



SAFETY DATA SHEET

CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT: KLEENFLUSH

PRODUCT CODE: 1NCKFS, 2NCKFS, NCKFSKIT, NCKFSPAK

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

HAZARD IDENTIFICATION



CLASSIFICATION: Gases under pressure, Liquefied Gas

SIGNAL WORD: WARNING

HAZARD STATEMENT: Contains gas under pressure, may explode if heated

SYMBOL: Gas Cylinder

PRECAUTIONARY STATEMENT: STORAGE: Protect from sunlight, store in a well ventilated place

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

COMPOSITION/ INFORMATION ON INGREDIENTS

Principal Hazardous Component(s)



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INGREDIENT NAME	CAS #	OSHA PEL	AGCIH TLV	VAPOR PRES @25 DEG. C.	LEL	UEL	FLASH POINT DEG. F.	% BY WEIGHT
Trans, Dichloroethylene	156-60-5	N/E	200ppm	400 mmHg	6.7	18	36 (CC)	30-50
Pentafluorobutane	406-58-6	N/A	N/A	43.3 kPa	N/A	N/A	N/A	30-50
Decafluoropentane (HFC 43-10)	138495-42-8	N/E	N/E	366 mmHg	N/A	N/A	0	<10
1,1,1,2-Tetrafluoroethane	811-97-2	N/A	N/A	96 psia	Nonflammable		None	10-20
Ethyl Alcohol	64-17-5	1000ppm	1000ppm	44 mmHg	3.3	19	54 (TCC)	<5
Carbon Dioxide	124-38-9	5000ppm	5000ppm	1 atm	None		None	<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

FIRST AID MEASURES

EYES: Flush with water for at least 15 minutes. Get medical assistance if irritation persists.

SKIN: Wash off in flowing water or shower. Remove contaminated clothing and wash before reuse.

INHALATION: 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.

INGESTION: 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.

FIRE FIGHTING MEASURES

FLASH POINT: None

FLAMMABLE LIMITS IN AIR - % BY VOLUME: NA



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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.

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.

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.

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.



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ADDITIONAL RECOMMENDATIONS:

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

EXPOSURE LIMITS

INGREDIENT NAME	OSHA PEL	AGCIH TLV	% BY WEIGHT					
Trans, Dichloroethylene	N/E	200ppm	30-50					
Pentafluorobutane	N/A	N/A	30-50					
Decafluoropentane (HFC 43-10)	N/E	N/E	<10					
1,1,1,2-Tetrafluoroethane	N/A	N/A	10-20					
Ethyl Alcohol	1000ppm	1000ppm	<5					
Carbon Dioxide	5000ppm	5000ppm	<5					

N/E is not established

N/A is not available or not applicable

PHYSICAL AND CHEMICAL PROPERTIES

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

STABILITY AND REACTIVITY



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ECOLOGICAL INFORMATION

No data available

DOSPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of in accordance with Federal, State, and Local regulations. Do not incinerate or burn empty containers.

TRANSPORATION INFORMATION

TRANSPORTATION INFORMATION – DOMESTIC GROUND

This material qualifies for the Limited Quantity exception per 49CFR172.101 (Aerosol, Non-Flammable 2.2) and is packaged and shipped according to the Limited Quantity exception per 49 CFR 173.306.

TRANSPORTATION INFORMATION – DOMESTIC AIR

Shipping Name:	Aerosols, Non-Flammable
Hazard Class:	2.2
UN Number:	UN1950
Packing Group:	N/A
Hazard Label:	2.2
Carton Marking:	Limited Quantity-Air

REGULATORY INFORMATION

SUBJECT TO SECTION 313 OF SARA TITLE III: NO

ALL CHEMICAL COMPONENTS ARE LISTED IN THE TSCA INVENTORY.

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: NATIONAL TOXICOLOGY PROGRAM: No

I.A.R.C. MONOGRAPHS: No

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

INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BELIEVED TO BE ACCURATE AT THE TIME OF PREPARATION. NO WARRANTY IS MADE CONCERNING THE ACCURACY AND NO LIABILITY SHALL BE MADE FOR CLAIMS FOR USE OR RELIANCE OF THE RECOMMENDATIONS CONTAINED HEREIN