

FLUTEC PP11™

| 1 – Identification of the substance and the company | |
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| Trade name: | FLUTEC PP11™ |
| Primary uses: | Electronics 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 – Composition/information on ingredients | |
| <i>Substances</i> | <i>CAS number</i> |
| Predominantly perfluoroperhydrophenanthrene | 306-91-2 |
| 3 – Hazards identification | |
| Not hazardous according to <i>Chemicals (Hazard Information and Packaging for Supply) Regulations 2002</i> | |
| 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: Carbon dioxide
Alcohol resistant foam
Powder
Halons
Water fog
Water jets
Inert material – Sand, earth, etc.
Non-combustible material
- b) Unsuitable Extinguishers: None.
- c) Hazardous Decomposition: 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 PP11™ 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

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| 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

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| Appearance: | Clear, colourless liquid |
| Odour: | Odourless |
| pH | n/a |
| Boiling Point: | 215°C |
| Flash point | Non-flammable |
| Explosive properties | None |
| Oxidising properties | None |
| Vapour Pressure: | <1 mbar |
| Density: | 2.03 kg/l @25°C |
| Pour Point: | -31°C |
| Dynamic viscosity | 28.4 mPa s @25°C |
| Vapour density | ca. 0.016 kg/l @25°C |
| Evaporation rate | Slow |
| Solubility in Water: | Insoluble (< 25 ppm) |
| Solubility in Organic Solvents: | Sparingly soluble in most common solvents. Miscible with CFCs. |

10 – Stability and reactivity

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| a) Stability: | Extremely stable. |
| b) Conditions to Avoid: | Naked flames, hot surfaces (>400°C). |
| c) Materials to Avoid: | Lithium, sodium, potassium, calcium, and barium. |

11 – Toxicological information

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

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| 12 – Ecological information | |
| a) Ecotoxicity: | No specific data available |
| b) Mobility: | Volatile; material readily lost to the atmosphere Low surface tension; material readily able to seep into ground water |
| c) Persistence: | Material liable to persist in the environment for considerable time; not subject to biodegradation. |
| d) Bioaccumulation: | Material not expected to accumulate in biota. |
| 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) Hazard symbols: | None |
| b) Risk and Safety phrases: | S41: In case of fire and/or explosion do not breathe fumes. |
| c) Other regulations: | Health and Safety at Work Act 1974. Within the UK, the use of this material must be assessed under COSHH regulations, with reference to COSHH Essentials. |
| 16 – Other information | |
| a) 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. |