



SIGMA-ALDRICH

## Material Safety Data Sheet

Date Printed: 11/08/2011  
Date Updated: 12/11/2009  
Version 1.50

### Section 1 - Product and Company Information

Product Name	Dust-Pro pressurized duster
Product Number	Z379522
Brand	Sigma Chemical
Company	Sigma-Aldrich
Address	3050 Spruce Street
City, State, Zip, Country	SAINT LOUIS, MO 63103 US
Technical Phone:	800-325-5832
Fax:	800-325-5052
Emergency Phone:	314-776-6555

### Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
1,1,1,2-TETRAFLUOROETHANE	811-97-2	No	212-377-0	

Formula	C2H2F4
Synonyms	Arcton 134a, F 134a, FC 134a, Fron 134a, HCFC 134a, HFA 134a, HFC 134a, Khladon 134a, Norflurane, R 134a, Refrigerant R134a, 1,1,1,2Tetrafluoroethane, 1,2,2,2Tetrafluoroethane, TG 134a

### Section 3 - Hazards Identification

#### Emergency Overview

Caution: Avoid contact and inhalation. Caution: nonflammable highpressure gas. Target organ(s): Heart.

HMIS Rating		
Health: 1*	Flammability: 0	Reactivity: 0

NFPA Rating		
Health: 1	Flammability: 0	Reactivity: 0

\*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

### Section 4 - First Aid Measures

#### Oral Exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

#### Inhalation Exposure

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

#### Dermal Exposure

In case of contact, immediately wash skin with soap and copious amounts of water.

#### Eye Exposure

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

### Section 5 - Fire Fighting Measures

#### Explosion Hazards

Container explosion may occur under fire conditions.

Autoignition Temp: N/A

#### Extinguishing Media

##### Suitable

Use water spray or fog nozzle to keep cylinder cool. Move cylinder away from fire if there is no risk.

#### Firefighting

##### Protective Equipment

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

##### Specific Hazard(s)

Emits toxic fumes under fire conditions.

### Section 6 - Accidental Release Measures

#### Procedure to be Followed in Case of Leak or Spill

Evacuate area and keep personnel upwind. Shut off leak if there is no risk.

#### Procedure(s) of Personal Precaution(s)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

#### Methods for Cleaning Up

Ventilate area and wash spill site after material pickup is complete.

### Section 7 - Handling and Storage

#### Handling

##### User Exposure

Do not breathe gas. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

#### Storage

##### Suitable

Keep tightly closed. Cylinder temperature should not exceed 125°F (52°C).

#### Special Requirements

Contents under pressure.

### Section 8 - Exposure Controls / PPE

#### Engineering Controls

Mechanical exhaust required. Safety shower and eye bath.

#### Work Practices

Store and use with adequate ventilation.

#### Personal Protective Equipment

##### Respiratory

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection is not required. Where protection is desired, use multipurpose combination (US) or type AXBEK (EN 14387) respirator cartridges.

##### Hand

Compatible chemical-resistant gloves.

**Eye**  
Chemical safety goggles.

**General Hygiene Measures**  
Wash thoroughly after handling.

## Section 9 - Physical/Chemical Properties

**Appearance**  
**Physical State**  
Compressed gas

**Molecular Weight** 102.03 AMU

<u>Property</u>	<u>Value</u>	<u>At Temperature or Pressure</u>
pH	N/A	
BP/BP Range	-26.5 °C	760 mmHg
MP/MP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density		
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point °F	N/A	
Flash Point °C	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Solubility	N/A	

N/A = not available

## Section 10 - Stability and Reactivity

**Stability**  
**Stable**  
Stable.  
**Materials to Avoid**  
Alkali metals.

**Hazardous Decomposition Products**  
**Hazardous Decomposition Products**  
Carbon monoxide, Carbon dioxide, Hydrogen fluoride

## Section 11 - Toxicological Information

**Route of Exposure**  
**Skin Contact**  
Can cause severe frostbite.  
**Skin Absorption**  
May be harmful if absorbed through the skin.  
**Eye Contact**  
May cause eye irritation.  
**Inhalation**  
May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract. Can cause rapid suffocation.  
**Ingestion**  
May be harmful if swallowed.

**Target Organ(s) or System(s)**  
Heart.

**Signs and Symptoms of Exposure**  
May be harmful. Prolonged or repeated exposure to skin causes defatting and dermatitis.

**RTECS Number:** K18842500

### Toxicity Data

Inhalation - Rat: 1,500,000 mg/m3(LC50)  
Inhalation - Mouse: 1,700,000 mg/m3(LC50)

### Chronic Exposure - Carcinogen

Rat - Inhalation: 50000 PPM 6H/2Y 1  
Result: Tumorigenic: Neoplastic by RTECS criteria. Endocrine: Tumors.

## Section 12 - Ecological Information

No data available.

## Section 13 - Disposal Considerations

**Appropriate Method of Disposal of Substance or Preparation**  
Contact a licensed professional waste disposal service to dispose of this material.  
Observe all federal, state, and local environmental regulations.  
**Appropriate Method of Disposal of Contaminated Packaging**  
Caution: no-return cylinder. Do not reuse. Empty cylinder will contain hazardous residue. Follow proper disposal techniques.

## Section 14 - Transport Information

**DOT**  
**Proper Shipping Name:** 1,1,1,2-Tetrafluoroethane [or] Refrigerant gas R 134a  
**UN#:** 3159  
**Class:** 2.2  
**Packing Group:** None  
**Hazard Label:** Non-Flammable gas  
**PIH:** Not PIH

**IATA**  
**Proper Shipping Name:** 1,1,1,2-TETRAFLUOROETHANE  
**IATA UN Number:** 3159  
**Hazard Class:** 2.2

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## Section 15 - Regulatory Information

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### US Classification and Label Text

#### US Statements

Caution: Avoid contact and inhalation. Caution: nonflammable highpressure gas. Target organ(s): Heart.

### United States Regulatory Information

SARA Listed: No

TSCA Inventory Item: Yes

### Canada Regulatory Information

#### WHMIS Classification

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

DSL: Yes

NDSL: No

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## Section 16 - Other Information

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### Disclaimer

For R&D use only. Not for drug, household or other uses.

### Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. SigmaAldrich Inc., shall not be held liable for any damage resulting from handling or form contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2011 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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