



Revision Number: 003.1

Issue date: 06/23/2010

**1. PRODUCT AND COMPANY IDENTIFICATION**

<b>Product name:</b>	<b>LOCTITE® DUPONT KRYTOX® RFE</b> <b>ced PTFE Dry Lubricant Advanced</b> <b>PTFE Dry Lubricant</b>	<b>IDH number:</b>	234630
<b>Product type:</b>	Lubricant	<b>Item number:</b>	30138
<b>Company address:</b>	Henkel Corporation One Henkel Way Rocky Hill, Connecticut 06067	<b>Region:</b>	United States
		<b>Contact information:</b>	Telephone: 860.571.5100 Emergency telephone: 860.571.5100 Internet: www.henkelna.com

**2. HAZARDS IDENTIFICATION**

**EMERGENCY OVERVIEW**

<b>Physical state:</b>	Liquid, Aerosol	<b>HMIS:</b>	
<b>Color:</b>	Cloudy	<b>HEALTH:</b>	1
<b>Odor:</b>	Alcohol	<b>FLAMMABILITY:</b>	4
		<b>PHYSICAL HAZARD:</b>	NA
		<b>Personal Protection:</b>	See MSDS Section 8

**DANGER:** EXTREMELY FLAMMABLE LIQUID AND VAPOR.  
CONTENTS UNDER PRESSURE.  
MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION.  
MAY BE HARMFUL IF INHALED.

**Relevant routes of exposure:** Skin, Inhalation, Eyes

**Potential Health Effects**

<b>Inhalation:</b>	May cause respiratory tract irritation. At very high concentrations, isobutane may act as an asphyxiant and cause headache, drowsiness, dizziness, excitation, excess salivation, vomiting, and unconsciousness. 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 overheating or burning may cause polymer fume fever, a temporary flu-like illness accompanied by fever, chills, and sometimes coughing. These symptoms generally last approximately 24 hours. Repeated episodes of polymer fume fever may cause lung damage.
<b>Skin contact:</b>	May cause skin irritation.
<b>Eye contact:</b>	Vapors may irritate eyes. Contact with eyes will cause irritation.
<b>Ingestion:</b>	Not expected under normal conditions of use.

**Existing conditions aggravated by exposure:** Not available

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**See Section 11 for additional toxicological information.**

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous components	CAS NUMBER	%
Isobutane	75-28-5	60 - 100
2-Propanol	67-63-0	5 - 10
Poly(tetrafluoroethylene), modified	Proprietary	1 - 5
Perfluoroalkyl ether	Proprietary	0.1 - 1
Perfluoroalkyl ether	Proprietary	0.1 - 1

### 4. FIRST AID MEASURES

<b>Inhalation:</b>	Move to fresh air. If symptoms persist, seek medical advice.
<b>Skin contact:</b>	Wash with soap and water. If symptoms develop and persist, get medical attention.
<b>Eye contact:</b>	Immediately flush eyes with plenty of water for at least 15 minutes. If symptoms develop and persist, get medical attention.
<b>Ingestion:</b>	Do not induce vomiting. Seek medical advice.

### 5. FIRE FIGHTING MEASURES

<b>Flash point:</b>	-83.00 °C (-117.4 °F)
<b>Flashback:</b>	This product exhibits flashback when tested for flame extension.
<b>Flame projection:</b>	> 18.00 cm (> 7.09 inch)
<b>Autoignition temperature:</b>	Not available
<b>Flammable/Explosive limits - lower:</b>	Not available
<b>Flammable/Explosive limits - upper:</b>	Not available
<b>Extinguishing media:</b>	Water spray (fog), foam, dry chemical or carbon dioxide.
<b>Special firefighting procedures:</b>	Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.
<b>Unusual fire or explosion hazards:</b>	Closed containers may rupture (due to build up of pressure) when exposed to extreme heat. Vapor accumulation can flash or explode if ignited.
<b>Hazardous combustion products:</b>	Oxides of carbon. Oxides of silicon.

### 6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

<b>Environmental precautions:</b>	Do not allow to enter in surface / ground water.
<b>Clean-up methods:</b>	Remove the absorbed material, and place in an appropriate chemical waste container for disposal. Ventilate area.

### 7. HANDLING AND STORAGE

<b>Handling:</b>	Keep away from heat, spark and flame. Ensure adequate ventilation. Avoid breathing vapors or mists of this product. Do not puncture or incinerate pressurized containers. Keep out of the reach of children.
------------------	--

Storage:

Not available

Shelf Life Statement: Not available

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous components	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Isobutane	1,000 ppm TWA	None	None	None
2-Propanol	200 ppm TWA 400 ppm STEL	400 ppm (980 mg/m <sup>3</sup> ) TWA	None	None
Poly(tetrafluoroethylene), modified	None	None	None	None
Perfluoroalkyl ether	None	None	None	None
Perfluoroalkyl ether	None	None	None	None

**Engineering controls:**

Use general ventilation and use local exhaust, where possible, in confined or enclosed spaces.

**Respiratory protection:**

A NIOSH-approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where air-purifying respirators may not provide adequate protection.

**Eye/face protection:**

Safety goggles or safety glasses with side shields.

**Skin protection:**

Disposable rubber or plastic gloves.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b>	Liquid, Aerosol
<b>Color:</b>	Cloudy
<b>Odor:</b>	Alcohol
<b>Odor threshold:</b>	Not available
<b>pH:</b>	Not available
<b>Vapor pressure:</b>	Not available
<b>Boiling point/range:</b>	Not available
<b>Melting point/ range:</b>	Not available
<b>Specific gravity:</b>	0.546
<b>Vapor density:</b>	Not available
<b>Flash point:</b>	-83.00 °C (-117.4 °F)
<b>Flashback:</b>	This product exhibits flashback when tested for flame extension.
<b>Flame projection:</b>	> 18.00 cm (> 7.09 inch)
<b>Flammable/Explosive limits - lower:</b>	Not available
<b>Flammable/Explosive limits - upper:</b>	Not available
<b>Autoignition temperature:</b>	Not available
<b>Evaporation rate:</b>	Not available
<b>Solubility in water:</b>	Not available
<b>Partition coefficient (n-octanol/water):</b>	Not available
<b>VOC content:</b>	97.50 %; 532.00 g/l

## 10. STABILITY AND REACTIVITY

<b>Stability:</b>	Stable
<b>Hazardous reactions:</b>	Will not occur.
<b>Hazardous decomposition products:</b>	Oxides of carbon. Oxides of silicon. Irritating organic fragments.
<b>Incompatible materials:</b>	Strong oxidizing agents. Acids and bases. Avoid contact with flammable materials.
<b>Conditions to avoid:</b>	Keep away from heat, ignition sources and incompatible materials.

## 11. TOXICOLOGICAL INFORMATION

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Isobutane	No	No	No
2-Propanol	No	No	No
Poly(tetrafluoroethylene), modified	No	No	No
Perfluoroalkyl ether	No	No	No
Perfluoroalkyl ether	No	No	No

Hazardous components	Health Effects/Target Organs
Isobutane	Cardiac, Central nervous system, Lung
2-Propanol	Allergen, Blood, Brain, Central nervous system, Irritant, Kidney, Liver, Spleen
Poly(tetrafluoroethylene), modified	No Records
Perfluoroalkyl ether	No Records
Perfluoroalkyl ether	No Records

## 12. ECOLOGICAL INFORMATION

<b>Ecological information:</b>	No specific studies have been conducted by Henkel on the ecotoxicity or environmental fate of this material; however, commonly available data on the material indicate that uncontrolled releases to soil, ground water, or surface waters could entail acute and/or chronic ecological effects, depending on the quantity and concentration of such releases. Releases of volatile components to the atmosphere are not believed to entail significant ecological consequences provided such releases are within the exposure levels set forth in this document. Accordingly, all appropriate measures should be taken to avoid uncontrolled releases to the environment, and any spills or other uncontrolled releases which may occur should be contained and cleaned up immediately in accordance with Section 6.
--------------------------------	---

## 13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

<b>Recommended method of disposal:</b>	Dispose of according to Federal, State and local governmental regulations.
<b>Hazardous waste number:</b>	D001: Ignitable.

## 14. TRANSPORT INFORMATION

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

<b>Proper shipping name:</b>	Aerosols
<b>Hazard class or division:</b>	2.1
<b>Identification number:</b>	UN 1950
<b>Packing group:</b>	None

**International Air Transportation (ICAO/IATA)**

Proper shipping name: Aerosols, flammable  
Hazard class or division: 2.1  
Identification number: UN 1950  
Packing group: None

**Water Transportation (IMO/IMDG)**

Proper shipping name: AEROSOLS  
Hazard class or division: 2.1  
Identification number: UN 1950  
Packing group: None

**15. REGULATORY INFORMATION**

**United States Regulatory Information**

**TSCA 8 (b) Inventory Status:** One or more components of this product are not listed on the U.S. Toxic Substances Control Act (TSCA) inventory. As such, this product may only be used for research and development purposes as described in 40 CFR 720.36. All other components of this product are listed or are exempt from listing.

**TSCA 12(b) Export Notification:** None above reporting de minimus

**CERCLA/SARA Section 302 EHS:** None above reporting de minimus  
**CERCLA/SARA Section 311/312:** Immediate Health, Fire, Sudden Release  
**CERCLA/SARA 313:** None above reporting de minimus

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

**Canada Regulatory Information**

**CEPA DSL/NDSL Status:** One or more components are not listed on, and are not exempt from listing on either the Domestic Substances List or the Non-Domestic Substances List.

**16. OTHER INFORMATION**

**This material safety data sheet contains changes from the previous version in sections:** New Material Safety Data Sheet format.

**Prepared by:** Lou Fabrizio, Regulatory Affairs Specialist

**DISCLAIMER:** The data contained herein are furnished for information only and are believed to be reliable. However, Henkel Corporation does not assume responsibility for any results obtained by persons over whose methods Henkel Corporation has no control. It is the user's responsibility to determine the suitability of Henkel's products or any production methods mentioned herein for a particular purpose, and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use of any of Henkel Corporation's products. In light of the foregoing, Henkel Corporation specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation further disclaims any liability for consequential or incidental damages of any kind, including lost profits.