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

"Krytox" XHT-NMX
10649PP Revised 14-OCT-2006

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

"Krytox" is a registered trademark of DuPont.

Tradenames and Synonyms

"Krytox" XHT-NM

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	95-90
Amorphous Silica	7631-86-9	1-5

HAZARDS IDENTIFICATION

Potential Health Effects

Skin contact may cause reddening of the skin. Perfluoro-alkylether was not a skin irritant or skin sensitizer in a 100 person human patch test.

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

Inhalation of fluorine containing compounds released as decomposition products from overheated or burning product may cause lung irritation and pulmonary edema which require medical treatment.

(HAZARDS IDENTIFICATION - Continued)

Inhalation of Amorphous Silica may cause drying of mucous membranes and irritation of nose, throat, and lungs with nosebleeds, cough, difficulty breathing or shortness of breath. Based on animal experiments, long term exposures to high doses could lead to pulmonary inflammation and subsequent development of chronic lung disease. Amorphous Silica does not induce the lung effects associated with crystalline silica.

Epidemiology studies have not shown any evidence of fibrosis in workers exposed to Amorphous Silica dust levels ranging from 2 to 7 mg/m3.

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

The compound is not likely to be hazardous by skin contact but cleansing the skin after use is advisable.

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

Non-combustible.

Extinguishing Media

As appropriate for combustibles in area.

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.

Spill Clean Up

Soak up with sawdust, sand, oil dry or other absorbent material. Shovel or sweep up.

Accidental Release Measures

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

HANDLING AND STORAGE

Handling (Personnel)

Perfluoropolyether greases are considered to be inert and of low toxicity. However, as with all lubricants it is important to observe correct hygiene practices. Avoid contact with eyes. Avoid contact with skin. Wash thoroughly after handling.

(HANDLING AND STORAGE - Continued)

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.

Use ventilation when the grease is heated above 500 degF. 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

Amorphous Silica

PEL (OSHA)	: 80 mg/m3 / % SiO2 - 8 Hr TWA
AEL * (DuPont)	: 3 mg/m3, 8 & 12 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 WT%
pH	: Neutral
Odor	: Odorless
Form	: Solid, waxy grease
Color	: White
Specific Gravity	: 1.86-1.91 @ 24 deg C (75 deg F)

STABILITY AND REACTIVITY

Chemical Stability

Stable.

Incompatibility with Other Materials

None reasonably foreseeable.

Decomposition

Heating above 350 degC (662 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

Amorphous Silica:

Oral LD50:	>10,000 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

(TOXICOLOGICAL INFORMATION - Continued)

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 the product did not cause genetic damage in bacterial cell cultures.

Animal testing indicates Amorphous Silica is a mild eye irritant. It is a negligible to slight skin irritant when tested as a 50% aqueous paste. The dust is not expected to be a skin irritant. Animal testing indicates Amorphous Silica is not a skin sensitizer. Single, repeated and long-term exposure by ingestion to Amorphous Silica caused no significant toxicological effects. Single exposure by inhalation to Amorphous Silica caused no significant toxicological effects. Repeated exposure caused pulmonary changes including reversible inflammation. Long-term exposure caused pulmonary changes including reversible inflammation, vascular obstruction and emphysema. Animal testing indicates Amorphous Silica does not have carcinogenic or reproductive effects. No animal data are available to define the developmental toxicity of Amorphous Silica. Amorphous Silica has not produced genetic damage in bacterial cultures. It has not been tested for genetic toxicity in mammalian cell cultures or in animals.

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

# Indicates updated section.

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