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**ReadRight Electronics Duster**

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**SAFETY DATA SHEET****SECTION 1. IDENTIFICATION****Product identifier used on the label**: **ReadRight Electronics Duster****Other means of identification** : RR3507**Recommended use of the chemical and restrictions on use**: No-residue spray duster.  
Restriction on use: None known**Chemical family** : gas**Name, address, and telephone number of the supplier:****Advantus Corporation**12276 San Jose Blvd., Suite 618  
Jacksonville, FL, USA  
32223

Supplier's Telephone # : 904-482-0091

**24 Hr. Emergency Tel #** : Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.).**Name, address, and telephone number of the manufacturer:**

Refer to supplier

**SECTION 2. HAZARDS IDENTIFICATION****Classification of the chemical**

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Classification :

Gas Under Pressure -Compressed gas

Simple asphyxiant

**Label elements***Hazard pictogram(s)**Signal Word*

WARNING!

*Hazard statement(s)*Contains gas under pressure; may explode if heated.  
May displace oxygen and cause rapid suffocation*Precautionary statement(s)*

Protect from sunlight. Store in a well-ventilated place.

**Other hazards**

Other hazards which do not result in classification: Contact with liquid or refrigerated gas can cause cold burns and frostbite.

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**SAFETY DATA SHEET****SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

gas

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
1, 1, 1, 2-Tetrafluoroethane	R134a	811-97-2	100.00

**SECTION 4. FIRST-AID MEASURES****Description of first aid measures**

- Ingestion* : Do not induce vomiting. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration. Get medical attention if symptoms persist.
- Inhalation* : Immediately remove person to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration.
- Skin contact* : If product is sprayed directly on skin, symptoms of frostbite may be experienced including numbness, prickling and itching. Treat for frostbite if necessary by gently warming affected area. If skin irritation occurs: Get medical advice/attention.
- Eye contact* : If product is sprayed directly into the eyes, could cause freezing of the eye. Flush eyes with lukewarm (not hot) water. Remove any contact lenses, and continue flushing for 15 minutes. If eye irritation persists: get medical advice/attention.

**Most important symptoms and effects, both acute and delayed**

- : Not flammable under normal conditions of use. Closed containers are contained under pressure and may explode if exposed to excess heat for a prolonged period of time. Product is a simple asphyxiant. Asphyxiant, can replace oxygen in confined area. May displace oxygen in breathing air and lead to suffocation and death, particularly in confined spaces.

**Indication of any immediate medical attention and special treatment needed**

- : Treat symptomatically.

**SECTION 5. FIRE-FIGHTING MEASURES****Extinguishing media**

- Suitable extinguishing media* : CO2, dry chemical, foam, water spray, water fog.
- Unsuitable extinguishing media* : High volume water jet

**Special hazards arising from the substance or mixture / Conditions of flammability**

- : None known or reported by the manufacturer.

**Flammability classification (OSHA 29 CFR 1910.106)**

- : Not flammable.

**Hazardous combustion products**

- : Carbon oxides ;Hydrogen fluoride

**Special protective equipment and precautions for firefighters**

- Protective equipment for fire-fighters* : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
- Special fire-fighting procedures* : Firefighters should wear an approved full-face, self-contained breathing apparatus (SCBA) and impervious clothing.

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### SECTION 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

- : All persons dealing with the clean-up should wear the appropriate personal protective equipment. Restrict access to area until completion of clean-up. Refer to Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.

**Environmental precautions** : Ensure spilled product does not enter confined areas.

#### Methods and material for containment and cleaning up

- : Ventilate the area. Do not enter confined spaces unless adequately ventilated. Leaks in lines to equipment set-ups can be identified by painting suspected sites with soapy water. Leaks can be located by bubble formation. Stop spill or leak at source if safely possible. If leak cannot be stopped, move cylinders to an open space. Isolate the area until all gas has dispersed. Notify the appropriate authorities as required.

#### Special spill response procedures

- : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802). US CERCLA Reportable quantity (RQ): See section 15.

### SECTION 7. HANDLING AND STORAGE

#### Precautions for safe handling

- : Avoid contact with eyes, skin and clothing. Simple asphyxiant - this product does not contain oxygen and may cause asphyxia in confined spaces. Avoid inhaling gas. Ensure adequate ventilation, especially in confined areas.

**Conditions for safe storage** : Protect from sunlight. Keep containers tightly closed when not in use. Store away from incompatible materials. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel.

**Incompatible materials** : Strong oxidizing agents ;Alkali metals

### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<u>Exposure Limits:</u>					
	<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
		<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
1, 1, 1, 2-Tetrafluoroethane	N/Av	N/Av	N/Av	N/Av	

#### Exposure controls

##### Ventilation and engineering measures

- : Provide exhaust ventilation or other engineering controls to keep the airborne concentration of vapours below their respective threshold limit value.

**Respiratory protection** : Respiratory protection is required if the concentrations exceed the TLV. Seek advice from respiratory protection specialists.

**Skin protection** : Wear protective gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

**Eye / face protection** : Wear as appropriate: Chemical goggles and face shield are recommended.

**Other protective equipment** : Wear appropriate protective clothing to prevent skin contact, such as coveralls or long sleeved shirt, long pants, and shoes and socks. Wear protective gloves. An eyewash station should be made available in the immediate working area. Other equipment may be required depending on workplace standards.

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**SAFETY DATA SHEET****General hygiene considerations**

: Avoid inhaling gas. Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance** : Compressed gas  
**Odour** : Not available.  
**Odour threshold** : Not available.  
**pH** : Not available.  
**Melting Point/Freezing point** : -108°C / -162°F  
**Initial boiling point and boiling range**  
: -26.5°C / -15.7°F  
**Flash point** : Not available.  
**Flashpoint (Method)** : Not available.  
**Evaporation rate (BuAe = 1)** : Not available.  
**Flammability (solid, gas)** : Not applicable.  
**Lower flammable limit (% by vol.)**  
: Not available.  
**Upper flammable limit (% by vol.)**  
: Not available.  
**Oxidizing properties** : None known or reported by the manufacturer.  
**Explosive properties** : Not explosive  
**Vapour pressure** : Not available.  
**Vapour density** : Not available.  
**Relative density / Specific gravity**  
: 1.21g/cm<sup>3</sup>  
**Solubility in water** : Not available.  
**Other solubility(ies)** : Not available.  
**Partition coefficient: n-octanol/water or Coefficient of water/oil distribution**  
: Not available.  
**Auto-ignition temperature** : Not available.  
**Decomposition temperature** : Not available.  
**Viscosity** : Not available.  
**Volatiles (% by weight)** : Not available.  
**Volatile organic Compounds (VOC's)**  
: Not available.  
**Absolute pressure of container**  
: Not applicable.  
**Flame projection length** : Not applicable.  
**Other physical/chemical comments**  
: None known or reported by the manufacturer.

**SECTION 10. STABILITY AND REACTIVITY**

**Reactivity** : Not expected to be reactive.  
**Chemical stability** : Material is stable under normal conditions.  
**Possibility of hazardous reactions**  
: No dangerous reaction known under conditions of normal use.  
**Conditions to avoid** : None reported by the manufacturer.  
**Incompatible materials** : See Section 7 (Handling and Storage) for further details.

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**Hazardous decomposition products**

: See Section 5 (Fire Fighting Measures).

**SECTION 11. TOXICOLOGICAL INFORMATION**
**Information on likely routes of exposure:**

Routes of entry inhalation : NO

Routes of entry skin &amp; eye : NO

Routes of entry Ingestion : NO

Routes of exposure skin absorption

: NO

**Potential Health Effects:**
**Signs and symptoms of short-term (acute) exposure**
*Sign and symptoms Inhalation*

: Simple asphyxiant - this product does not contain oxygen and may cause asphyxia in confined spaces. Oxygen content in the area must not fall below 19.5% or harmful effects will result. In extremely high concentrations, product may act as an asphyxiant and cause increased breathing and pulse rates, fatigue and unconsciousness. As asphyxiation progresses, nausea, vomiting, prostration and loss of consciousness may result, eventually leading to convulsions, coma and death.

*Sign and symptoms ingestion*

: Not an expected route of entry under normal conditions of use.

*Sign and symptoms skin*

: Contact may cause frostbite. Symptoms of frostbite may include numbness, prickling and itching.

*Sign and symptoms eyes*

: Spraying the product directly into the eyes may cause freezing, and could cause eye damage.

**Potential Chronic Health Effects**

: None expected, when used as intended.

**Mutagenicity**

: Not expected to be mutagenic in humans.

**Carcinogenicity**

: No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

**Reproductive effects & Teratogenicity**

: Not expected to have other reproductive effects.

**Sensitization to material**

: Not expected to be a skin or respiratory sensitizer.

**Specific target organ effects**

: This material is not classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

**Medical conditions aggravated by overexposure**

: None known or reported by the manufacturer.

**Synergistic materials**

: None known.

**Toxicological data**

: There is no data available for this product.

<b>Chemical name</b>	<b>LC<sub>50</sub>(4hr)</b>	<b>LD<sub>50</sub></b>	
	<b>inh, rat</b>	<b>(Oral, rat)</b>	<b>(Rabbit, dermal)</b>
1, 1, 1, 2-Tetrafluoroethane	1500 g/m3	N/Ap (gas)	N/Ap (gas)

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**Other important toxicological hazards**

: None known or reported by the manufacturer.

### SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity** : Not expected to be harmful to aquatic organisms.

**Ecotoxicity data:**

<u>Ingredients</u>	CAS #	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
1, 1, 1, 2-Tetrafluoroethane	811-97-2	N/Ap	N/Ap	N/Ap

<u>Ingredients</u>	CAS #	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
1, 1, 1, 2-Tetrafluoroethane	811-97-2	N/Ap	N/Ap	N/Ap

<u>Ingredients</u>	CAS #	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
1, 1, 1, 2-Tetrafluoroethane	811-97-2	N/Ap	N/Ap	N/Ap

**Persistence and degradability**

: The manufacturer has not reported detailed studies on the environmental fate of the material.

**Bioaccumulation potential**

: No data is available on the product itself.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
1, 1, 1, 2-Tetrafluoroethane (CAS 811-97-2)	N/Ap	N/Ap

**Mobility in soil** : No data is available on the product itself.

**Other Adverse Environmental effects**

: There is no data available for this product.

### SECTION 13. DISPOSAL CONSIDERATIONS

**Handling for Disposal** : See Section 7 (Handling and Storage) for further details.

**Methods of Disposal** : Waste must be disposed of in accordance with applicable regulations.

**RCRA** : Under the RCRA, it is the responsibility of the waste generator to determine the proper waste identification and disposal method.





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### SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	UN3159	1,1,1,2-Tetrafluoroethane	2.2	none	
<b>49CFR/DOT Additional information</b>					
TDG	UN3159	1,1,1,2-TETRAFLUOROETHANE	2.2	none	
<b>TDG Additional information</b>					
ICAO/IATA	UN3159	1,1,1,2-Tetrafluoroethane	2.2	none	
<b>ICAO/IATA Additional information</b>	Refer to IATA or IMDG, as appropriate, for international air or sea shipments.				
IMDG	UN3159	1, 1, 1, 2-TETRAFLUOROETHANE	2.2	none	
<b>IMDG Additional information</b>	Refer to IATA or IMDG, as appropriate, for international air or sea shipments.				

**Special precautions for user** : Appropriate advice on safety must accompany the package.

**Environmental hazards** : This product does not contain any substances considered to be a 'marine pollutant' or a 'severe marine pollutant'. See ECOLOGICAL INFORMATION, Section 12.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

: Not available.

### SECTION 15 - REGULATORY INFORMATION

**US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

Ingredients	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
1, 1, 1, 2-Tetrafluoroethane	811-97-2	Yes	None.	N/Av	No	N/Av

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Physical hazards (Gas Under Pressure; Simple Asphyxiant). Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

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### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
1, 1, 1, 2-Tetrafluoroethane	811-97-2	No	N/Ap	No	No	Yes	No	No	No

### Canadian Information:

Canadian WHMIS Classification: See Section 2. Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on or are exempt from the Domestic Substances List (DSL).

### International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	CAS #	European EINECS	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
1, 1, 1, 2-Tetrafluoroethane	811-97-2	212-377-0	Present	Present	(2)-3585	KE-33426	Present	HSR001031

## SECTION 16. OTHER INFORMATION

### Legend

: ACGIH: American Conference of Governmental Industrial Hygienists  
 CA: California  
 CAS: Chemical Abstract Services  
 CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980  
 CFR: Code of Federal Regulations  
 CNS: Central Nervous System  
 CSA: Canadian Standards Association  
 DOT: Department of Transportation  
 EPA: Environmental Protection Agency  
 HMIS: Hazardous Materials Identification System  
 HSDB: Hazardous Substances Data Bank  
 IARC: International Agency for Research on Cancer  
 Inh: Inhalation  
 IUCLID: International Uniform Chemical Information Database  
 LC: Lethal Concentration  
 LD: Lethal Dose  
 MA: Massachusetts  
 MN: Minnesota  
 N/Ap: Not Applicable  
 N/Av: Not Available  
 NFPA: National Fire Protection Association  
 NIOSH: National Institute of Occupational Safety and Health  
 NJ: New Jersey  
 NTP: National Toxicology Program  
 OSHA: Occupational Safety and Health Administration  
 PA: Pennsylvania  
 PEL: Permissible exposure limit  
 RCRA: Resource Conservation and Recovery Act  
 RI: Rhode Island



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RTECS: Registry of Toxic Effects of Chemical Substances  
SARA: Superfund Amendments and Reauthorization Act  
STEL: Short Term Exposure Limit  
TDG: Canadian Transportation of Dangerous Goods Act & Regulations  
TLV: Threshold Limit Values  
TWA: Time Weighted Average  
WHMIS: Workplace Hazardous Materials Identification System

**References** : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices 2. ECHA - European Chemical Agency 3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases, (Chempendium, HSDB and RTECs) 4. Safety Data Sheets from manufacturer 5. US EPA Title III List of Lists 6. California Proposition 65 List 7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal

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**Other special considerations for handling**

: Provide adequate information, instruction and training for operators.

<b><u>Prepared for:</u></b> Advantus Corporation 12276 San Jose Blvd., Suite 618 Jacksonville, FL 32223 Telephone: (904) 482 0091	
<b><u>Prepared by:</u></b> ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.); (888) 977-4834 (Canada) <a href="http://www.thecompliancecenter.com">http://www.thecompliancecenter.com</a>	

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