

Material Safety Data Sheet

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Section 1: Product Identification

MSDS Code: 4120 - aerosol **Name: HFE Super Cleaner Degreaser**

Related Part Numbers: 4120-450G

Use: For cleaning electronic parts and components.

Section 2: Hazardous Ingredients

| CAS# | Chemical Name | Percentage by weight | ACGIH TWA | Osha Pel | Osha Stel |
|-------------|----------------------------------|----------------------|-----------|----------|-----------|
| 156-60-5 | 1,2-trans-dichloroethylene | 30 - 35 | 200ppm | 200ppm | N/e |
| 811-97-2 | 1,1,1,2 - tetrafluoroethane | 30 - 35 | 1000ppm | N/e | N/e |
| 406-58-6 | 1,1,1,3,3-pentafluorobutane | 24 - 28 | N/e | N/e | N/e |
| 71-36-3 | n-butyl alcohol | 1 - 4 | 100ppm | 100ppm | 150ppm |
| 163702-08-4 | (Perfluoroisobutyl) methyl ether | 2 - 6 | 600ppm | N/e | N/e |
| 163702-07-6 | (Perfluoro-n-butyl) methyl ether | 2 - 4 | 600ppm | N/e | N/e |

Section 3: Hazards Identification

WHMIS Codes: A, D2B

NFPA Ratings: Health 2 Flammability 0 Reactivity 0

HMIS Ratings: Health 2 Flammability 0 Reactivity 0

Eyes: Causes eye irritation, including redness, swelling, pain, tears, and hazy vision.

Skin: Causes skin irritation, including redness, swelling, dryness, and itching.

Inhalation: May cause irritation of the nose and throat. May cause central nervous system depression.

Ingestion: Ingestion is not a like route of exposure to this product.

Chronic: Prolonged exposure may cause liver and kidney damage.

Section 4: First Aid Measure

Eyes: Remove contact lenses. Immediately flush with water or saline for 20 minutes. Get medical aid immediately.

Skin: Wash skin with large quantities of soap and water. Get medical aid if symptoms persist.

Inhalation: Immediately remove from exposure to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get medical aid immediately.

Ingestion: Do not induce vomiting. If conscious, give 1-2 glasses of water. Get medical aid immediately.

Section 5: Fire Fighting Measures

Autoignition Temperature: N/a **Flash Point:** None **LEL / UEL:** N/a

Extinguishing Media: Use water, dry chemical, dry powder, and carbon dioxide.

General Information: N/e

Section 6: Accidental Release Measures

Spill Procedure: Remove all sources of ignition. Provide adequate ventilation. Wear appropriate personal protection. Sprinkle absorbent compound onto spill, then sweep into a plastic or metal container. Wipe up further residue with paper towel and place in container. Wash spill area with soap and water.

Section 7: Handling and Storage

Handling: Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Do not ingest or inhale. Do not expose container to heat or flame.

Storage: Keep away from sources of ignition. Store in a cool, dry, well-ventilated area, away from incompatible substances.

Section 8: Exposure Controls

Routes of entry: Eyes, ingestion, inhalation, and skin.

Ventilation: Use adequate general or local exhaust ventilation to keep airborne concentrations below exposure limits.

Personal Protection: Wear appropriate protective eyeglasses or chemical safety goggles. Wear appropriate protective clothing to prevent skin contact. Use a NIOSH approved respirator when necessary.

Section 9: Physical and Chemical Properties

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|------------------------|---------|-------------------------------|-------------------------------------|--|
| Physical State: | Aerosol | Odor: Slight | Solubility: Slight | Evaporation Rate: N/e |
| Boiling Point: | 36.8°C | Specific Gravity: 1.27 | Vapor Pressure: 30 PSI @20°C | Vapor Density: N/e pH: N/a |

Section 10: Stability and Reactivity

Stability: Stable at normal temperatures and pressures.

Conditions to avoid: Temperatures over 40C, ignition sources, and incompatible substances.

Incompatibilities: Strong bases, strong acids, strong oxidizing agents, amines.

Polymerization: Will not occur.

Decomposition: Carbon dioxide, carbon monoxide, hydrogen fluoride, hydrogen chloride, perfluoroisobutylene.

Section 11: Toxicological Information

Sensitization: (effects of repeated exposure) No

Carcinogenicity: (risk of cancer) No

Teratogenicity: (risk of malformation in an unborn fetus) No

Reproductive Toxicity: (risk of sterility) No

Mutagenicity: (risk of heritable genetic effects) No

Lethal Exposure Concentrations:

| | | | | | |
|--------------------------|-------------------|---------------------------|-----|---------------------|-----|
| Ingestion (LD50): | >2190 mg/kg (rat) | Inhalation (LC50): | N/e | Skin (LD50): | N/e |
|--------------------------|-------------------|---------------------------|-----|---------------------|-----|

Section 12: Ecological Information

General Information: Avoid runoff into storms and sewers, which lead into waterways. Water runoff can cause environmental damage.

Environmental Impact Data: (percentage by weight)

CFC: 0 **HFC:** 30 **Cl.Solv:** 0 **VOC:** 70 **HCFC:** 0 **ODP:** 0

Section 13: Disposal Information

General Information: Dispose of in accordance with all local, provincial, state, and federal regulations. Water runoff can cause environmental damage.

Section 14: Transportation Information

Ground:

Consumer Commodity, ORM-D

Air:

Shipper must be trained and certified. Refer to IATA regulations.

Sea:

UN# 1950. Class 2.1. Shipper must be trained and certified. Refer to IMDG regulations.

Section 15: Regulatory Information

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations.

SARA (Superfund Amendments and Reauthorization Act of 1986, USA, 40 CFR 372.4)

None of the chemicals in this product have a reportable quantity.

EPCRA (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45)

This product does not contain any chemicals subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372.

TSCA (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

CAA (Clean Air Act, USA)

This product does not contain any class 1-ozone depletors.

This product does not contain any class 2-ozone depletors.

This product does not contain any chemicals listed as hazardous air pollutants.

California Proposition 65 (Chemicals known to cause cancer or reproductive toxicity, May 1, 1997 revision, USA)

This product does not contain any chemicals listed.

Health Canada

Labeling and containers used in this product are listed in compliance with Consumer Chemicals and Container regulations.

Environment Canada

Chemicals in this product are listed on the Domestic Substances List in the Canadian Environmental Protection Act

This product does not contain any ozone depleting substances.

Industry and Science Canada

Labeling, product identity, net quantity declaration, minimum printing type size heights, and packaging of this product is in compliance with the Consumer Packaging and Labeling Act and Regulations. This product is not slack filled in accordance to chapter 4 prohibitions.

RoHS (The restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2004).

This product is RoHS compliant.

Section 16: Other Information

Definitions: N/a = not applicable, n/e = not established

Disclaimer: This material safety data sheet is provided as an information resource only. M.G. Chemicals believes the information contained herein is accurate and compiled from reliable sources. It is the responsibility of the user to verify its validity. The buyer assumes all responsibility of using and handling the product in accordance with federal, state, and local regulations.