



Material Safety Data Sheet

Date of Preparation: May 19, 2009

Section 1 – Chemical Product and Company Identification

Product Name: SUPER CHILL™

Part Number: 945KIT

Product Use: A/C Stop Leak and Performance Booster

Manufacturer: Clight Manufacturing
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Section 2 – Composition/ Information on Ingredients

Ingredient Name	CAS No.	EC No.	Composition, wt%
1,1,1,2-Tetrafluoroethane	811-97-2	212-377-0	35-50
Methylene chloride	75-09-02	200-838-9	<2
Cyclohexanone	108-94-1	203-631-1	<1
Xylene	1330-20-7	215-535-7	<7
Ethylbenzene	100-41-4	202-849-4	<2

Section 3 – Hazards Identification

See Section 15 for risk and safety phrases.

Primary Entry Routes: Inhalation, eye contact, skin contact, dermal absorption, and ingestion.

Target Organs: respiratory system, eyes, skin, and digestive system

Chronic Effects: Prolonged and repeated overexposure can cause irritation of the respiratory tract and mucous membranes, central nervous system effects, blood dysfunction, and kidney effects.

Effects of Overexposure:

Inhalation: Inhalation of high vapor concentrations can cause anesthetic effects including dizziness, weakness, nausea, and unconsciousness. It can act as an asphyxiant by limiting available oxygen. Very high doses can cause abnormal heart rhythm which is potentially fatal. Breathing high concentration vapors or prolonged breathing of vapors can cause irritation of the nose, throat, mucous membranes, and lungs as well as headaches, drowsiness, and fatigue. Extreme inhalation can cause loss of coordination and unconsciousness.

Eye Contact: Liquid splashes may cause eye irritation. Vapor spray may cause freeze burns. Vapors can cause eye irritation.

Skin Contact: Vapor spray can cause freeze burns. Product can cause skin irritations, dermatitis, defatting of skin, adsorption of certain components in product.

Ingestion: A large percentage of the product is a gas at standard temperature and pressure (STP) which would not allow much of the product to be ingested. The liquid material at STP, if ingested, could cause nausea, gastrointestinal disturbances, headaches, drowsiness, vertigo, abdominal pain, and dizziness.

Methylene chloride has been identified to have limited evidence of a carcinogenic effect. (R40)

Section 4 – Emergency and First Aid Procedures

Inhalation: Inhalation under normal exposure should not cause problems; however if inhalation has resulted in symptoms, move patient to fresh air. If breathing is difficult, give oxygen. Give artificial respiration if breathing has stopped. Get prompt medical attention.

Eye Contact: Immediately flush eyes with a large amount of water for at least 15 minutes. If symptoms exist and/or persist, get prompt medical attention.

Skin Contact: Wash affected skin areas thoroughly with soap and water. Remove contaminated clothing. If skin irritation persists, see a physician.

Ingestion: If swallowed, give large quantities of water to drink. Induce vomiting. Careful gastric lavage may be indicated. Immediately see a physician. Never give anything by mouth to, or induce vomiting of, an unconscious person.

Section 5 – Fire Fighting Measures

Extinguishing Media: polar solvent foam, carbon dioxide, dry chemical, and water spray.

Unusual Fire or Explosion Hazards: Toxic fumes are generated when material is exposed to fire and fire conditions.

Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and full protective gear.

Special Precautions: Use water spray to cool large containers exposed to fire. Vapors are denser than air and will have a tendency to accumulate in lower areas which can cause the vapors to concentrate and suffocate. The much reduced part of the product that is liquid at STP can be flammable. If the product's liquid portion is exposed to fire or an ignition source that results in flammability, extinguish with polar solvent foam, carbon dioxide, dry chemical, or water spray. The product is typically packaged in 7 fl oz cans, which aids in isolating product for flammability but creates problems if the pressurized cans are exposed to fire or excessive heat that could result in sudden can rupture.

FIRE AND EXPLOSIVE PROPERTIES:

<u>Property</u>	<u>Packaged Product</u>	<u>Liquid Portion of Product</u>
Flash Point (°C):	Non-Flammable at STP	37
Auto-Ignition Temperature (°C):	>350	>350
Lower Explosive Limit (ppm):	Non-Flammable at STP	10,000
Upper Explosive Limit (ppm):	Non-Flammable at STP	70,000

Section 6 – Spill, Leak, and Disposal Procedures

Personal Protection: Appropriate protective equipment must be worn when handling a large spill of this material. See Section 8 for recommendations. If exposed to material during clean-up operations, see the Section 4 for actions to follow.

Procedures: Evacuate the spill area. Floor may be slippery if non-volatile components in product have wetted the floor; use care to avoid falling. Ventilate the spill area. Avoid breathing vapor. Contain non-volatile material spills immediately with inert absorption materials. Transfer liquids and solid absorption materials and diking material to separate suitable containers for recovery or disposal.

CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

Section 7 – Handling and Storage

Handling Procedures: Avoid causing, and inhaling, high concentrations of vapor. The vapor concentration levels in air need to be kept below occupational exposure limits and kept as low as practicable. Do not mix product with air or oxygen under pressure. Avoid exposure of product to flame or very hot surfaces. Vapors can be evolved when material is being used in processing operations. See Facility Control Measures in Section 8 for types of ventilation required.

Storage Conditions: Store in a cool, well ventilated place. Keep containers dry. Store product away from reactive and corrosive materials. The minimum recommended storage temperature for this material is -29°C. The maximum storage temperature is 49°C.

Section 8 – Exposure Controls / Personal Protection

Eye Protection: Use eye goggles and/or face shield.

Hand Protection: Polyvinyl alcohol or Viton gloves may provide protection against permeation. Gloves of other chemically resistant materials may not provide adequate protection.

Other Protection: Use chemically resistant apron or other impervious clothing to avoid prolonged or repeated skin contact.

Facility Control Measures:

Ventilation: Use normal local exhaust ventilation with a minimum capture velocity of 0.5 m/sec at the point of vapor or dust evolution.

Other Protective Equipment: Facilities storing and utilizing this material should be equipped with an eyewash facility and a safety shower.

Section 9 – Physical and Chemical Properties

TYPICAL PHYSICAL PROPERTIES:

Appearance:	Product in Aerosol Container
Color:	Reddish
State:	Liquid under Gas Pressure
Odor Characteristics:	Ethereal
Viscosity (cP @ 20° C):	20
Specific Gravity (d/do 4°C):	1.104
Density (g/cm ³):	1.10
Vapor Density (Air = 1.0):	3.3
Vapor Pressure (kPa):	570
Boiling Point (°C):	-26.5
Solubility in Water (gr/100 cm ³):	Non-soluble
Evaporation Rate (n-butyl acetate = 1.0):	> 120
pH (product or water extract)	< 7
Percent Volatility (% wt):	47

Section 10 – Stability and Reactivity

Stability: Stable under normal conditions.

Hazardous Decomposition Products: Thermal decomposition may yield toxic decomposition products which include alkyl low molecular weight components, organic chlorides, CO_x, SO_x, NO_x, PO_x, hydrochloric acid, hydrofluoric acid, organic pyrolytic components, and phosgene.

Hazardous Polymerization: Product will not undergo polymerization.

Incompatibility: Avoid contact with strong oxidizing and reducing agents, fine particulate metals, magnesium and alloy containing more than 2 percent magnesium.

Section 11– Toxicological Information

See section 3 for routes of exposure and health effects.

Information is given below is for maximum occupational exposure limits as recommended by the Occupational Safety and Health Administration of the U.S.A. and the American Conference of Governmental Industrial Hygienists.

Component Exposure Information (ppm)

COMPONENT	OSHA		ACGIH			
	TWA	STEL	TWA	STEL	IDLH	HAP
1,1,1,2-Tetrafluoroethane	1000	NA	NA	NA	NA	No
Methylene Chloride	75	150	50	75	5,000	Yes
Cyclohexanone	50	75	25	75	5,000	No
Xylene	100	150	100	150	10,000	Yes
Ethyl benzene	100	150	100	150	10,000	Yes

TWA: 8 hour Time Weighted Average

STEL: 15 minute Short Term Exposure Limit

IDLH: 30 minute exposure for Immediately Dangerous to Life and Health

HAP: Hazardous Air Pollutant

NA: Not Available

ppm: parts per million

Note: 1 ppm equals 3.8 mg/m³; 50 ppm equals 190 mg/m³; 75 ppm equals 285 mg/m³; 100 ppm equals 380 mg/m³.

Section 12– Ecological Information

Persistence and Degradation: 1,1,1,2-tetrafluoroethane decomposes comparatively rapidly in the lower atmosphere (troposphere). Atmospheric lifetime is 15.6 years. Products of decomposition will be highly dispersed and hence will have a very low concentration. It is not a significant contributor to photochemical smog and is not considered to be a VOC. It is not considered as an ozone depleting chemical.

Section 13– Product Disposal

See section 6.

Waste Disposal Procedure: Dispose this material at a facility that complies with local, state, and federal regulations.

Section 14 –Transport Information

Proper Shipping Name: Aerosol
Identification Number: UN 1950
Packing Group: 2.2

Section 15 –Regulatory Information

Hazard Symbol: Xn: Harmful
Risk Phrases: R36/37/38 – Irritating to eyes, respiratory system and skin
R40 – Limited evidence of a carcinogenic effect
Safety Phrases: S23 – Do not breathe vapor
S24/25 – Avoid contact with skin and eyes
S36/37/39 – wear suitable protective clothing, gloves and eye/face protection

Section 16 –Other Information

Risk Phrases: R36/37/38 – Irritating to eyes, respiratory system and skin
R40 – Limited evidence of a carcinogenic effect

All information appearing herein is based upon data obtained from manufacturers and/or recognized technical sources. While the information is believed to be accurate, we make no representations as to its accuracy or sufficiency. Conditions of use are beyond our control, therefore users are responsible for verifying the data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product. Users also assume all risks in regards to the publications of use of, or reliance upon, information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or process.