

## Datasheet HFE-7100 Mixture

**Product name:** Methyl Perfluoro Butyl/isobutyl Ether

*Note: This fluorochemical consists of two inseparable isomers with essentially identical properties.*

*These are (CF<sub>3</sub>)<sub>2</sub>CF<sub>2</sub>CF<sub>2</sub>OCH<sub>3</sub> (CAS No. 163702-08-7) and CF<sub>3</sub>CF<sub>2</sub>CF<sub>2</sub>CF<sub>2</sub>OCH<sub>3</sub> (CAS No. 163702-07-6)*

**Synonyms:** HFE-7100; heat transfer fluid; heat transfer medium**CAS-NR.:** 163702-08-7**Molecular formula:** (CF<sub>3</sub>)<sub>2</sub>CF<sub>2</sub>CF<sub>2</sub>OCH<sub>3</sub>**CAS-NR.:** 163702-07-6**Molecular formula:** CF<sub>3</sub>CF<sub>2</sub>CF<sub>2</sub>CF<sub>2</sub>OCH<sub>3</sub>

### Introduction

This product is a clear, colorless, largely odorless liquid that can be used in a variety of applications including heat transfer applications, coating of electronic components, electronic testing and cleaning applications.

This product is non-flammable, thermally stable, non-ozone depleting and has a very low global warming potential. It does not contribute to the formation of photochemical smog.

It is used as a substitute for chlorofluorocarbons (CFC), perfluorocarbons (PFC), hydrochlorofluorocarbons (HCFCs) and hydrofluorocarbons (HFCs).

It is a useful tool for meeting greenhouse gas emission reduction targets.

It effectively mitigates the aggressiveness of solvents and is useful to reduce the flammability of mixtures. The chemical and thermal stability of this product makes it well suited for use as a reaction medium.

HFE-7100 contains fluorine; for sale and use by professional, commercial users only!

Not intended for private use!

HFE-7100 is a PFAS material.

## Typical physical properties

Appearance	Clear, colorless liquid
Molecular weight	250g/mol
Boiling point	61°C
Pour Point	-135°C
Liquid density	1,52 g/ml.
Surface Tension	13,6 mN/m
Solubility of the solvent in water (ppmw)	12 ppmw
Solubility of water in solvent (ppmw)	95 ppmw
Vapor Pressure	202 mmHg
Kinematic Viscosity	0,38 cSt
Specific heat capacity	1170 j/Kg*K
Heat of vaporization	111,6 kJ/kg
Thermal conductivity	0,0688 W/m. K
Insulation resistance	>28 kV
Dielectric constant	7,39 @1MHz
Specific resistance	3,29*10 <sup>9</sup> Ω*mm

## Environmental properties

Ozone depletion potential (ODP)	0
Global warming potential (GWP)	370
Atmospheric service life	4,9 years
Flash point	none
Labeling	Not a hazardous substance
Hazardousness	Non-toxic to humans in typical use
Exposure of persons to solvent vapors in the breathing air	max. 2 ppm (8 hour average)

## Typical applications

- Special solvents
- Heat-transfer
- Cleaning processes
- Carrier agent for lubricants
- Stain-free drying
- Replacement for many environmentally harmful materials

## Wärmeübertragung

This product is ideal as a heat transfer fluid for the demanding requirements of semiconductor production. It is designed to provide a balance between performance and beneficial environmental and occupational safety properties.

In heat transfer applications it offers:

- excellent dielectric properties
- non-flammable
- wide temperature range
- low global warming potential (GWP)
- good material compatibility
- zero ozone depletion potential (ODP)
- low toxicity

For heat transfer applications, its favorable environmental, health and safety characteristics make it a long-term sustainable solution that helps improve reliability, address environmental concerns and reduce total cost of ownership.

## Solvent properties

Data compiled based on published information, not for specification purposes. It is an excellent replacement for CFC's, PFC's, HCFC's and HFC's in many solvent applications. It has proven to be useful in solvent cleaning applications - both in its pure form and in mixtures with organic solvents and/or other hydrofluoroethers, hydrofluorocarbons and other fluorinated solvents.

## Material compatibility

It is compatible with most metals and hard polymers, e.g:

### Metals

Stainless steel  
Nickel  
Copper  
Aluminium  
Brass  
Molybdenum  
Wolfram

### Plastics

Polycarbonates  
PMMA  
ABS  
Polypropylene  
Polyethylene  
Acrylic  
Polyester  
Epoxy  
PET

### Elastomers

EPDM  
Natural rubber  
Butyl rubber  
NBR

## Safety and handling

Be sure to read and follow the precautions and instructions for use contained on the product label and safety data sheet before using this product. It is non-flammable and has a high resistance to thermal degradation and hydrolysis during storage and use. Recommended handling procedures are given in the safety data sheet.

If you have any questions about the material and its processing, please contact:

Puretecs GmbH

Tel.: +49 7021 8608838 [info@puretecs.de](mailto:info@puretecs.de)