



# SAFETY DATA SHEET

## 1. Identification

<b>Product identifier</b>	<b>Contact Cleaner</b>
<b>Other means of identification</b>	
<b>Product code</b>	03070
<b>Recommended use</b>	Precision electronics cleaner
<b>Recommended restrictions</b>	None known.
<b>Manufacturer/Importer/Supplier/Distributor information</b>	
<b>Manufactured or sold by:</b>	
<b>Company name</b>	CRC Industries, Inc.
<b>Address</b>	885 Louis Dr. Warminster, PA 18974 US
<b>Telephone</b>	
<b>General Information</b>	215-674-4300
<b>Technical Assistance</b>	800-521-3168
<b>Customer Service</b>	800-272-4620
<b>24-Hour Emergency (CHEMTREC)</b>	800-424-9300 (US) 703-527-3887 (International)
<b>Website</b>	www.crcindustries.com

## 2. Hazard(s) identification

<b>Physical hazards</b>	Gases under pressure	Liquefied gas
<b>Health hazards</b>	Not classified.	
<b>Environmental hazards</b>	Not classified.	
<b>OSHA defined hazards</b>	Not classified.	

### Label elements



<b>Signal word</b>	Warning
<b>Hazard statement</b>	Contains gas under pressure; may explode if heated.
<b>Precautionary statement</b>	
<b>Prevention</b>	Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 49 °C/120 °F. Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area.
<b>Response</b>	Wash hands after handling.
<b>Storage</b>	Store in a well-ventilated place. Protect from sunlight. Exposure to high temperature may cause can to burst.
<b>Disposal</b>	Dispose of waste and residues in accordance with local authority requirements.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.

### Supplemental information

When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen fluoride.

## 3. Composition/information on ingredients

### Mixtures

<b>Chemical name</b>	<b>Common name and synonyms</b>	<b>CAS number</b>	<b>%</b>
1,1,1,2-Tetrafluoroethane (HFC-134a)		811-97-2	45 - 55
1,1,1,2,2,3,4,5,5,5-Decafluoropentane		138495-42-8	0 - 60

Chemical name	Common name and synonyms	CAS number	%
Methyl nonafluorobutyl ether		163702-07-6	0 - 30
Methyl nonafluoroisobutyl ether		163702-08-7	0 - 30

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

#### 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Wash off with soap and water. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Rinse with water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Get medical attention if symptoms occur.
<b>Most important symptoms/effects, acute and delayed</b>	Direct contact with eyes may cause temporary irritation.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

#### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water.
<b>Unsuitable extinguishing media</b>	None known.
<b>Specific hazards arising from the chemical</b>	Contents under pressure.
<b>Special protective equipment and precautions for firefighters</b>	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
<b>Fire-fighting equipment/instructions</b>	In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

#### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.
<b>Methods and materials for containment and cleaning up</b>	Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.
<b>Environmental precautions</b>	Avoid discharge into drains, water courses or onto the ground.

#### 7. Handling and storage

<b>Precautions for safe handling</b>	Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. For product usage instructions, please see the product label.
<b>Conditions for safe storage, including any incompatibilities</b>	Level 1 Aerosol. Store in a well-ventilated place. Store in a cool, dry place out of direct sunlight.

#### 8. Exposure controls/personal protection

##### Occupational exposure limits

##### US. AIHA Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
1,1,1,2-Tetrafluoroethane (HFC-134a) (CAS 811-97-2)	TWA	4240 mg/m <sup>3</sup>
Methyl nonafluorobutyl ether (CAS 163702-07-6)	TWA	1000 ppm 750 ppm
Methyl nonafluoroisobutyl ether (CAS 163702-08-7)	TWA	750 ppm

**Biological limit values** No biological exposure limits noted for the ingredient(s).

<b>Appropriate engineering controls</b>	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin protection</b>	
<b>Hand protection</b>	Wear protective gloves.
<b>Other</b>	Wear appropriate chemical resistant clothing.
<b>Respiratory protection</b>	Wear positive pressure self-contained breathing apparatus (SCBA). Air monitoring is needed to determine actual employee exposure levels.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

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### Appearance

<b>Physical state</b>	Liquid.
<b>Form</b>	Aerosol.
<b>Color</b>	Clear. Colorless.
<b>Odor</b>	Ethereal and sweetish odor.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	-112 °F (-80 °C) estimated
<b>Initial boiling point and boiling range</b>	131 °F (55 °C) estimated
<b>Flash point</b>	None.
<b>Flame extension</b>	None.
<b>Evaporation rate</b>	> 1 Very fast (BuAc = 1)
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not applicable.
<b>Flammability limit - upper (%)</b>	Not applicable.
<b>Vapor pressure</b>	313.4 kPa
<b>Vapor density</b>	> 1 (air = 1)
<b>Relative density</b>	1.55
<b>Solubility (water)</b>	< 140 ppm
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity (kinematic)</b>	Not available.
<b>Percent volatile</b>	100 % estimated

## 10. Stability and reactivity

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<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen fluoride.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	Hydrogen fluoride.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Ingestion</b>	Expected to be a low ingestion hazard.
<b>Inhalation</b>	Prolonged inhalation may be harmful.
<b>Skin contact</b>	No adverse effects due to skin contact are expected.
<b>Eye contact</b>	Direct contact with eyes may cause temporary irritation.

**Symptoms related to the physical, chemical and toxicological characteristics** Direct contact with eyes may cause temporary irritation.

### Information on toxicological effects

**Acute toxicity** Not available.

Product	Species	Test Results
Contact Cleaner		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	9960.1592 mg/kgestimated
<i>Inhalation</i>		
LC50	Rat	215.4131 mg/l, 4 hoursestimated
<i>Oral</i>		
LD50	Rat	9960.1592 mg/kgestimated
<b>Chronic</b>		
<i>Inhalation</i>		
NOEL	Rat	12009.6074 ppmestimated

**Skin corrosion/irritation** Prolonged skin contact may cause temporary irritation.

**Serious eye damage/eye irritation** Direct contact with eyes may cause temporary irritation.

### Respiratory or skin sensitization

**Respiratory sensitization** This product is not expected to cause respiratory sensitization.

**Skin sensitization** This product is not expected to cause skin sensitization.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** Not classified.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not an aspiration hazard.

**Chronic effects** Prolonged inhalation may be harmful.

## 12. Ecological information

**Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product	Species	Test Results
Contact Cleaner		
<i>Acute</i>		
Fish	LC50 Fish	71.8459 mg/l, 96 hoursestimated
<b>Components</b>	<b>Species</b>	<b>Test Results</b>
1,1,1,2,2,3,4,5,5-Decafluoropentane (CAS 138495-42-8)		
<i>Acute</i>		
Other	EC50 Pseudokirchnerella subcapitata	> 120 mg/l, 72 hours
<b>Aquatic</b>		
<i>Acute</i>		
Crustacea	LC50 Water flea (Daphnia magna)	11.7 mg/l, 48 hours
Fish	LC50 Fathead minnow (Pimephales promelas)	27.2 mg/l, 96 hours

Components	Species	Test Results
	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	13.9 mg/l, 96 hours
	Zebra danio (Danio rerio)	13 mg/l, 96 hours
<i>Chronic</i>		
Crustacea	NOEC Water flea (Daphnia magna)	1.72 mg/l, 21 days
<b>Persistence and degradability</b>	No data is available on the degradability of this product.	
<b>Bioaccumulative potential</b>	No data available.	
<b>Partition coefficient n-octanol / water (log Kow)</b>		
1,1,1,2,2,3,4,5,5,5-Decafluoropentane		2.7, Pow at 20 °C
1,1,1,2-Tetrafluoroethane (HFC-134a)		1.274
<b>Mobility in soil</b>	No data available.	
<b>Other adverse effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	

### 13. Disposal considerations

<b>Disposal of waste from residues / unused products</b>	The dispensed liquid product is not a RCRA hazardous waste (See 40 CFR Part 261.20 - 261.33). Consult authorities before disposal. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazardous waste code</b>	Not regulated.
<b>Contaminated packaging</b>	Do not re-use empty containers.

### 14. Transport information

#### DOT

<b>UN number</b>	UN1950
<b>UN proper shipping name</b>	Aerosols, non-flammable, Limited Quantity
<b>Transport hazard class(es)</b>	
<b>Class</b>	2.2
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	2.2
<b>Packing group</b>	Not applicable.
<b>Special precautions for user</b>	Not available.
<b>Packaging exceptions</b>	306
<b>Packaging non bulk</b>	None
<b>Packaging bulk</b>	None

#### IATA

<b>UN number</b>	UN1950
<b>UN proper shipping name</b>	Aerosols, non-flammable, Limited Quantity
<b>Transport hazard class(es)</b>	
<b>Class</b>	2.2
<b>Subsidiary risk</b>	-
<b>Packing group</b>	Not applicable.
<b>Environmental hazards</b>	No.
<b>ERG Code</b>	2L
<b>Special precautions for user</b>	Not available.
<b>Other information</b>	
<b>Passenger and cargo aircraft</b>	Allowed.
<b>Cargo aircraft only</b>	Allowed.

#### IMDG

<b>UN number</b>	UN1950
<b>UN proper shipping name</b>	AEROSOLS, LIMITED QUANTITY
<b>Transport hazard class(es)</b>	
<b>Class</b>	2
<b>Subsidiary risk</b>	-
<b>Packing group</b>	Not applicable.
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>EmS</b>	F-D, S-U
<b>Special precautions for user</b>	Not available.

## 15. Regulatory information

### US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

1,1,1,2,2,3,4,5,5,5-Decafluoropentane (CAS 138495-42-8) 1.0 % One-Time Export Notification only.

#### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

#### SARA 304 Emergency release notification

Not regulated.

#### US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Not listed.

#### CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

#### CERCLA Hazardous Substances: Reportable quantity

Not listed.

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

#### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

#### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**Food and Drug Administration (FDA)** Not regulated.

#### Superfund Amendments and Reauthorization Act of 1986 (SARA)

**Section 311/312 Hazard categories**  
Immediate Hazard - Yes  
Delayed Hazard - No  
Fire Hazard - No  
Pressure Hazard - Yes  
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance** No

### US state regulations

#### US. New Jersey RTK - Substances: Listed substance

None.

#### US. Massachusetts RTK - Substance List

None.

#### US. Pennsylvania RTK - Hazardous Substances

None.

#### US. Rhode Island RTK

None.

#### US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

### Volatile organic compounds (VOC) regulations

#### EPA

**VOC content (40 CFR 51.100(s))** 0 %

**Consumer products (40 CFR 59, Subpt. C)** Not regulated

#### State

**Consumer products** This product is regulated as an Electronic Cleaner. This product is compliant in all 50 states.

**VOC content (CA)** 60 %

**VOC content (OTC)** 0 %

### International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)  
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

<b>Issue date</b>	08-28-2013
<b>Prepared by</b>	Allison Cho
<b>Version #</b>	01
<b>Further information</b>	Not available.
<b>HMIS® ratings</b>	Health: 1 Flammability: 1 Physical hazard: 0 Personal protection: B
<b>NFPA ratings</b>	Health: 1 Flammability: 1 Instability: 0
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