MATERIAL SAFETY DATA SHEET

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: CSM-1A Degreaser May 5, 2003

Vishay Micro-Measurements
Post Office Box 27777
Raleigh, NC 27611

MSDS # MGM058I

919-365-3800

CHEMTREC 1-800-424-9300 (U.S.)
703-527-3887 (Outside U.S.)

NOTE: CHEMTREC numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

SECTION 2: HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

CAS NUMBER	CHEMICAL IDENTITY	%
1717-00-6	1,1-Dichloro-1-fluoroethane	96.5 - 99.0
67-56-1	Methanol	1.0 - 3.5
124-38-9	Carbon Dioxide (As propellant only)	3.0

SECTION 3: HEALTH HAZARD DATA

Routes of Entry:

Inhalation: YES **Skin**: YES **Ingestion**: Accidental

Health Hazards (Acute and Chronic): Inhalation or ingestion may cause intoxication or asphyxiation. Skin contact can cause defatting. Persons with pre-existing respiratory or heart problems may have the condition aggravated.

Carcinogenicity:

NTP:	Not listed
IARC Monographs:	Not listed
OSHA Regulated:	Not listed

Signs and Symptoms of Exposure:

INHALATION: At low levels of concentration, initial symptoms may include headache, nausea, loss of concentration, and irritation. With high exposure levels, symptoms may include central nervous system depression (intoxication), cardiac arrhythmia, decreased body weight. Product vapors displace air and can cause asphyxiation, especially in confined spaces.

EYE CONTACT: Irritant. Liquid contact will irritate eyes and may cause conjunctivitis.

SKIN CONTACT: Defatting of the skin can cause irritation. No absorption toxicity data is available.

INGESTION: Similar symptoms as for inhalation. Discomfort due to the volatility would be expected.

Conditions Generally Aggravated by Exposure: Persons with pre-existing chronic respiratory diseases or heart disorder should refrain from breathing excessive carbon dioxide. Recovery is usually rapid from short term over-exposure with no continuing after effects. Long term over-exposure may cause coma and death.

SECTION 4: EMERGENCY AND FIRST AID PROCEDURES

INHALATION: Remove victim to fresh air. Give mouth-to-mouth resuscitation if breathing has stopped. Give oxygen as necessary if a qualified operator is available. DO NOT give stimulants or adrenalin (epinephrine). Get medical attention immediately.

EYE CONTACT: Flush with large amounts of water for at least 15 minutes, lifting eyelids periodically until no evidence of the chemical remains. Get medical attention.

SKIN CONTACT: Wash promptly with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Thoroughly clean contaminated clothing and shoes before re-use or discard.

INGESTION: Do NOT induce vomiting. Do NOT give stimulants. Take immediately to hospital or physician.

SECTION 5: FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): None

Flammable limits: **LEL**: 6.0 **UEL**: 20.3

Extinguishing Media: Dry chemical, carbon dioxide, water spray, or alcohol foam.

Special Firefighting Procedures: This product requires Level I Aerosol Protection (NFPA 30B). Wear self-contained breathing apparatus and protective clothing when fighting fires involving chemicals. Cool fire exposed aerosol containers with water spray.

Unusual Fire and Explosion Hazards: Concentrated vapors in confined or poorly ventilated areas are ignitable by high intensity heat sources or open flames. High temperatures can cause aerosols to fail violently.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Steps to be taken if material is released or spilled: Remove open flames, high-intensity heat sources. Wearing protective respiratory equipment and clothing, take up spill on an inert absorbent material and transfer to approved waste containers. Do not flush spills or residue into sewers or surface water.

SECTION 7: EXPOSURE CONTROLS -- PERSONAL PROTECTION

Respiratory Protection: None required with adequate ventilation. If any TLV is exceeded, wear a NIOSH approved self-contained positive pressure respirator where air can be displaced by vapors and in emergency situations.

Ventilation:

Local Exhaust: Use where vapors escape to workplace air.
Mechanical: Keep airborne vapor levels below TLV's.
Special: N/A
Other: N/A

Protective Gloves: Polyvinyl alcohol or neoprene.

Eye Protection: Chemical safety goggles.

Other Protective Clothing or Equipment: Wear an impervious apron or other protective clothing as needed to prevent unnecessary skin contact with the liquid or its sprays during use.

Work / Hygienic Practices: Use good industrial hygiene practices. After use and before eating, drinking or smoking wash hands with soap and water. No eating, drinking or smoking at point of use.

SECTION 8: HANDLING AND STORAGE

Precautions to be taken in handling and storing: Store away from heat, flame, incompatibles, and out of direct sunlight, at temperatures below 120°F (49°C). Use away from heat, flame, high-intensity heat sources.

Other Precautions: Avoid breathing vapors, aerosol sprays and mists. Avoid skin contact, eye contact, ingestion. Use with adequate ventilation. Intentional inhalation abuse can be harmful or fatal.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: 89°F
Vapor Pressure (mmHg): 4100
Vapor Density (Air = 1): 4.1
Specific Gravity (H_2O = 1): 1.24
Melting Point: N/A
Evaporation Rate (BuAc = 1): >1
Volatile Organic Compounds: 1.0 - 3.5%
Solubility in Water: Approximately 3.521% by weight

Appearance and Odor: Clear, colorless liquid, slight ethereal/alcoholic odor.

SECTION 10: STABILITY AND REACTIVITY DATA

Stability: Stable at normal temperatures and storage conditions. Unstable at temperatures exceeding 207°F (97°C) or with flame contact.

Conditions to Avoid: Heat, flame, high-intensity heat sources.

Incompatibility (Materials to Avoid): Avoid contact with strong alkalies and acids, reactive earth metals, and strong oxidizers.

Hazardous Decomposition or By-products: When thermally decomposed, produces hydrofluoric acids, carbonyl halides or phosgene.

Hazardous Polymerization: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

1,1-Dichloro-1-fluoroethane

OSHA PEL:	N/E
ACGIH TLV:	N/E
OTHER:	500 ppm TWA (American Industrial Hygiene Association)

Methanol

OSHA PEL:	200 ppm
ACGIH TLV:	260 mg/m^3
OTHER:	250 STEL Methanol carries a skin designation. Limit or avoid skin contact to the greatest degree possible, as this substance can be absorbed through the skin.

Carbon Dioxide

OSHA PEL:	10000 ppm
ACGIH TLV:	18000 mg/m^3
OTHER:	30000 STEL

SECTION 12: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose of in accordance with local, state and federal environmental regulations. Waste may be reclaimed or incinerated by federally permitted facilities.

SECTION 13: TRANSPORTATION INFORMATION

SHIPPING NAME	CLASS	UN NUMBER
Aerosols, Non-Flammable	2.2	1950

SECTION 14: REGULATORY INFORMATION

SECTION 313 SUPPLIER NOTIFICATION:

This product contains a toxic chemical or chemicals (as listed below) subject to the reporting requirements of Section 313 Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR Part 372.

CAS NUMBER	CHEMICAL NAME	% BY WEIGHT
1717-00-6	1,1-Dichloro-1-fluoroethane	96.5-99.0
67-56-1	Methyl Alcohol (Methanol)	1.0 - 3.5

TSCA NOTIFICATION:

All components of this product are listed in the Toxic Substance Control Act Chemical Substance Inventory (TSCA).

SECTION 15: OTHER INFORMATION

To the best of our knowledge, the information provided above meets the requirements of the United States Occupational Safety and Health Act and regulations established under 29 CFR 1910.1200 (g)(2)(c)(1)-(4) for a mixture of hazardous chemicals which has not been tested as a whole. The data provided on this Material Safety Data Sheet is from manufacturers of the original components. Vishay Micro-Measurements specifically disclaims any and all form of liability and/or responsibility for the application of this product.