



## MATERIAL SAFETY DATA SHEET

### Rx11-flush

#### I - PRODUCT IDENTIFICATION

**Company Name:** Nu-Calgon Wholesaler, Inc.  
**Address:** 2008 Altom Court, St. Louis, MO 63146-4151  
**Product Name:** Rx11-flush  
**Synonyms:** Hydrofluorocarbon

**Tel No:** (314) 469-7000, (800) 554-5499  
**CHEMTREC:** (800) 424-9300  
**Product Number:** 4300-11

#### II - HAZARDOUS INGREDIENTS OF MIXTURES

<u>MATERIAL</u>	<u>CAS#</u>	<u>% By Wt</u>	<u>TLV</u>	<u>PEL</u>
tetrafluoroethane	811-97-2	10-20	1000 ppm	
1,1,1,2,3,4,4,5,5,5-decafluoropentane	138495-42-8	15-35	200 ppm*	
1,2-trans-dichloroethylene	156-60-5	50-75	200 ppm	
ethyl alcohol	64-17-5	5-20	1000 ppm	

\*No Federal OSHA PEL or TLV values are established for this compound. The 200 ppm is the Acceptable Exposure Limit established by DuPont as an 8 hour & 12 hour time weighted average; 400 ppm has been established as ceiling limit.  
All ingredients are TSCA listed.

#### III - PHYSICAL DATA

<b>Vapor Pressure:</b> 5.05 psig @70° F	<b>Vapor Density (Air=1) 60-90° F:</b>
<b>Evaporation Rate:</b> {ether=1} >1	<b>VOC Content (% by wt.):</b> 100
<b>Solubility in H<sub>2</sub>O:</b> 0.4%	<b>pH @ Solution:</b> N/E
<b>Freezing Point °F:</b>	<b>pH as Distributed:</b> N/E
<b>Boiling Point °F:</b> 106° F	<b>Appearance:</b> Colorless liquid
<b>Specific Gravity H<sub>2</sub>O=1 @25° C:</b> 1.206 (10.06 lbs/gal)	<b>Odor:</b> Ethereal odor

#### IV - FIRE AND EXPLOSION

**Flash Point F:** Not flammable per Tag Closed Cup and Pensky-Martens Closed Cup. Flash Point is 82.4° F (no fire point) bt Tag Open Cup. **Flammable Limits:** % vol LEL=5.0% UEL=14.4%

**Extinguishing Media:** CO<sub>2</sub>, dry chemical or H<sub>2</sub>O.

**Special Fire Fighting Procedures:** Keep containers cool with water spray. Wear self-contained NIOSH approved breathing apparatus and proper eye and skin protection.

**Unusual Fire and Explosion Hazards:** Container generates pressure when heated, causing violent bursting and dangerous propelling of container. May form toxic decomposition products above 480° F. This material should not be used in vapor degreasers or applications where the solvent is heated above ambient temperatures. Rx11-flush exhibits no Tag Closed Cup flash point to boiling. Since Rx11 is a mixture, fractionation may occur upon evaporation, resulting in a solution enriched in flammable liquids. Take precautions to avoid this condition.

#### V - REACTIVITY DATA

**Stability - Conditions to avoid:** Material is stable at normal room temperatures and storage conditions. May decompose at temperatures above 480° F.

**Incompatibility:** Avoid strong bases, reactive metals (e.g. powdered aluminum, sodium, potassium, calcium, magnesium, zinc, molten aluminum, barium and lithium shavings. Strong oxidizing agents.

**Hazardous Decomposition Products:** This material can be decomposed by open flame, glowing metal surfaces, etc., forming hydrochloric and hydrofluoric acids, and possibly carbonyl halides.

**Conditions Contributing to Hazardous Polymerizations:** Will not occur.

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## VI - HEALTH HAZARD DATA

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### **EFFECTS OF OVEREXPOSURE (Medical Conditions Aggravated/Target Organ Effects),**

**A. ACUTE (Primary Route of Exposure)** INHALATION: Effects may include: Temporary central nervous system depression with anaesthetic effects such as dizziness, headache, confusion, incoordination, drowsiness and loss of consciousness; temporary lung irritation effects with discomfort, pulmonary edema (body fluid in the lungs) with cough, wheezing, abnormal lung sounds, possibly progressing to serve shortness of breath and bluish discoloration of the skin; abnormal liver function as detected by laboratory tests; altered white blood cell count; nonspecific discomfort, such as nausea and vomiting, or weakness may also occur; symptoms may be delayed. These effects are similar to intoxication caused by ethyl alcohol. Prolonged exposure to very high concentrations (>25% in air) may cause temporary alteration of the heart's electrical activity with irregular pulse, palpitations, or inadequate circulation. ORAL: Based on animal data, this material may cause pathological changes in the kidneys. SKIN: Skin contact may include severe skin irritation with burning, redness, swelling, rash, discomfort or pain. EYES: Persons wearing contact lenses should wear chemical protective safety glasses when using this product. Liquid contact: eye contact may include severe eye irritation with burning, redness, swelling, rash, discomfort or pain. Vapor Contact: mild irritant. Individuals with chronic respiratory diseases may have increased susceptibility to the toxicity of excessive exposures. Increased susceptibility of the effects of this material may be observed in persons with preexisting disease of the liver, lungs and cardiovascular system.

**B. SUBCHRONIC, CHRONIC, OTHER:** The components of Rx11-flush are not listed as carcinogens by NTP, IARC, or OSHA.

### **C. MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE :**

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## VII - EMERGENCY AND FIRST AID PROCEDURES

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**INHALATION:** Remove to fresh air. Do not give Epinephrine. Give artificial respiration if necessary. Call a physician.

**EYES:** Persons with contact lenses should wear chemical protective safety glasses when using this product. Flush with water for 15 minutes, lifting eyelids occasionally until no evidence of the chemical remains. Call a physician.

**SKIN:** Wash promptly with soap and water for at least 15 minutes. Remove contaminated clothing and shoes.

**INGESTION:** Material poses an aspiration hazard. If swallowed, do not induce vomiting. Immediately give two glasses of water. Never give anything by mouth to an unconscious person. Do not give stimulants. Contact physician immediately.

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## VIII - SPILL OR LEAK PROCEDURE

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**Spill Management:** Chances of a significant leak of an aerosol are nil. However, in the event of such an occurrence, evacuate area and absorb the spilled liquid with a nonflammable absorbent (i.e. sand, vermiculite). Remove unprotected personnel. Protected personnel should remove ignition sources and shut off fire source. Provide ventilation. Shovel (spark proof) absorbent material into drums and close.

**Waste Disposal Methods:** Comply with Federal, State and local regulations. Consult appropriate regulatory agency prior to disposal or discharge of waste material. Do not flush to sewer.

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## IX - PROTECTION INFORMATION/CONTROL MEASURES

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**Respiratory:** None required in ventilated work areas. In unlikely event that product vapor is released to ambient air, use NIOSH-approved self-contained or air respirators for emergencies and where air may be displaced by vapors.

**Eye Protection:** Chemical protective face shield. **Glove:** Neoprene preferred.

**Other Clothing and Equipment:** Protective clothing for prolonged or repeated contact: PVA or neoprene preferred.

**Ventilation:** Adequate. Use local exhaust for poorly ventilated areas.

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## X - SPECIAL PRECAUTIONS

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**Precautions to be taken in Handling and Storing :** Avoid breathing vapors. Use only with adequate ventilation. Avoid lit cigarettes, flame, welding or hot spots which may generate toxic decomposition products. Vapors are heavy and may concentrate in poorly ventilated areas.

**Additional Information:**

**NFPA**

**Health Hazard.....: 1**

**Fire Hazard.....: 1**

**Reactivity.....: 1**

**Specific Hazard...:**

**HMIS RATING**

**Health Hazard.....: 1**

**Fire Hazard.....: 1**

**Reactivity.....: 1**

**Personal Protection...: X (Sec. 9)**

**Revision Date: 12/05/2002**

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