



# SAFETY DATA SHEET

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## CHEMICAL PRODUCT AND COMPANY INFORMATION

**PRODUCT:** LIQUID KLEENFLUSH

**PRODUCT CODE:** NCLKFS16

**CHEMICAL NAME/FAMILY:** Hydrofluorocarbon

**OTHER NAME:** NA

**DISTRIBUTED BY:** NATIONAL REFRIGERATION PRODUCTS

**ADDRESS:** 985 Wheeler Way, Langhorne, PA 19047 USA

**INFORMATION:** 800-352-6951

**EMERGENCY:** 800-424-9300

**DATE:** 5/2015

**PREPARER:** Richard Rosen

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## HAZARD IDENTIFICATION

**CLASSIFICATION:** Not classified as hazardous according to 29 CFR 1910.1200 (2012)

**OTHER HAZARDS:** SKIN AND EYE CONTACT: Prolonged contact may cause minor skin irritation.

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## COMPOSITION/ INFORMATION ON INGREDIENTS

Principal Hazardous Component(s)

<b>INGREDIENT NAME</b>	<b>CAS #</b>	<b>OSHA PEL</b>	<b>AGCIH TLV</b>	<b>VAPOR PRES @25 DEG. C.</b>	<b>LEL</b>	<b>UEL</b>	<b>FLASH POINT DEG. F.</b>	<b>% BY WEIGHT</b>
Trans, Dichloroethylene	156-60-5	N/E	200ppm	400 mmHg	6.7	18	36 (CC)	30-60
Pentafluorobutane	406-58-6	N/A	N/A	43.3 kPa	N/A	N/A	N/A	30-60
Decafluoropentane (HFC 43-10)	138495-42-8	N/E	N/E	366 mmHg	N/A	N/A	0	<10
Ethyl Alcohol	64-17-5	1000ppm	1000ppm	44 mmHg	3.3	19	54 (TCC)	<5

N/E is not established

N/A is not available or not applicable

## COMMON NAMES AND SYNONYMS

Hydrofluorocarbon

There are no stabilizers or impurities that contribute to the classification of the material identified in section 2



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## FIRST AID MEASURES

<b><u>EYES:</u></b>	Flush with water for at least 15 minutes. Get medical assistance if irritation persists.
<b><u>SKIN:</u></b>	Wash off in flowing water or shower. Remove contaminated clothing and wash before reuse.
<b><u>INHALATION:</u></b>	Remove to fresh air. If not breathing, give mouth-to-mouth. If breathing is difficult, give oxygen. Do not give epinephrine or similar drugs. Call a physician.
<b><u>INGESTION:</u></b>	Do not induce vomiting. Call a physician immediately.

NOTE TO PHYSICIANS: BECAUSE OF POSSIBLE DISTURBANCES OF CARDIAC RHYTHM, CATECHOLAMINE DRUGS, SUCH AS EPINEPHRINE, SHOULD ONLY BE USED WITH SPECIAL CAUTION IN SITUATIONS OF EMERGENCY LIFE SUPPORT.

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## FIRE FIGHTING MEASURES

**FLASH POINT:** None

**FLAMMABLE LIMITS IN AIR - % BY VOLUME:** NA

**EXTINGUISHER MEDIA:** Water fog, dry chemical, carbon dioxide

**SPECIAL FIRE FIGHTING PROCEDURES:** Water may be used to cool closed containers to prevent pressure build-up and possible bursting when exposed to high temperatures. Firemen should wear self-contained, positive pressure, respiratory equipment.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Keep Temperature of containers below 110 degrees F to keep from bursting.

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## ACCIDENTAL RELEASE MEASURES

### **STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:**

**SMALL SPILLS:** Remove ignition sources. Mop up, wipe up, or soak up immediately. Use proper protective equipment.

**LARGE SPILLS:** Evacuate area. Remove ignition sources. Contain liquid; transfer to closed containers; keep out of water supplies. Vapors are heavier than air and will collect in low areas.



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## HANDLING AND STORAGE

### **PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:**

Do not store above 110 Deg. F. Do not use or store near any open flames or ignition sources.

**OTHER PRECAUTIONS:** Do not puncture or incinerate. Exposure to temperatures above 110 Deg. F may cause can to burst with violence and cause injury.

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## EXPOSURE CONTROLS/PERSONAL PROTECTION

### ENGINEERING CONTROLS

Provide adequate ventilation when working in confined areas

### PERSONAL PROTECTIVE EQUIPMENT

**SKIN PROTECTION:** Solvent resistant gloves - impervious gloves

**EYE PROTECTION:** For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear chemical safety goggles.

**RESPIRATORY PROTECTION:** NIOSH or Bureau of Mines approved organic vapor-type respirator is required in absence of proper environmental control.

### **ADDITIONAL RECOMMENDATIONS:**

Where contact with liquid is likely, such as in a spill or leak, impervious boots and clothing should be worn.

## EXPOSURE LIMITS

<b>INGREDIENT NAME</b>	<b>OSHA PEL</b>	<b>AGCIH TLV</b>	<b>% BY WEIGHT</b>					
Trans, Dichloroethylene	N/E	200ppm	30-60					
Pentafluorobutane	N/A	N/A	30-60					
Decafluoropentane	N/E	N/E	<10					
Ethyl Alcohol	1000ppm	1000ppm	<5					

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## PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Clear liquid
ODOR:	Petroleum odor
ODOR THRESHOLD:	Not Determined
PH:	Neutral
MELTING/FREEZING POINT:	Not Determined



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BOILING POINT:	104 F
FLASH POINT:	Not Determined
EVAPORATION RATE:	>1
FLAMMABILITY:	Not applicable
LEL/UEL:	Not applicable
VAPOR PRESSURE:	Not Determined
VAPOR DENSITY:	>1 (air=1)
RELATIVE DENSITY:	Not Determined
SOLUBILITY:	Negligible
PARTITION COEFFICIENT	Not Determined
n-Octanol/water:	Not Determined
AUTO IGNITION TEMPERATURE:	Not Determined
DECOMPOSITION TEMPERATURE:	Not Determined
VISCOSITY:	Not Determined

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## STABILITY AND REACTIVITY

**STABILITY:** Stable

**HAZARDOUS POLYMERIZATION:** Will not occur

**CONDITIONS TO AVOID:** Avoid any excessive heat, ignition sources, open flames, or other high temperatures which induce thermal decomposition.

**INCOMPATIBILITY:** Chemically Active Metals. Oxidizing agents. Sodium, Potassium, Calcium, etc. Alkali or alkaline earth metals. Powdered Aluminum, Zinc, Magnesium, Beryllium, etc.

**HAZARDOUS DECOMPOSITION OR BYPRODUCTS:** Hydrofluoric acid, hydrochloric acid, possibly carbonyl fluoride.

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## TOXICOLOGICAL INFORMATION

### **SIGNS AND SYMPTOMS OF EXPOSURE:**

**EYE CONTACT:** Contact with liquid or mist may cause irritation. Vapors may irritate eyes.

**SKIN CONTACT:** Prolonged contact may cause irritation, defatting of skin.

**INHALATION:** Overexposure to vapor may cause dizziness, loss of concentration and irritation. With high exposure levels, effects can include central nervous system (CNS), depression (intoxication) and cardiac arrhythmia. Product vapors displace air and can cause suffocation especially in confined space.

INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE





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OSHA: No

OSHA PERMISSIBLE EXPOSURE LIMIT: See Hazardous Ingredients Table

AGCIH THRESHOLD LIMIT VALUE: See Hazardous Ingredients Table

OTHER EXPOSURE LIMITED USED: None

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## OTHER INFORMATION

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## DISCLAIMER

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