Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

IDENTITY *(As Used on Label and List)*
Cramolin R-5 Spray

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I

Manufacturer's Name Caig Laboratories, Inc.	**Emergency Telephone Number** 619-743-7143 Dupont FREON & Dymel: 1-800-441-3637
Address *(Number, Street, City, State, and ZIP Code)* 1175-O Industrial Ave.	**Telephone Number for Information** 619-743-7143
Escondido, CA 92025	**Date Prepared** 7/11/89
	Signature of Preparer *(optional)*

Section II — Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% *(optional)*
Trichlorotrifluoroethane FREON TF	1,000PPM	1,000PPM	None	75.0%
Difluoroethane Dymel 152	Not Est.	Not Est.	None	20.0%
CRamolin Red Fluid R100L	Not Est.	Not Est.	Not Est.	5.0%

Section III — Physical/Chemical Characteristics

Boiling Point OF FREON TF	117.6°F	**Specific Gravity (H_2O = 1)** @77°F Approx.	1.57g/cc
Vapor Pressure (mm Hg.) OF FREON TF @ 77°F	334	**Melting Point** N/A	N/A
Vapor Density (AIR = 1) OF FREON TF	6.5	**Evaporation Rate** **(Butyl Acetate = 1)** CCl_4=1	0.1

Solubility in Water
FREON TF & OIL MIXTURE less than 0.2% by weight

Appearance and Odor Light pink color of mixture. Red color of oil residue after solvent has evaporated. Slight ethereal odor.

Section IV — Fire and Explosion Hazard Data

Flash Point (Method Used) Mixture non-flamable Cramolin oil residue 170°C (A. Pensky).	**Flammable Limits** Not Established	**LEL**	**UEL**

Extinguishing Media
If Cramolin oil residue ignites-use foam CO_2, or Halon and breathing equipment.

Special Fire Fighting Procedures
Use self contained breathing apparatus if open flame or glowing metal is present due to possible hazardous decomposition into hydrochloric and hydrofluoric acids and possible carbonyl halides.

Unusual Fire and Explosion Hazards

SEE ABOVE

Section V — Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable	X	AVOID OPEN FLAMES AND HIGH TEMPERATURES

Incompatibility (*Materials to Avoid*)
Alkali or alkaline earth metals-powdered Al, Zn. Be, etc.

Hazardous Decomposition or Byproducts This compound can be decomposed by high temperatures (open flames and glowing metal.) forming Hydrochloric and Hydrofluoric acids and possible carbonyl halides.

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	XX	conditions to avoid-SEE ABOVE.

Section VI — Health Hazard Data

Route(s) of Entry: Inhalation? Skin? Ingestion?
FOR INFORMATION IN THIS SECTION

Health Hazards (*Acute and Chronic*)
PLEASE REFER TO ATTACHED SHEET
MARKED
"HEALTH HAZARDS AND FIRST AID"

Carcinogenicity: NTP? IARC Monographs? OSHA Regulated?
NO NO NO

Signs and Symptoms of Exposure
SEE ATTACHED

Medical Conditions Generally Aggravated by Exposure
SEE ATTACHED

Emergency and First Aid Procedures
SEE ATTACHED

Section VII — Precautions for Safe Handling and Use

Steps to Be Taken in Case Material Is Released or Spilled
Ventilate area till odor is gone. Use self contained breathing apparatus for necessary prolonged exposure. After FREONS have been removed by ventilation, clean up oily residue with any standard soap or detergent solution.

Waste Disposal Method
Comply with Federal, State and local laws and regulations.
EPA Hazardous waste #'s F001 & F002 may apply.

Precautions to Be Taken in Handling and Storing
Do not expose any aerosol can to sunlight or high temperature (above120°F) to prevent possible bursting. All aerosol cautions apply-use in ventilated area.

Other Precautions
As with any chemical preparation, use only as directed and wash hands after use..

Section VIII — Control Measures

Respiratory Protection (*Specify Type*)
Not necessary unless used in an unventilated area or in high concentrations.

Ventilation KEEP WINDOWS OPEN	Local Exhaust: When used repeatedly in quantity	Special
	Mechanical (*General*): To prevent buildup in low areas	Other

Protective Gloves: NOT NECESSARY	Eye Protection: Suggested when using any aerosol

Other Protective Clothing or Equipment
Not necessary with adequate ventilation

Work/Hygienic Practices
Avoid breathing vapors and contact with skin or eyes. Use adequate ventilation.

★ U.S.G.P.O.: 1986-491-529/45775

*****HEALTH HAZARDS AND FIRST AID*****

HEALTH HAZARD INFORMATION

Principal Health Hazards:

Inhalation - Vapor is heavier than air and can cause suffocation by reducing oxygen available for breathing. Breathing high concentration of vapor may cause light-headedness, giddiness, shortness of breath, and may lead to narcosis, cardiac irregularities, unconsciousness or death. LC50 Rat 300,000 ppm/2 hr.

Note: In screening tests with experimental animals, exposure to Dymel® or Freon TF at approximately 50,000 ppm (v/v) and above, followed by a large intravenous epinephrine challenge, has induced serious cardiac irregularities.

Eye: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

Skin: Flush with water. Get medical attention if irritation is present.

Oral: No specific intervention is indicated as the compound is not likely to be hazardous by ingestion. However, consult a physician if necessary. Do not induce vomiting as the hazard of aspirating the material into the lungs is a greater hazard than allowing it to progress through the intestinal tract.

Medical Conditions Possibly Aggravated by Exposure:

Cardiovascular Disease: See Principal Hazards: Inhalation Section.

First Aid:

Inhalation: Remove to fresh air, call a physician. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Do not give epinephrine or similar drugs.

Note to Physicians: Because of a possible increased risk of eliciting cardiac dysrythmias, catecholamine drugs, such as epinephrine, should be considered only as a last resort in life threatening emergencies.