

# MATERIAL SAFETY DATA SHEET

## I. IDENTITY:

Label Name: **Cramer Cold Spray**  
Item Number(s): **033627, 033631**

Date Prepared: **5/7/07**

Chemical Name and Synonyms: **N/A**  
Chemical Family: **N/A, mixture**

Package type (container): **Aerosol**  
Product Class: **Aerosol coolant**

Manufacturer: **Cramer Products, Inc.**  
**153 West Warren**  
**Gardner, KS 66030**

Emergency Telephone No.  
**(913) 856-7511**

## II. HAZARDOUS INGREDIENTS:

Hazardous Components	CAS #	OSHA PEL	ACGIH TLV	%
n-Butane	106-97-8		800 ppm	40-45
Isopentane	78-78-4		600 ppm	35-40%
1,1,1,2- Tetrafluoroethane	811-97-2		1000 ppm	15-20
Isopropyl Alcohol	67-63-0	400 ppm		<2

## III. PHYSICAL CHARACTERISTICS:

Boiling Point: **-15° - 180° F**  
Vapor Pressure: **~48 psig (in aerosol can) @ 70° F**  
Vapor Density: (Air=1): **>1**  
Solubility in Water: **Negligible**  
Appearance and Odor: **Clear colorless liquid, slight ether odor**

Specific Gravity (Water=1): **N/A**  
Melting Point: **N/A**  
Evaporation Rate: **>1 (Butyl Acetate =1)**  
Percent Volatile by Volume: **>85%**

## IV. FIRE AND EXPLOSION HAZARD:

Flash Point: **< -100°F (estimated for n-Butane)**  
Extinguishing Media: **Dry chemical, carbon dioxide, foam**

Flammable Limits: **Lel Uel**  
**(for n-Butane) 1.8 8.4**

Special Fire Fighting Procedures: **This is an aerosol product. Use procedures for flammable aerosols.**

Unusual Fire and Explosion Hazards: **Contents are flammable and under pressure: if released would add to fire intensity. Rupturing containers may become projectiles. Self-contained breathing apparatus and protective clothing should be worn in fighting fires involving chemicals.**

## V. REACTIVITY DATA:

Stability: **stable**  
Conditions to Avoid: **Avoid heat, sparks, open flame, any source of ignition.**

Hazardous Polymerization: **will not occur**

Hazardous Decomposition Byproducts: **Thermal decomposition or burning may produce hydrogen fluoride, carbon monoxide and/or carbon dioxide**

**VI. HEALTH HAZARD DATA:**

Suggested Exposure Guideline: 400 ppm

Primary Route of Exposure: Inhalation, skin contact

Inhalation: High concentrations of vapors is harmful and may cause heart irregularities, unconsciousness or death. Intentional misuse or deliberate inhalation may cause death without warning. Vapor reduces oxygen available for breathing and is heavier than air.

Eyes: Untested.

Skin: Untested. May cause frostbite.

Swallowing: Can cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Carcinogenicity: None of the components in this material is listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

**Emergency and First Aid Procedures:**

If breathed: Remove to fresh air; administer oxygen. Consult physician immediately.

If in eyes: Flush with large amounts of water for 15 minutes.

If on skin: Thoroughly wash exposed area with soap and water. Remove soaked clothing to avoid prolonged skin contact.

Treat for frostbite if necessary.

If swallowed: Call physician or Poison Control Center immediately. Proper treatment is dependent on condition of patient and amount ingested.

**VII. PRECAUTIONS FOR SAFE HANDLING AND USE:**

Spills: Remove or extinguish all sources of ignition or combustion. Evacuate enclosed space until gas is dispersed. Keep upwind. Stop any leaking if possible without risk. Disperse gas with floor-level forced air ventilation. Exhaust vapors outdoors.

Waste Disposal: Dispose of product in accordance with applicable local, county, state and federal regulations.

Handling and Storage: Product is an aerosol. Do not use near fire, flame or hot surfaces. Do not puncture or incinerate. Do not expose to heat or store at temperatures above 120° F. Keep out of reach of children.

**VIII. CONTROL MEASURES:**

Respiratory Protection: None required in normal use. As with all aerosols, breathing of vapor must be avoided.

Ventilation: Use in well ventilated area.

Protective Gloves: None required

Eye Protection: Not required. Safety glasses desirable.

Protective Clothing or Equipment: None required

Abbreviation Key: N/A = Not Applicable; Lel = Lower explosive limit; Uel = Upper explosive limit

**The information contained herein is believed to be accurate. It is the user's obligation to determine the safe use of the product.**