

**Krytox[®] GPL 21(X) Series Greases**

Version 2.2

Revision Date 05/07/2010

Ref. 150000002265

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

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Krytox[®] GPL 21(X) Series Greases
Product Grade/Type : GPL: 210, 211, 212, 214, 215, 216, 217
MSDS Number : 150000002265
Product Use : Lubricant
Manufacturer : DuPont
1007 Market Street
Wilmington, DE 19898
Product Information : 1-800-441-7515 (outside the U.S. 1-302-774-1000)
Medical Emergency : 1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency : CHEMTREC: 1-800-424-9300 (outside the U.S. 1-703-527-3887)
Other information : professional use

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

The product as such is not hazardous. The thermal decomposition vapours of fluorinated polymers may cause polymer fume fever with flu-like symptoms in humans, especially when smoking contaminated tobacco. Repeated episodes of polymer fume fever may result in persistent lung effects.

Potential Health Effects

Skin : May cause: slight irritation, Redness.

Eyes : May cause eye irritation. Discomfort, tearing, Blurred vision.

Carcinogenicity

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Perfluoropolyether		70 - 75 %
PTFE		20 - 25 %
Molybdenum disulphide	1317-33-5	0 - 5 %

SECTION 4. FIRST AID MEASURES

Skin contact	: Wash with water and soap as a precaution.
Eye contact	: Rinse with plenty of water. If eye irritation persists, consult a specialist.
Inhalation	: Move to fresh air in case of accidental inhalation of fumes from overheating or combustion.
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.
General advice	: When symptoms persist or in all cases of doubt seek medical advice.

SECTION 5. FIRE-FIGHTING MEASURES

Flammable Properties	
Flash point	: Method : Pensky-Martens closed cup - PMCC does not flash
Thermal decomposition	: 300 °C (572 °F)
Fire and Explosion Hazard	: In fire conditions, toxic decomposition products may be formed. (see also section 10)

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- Suitable extinguishing media : The product itself does not burn.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Firefighting Instructions : Wear self-contained breathing apparatus (SCBA). Wear suitable protective equipment.
Standard procedure for chemical fires.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

- Spill Cleanup : Shovel into suitable container for disposal.
- Accidental Release Measures : Prevent material from entering sewers, waterways, or low areas.

SECTION 7. HANDLING AND STORAGE

- Handling (Personnel) : 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.
General industrial hygiene practice.
- Storage : No special storage conditions required. Keep container closed to prevent contamination.
No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering controls : In the event that the polymer is heated above 300 °C (572 F) local ventilation should be used to avoid exposure to fumes.
- 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.

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Hand protection : Additional protection: No particular glove type is recommended, but nitrile may used.

Eye protection : Safety glasses

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

Exposure Guidelines
Exposure Limit Values
None established.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form : waxy, grease

Color : black

pH : neutral

Melting point/range : 320 °C (608 °F)

Specific Gravity : 1.89 - 1.93 at 24 °C (75 °F)

SECTION 10. STABILITY AND REACTIVITY

Stability : Stable under recommended storage conditions.

Conditions to avoid : Decomposition temperature 300 °C (572 °F)

Hazardous decomposition products : Hazardous thermal decomposition products: Fluorinated compounds

SECTION 11. TOXICOLOGICAL INFORMATIONKrytox[®] GPL 21(X) Series Greases

Oral LD50 : > 2,000 mg/kg , rat

Skin irritation : slight irritation, animals (unspecified species)

Eye irritation : slight irritation, animals (unspecified species)

Sensitisation : Animal test did not cause sensitization by skin contact., guinea pig

Further information : Information given is based on data on the components and the

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PTFE	toxicology of similar products.
Repeated dose toxicity	: Oral - feed rat No toxicologically significant effects were found.
Molybdenum disulphide	
Repeated dose toxicity	: Inhalation guinea pig Increased respiratory rate
	Oral rat No toxicologically significant effects were found.

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity	
Perfluoropolyether	
96 h LC50	: Oncorhynchus mykiss (rainbow trout) > 1,000 mg/l The substance is a polymer and is not expected to produce toxic effects.
48 h EC50	: Daphnia magna (Water flea) > 1,000 mg/l
PTFE	
	: The substance is a polymer and is not expected to produce toxic effects.
Molybdenum disulphide	
96 h NOEC	: Oncorhynchus mykiss (rainbow trout) > 750 mg/l
Additional ecological information	: No data is available on the product itself.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal	: In accordance with local and national regulations.
Environmental Hazards	: Dispose of container properly. If recycling is not practicable, dispose of in compliance with local regulations.

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SECTION 14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

TSCA Status : On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Restrictions for use: 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.

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Contact person : MSDS Coordinator, DuPont Chemicals and Fluoroproducts, Wilmington, DE
19898, (800) 441-7515

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