

FLUTEC PP1™

1 – Identification of the substance/preparation and of the company/undertaking

Trade name: FLUTEC PP1™
 REACH registration name: 1,1,1,2,2,3,3,4,5,5,5-Undecafluoro-4-(trifluoromethyl)pentane
 REACH registration number: 05-2114128995-37-0000

Primary uses: Performance fluid

Company: F2 Chemicals Ltd.
 Address: Lea Lane, Lea Town
 Preston, PR4 0RZ, UK

Telephone: +44 (0) 1772 775804
 Fax: +44 (0) 1772 775809
 Emergency telephone: +44 (0) 1772 775833
 E-mail: safety@f2chemicals.com

2 – Hazards identification

Classification as per EU-GHS Ordinance (EC) No. 1272/2008

Non-hazardous

GHS Labelling
 Signal word: None.
 Pictograms: None.

Classification as per Directive 67/548/EEC or Directive 1999/45/EC

Non-hazardous

3 – Composition/information on ingredients

<i>Substance</i>	<i>CAS number</i>	<i>EC-No.</i>
1. Perfluoro-2-methylpentane	355-04-4	206-575-6
1,1,1,2,2,3,3,4,5,5,5-Undecafluoro-4-(trifluoromethyl)pentane		

4 – First-aid measures

- a) Inhalation: FLUTEC fluids are considered not to have significant acute toxicity by inhalation.
- b) Skin contact: FLUTEC fluids are considered to be non-irritating to skin.
- c) Eye contact: FLUTEC fluids are considered to be non-irritating to eyes.
- d) Ingestion: FLUTEC fluids are considered not to have significant acute oral toxicity.

5 – Fire-fighting measures

- a) Suitable extinguishers: Any.
- b) Unsuitable extinguishers: None.
- c) Special hazards: Toxic fumes, including hydrogen fluoride fumes, may be produced on thermal decomposition, such as contact with flames, and in particular where hydrogen-containing compounds are also present.
- d) Protective equipment: Use approved self-contained breathing apparatus.

6 – Accidental release measures

- a) Personal precautions: Wear laboratory coat.
Respiratory protection not normally required.
Wear impermeable gloves.
Wear chemical safety spectacles or goggles.
FLUTEC PP1™ spillages can produce very slippery surfaces which may be hazardous to personnel.
- b) Environmental precautions: Do not allow spillage to enter drains and watercourse.
If water is contaminated inform relevant authority immediately.
- c) Method of clean-up: Absorb in inert material eg. sand, vermiculite absorbent granules, place in plastic container for transfer.

7 – Handling and storage

- a) Handling: Do not smoke, eat or drink when handling.
Avoid contact of vapour or liquid with red hot surfaces, flames or electrical arcs as this may give rise to toxic gases such as hydrogen fluoride.
Do not use sodium or similar metals or their hydrides for removing water from the liquid; other desiccants are acceptable.
Where possible, systems should be designed to reduce the risk of releases to the atmosphere.
- b) Storage: Store in original, tightly closed, labelled container.

8 – Exposure controls and personal protection

- a) Exposure limit values: None.
- b) Exposure controls: Recommend using in a well-ventilated area.
- c) Occupational exposure: Light eye protection (safety glasses) and gloves (any chemically resistant gloves are suitable).
- d) Environmental exposure: Where applicable, use in closed systems with vapour returns.

9 – Physical and chemical properties

Appearance:	Clear, colourless liquid
Odour:	Odourless
pH:	n/a
Pour point (melting point):	-90.0°C
Boiling point:	57.0°C
Flash point:	Non-flammable
Evaporation rate:	Very Fast
Explosive limits:	None
Vapour pressure:	27.0 kPa @ 25°C
Vapour density:	0.0100 kg/l @bp
Relative density:	1.71 @25°C
Solubility in water:	Insoluble (< 25 ppm)
Solubility in organic solvents:	Sparingly soluble in most common solvents. Miscible with CFCs.
Partition co-efficient:	No data
Auto-ignition temperature:	None
Decomposition temperature:	>400°C
Dynamic viscosity:	1.1 mPa s @25°C
Explosive properties:	None
Oxidising properties:	None

10 – Stability and reactivity

a) Reactivity:	Very low reactivity.
b) Chemical stability:	Stable indefinitely at ambient conditions.
b) Conditions to avoid:	Naked flames, hot surfaces (>400°C).
c) Incompatible materials:	Reacts with lithium, sodium, potassium, calcium, and barium.
d) Hazardous decomposition:	High temperatures can give rise to toxic fumes, including hydrogen fluoride.

11 – Toxicological information

The substance has been assessed on adequate evidence and found to produce no toxicological effects.

12 – Ecological information

a) Toxicity:	No specific data available.
b) Persistence and degradability:	Material liable to persist in the environment for considerable time; not subject to biodegradation.
c) Bioaccumulation:	Material not expected to accumulate in biota.
d) Mobility in soil:	Volatile; material readily lost to the atmosphere. Low surface tension; material readily able to seep into ground water.

13 – Disposal considerations

Observe all national and regional regulations.
Do not discharge into drains or watercourses.
Small quantities can be sent to an authorised landfill site.
Larger quantities should be incinerated by a licensed waste disposal organisation at a site equipped with an after-burner and scrubber.

14 – Transport information

This material is not regulated by IATA/ICAO (air), ADR (road), IMDG (sea) or RID (rail).
There is no applicable UN number, class or transport name.

15 – Regulatory information

- a) Chemical safety assessment: Not yet available.
- b) GHS P-phrases: P370: In case of fire: Do not breath fumes.
- c) R- and S-Phrases: S41: In case of fire and/or explosion do not breathe fumes.

16 – Other information

- a) Precautionary phrases: P260: Do not eat, drink or smoke when using this product.
P370: In case of fire: Do not breathe fume.
- b) Suitability for purpose: F2 Chemicals Ltd cannot guarantee the suitability of this material for any particular purpose. It is the responsibility of the customer to satisfy himself that the product is suitable for his purpose. In the event of doubt the customer may contact F2 Chemicals for advice.
- c) Revision: This version, CLP-1.0, has been revised for CLP, November 2010, and the changes are all associated with reformatting and modifying for that purpose. There are no changes to the risks, hazards or properties of the material. This version replaces all previous versions.

— END OF SAFETY DATA SHEET —