

# Flush-It

SAFETY DATA SHEET: *Flush-It*

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SDS Preparation Date: 04/19/2024

Revision: 1

## SECTION 1: IDENTIFICATION

<b>Product Identifier</b>	Flush-It line set flush cylinder.
<b>Other means of identification</b>	C7H16 and C2F5H gas mixture
<b>Product type</b>	Liquified gas
<b>Details of the supplier of the Safety Data Sheet Manufacturer/Supplier:</b>	Flush-It LLC 109 E 17 <sup>th</sup> St. Suite #6128 Cheyenne, WY 82001 (307) 773-0136
<b>Product Use</b>	Refrigeration and HVAC Flushing and Cleaning
<b>Emergency telephone number:</b>	1-800-424-9300

## SECTION 2: HAZARDS IDENTIFICATION

### Classification of the chemical

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012).

### Label elements

*Hazard pictogram(s)*



### Signal Word

Warning!

### Hazard statement(s)

H280 Contains gas under pressure; may explode if heated.

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

H380 - May displace oxygen and cause rapid suffocation

### Precautionary statement(s)

P261 - Avoid breathing fumes, gas, mist, spray, vapors.

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- P264 - Wash skin thoroughly after handling.
- P271 - Use only outdoors or in a well-ventilated area.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P302+P352 - If on skin: Wash with plenty of soap and water.
- P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
- P321 - Specific treatment (see supplemental first aid instructions on this label).
- P332+P313 - If skin irritation occurs: Get medical advice/attention.
- P337+P313 - If eye irritation persists: Get medical advice/attention.
- P362+P364 - Take off contaminated clothing and wash it before reuse.
- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
- P410+P403 - Protect from sunlight. Store in a well-ventilated place.

### Other hazards

May cause frostbite. May produce irregular heartbeat and nervous symptoms.  
Does not deplete ozone. However, while it has zero ozone depletion potential, it has high global warming potential.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Concentration (%)
Ethane, 1,1,1,2,2-pentafluoro-	354-33-6	60-98
n-Heptane	142-82-5	2-40

The exact concentrations of the above-listed chemicals are being withheld as a trade secret.

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures:

First-aid measures general: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Move the affected personnel away from the contaminated area.

First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration. Get immediate medical advice/attention.

First-aid measures after skin contact: Thaw frosted parts with lukewarm water. Do not rub affected areas. Get immediate medical advice/attention.

First-aid measures after eye contact: Remove contact lenses, if present and easy to do. Continue rinsing. Immediately flush your eyes thoroughly with water for at least 15 minutes. Get immediate medical advice/attention.

First-aid measures after ingestion: Due to its physical form, exposure to this chemical is not likely. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get medical advice/attention.

### 4.2. Most important symptoms and effects, both acute and delayed Symptoms/injuries:

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11. Symptoms/injuries after inhalation: May cause drowsiness or dizziness. Symptoms/injuries after skin contact: Contact

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with the liquid they may cause cold burns/frostbite. Symptoms/injuries after eye contact: Direct contact with the liquefied gas may cause severe and possibly permanent eye injury due to frostbite from rapid liquid evaporation.

#### **4.3. Indication of any immediate medical attention and special treatment needed:**

No additional information available.

## **SECTION 5: FIRE FIGHTING MEASURES**

### **5.1. Extinguishing media**

Suitable extinguishing media: Alcohol resistant foam. Carbon dioxide. Dry powder. Water spray. Use extinguishing media appropriate for surrounding fire.

### **5.2. Special hazards arising from the substance or mixture**

Fire hazard: Thermal decomposition generates: Carbon oxides. Hydrogen fluoride.

Explosion hazard: Contains gas under pressure; may explode if heated. Use water spray or fog for cooling exposed containers.

### **5.3. Advice for firefighters**

Firefighting instructions: In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.

Protection during firefighting: Wear gas tight chemically protective clothing in combination with self-contained breathing apparatus. For further information refer to section 8: "Exposure controls/personal protection."

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

### **6.1. Personal precautions, protective equipment and emergency procedures**

General measures: Evacuate unnecessary personnel. Ensure adequate air ventilation. May cause suffocation by reducing oxygen available for breathing. Do not breathe gas, fumes, vapor or spray.

#### **6.1.1. For non-emergency personnel**

Emergency procedures: Only qualified personnel equipped with suitable protective equipment may intervene.

#### **6.1.2. For emergency responders**

Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures: Gas/vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level.

### **6.2. Environmental precautions**

Avoid release to the environment. Notify authorities if a product enters sewers or public waters.

### **6.3. Methods and material for containment and cleaning up**

For containment: Stop leaking if safe to do so.

Methods for cleaning up: Ventilate area.

Other information: For disposal of solid materials or residues refer to section 13: "Disposal considerations".

### **6.4. Reference to other sections**

No additional information available

## **SECTION 7: HANDLING AND STORAGE**

### **7.1. Precautions for safe handling**

Additional hazards when processed: Pressurized container: Do not pierce or burn, even after use. Close valve after each use and when empty.

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Precautions for safe handling: Do not handle until all safety precautions have been read and understood. Ensure good ventilation of the workstation. Do not breathe fumes, gas, mist, spray, vapors. Wear personal protective equipment. Avoid contact with skin and eyes.

Safe handling of the gas receptacle: Securely chain cylinders when in use and protect against physical damage.

Hygiene measures: Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

## **7.2. Conditions for safe storage, including any incompatibilities**

Technical measures: Comply with applicable regulations.

Storage conditions: Protect from sunlight. Do not expose to temperatures exceeding 50 °C. Keep container closed when not in use.

Incompatible materials: Refer to Section 10 on Incompatible Materials.

Storage area: Store in dry, cool, well-ventilated area.

## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **8.1. Control parameters**

*No additional information available.*

### **8.2. Exposure controls**

*Appropriate engineering controls: Ensure good ventilation of the workstation. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Systems under pressure should be regularly checked for leakage. Oxygen detectors should be used when asphyxiating gases may be released.*

*Hand protection: Protective gloves. 29 CFR 1910.138: Hand Protection.*

*Eye protection: Chemical goggles or safety glasses. Face shield. 29 CFR 1910.133: Eye and Face Protection.*

*Skin and body protection: Wear suitable protective clothing.*

*Respiratory protection: In case of inadequate ventilation wear respiratory protection. 29 CFR 1910.134: Respiratory Protection.*

*Thermal hazard protection: Cold insulating gloves.*

*Other information: Safety shoes. 29 CFR 1910.136: Foot Protection.*

## **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

### **9.1. Information on basic physical and chemical properties**

Physical state: Liquified Gas

Color: No data available

Odor: No data available

Odor threshold: No data available

pH: No data available

Melting point: -103 °C

Freezing point: No data available

Boiling point: -48.5 °C

Flash point: Does not flash or sustain combustion

Relative evaporation rate (butyl acetate=1): No data available

Flammability (solid, gas): No data available

Explosion limits: No data available

Explosive properties: No data available

Oxidizing properties: No data available

Vapor pressure: 175.0 psig (@ 25 °C)

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Relative density: No data available  
Relative vapor density at 20 °C: Not applicable  
Specific gravity / density: 1.248 g/ml (@ 2 °C)  
Molecular mass: 120.02 g/mol  
Solubility: No data available  
Log Pow: No data available  
Auto-ignition temperature: No data available  
Decomposition temperature: No data available  
Viscosity: No data available  
Viscosity, kinematic: No data available  
Viscosity, dynamic: No data available

## 9.2. Other information

No additional information available

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

The product is stable at normal handling and storage conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Protect from sunlight. Do not expose to temperatures exceeding 50 °C. Keep away from heat, sparks and flames.

### 10.5. Incompatible materials

Alkali metals. Finely divided metals (Al, Mg, Zn). Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Hazardous decomposition products in case of fire, see Section 5.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure:

Acute toxicity: Not classified.

Inhalation: No known significant effects or critical hazards.

LC50 inhalation rat (mg/l): 2910 g/m<sup>3</sup> (Exposure time: 4 h)

Ingestion: Ingestion of liquid can cause burns like frostbite.

Skin contact: Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite.

Eye contact: Liquid can cause burns like frostbite.

General: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Reproductive toxicity: Not classified.

Specific target organ toxicity (single exposure): May cause respiratory irritation.

Specific target organ toxicity (repeated exposure): Not classified.

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Aspiration hazard: Not classified.

Symptoms/injuries after inhalation: May cause drowsiness or dizziness.

Symptoms/injuries after skin contact: Contact may cause cold burns/frostbite.

Symptoms/injuries after eye contact: Direct contact with the liquefied gas may cause severe and possibly permanent eye injury due to frostbite from rapid liquid evaporation.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

No additional information available

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

No additional information available

## SECTION 13: DISPOSAL CONSIDERATIONS

**Handling for Disposal:** Handle waste according to recommendations in Section 7.

**Methods of Disposal:** Dispose in accordance with all applicable federal, state, provincial and local regulations.

**RCRA:** If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

## SECTION 14: TRANSPORT INFORMATION

Regulation	UN Number	Proper Shipping name	Hazard class	PG
49CFR	UN 3163	Liquefied gas, n.o.s.	2.2	None
IATA	UN 3163	Liquefied gas, n.o.s.	2.2	None
IMDG	UN 3163	Liquefied gas, n.o.s.	2.2	None

## SECTION 15: REGULATORY INFORMATION

**US Federal Information:** Components listed below are present on the following U.S. Federal chemical lists:

US Federal Regulations:

TSCA:

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Ethane,1,1,1,2,2-pentafluoro- (354-33-6) is Listed on the United States TSCA (Toxic Substances Control Act) inventory as a commenced PMN substance. All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.  
n-Heptane (142-82-5) TSCA Active. Notice of Export: Not applicable.

This mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372

SARA 313 Not applicable

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals.

Listed on the Canadian DSL (Domestic Substances List) WHMIS Classification Uncontrolled product according to WHMIS classification criteria.

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Listed on the Japanese ISHL (Industrial Safety and Health Law)

Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Listed on INSQ (Mexican national Inventory of Chemical Substances)

Listed on Turkish inventory of chemical

## SECTION 16: OTHER INFORMATION

<b>Legend</b>	CAS: Chemical Abstract Services
	CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
	CFR: Code of Federal Regulations
	DOT: Department of Transportation
	EPA: Environmental Protection Agency
	IARC: International Agency for Research on Cancer
	IATA: International Air Transport Association
	IMDG: International Maritime Dangerous Goods
	LC: Lethal Concentration
	LD: Lethal Dose
	N/Ap: Not Applicable
	N/Av: Not Available
	NTP: National Toxicology Program
	OSHA: Occupational Safety and Health Administration
	PEL: Permissible exposure limit

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RCRA: Resource Conservation and Recovery Act  
SARA: Superfund Amendments and Reauthorization Act  
STEL: Short Term Exposure Limit  
TLV: Threshold Limit Values  
TWA: Time Weighted Average

## References

Safety Data Sheets, installation, handling and maintenance procedures from the manufacturer.

**Preparation Date: 04/19/2024**

**Other special considerations for handling:** Provide adequate information, instruction and training for operators and hazmat employees.

## DISCLAIMER

The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. Flush-It LLC expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

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