The MSDS format adheres to the standards and regulatory requirements of the United States and may not meet regulatory requirements in other countries.



"Krytox" Food Grade Greases
10595PP Revised 6-JUN-2002

## CHEMICAL PRODUCT/COMPANY IDENTIFICATION

### Material Identification

"Krytox" is a registered trademark of DuPont.

### Tradenames and Synonyms

"Krytox" FG 20
"Krytox" FG 22
"Krytox" FG 24
"Krytox" FG 26

### Company Identification

MANUFACTURER/DISTRIBUTOR
DuPont
1007 Market Street
Wilmington, DE 19898

PHONE NUMBERS
Product Information : 1-800-441-7515 (outside the U.S. 302-774-1000)
Transport Emergency : CHEMTREC 1-800-424-9300(outside U.S. 703-527-3887)
Medical Emergency : 1-800-441-3637 (outside the U.S. 302-774-1000)

## COMPOSITION/INFORMATION ON INGREDIENTS

### Components

| Material | CAS Number | % |
|---|---|---|
| Perfluoroalkylether | 60164-51-4 | 73-82 |
| PTFE | 9002-84-0 | 18-27 |

## HAZARDS IDENTIFICATION

### Potential Health Effects

Skin contact may cause skin irritation with discomfort or rash. Prolonged skin contact may cause redness and inflammation of the hair follicles without skin sensitization.

Eye contact may cause eye irritation with discomfort, tearing or blurring of vision.

Inhalation of fluorine containing compounds released as

(HAZARDS IDENTIFICATION - Continued)

decomposition products from overheated or burning product may cause lung irritation and pulmonary edema which require medical treatment. Inhalation of gases and fumes from overheated or burning product may cause polymer fume fever, which is a temporary flu-like illness characterized by fever, chills, and sometimes cough, and lasting approximately 24 hours. Repeated episodes of polymer fume fever may cause persistant lung effects.

Carcinogenicity Information

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

## FIRST AID MEASURES

First Aid

INHALATION

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SKIN CONTACT

Flush skin with water after contact. Wash contaminated clothing before reuse.

EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

INGESTION

If swallowed, do not induce vomiting. Immediately give 2 glasses of water. Never give anything by mouth to an unconscious person. Call a physician.

Notes to Physicians

Activated charcoal mixture may be administered. To prepare activated charcoal mixture, suspend 50 grams activated charcoal in 400 mL water and mix thoroughly. Administer 5 mL/kg, or 350 mL for an average adult.

## FIRE FIGHTING MEASURES

**Flammable Properties**

| | |
|---|---|
| Flash Point | : Does not ignite |
| Method | : PMCC |

Noncombustible.

**Extinguishing Media**

Use media appropriate for surrounding material.

**Fire Fighting Instructions**

Wear self-contained breathing apparatus. Wear full protective equipment.

Decomposition at flame temperatures may form toxic fluorine compounds. Avoid breathing decomposition products.

## ACCIDENTAL RELEASE MEASURES

**Safeguards (Personnel)**

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

**Accidental Release Measures**

Place in container for disposal. Remove source of heat and flame.

## HANDLING AND STORAGE

**Handling (Personnel)**

Avoid contact with eyes. Avoid contact with skin. Wash thoroughly after handling. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material.

**Storage**

Keep container tightly closed. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material.

Keep away from heat and flames to avoid decomposition products.

## EXPOSURE CONTROLS/PERSONAL PROTECTION

### Engineering Controls

Keep container tightly closed.

Keep away from heat and flames.

### Personal Protective Equipment

**EYE/FACE PROTECTION**

Wear safety glasses or coverall chemical splash goggles.

**RESPIRATOR**

Wear NIOSH approved respiratory protection as appropriate.

**PROTECTIVE CLOTHING**

Where there is potential for skin contact have available and wear as appropriate, impervious gloves, apron, pants, and jacket.

### Exposure Guidelines

**Applicable Exposure Limits**

PTFE

| | | |
|---|---|---|
| PEL (OSHA) | : | None Established |
| TLV (ACGIH) | : | None Established |
| AEL * (DuPont) | : | 10 mg/m3, 8 Hr. TWA, total dust<br>5 mg/m3, 8 Hr. TWA, respirable dust |

* AEL is DuPont’s Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

## PHYSICAL AND CHEMICAL PROPERTIES

### Physical Data

| | | |
|---|---|---|
| Melting Point | : | 320 C (608 F) |
| Solubility in Water | : | Negligible |
| pH | : | Neutral |
| Odor | : | Odorless |
| Form | : | Solid, waxy grease |
| Color | : | White |
| Specific Gravity | : | 1.89-1.93 @ 24 deg C (75 deg F) |

## STABILITY AND REACTIVITY

### Chemical Stability

Stable.

### Incompatibility with Other Materials

None reasonably foreseeable.

### Decomposition

Heating above 260-290 degC (500-554 degF) may form potentially toxic fluorine compounds. Depolymerization may occur in the presence of some metal oxides at temperatures above 288 degC (550 degF). Decomposition occurs at increasing rates as temperature is raised above 355 degC (670 degF).

### Polymerization

Polymerization will not occur.

## TOXICOLOGICAL INFORMATION

### Animal Data

Perfluoroalkylether:

| | |
|---|---|
| Inhalation 4 hour ALC: | >19.54 mg/l in rats |
| Skin absorption ALD: | >17,000 mg/kg in rabbits |
| Oral ALD: | >25,000 mg/kg in rats |

Perfluoroalkylether is a mild skin and eye irritant, but is not a skin sensitizer in tests on animals. A single inhalation exposure produced nonspecific effects such as respiratory irritation. Exposure to thermal decomposition products produced irritation, irregular respiration, tremors and increased liver weight. Repeated inhalation exposures to 10, 100, or 1000 mg/m3 caused increased lung weights and microscopic particle-laden macrophages in the lungs and lymphs nodes; this was an expected pulmonary response to high aerosol concentrations of an inert material. No animal test reports are available to define carcinogenic, developmental, or reproductive hazards. Tests have shown that Perfluoroalkylether did not cause genetic damage in bacterial cell cultures.

Animal testing indicates that PTFE is not a skin irritant. Repeated exposure to PTFE by ingestion caused no significant toxicological effects. Possible effects on white blood cell counts were found in rats fed 25% PTFE in the diet for 90 days, however any changes were within normal variability and were considered to be of no toxicological significance. In

(TOXICOLOGICAL INFORMATION - Continued)

rats, single exposure to dusts of undegraded PTFE by inhalation caused irritation of the lungs. Exposure to thermal decomposition products of PTFE caused lung injury whose severity depends upon the temperature and exposure conditions. Birds appear to be especially susceptible to the toxic effects of fluoropolymer decomposition products. In rats, exposure to freshly formed low molecular weight polymer fragments (fume) produced by continuous heating of the polymer above 400 degrees C may produce acute pulmonary inflammation. When the concentration of fluoropolymer fragment fumes increases, deaths may occur from pulmonary edema and hemorrhage. Exposure to fume aged for several minutes, markedly reduces the toxicity. At higher temperatures involving gross thermal decomposition of the polymer, deaths occurred due to pulmonary edema from lethal concentrations of fluoropolymer fume and/or fluorinated gas decomposition products. No adequate animal data are available to define the carcinogenicity or developmental hazards of PTFE. No adequate reports of genetic testing were found. No animal data are available to define the reproductive toxicity of PTFE.

## DISPOSAL CONSIDERATIONS

### Waste Disposal

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system.

## TRANSPORTATION INFORMATION

### Shipping Information

Not Regulated as a hazardous material by DOT, IMO, or IATA.

## REGULATORY INFORMATION

### U.S. Federal Regulations

TSCA Inventory Status : Reported/Included.

TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312

Acute : Yes
Chronic : No
Fire : No
Reactivity : No
Pressure : No

## OTHER INFORMATION

NFPA, NPCA-HMIS

NPCA-HMIS Rating

| | |
|---|---|
| Health | : 1 |
| Flammability | : 0 |
| Reactivity | : 0 |

Personal Protection rating to be supplied by user depending on use conditions.

---

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsibility for MSDS : MSDS Coordinator
DuPont Chemical Solutions Enterprise
Address : Wilmington, Delaware 19898
Telephone : 800-441-7515

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.

End of MSDS