolic coatings, polytetrafluoroethylene, fluoroelastomer, polyethylene, polypropylene, perfluoroelastomer, and polyvinylidene fluoride. HCFC 142b has shown unsatisfactory results with nitrile rubber, ethylene propylene rubber, and neoprene.

* Grades of material may vary by vendor and lot number. This may affect performance.

TABLE 1
FLAME LIMIT DATA

<u>Ignition Source</u>	<u>Flame Limits (vol. %)</u>
Match	7.1 – 18.6
Copper Wire	8.2 – 14.7
Spark	8.0 – 14.3

Measured using ASTM E-681 in a 5L vessel. The following disclaimer appears on all ASTM methods for flammable properties: "This standard should be used to measure and describe the properties of materials, products, or assemblies in response to heat and flame under controlled laboratory conditions and should not be used to describe or appraise the fire hazard or fire risk of materials, products, or assemblies. However, the results of this test may be used as elements of the risk assessment which takes into account all of the factors pertinent to an assessment of the fire hazards of a particular use."

TABLE 2
FLAMMABILITY COMPARISON

<u>Ignition Source</u>	<u>Pentane (LFL-UFL) (vol. % in air)</u>	<u>142b (LFL-UFL) (vol. % in air)</u>
Strike-anywhere match	1.2 – 8.0	6.7 – 18.2
Safety match	-----	7.0 – 18.3
Paper match	1.3 – 7.7	7.1 – 18.6
Electric squab	-----	8.0 – 14.3
Wire	1.4 – 7.7	8.2 – 14.7

Pressure: (1 atm)
Temperature: (71.6°F)
Humidity: Dry air