

MATERIAL SAFETY DATA SHEET

Finished Product

3010700
3011300
3010801
3011100
3011400

Date-Issued: 06/24/2003

MSDS Ref. No: 1006

Date-Revised: 07/18/2003

Revision No: 1

Stratus 152a Dusting Gas**1. PRODUCT AND COMPANY IDENTIFICATION****PRODUCT NAME:** Stratus 152a Dusting Gas**PRODUCT DESCRIPTION:** HFC 152a**PRODUCT CODE:** 1006**MANUFACTURER**

STRATUS, Inc.

P.O. Box 949

1001 NW 1st Street

Amarillo, TX 79107

Product Stewardship: 1-888-748-1777**24 HR. EMERGENCY TELEPHONE NUMBERS****CHEMTREC (U.S.):** (800) 424-9300**CANUTEC:** (613) 996-6666**Emergency Phone:** 1-888-748-1777 8:00 am - 5:00 pm CST**2. COMPOSITION / INFORMATION ON INGREDIENTS****Chemical Name**

1,1-difluoroethane (HFC-152a)

Wt. %

100

CAS#

75-37-6

EINECS#**EEC LABEL SYMBOL AND CLASSIFICATION**

EEC Extremely flammable - "F+"

3. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW****IMMEDIATE CONCERNS:** Flammable liquid and vapor.**POTENTIAL HEALTH EFFECTS****EYES:** Avoid contact with eyes; may cause redness, irritation and conjunctivitis.

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, hydrofluoric 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.

FIRE FIGHTING EQUIPMENT: As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Vapor can be controlled using a water fog. Water streams should not be directed to the liquid as this will cause the liquid to boil and generate more vapor.

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 PRESSURE: Store at local atmospheric pressure.

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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

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: 100

VAPOR PRESSURE: 87 psi at 25°C

VAPOR DENSITY: 2.4 (Air=1)

BOILING POINT: -25°C (-13°F)

SOLUBILITY IN WATER: 0.28 wt% @ 25C

(VOC) NOTES: Exempt

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Heat, flames, ignition sources, and incompatibles.

STABILITY: Stable under normal conditions.

POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon dioxide, carbon monoxide, fluorine, hydrofluoric acid, carbonyl halides.

INCOMPATIBLE MATERIALS: Incompatible with alkali or alkaline earth metals - powdered Al, Zn, Be, etc.

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

CARCINOGENICITY: NOT listed

MUTAGENICITY: Not Established

REPRODUCTIVE TOXICITY

REPRODUCTIVE EFFECTS: None Expected.

TERATOGENIC EFFECTS: Not considered a developmental toxicant.

CANCER STATEMENT: Did not cause cancer in long term animal studies.

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)

11. TOXICOLOGICAL INFORMATION

ACUTE

INHALATION LC₅₀: 977 g/m³, 2-hour

EYE EFFECTS: May be mildly irritating to eyes.

CARCINOGENICITY:

IARC: NOT listed

NTP: NOT listed

OSHA: NOT listed

MUTAGENICITY: Not Established

REPRODUCTIVE EFFECTS: Not Established

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

TERATOGENIC EFFECTS: NOT listed

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.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: CONSUMER COMMODITY ORM-D

UN/NA NUMBER: NA

PACKING GROUP: NA

AIR (ICAO/IATA)

PROPER SHIPPING NAME: CONSUMER COMMODITY ID8000

PRIMARY HAZARD CLASS/DIVISION: 9

UN/NA NUMBER: ID8000

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

VESSEL (IMO/IMDG)

PROPER SHIPPING NAME: 1,1-difluoroethane

PRIMARY HAZARD CLASS/DIVISION: 2.1

UN/NA NUMBER: UN1030

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES:

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)

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

RCRA STATUS: D001

OSHA HAZARD COMM. RULE: Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

29 CFR 1910.119---PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS:
None of the chemicals in this product are considered highly hazardous by OSHA.

EUROPEAN COMMUNITY

EEC LABEL SYMBOL AND CLASSIFICATION



EEC Extremely flammable - "F+"

CALIFORNIA PROPOSITION 65: This product does not contain any chemicals known to the State of California to cause cancer.

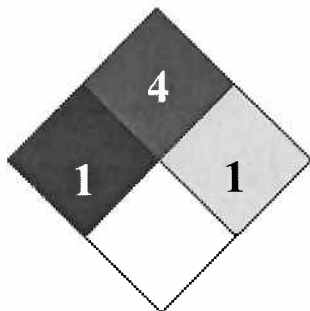
16. OTHER INFORMATION

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

REVISION SUMMARY Revision #: 1

This MSDS replaces the June 24, 2003 MSDS. Any changes in information are as follows:

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

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