Material Safety Data Sheet

Revision Date: 01/28/2008 **Issue date:** 01/28/2008

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: Dupont® Krytox® RFE PFPE High Performance Lubricant
Item No. : 29709 / IDH No. 234337
Product type: Lubricant
Region: United States
Company address:
Henkel Corporation
1001 Trout Brook Crossing
Rocky Hill, Connecticut 06067
Contact Information:
Telephone: 860.571.5100
Emergency telephone: 860.571.5100
Internet: www.loctite.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components	%	ACGIH TLV	OSHA PEL	OTHER
Perfluoroalkylether 60164-51-4	60-100	None	None	None
Poly(tetrafluoroethylene) 9002-84-0	10-30	None	None	AEL (DuPont): 10 mg/m^3, 8 Hr TWA, total dust; 5mg/m^3, 8 hr. TWA respirable dust
Sodium nitrite 7632-00-0	1-5	None	None	AEL (DuPont): 2 mg/m^3, 8 hr. TWA, respirable dust

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HMIS:

Physical state: Solid waxy grease
Color: White
Odor: Odorless

HEALTH: 1
FLAMMABILITY: 0
PHYSICAL HAZARD: 1
Personal Protection: See Section 8

CAUTION: MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION. MAY BE HARMFUL IF SWALLOWED.

Relevant routes of exposure: Eye contact, Skin contact, Inhalation, Ingestion

Potential Health Effects

Inhalation: Inhalation of Fluorine containing compounds released as decomposition products above 290°C, (554°F) may cause lung irritation and pulmonary edema which require medical attention. Inhalation of fumes or smoke from overheated or burning grease may cause polymer fume fever, a temporary flu-like illness accompanied by fever, chills, and sometimes cough, of approximately 24 hours duration. Repeated episodes of polymer fume fever may cause lung damage. Inhalation of sodium nitrite may cause low blood pressure with a throbbing headache and fainting; or non-specific discomfort such as nausea or weakness. Overexposure to sodium nitrite may cause methemoglobinemia (reduced oxygen carrying capacity of the blood) with headache, weakness, or cyanosis (bluish discoloration of the skin), possibly progressing to dizziness, incoordination, shortness of breath, increased pulse rate and loss of consciousness.

Skin contact: May cause skin irritation with discomfort or rash. Prolonged skin contact may cause redness and inflamation of the hair follicles without skin sensitization. Sodium nitrate has been infrequently associated with skin sensitization in humans.

Eye contact: Contact with eyes will cause irritation. Blurred vision. Excess tearing.

Ingestion: Ingestion of sodium nitrite may cause low blood pressure with a throbbing headache and fainting; or non-specific discomfort such as nausea or weakness. Simultaneous ingestion of nitrites and medications or chemicals containing an amine group may form carcinogenic nitrosamines in the stomach.

Existing conditions aggravated by exposure:	None known

See Section 11 for additional toxicological information.

4. FIRST AID MEASURES

Inhalation:	Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
Skin contact:	After contact with skin, wash immediately with plenty of water. Wash clothing before reuse. If skin irritation persists, call a physician.
Eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Ingestion:	Do not induce vomiting. Immediately give large quantities of water to drink. Never give anything by mouth to an unconscious person. Obtain medical attention.
Notes to physician:	If ingested, irrigate the stomach using activated charcoal in addition. Note: to prepare activated charcoal slurry, mix thoroughly 50 g of activated charcoal in 400 ml (about 2 cups) water. Administer 5mg/kg, or 350 ml for an average adult.

5. FIRE-FIGHTING MEASURES

Flash point:	Does not ignite. Pensky Martens closed cup
Autoignition temperature:	Not applicable
Flammable/Explosive limits-lower %:	Not applicable
Flammable/Explosive limits-upper %:	Not applicable
Extinguishing media:	The product itself does not burn. Use media appropriate for surrounding material.
Special fire fighting procedures:	Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.
Unusual fire or explosion hazards:	Decomposition at flame temperatures may form toxic fluorine compounds. Avoid breathing decomposition products.
Hazardous combustion products:	Toxic fluorine compounds.

6. ACCIDENTAL RELEASE MEASURES

Environmental precautions:	Do not flush with water. Do not contaminate surface water.
Clean-up methods:	Remove all ignition sources. Flush with water.

7. HANDLING AND STORAGE

Handling:	Avoid contact with skin and eyes. Wash thoroughly after handling. Do not store or consume food, drink, or tobacco products in areas where they may become contaminated with this material.
Storage:	Keep container closed. Keep away from heat and flames to avoid decomposition products.
Incompatible products:	None reasonably foreseeable.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls:	Local exhaust ventilation is recommended when general ventilation is not sufficient to control airborne contamination below occupational exposure limits.
Respiratory protection:	Where the potential exists for exposure to decomposition products due to heating or elevated temperatures, wear NIOSH approved respiratory protection as appropriate.

Skin protection: Chemical resistant, impermeable gloves.

Eye/face protection: Safety goggles or safety glasses with side shields.

See Section 2 for exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Solid waxy grease
Color:	White
Odor:	Odorless
Vapor pressure:	0.0000001 mmHg @20°C (68° F)
pH:	Neutral
Boiling point/range:	Not available
Melting point/range:	320°C (608°F)
Specific gravity:	1.89-1.93
Vapor density:	Not available
Evaporation rate:	Not available
Solubility in water:	Negligible.
Partition coefficient (n-octanol/water):	Not available
VOC content:	Essentially Zero (Exempt Compounds)

10. STABILITY AND REACTIVITY

Stability: Stable.

Hazardous polymerization: Will not occur.

Hazardous decomposition products: Heating above 260-290°C (500-554°F) may form potentially toxic fluorine compounds.

Incompatability: None

Conditions to avoid: Avoid heating above temperatures of 260-290°C (500-554 °F). Depolymerization may occur in the presence of some metal oxides above 288°C (550°F). Decomposition occurs at increasing rates as temperature is raised above 355°C (670°F).

11. TOXICOLOGICAL INFORMATION

Product toxicity data: This product contains a mild eye irritant. A single inhalation exposure to perfluoroalkylether caused nonspecific effects such as respiratory irritation. Toxic effects described in animals exposed to decomposition products of perfluoroalkylether formed above 260 °C (500 °F) include lung irritation, irregular respiration, tremors and increased liver weght. Pulmonary edema and death occured in rats exposed to the decomposition products of perfluoroalkylether formed at around 290 °C (554 °F). Other than increased activity of lung enzymes, no toxic effects were observed in animals exposed to sodium nitrite by inhalation. By ingestion, sodium nitrite produced methemoglobinemia, decreased hemoglobin, increased brain dopamine and nonspecific effects such as weight loss and irritation. Long term ingestion of sodium nitrite produced unspecified pathological changes in the liver, spleen, kidney, adrenals, brain, heart and lungs. A single inalation exposure to PTFE caused irritation of the lungs. A repeated ingestion exposure caused no significant toxicological effects. Long term ingestion exposure caused altered whtie blood cell count.

Carcinogen Status

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen
Perfluoroalkylether 60164-51-4	No	No	No
Poly(tetrafluoroethylene) 9002-84-0	No	No	No
Sodium nitrite 7632-00-0	No	No	No

Literature Referenced Target Organ & Other Health Effects

Hazardous components	Health Effects/Target Organs
Perfluoroalkylether 60164-51-4	No data
Poly(tetrafluoroethylene) 9002-84-0	No Target Organs
Sodium nitrite 7632-00-0	Blood, Central nervous system, Mutagen, Vascular

12. ECOLOGICAL INFORMATION

Ecological information: Sodium Nitrite is slightly toxic. The 96 hour LC50 in minnows is >100 mg/lL.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Dispose of according to Federal, State and local governmental regulations.

EPA hazardous waste number: Not a RCRA hazardous waste. The CERCLA Reportable Quantity (RQ) for Sodium Nitrite is 100 pounds.

14. TRANSPORT INFORMATION

The shipping classifications in this section are for non-bulk packaging only (unless otherwise specified). Shipping classification may be different for bulk packaging.

U.S. Department of Transportation Ground (49 CFR):

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None
Marine pollutant: None

International Air Transportation (ICAO/IATA):

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

WaterTransportation (IMO/IMDG):

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None
Marine pollutant: None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification: None.

CERCLA/SARA Section 302 EHS: None.
CERCLA/SARA Section 311/312: Immediate Health Hazard
CERCLA/SARA 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Sodium Nitrite (CAS# 7632-00-0).

California Proposition 65: No California Proposition 65 listed chemicals are known to be present.

Canada Regulatory Information

CEPA DSL/NDSL Status: All components are listed on or are exempt from listing on the Domestic Substances List.
WHMIS hazard class: D.2.A, D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: 15

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