

SAFETY DATA SHEET



Krytox® PFPE Oils

Version 2.3

Revision Date 2010/01/22

Ref. 150000000934

This SDS adheres to the standards and regulatory requirements of Taiwan and may not meet the regulatory requirements in other countries.

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : Krytox® PFPE Oils
: GPL: 100, 101, 102, 103, 104, 105, 106, 107, 107-500
VPF: 1506, 1514, 1525, 1525S, 1531, 1531E, 1618, 1645, 16256, 16350
CBF: 100A, 100B, 103B
GBO: 14, 25
XHT- : 500, 750, 1000
FG: 10, 12, 15, 40, 45
AUT 1045
4442, 4402, TFO, TLC, NBF140
TLF 8996

Recommended use of the chemical and restriction on use

Recommended use : Lubricant

Manufacturer or supplier's details

Company : DuPont Taiwan Limited
Street address : Taiwan, Taipei, 167 Tun Hwa North Road, Hung Kuo Building, 13th Floor

Telephone : (02) 2719 1999
Telefax : (02) 2712 9526

Emergency telephone : 0800 055 119
(in case of chemical spill, fire or poisoning accident)

2. HAZARDS IDENTIFICATION

Product hazard category

Not a dangerous substance according to GHS.

Other hazards

The product as such is not hazardous.

Inhalation of decomposition products from overheating may cause lung irritation or shortness of breath.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Substance

Components

Chemical Name	CAS-No.	Concentration
Perfluoropolyether (Perfluoropolyether)	Not disclosed	100 %

4. FIRST AID MEASURES

First aid measures for different exposure routes

Inhalation : Move to fresh air in case of accidental inhalation of fumes from overheating or

SAFETY DATA SHEET



Krytox® PFPE Oils

Version 2.3

Revision Date 2010/01/22

Ref. 150000000934

combustion.

Skin contact : Wash with water and soap as a precaution.

Eye contact : Rinse with plenty of water. If eye irritation persists, consult a specialist.

Ingestion : Never give anything by mouth to an unconscious person. DO NOT induce vomiting unless directed to do so by a physician or poison control center.

Main symptoms and hazards : No information available.

Protection of first-aiders : No information available.

Notes to physician : No information available.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : The product itself does not burn.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific hazards : In fire conditions, toxic decomposition products may be formed.
Standard procedure for chemical fires.

Specific firefighting procedures : No information available.

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Do not let product enter drains.

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

7. HANDLING AND STORAGE

Handling

Technical measures/Precautions : Avoid breathing vapors from overheated material. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material.

Precautions for safe handling : No information available.

**Krytox® PFPE Oils**

Version 2.3

Revision Date 2010/01/22

Ref. 150000000934

Storage

Suitable storage conditions : No special storage conditions required. Keep container closed to prevent contamination.

No decomposition if stored and applied as directed.

8. EXPOSURE PREVENTION MEASURES**Engineering measures**

: In the event that the polymer is heated above 350 °C (662 °F), local ventilation should be used to avoid exposure to fumes.

Control parameters

No information available.

Biological standards : No information available.

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required. In the case of hazardous fumes caused by overheating, wear self-contained breathing apparatus.

Hand protection : No information available.

Eye protection : Safety glasses

Skin and body protection : No PPE is specified however, avoid contact with skin, eyes, and clothing. Preventive skin protection

Hygiene measures : General industrial hygiene practice.**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance (Physical state, form, colour, etc.)**

Physical state : liquid

Form : viscous, liquid

Colour : colourless

Odour : none

Odour Threshold : no data available

pH : neutral

Krytox® PFPE Oils

Version 2.3

Revision Date 2010/01/22

Ref. 150000000934

Melting/freezing point

Pour point : -55 - -15 °C

Boiling point/boiling range

no data available

Flammability (solid, gas) : no data available**Flash point** : does not flash, Method: Pensky-Martens closed cup - PMCC**Decomposition temperature** : 350 °C**Autoignition temperature** : no data available**Explosion limits**

Upper explosion limit : no data available

Lower explosion limit : no data available

Vapour pressure : no data available**Vapour density** : no data available**Density**

Relative density : ca. 1.86 - 1.91 (24 °C)

Solubility

Water solubility : insoluble

Solubility in other solvents : no data available

Partition coefficient:
n-octanol/water : no data available**Volatility rate** : no data available**10. STABILITY AND REACTIVITY**

Stability : Stable under recommended storage conditions.

Possible hazardous reactions under specific conditions : No information available.

Conditions to avoid : Decomposition temperature: 350 °C
Materials to avoid : No information available.

Krytox® PFPE Oils

Version 2.3

Revision Date 2010/01/22

Ref. 150000000934

Hazardous decomposition products : Hazardous thermal decomposition products:
Fluorinated compounds

11. TOXICOLOGICAL INFORMATION

Acute toxicity : Perfluoropolyether:
Oral: LD50/rat : > 37,400 mg/kg
Inhalation: ALC/4 h/rat : ca. > 19.54 mg/l
Dermal: ALD/rabbit : ca. > 17,000 mg/kg

Skin corrosion/irritation : Perfluoropolyether:
Species: human
Method: Patch test
non-irritant

Serious eye damage/eye irritation : Perfluoropolyether:
Species: rabbit
Method: Draize Test
non-irritant

Respiratory sensitization / Skin sensitization : Perfluoropolyether:
Species: human
Result: Patch test on human volunteers did not demonstrate sensitization properties.
Method: Modified Draize Test

Mutagenicity : Perfluoropolyether:
Did not cause genetic damage in cultured bacterial cells.

Carcinogenicity : no data available

Reproductive toxicity : no data available

Target Organs : no data available

Aspiration toxicity : no data available

Other : Perfluoropolyether:
The substance is a polymer and is not expected to produce toxic effects.

SAFETY DATA SHEET



Krytox® PFPE Oils

Version 2.3

Revision Date 2010/01/22

Ref. 150000000934

12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Toxicity to fish	: Perfluoropolyether: LC50/96 h/Oncorhynchus mykiss (rainbow trout): > 1,000 mg/l Aquatic toxicity is unlikely due to low solubility.
Other	: Perfluoropolyether: static test/EC50/48 h/Daphnia magna (Water flea): > 1,000 mg/l Method: No information available.
Persistence and degradability	: no data available
Bioaccumulation	: no data available
Mobility in soil	: no data available
Other adverse effects	: no data available

13. DISPOSAL CONSIDERATIONS

Waste disposal methods	: In accordance with local and national regulations. Used package: Dispose of container properly. If recycling is not practicable, dispose of in compliance with local regulations.
------------------------	--

14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

15. REGULATORY INFORMATION

not regulated

16. OTHER INFORMATION

Literary reference	: US MSDS No.: 5635PP
Department	: Name: Australian Regulatory Group Telephone: +61 2 9923 6111
Responsible/issuing person	: Regulatory Affairs

SAFETY DATA SHEET



Krytox® PFPE Oils

Version 2.3

Revision Date 2010/01/22

Ref. 150000000934

Revision Date : 2010/01/22

DuPont™ and Krytox® are trademarks of E. I. du Pont de Nemours and Company

Do not use DuPont materials in medical applications involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative. You may also request a copy of the DuPont POLICY Regarding Medical Applications H-50103-3 and DuPont CAUTION Regarding Medical Applications H-50102-3.

Significant change from previous version is denoted with a double bar.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The above information relates only to the specific material(s) designated herein and may not be valid for such material(s) used in combination with any other materials or in any process or if the material is altered or processed, unless specified in the text.