

FORANE 141b DGX

1.1. Dichloro, 1.Fluoroethane



PHYSICAL PROPERTIES

At normal temperature and pressure, FORANE[®] 141b is a colourless liquid with a slightly ethereal odour.

Molecular weight	117
Boiling point under 1.013 bar °C	32
Density of liquid at 25°C.....	1.236
Vapour pressure at 25°C, bar	0.81
Saturated vapour density at the boiling point, g/l	5.018
Critical temperature, °C	205.7
Critical pressure, bar	43.4
Critical density, kg.dm ⁻³	0.463
Latent heat of vaporisation at the boiling point, kJ.kg ⁻¹	206,8
Surface tension of the liquid at 25°C, mN.m ⁻¹	18.4
Solubility at 25°C :	
▪ FORANE [®] 141b in water, % by weight	0.5
▪ water in FORANE [®] 141b, % by weight	0.042
Thermal conductivity at 25°C :	
▪ Liquid, W.m ⁻¹ .°C ⁻¹	0.098
▪ Vapour under 1.013 bar W.m ⁻¹ .°C ⁻¹	0.010
Refractive index	1.37

Conversion 1 kJ/kg⁻¹ = 0.239 kcal.kg⁻¹

MATERIAL COMPATIBILITY

As a general rule ordinary metals and alloys (steel, iron, stainless steel, copper, brass, bronze, aluminium, zinc and diecasting alloy) provide good resistance to FORANE[®] 141b DGX at the boiling point.

FORANE[®] 141b DGX has no effect on thermoset plastics (such as bakelite).

Plastics have, for the most part, a good resistance to FORANE[®] 141b DGX (PVC, polyethylene, nylon, polycarbonate fluorinated plastics). Polystyrene polymethylmethacrylate, and ABS may present problems of compatibility with FORANE[®] 141b DGX under certain conditions

SAFETY

FORANE[®] 141b DGX is a non flammable liquid and does not have a measurable flash point.

FORANE[®] 141b DGX vapour has limited flammability when mixed with air at concentrations of between 5.6 and 17.7 % of vapour to air. This is in common with other chlorinated solvents (EG T 111, 7.4-16.5 %). (The precise values and degree of flammability are very much a function of conditions and measurement).

Auto ignition temperature : 532°C.

Toxicity

HCFC-141b has low toxicity. The PAFT II (Programme for Alternative Fluorocarbon Toxicity Testing) testing of HCFC-141b has been completed.

The test results indicate that HCFC-141b :

- has low acute and subchronic inhalation toxicity
- caused and increased incidence of benign, but not life-threatening, tumours in animals following long-term exposure to high concentrations.
- is not a developmental toxicant
- is not mutagenic

Work safety

As with all hydrocarbons, halogenated or not, FORANE[®] 141b DGX, despite its low toxicity level, can induce drowsiness and the danger of anaesthesia if it is inhaled in high concentrations, or in confined spaces where high concentrations may build up.

An exposure limit of 500 ppm, 8-hour time-weighted average, has been recommended by the American Industrial Hygiene Association, Workplace Environmental Exposure Limit (WEEL) Committee.

IMPORTANT : the above is given only as guide. Read the material safety data sheet fully before using FORANE[®] 141b DGX

USES

Solvent : a substitute for FORANE[®] 113 pure or in combinaison with other products for the removal of flux, cleaning, degreasing metals or drying.

COMMERCIAL SPECIFICATIONS

Purity	≥ 99.5 %
Water content	≤ 50 ppm
Acidity	≤ 1 ppm (HCl)
Chlorine	none
Stabilisers	300 ppm