

# MATERIAL SAFETY DATA SHEET

Date Issued: 12/04/2008  
 MSDS No: 11384/11407  
 Date Revised: 02/08/2010  
 Revision No: 2

## Endust Single & Twin Pack - 152a Duster w/ Bitterant

### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Endust Single & Twin Pack - 152a Duster w/ Bitterant  
**PRODUCT DESCRIPTION:** HFC 152a Dusting Gas  
**PRODUCT CODE:** 11384/11407

#### MANUFACTURER

Norazza, Inc.  
 3938 Broadway  
 Buffalo NY 14227  
**Product Stewardship:** 716-706-1160

#### 24 HR. EMERGENCY TELEPHONE NUMBERS

**CHEMTREC (US Transportation) :**(800) 424 - 9300  
**CANUTEC (Canadian Transportation) :**(613) 996 - 6666  
**Emergency Phone :**(716) 706-1160

### 2. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

**IMMEDIATE CONCERNS:** Flammable liquid and vapor.

#### POTENTIAL HEALTH EFFECTS

**EYES:** Avoid contact with eyes; may cause redness, irritation and conjunctivitis.

**SKIN:** Liquid contact could cause frostbite.

**INGESTION:** Not likely to be ingested.

**INHALATION:** Headache, nausea, and possible coordination problems. High concentrations in immediate area can displace oxygen and can cause dizziness, unconsciousness, and possibly death with longer exposure. Keep people away from such vapors without self-contained breathing apparatus.

#### SIGNS AND SYMPTOMS OF OVEREXPOSURE

**EYES:** Symptoms of overexposure include: stinging, tearing, redness and pain.

**SKIN:** Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite ("cold" burn).

**INGESTION:** Not a likely route of exposure.

**INHALATION:** High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis and loss of consciousness).

**ACUTE TOXICITY:** Overexposure may cause dizziness and loss of concentration. At higher levels, CNS depression and cardiac arrhythmia may result.

**CHRONIC EFFECTS:** Frequent or prolonged contact may irritate the skin and cause a skin rash (dermatitis).



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### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt. %	CAS	EINECS
1,1-difluoroethane (HFC-152a)	> 99.9	75-37-6	
Ethanol	< 1	64-17-5	200-578-6
Denatonium benzoate	< 0.0001	37343-36-6	

### 4. FIRST AID MEASURES

**EYES:** Flush eye with water for 15 minutes. Get medical attention.

**SKIN:** Wash with soap and water. Get medical attention if irritation develops or persists.

**INGESTION:** Ingestion is unlikely because of the physical properties and is not expected to be hazardous. Do not induce vomiting unless instructed to do so by a physician.

**INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

### 5. FIRE FIGHTING MEASURES

**FLASHPOINT AND METHOD:** < -50°C (-58°F)

**FLAMMABLE LIMITS:** 3.9 to 16.9

**AUTOIGNITION TEMPERATURE:** 154°C (849°F)

**GENERAL HAZARD:** Aerosol cans may erupt with force at temperatures above 120F.

**EXTINGUISHING MEDIA:** Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.

**HAZARDOUS COMBUSTION PRODUCTS:** Carbon dioxide, carbon monoxide, fluorine, hydrogen fluoride acid, carbonyl halides.

**EXPLOSION HAZARDS:** Vapors, when present in the flammable range (listed above), especially in a confined or poorly ventilated space, can be ignited with a flame or high intensity source of heat.

**FIRE FIGHTING PROCEDURES:** Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition



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**LARGE SPILL:** -Implement cleanup procedures. -If in public area, keep public away and advise authorities. -Recover by pumping (use an explosion proof or hand pump) or with a suitable absorbent.

**GENERAL PROCEDURES:** Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

**RELEASE NOTES:** Spills and releases may have to be reported to Federal and/or local authorities.

### 7. HANDLING AND STORAGE

**GENERAL PROCEDURES:** Contents may be under pressure. Exercise caution when opening container. If containers have been stored in direct sunlight or heated above the boiling point of the solvent, the container should be cooled to below the boiling point before opening.

**HANDLING:** Use with sufficient ventilation to keep employee exposure below recommended limits. Provide adequate ventilation for storage, handling and use, especially for enclosed or low spaces. Avoid contact of liquid with eyes and prolonged skin exposure. Do not allow product to contact open flame or electrical heating elements because dangerous decomposition products may form.

**STORAGE:** Keep away from sources of ignition.

**STORAGE TEMPERATURE:** Contents under pressure. Do not expose to heat or store above (120) F (49) C.

**STORAGE PRESSURE:** Store at local atmospheric pressure.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### EXPOSURE GUIDELINES

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)							
		EXPOSURE LIMITS					
		OSHA PEL		ACGIH TLV		Supplier OEL	
Chemical Name		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Ethanol	TWA	1000 ppm	1900 mg/m <sup>3</sup>	1000 ppm	1880 mg/m <sup>3</sup>	NL	NL
	STEL	NL ppm	NL mg/m <sup>3</sup>	NL ppm	NL mg/m <sup>3</sup>	NL	NL
	TWA	[1]	[1]	[1]	[1]		



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**SKIN:** Skin contact with liquid may cause frostbite. General work clothing and gloves (leather) should provide adequate protection. If prolonged contact with the liquid or gas is anticipated, insulated gloves constructed of PVA, neoprene or butyl rubber should be used. Any contaminated clothing should be promptly removed and washed before reuse.

**RESPIRATORY:** NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

**WORK HYGIENIC PRACTICES:** Wash hands before eating and wash before reuse.

**OTHER USE PRECAUTIONS:** Emergency shower and eyewash facility should be in close proximity.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**PHYSICAL STATE:** Gas

**ODOR:** Low odor.

**COLOR:** Colorless

**PERCENT VOLATILE:** 99.9+

**VAPOR PRESSURE:** 87 psia at 25°C

**VAPOR DENSITY:** 2.4 (Air=1)

**BOILING POINT:** -25°C (-13°F)

**FLASHPOINT AND METHOD:** < -50°C (-58°F)

**SOLUBILITY IN WATER:** 0.28 wt% @ 25C

**SPECIFIC GRAVITY:** 0.910

**(VOC):** < 1.000 % by weight

### 10. STABILITY AND REACTIVITY

**STABILITY:** Stable under normal conditions.



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### 11. TOXICOLOGICAL INFORMATION

#### ACUTE

**INHALATION LC<sub>50</sub>:** 977 g/m<sup>3</sup>, 2-hour

**EYE EFFECTS:** May be mildly irritating to eyes.

#### CARCINOGENICITY

Chemical Name	NTP Status	IARC Status	OSHA Status
Ethanol	NOT LISTED	NOT LISTED	NOT LISTED

**IARC:** NOT listed

**NTP:** NOT listed

**OSHA:** NOT listed

**NEUROTOXICITY:** Exposure to high concentrations may effect the nervous system.

**REPRODUCTIVE EFFECTS:** Not Established

**TERATOGENIC EFFECTS:** NOT listed

**MUTAGENICITY:** Not Established

### 12. ECOLOGICAL INFORMATION

**ENVIRONMENTAL DATA:** There is limited information available on the environmental fate and effects of this material. The primary environmental concern for release is the impact on aquatic and terrestrial species. Due care should be taken to avoid the accidental release of this material into the environment.

**ECOTOXICOLOGICAL INFORMATION:** Not Established

### 13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHOD:** Federal, State, and Local laws governing disposal of materials can differ. Ensure compliance with proper authorities before disposal.

**GENERAL COMMENTS:** Dispose of in a manner consistent with federal, state, and local regulations.



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### ROAD AND RAIL (ADR/RID)

**KEMLER NUMBER:** UN1030

**HAZARD CLASS:** 2.1

### AIR (ICAO/IATA)

**SHIPPING NAME:** 1,1-difluoroethane

**UN/NA NUMBER:** 1030

**PRIMARY HAZARD CLASS/DIVISION:** 2.1

**PACKING GROUP:** NA

**NOTE:** Cargo aircraft ONLY. Copy of DOT-E 11516 must be presented.

### VESSEL (IMO/IMDG)

**SHIPPING NAME:** 1,1-difluoroethane

**UN/NA NUMBER:** UN1030

**PRIMARY HAZARD CLASS/DIVISION:** 2.1

## 15. REGULATORY INFORMATION

### UNITED STATES

#### SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

**FIRE:** Yes **PRESSURE GENERATING:** Yes **ACUTE:** Yes

#### CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

**CERCLA REGULATORY:** Listed in table 302.4 of 40CFR Part 302 as a hazardous substance with a reportable quantity. Releases to air, land, or water which exceed the RQ must be reported to the national response center.

**CERCLA RQ:** 100 lbs.

#### TSCA (TOXIC SUBSTANCE CONTROL ACT)

Chemical Name	CAS
1,1-difluoroethane (HFC-152a)	75-37-6
Ethanol	64-17-5

**TSCA REGULATORY:** This product is listed on the TSCA Inventory.



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### CANADA

**WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM):** This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

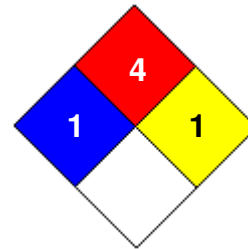
**WHMIS CLASS:** Class A - Aerosol; Class B5 - Flammable Aerosol

### 16. OTHER INFORMATION

**APPROVED BY:** Pierce A. Pillon     **TITLE:** Chemist

**REVISION SUMMARY:** Revision #: 2. This MSDS replaces the January 15, 2010 MSDS. Any changes in information are as follows: In Section 1: MSDS Product Code, MSDS Number

### NFPA CODES



**DATA SOURCES:** Code of Federal Regulations (CFR) The Sigma-Aldrich Library of Regulatory and Safety Data OSHA Hazard Communication Standard (29CFR1910.1200) Various Federal, State and Local Regulations