

Precision Cleaning Solvent

Description:

IT-1101 based on hydrofluorocarbon fluid with zero ozone-depletion and a low global warming potential ideally suited for precision cleaning of the electronic components. It can replace current hydrochloro-fluorocarbon (HCFC) and perfluorocarbon (PFC) fluids in most applications.

IT-1101 is 2,3-dihydrodecafluoropentane. It is a clear, colorless liquid with the properties shown in the table below. Its unique physical properties include a high density, low viscosity, and low surface tension. This combined with non-flammability, chemical and thermal stability, low toxicity, and ease of recovery by distillation make IT-1101 ideal for a broad range of applications.

Typical Applications

- Cleaning and rinsing agent
- Drying fluid
- Particulate remover
- Fluorocarbon lubricant carrier
- Solvent and dispersion media
- Heat transfer media
- Dielectric fluid
- Replacement for many HCFC, PFC, and CFC-113 applications

IT-1101 is ideally suited for cleaning fine particulate matter (submicron range) from metal and nonmetal parts. Removal of particle contamination requires a solvent that can minimize the thickness of the laminar boundary layer where particles are bonded to the substrate. If the boundary layer thickness is less than the particle diameter, momentum from the flowing solvent can efficiently dislodge the particles and carry them away. IT-1101 with its lower viscosity and higher density, results in a thinner boundary layer, which enhances cleaning. Common aqueous cleaning fluids, mixtures of water and detergent, have higher viscosities and lower densities compared to IT-1101, making these fluids less efficient.

Safety/Flammability

IT-1101 is nonflammable and does not become flammable during boiling or evaporation. It exhibits no closed or open cup flash point, and is not classified as a flammable liquid. It is thermally stable to 300°C and does not oxidize or degrade during storage.

Property ^a	IT-1101
Molecular Weight	252
Boiling Point, °C	55
Surface Tension, N/m	0.0141
Liquid Density, kg/Lt.	1.58
Freezing Point, °C	-80
Solubility in Water, ppm	140
Solubility of Water, ppm	490
Critical Temperature, °C	181
Critical Pressure, atm	22.6
Critical Volume, ltr/mol	0.433
Heat of Vaporization (at boiling	31.0
Specific Heat at 20°C, kJ/kg·°C)	1.13
Vapor Pressure, atm	0.297
Viscosity, cPs	0.67

^a At 25°C except where indicated.

^b Pensky-Martens Closed Cup Tester (ASTM D 93)

^c Tag Open Cup Tester (ASTM D 1310)

Storage/Handling

IT-1101 is thermally stable and does not oxidize or degrade during storage. Store in a clean, dry area & protect from freezing temperatures. Do not allow stored product to exceed 50°C to prevent leakage or potential rupture of container from pressure and expansion.

Packaging and Availability

500 ml Aerosol Cans

Disclaimer:

This product Data Sheet was last updated in July 2009. The information contained in the data sheet reflects the state of engineering know-how and the results of extensive tests and practical application studies. However, on the account of diversity of possible applications and technical conditions, this information can be regarded as indicative for suitable application and is not necessarily transferable to specific instances. Accordingly we recommend, in every case, that trials be conducted on specific applications before any general product use. No direct or indirect liabilities are accepted unless specified.



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