

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Section 1	CHEMICAL PRODUCT SECTION
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Identification: Product Name: 100% Ozone Safe Precision Dust Remover
Product Number: 8037

Recommend use:

Product description: Compressed air for blowing away dust

Product type: Gas under pressure; Compressed air

Application: Industrial, professional, and commercial applications

Manufacturer: ACL Incorporated
840 W 49th Place
Chicago, IL 60609
PH: (01) 847.981.9212 [U.S.A.]
FAX: (01) 847.981.9278 [U.S.A.]

Email of responsible party for SDS: marykay@aclstaticide.com

US/Canada Emergency TEL: INFOTRAC: (01) 800.535.5053 (day or night)

International Emergency TEL: INFOTRAC: 352.323.3500 (day or night)

Section 2	HAZARDOUS IDENTIFICATION
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GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

2.1 Classification of the substance or mixture

Product definition: COMPRESSED GAS: H280

GHS-US classification

Physical: Aerosols -Cat 3

Label Elements

Hazard Pictograms:



Signal Word: Warning

Hazard Statement:

H229: Contains gas under pressure; may burst if heated.

H280: Contains gas under pressure; may explode if heated.

Precautionary Statements Prevention:

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

P251: Do not pierce or burn, even after use.

Precautionary Statements Response:

None

Precautionary Statements – Storage: P410 + P412: Protect from sunlight. Do not expose to temperatures exceeding 50°C / 122°F

Precautionary Statements – Disposal: P251: Do not pierce or burn, even after use

Other hazards not otherwise classified: Intentional misuse and inhalation abuse may cause cardiac or central nervous systems effects. Warning. May Cause frostbite in contact with skin.

Section 3	COMPOSITION / INFORMATION ON INGREDIENTS
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CHEMICAL	C.A.S.	Classification	Weight %
1,1,1,2-Tetrafluoroethane	811-97-2	Compressed Gas; H280	100

Section 4	FIRST AID MEASURES
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4.1 Description of first aid measures

General: Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with labored breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

Inhalation: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

Eye Contact: Rinse immediately with plenty of water for 15 minutes. Do not apply neutralizing agents. Take victim to an ophthalmologist.

Skin Contact: Rinse with water. Take victim to a doctor if irritation persists. In case of frostbites: Wash immediately with lots of water (15 minutes)/shower. Do not apply (chemical) neutralizing agents. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital.

Ingestion: Not applicable.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. Wear gloves

4.2 Most important symptoms and effects, both acute and delayed

Symptoms/injuries: Not expected to present a significant hazard under anticipated conditions of normal use.

Symptoms/injuries after inhalation: EXPOSURE TO HIGH CONCENTRATIONS: Accelerated heart action. Disturbances of heart rate. Coordination disorders. Feeling of weakness. Respiratory difficulties. Vomiting. Nausea. Disturbances of consciousness. Risk of lung edema. Respiratory collapse.

Symptoms/injuries after skin contact: Red skin. Blisters. Frostbites.

Symptoms/injuries after eye contact: Not applicable.

Symptoms/injuries after ingestion: Not applicable.

Chronic symptoms: No effects known.

4.3 Indication of any immediate medical attention and special treatment needed

No data

Section 5	FIRE FIGHTING MEASURES
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5.1 Extinguishing media

Suitable extinguishing media: EXTINGUISHING MEDIA FOR SURROUNDING FIRES: Adapt extinguishing media to the environment.

Unsuitable extinguishing media: No unsuitable extinguishing media known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture:

Fire hazard: DIRECT FIRE HAZARD. Non combustible.

Explosion hazard: INDIRECT EXPLOSION HAZARD. Heat may cause pressure rise in tanks/drums: explosion risk.

Hazardous thermal decomposition products: On burning: release of toxic and corrosive gases/vapors (hydrofluoric acid, carbon monoxide - carbon dioxide, carbonyl fluoride). Reacts with (some) acids.

5.3 Advice for firefighters

Special protective actions for fire-fighters: Exposure to fire/heat: consider evacuation. Cool tanks/drums with water spray/remove them into safety. Physical explosion risk: cool from behind cover. Do not move the load if exposed to heat. After cooling: persistent risk of physical explosion. Dilute toxic gases with water spray.

Special protective equipment for fire-fighters: Heat/fire exposure: compressed air/oxygen apparatus. NFPA Aerosol Level 1.

Section 6

ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:

Protective equipment: Insulating gloves. Protective clothing. Large spills/in enclosed spaces: compressed air apparatus. *Emergency procedures:* Keep upwind. Mark the danger area. Seal off low-lying areas. Close doors and windows of adjacent premises. No naked flames. Carry out specific temperature controls. Wash contaminated clothes. Large spills/in confined spaces: consider evacuation.

For emergency responders:

Protective equipment: Equip cleanup crew with proper protection.

Emergency procedures: Ventilate area.

6.2 Environmental precautions Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3 Methods and materials for containment and cleaning up

For containment: Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Tip the container on one side to stop the leakage. Do not spray water on unheated tank walls.

Methods for cleaning up: Damaged/cooled tanks must be emptied.

6.4 Reference to other sections

See Section 1 for emergency contact information.

See Section 8 for information on appropriate personal protective equipment.

See Section 13 for additional waste treatment information.

Section 7

HANDLING AND STORAGE

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Pressurized container: Do not pierce or burn, even after use.

Precautions for safe handling: Comply with the legal requirements. Handle and open the container with care. Thoroughly clean/dry the installation before use. Keep away from naked flames/heat.

Advice on general occupational hygiene: Observe normal hygiene standards. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Measure the oxygen concentration in the air.

7.2 Conditions for safe storage, including any incompatibilities:

Storage conditions: Keep only in the original container in a cool, well ventilated place away from naked flames/heat. Keep container closed when not in use.

Incompatible products: Strong bases. Strong acids.

Incompatible materials: Sources of ignition. Direct sunlight.

Storage temperature: < 50 °C

Heat-ignition: KEEP SUBSTANCE AWAY FROM: heat sources.

Prohibitions on mixed storage: KEEP SUBSTANCE AWAY FROM: (strong) acids.

Storage area: Store in a cool area. Keep out of direct sunlight. Ventilation at floor level.

Above ground. Meet the legal requirements.

Special rules on packaging: SPECIAL REQUIREMENTS: with pressure relief valve. clean. correctly labeled. Meet the legal requirements.

Packaging materials: SUITABLE MATERIAL: No data available. MATERIAL TO AVOID: No data available.

7.3 Specific end use(s)

Recommendations: Electronic Equipment use only

Industrial sector specific solutions: Unknown

Section 8	EXPOSURE CONTROL / PERSONAL PROTECTION
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OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200):

Chemical Name	OSHA PEL	ACGIH TLV	WEEL
1,1,1,2-Tetrafluoroethane	NE	NE	1000 ppm TWA

8.2 Exposure controls

Avoid all unnecessary exposure.

Appropriate engineering controls: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Individual protection measures

Hygiene measures: Wash hands before eating, smoking and using the lavatory and at the end of the working period. When using, do not eat or drink. When using, do not smoke.

Eye/face protection: Safety glasses

Skin protection: Avoid prolonged or repeated skin contact. Impervious gloves such as nitrile, neoprene or rubber are recommended.

Hand protection: Gloves: neoprene. nitrile rubber. butyl rubber.

Body protection: Protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: High vapor/gas concentration: self-contained respirator.

Environmental exposure controls: For normal conditions, protection is not necessary.

In Case of Large Spill: Keep out of drains. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 9	PHYSICAL AND CHEMICAL PROPERTIES
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9.1 Information on basic physical and chemical properties

Physical state: Gas	Physical state: Gas
Appearance: Gas	Appearance: Gas
Molecular mass: 102.03 g/mol	Molecular mass: 102.03 g/mol
Color: Colorless	Color: Colorless
Odor: Ether-like odor	Odor: Ether-like odor
Odor threshold: No data available	Odor threshold: No data available
pH: No data available	pH: No data available
Relative evaporation rate	Relative evaporation rate
(butyl acetate=1): No data available	(butyl acetate=1): No data available
Melting point: -101 °C	Melting point: -101 °C
Freezing point: No data available	Freezing point: No data available
Boiling point: -26 °C	Boiling point: -26 °C
Flash point: Not applicable	Flash point: Not applicable
Critical temperature: 101 °C	Critical temperature: 101 °C
Self ignition temperature: > 743 °C	Self ignition temperature: > 743 °C
Decomposition temperature: 368 °C	Decomposition temperature: 368 °C
Flammability (solid, gas):	No data available
Vapor pressure:	5720 hPa
Critical pressure:	40560 hPa
Relative vapor density at 20 °C	3.52 (20 °C)
Relative density:	1.2 (-27 °C)
Density:	1206 kg/m ³ (-27 °C)
Solubility:	Poorly soluble in water. Soluble in ethanol. Soluble in ether. Soluble in hexane.
Water	0.15 g/100ml (25 °C)
Log Pow:	1.06 (OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method)
Log Kow:	No data available
Viscosity, kinematic:	No data available
Viscosity, dynamic:	No data available
Explosive properties:	No data available
Oxidizing properties:	No data available
Explosive limits:	No data available
VOC content:	0 % under CARB rules
Gas group:	Compressed gas
Other properties:	Gas/vapor heavier than air at 20°C. Substance has neutral reaction. May generate

Section 10	STABILITY AND REACTIVITY
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10.1 Reactivity: On burning: release of toxic and corrosive gases/vapours (hydrofluoric acid, carbon monoxide - carbon dioxide, carbonyl fluoride). Reacts with (some) acids.

10.2 Chemical stability: Stable under normal storage conditions.

10.3 Possibility of hazardous reactions: Not established.

10.4 Conditions to avoid: Direct sunlight. Extremely high or low temperatures.

10.5 Incompatible Materials: Strong acids. Strong bases.

10.6 Hazardous decomposition products: Fume. Carbon monoxide. Carbon dioxide.

Hazardous polymerization: Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11	TOXICOLOGY INFORMATION
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Acute toxicity:

Product/ingredient name	Result	Species	Dose	Exposure
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1,1,1,2-Tetrafluoroethane	LC50 Inhalation	Rat	> 200 mg/l > 359300 ppm	--- 4 hours
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Skin corrosion/irritation: Not classified

Serious eye damage/irritation: Not classified

Respiratory or skin sensitization: Not classified

Germ cell mutagenicity: Not classified based on available data, the classification criteria are not met

Carcinogenicity: Not classified

Reproductive toxicity: Not classified based on available data, the classification criteria are not met

Specific target organ toxicity (single exposure): Not classified

Specific target organ toxicity (Repeated exposure): Not classified based on available data, the classification criteria are not met

Aspiration hazard: Not classified based on available data, the classification criteria are not met

Potential Adverse human health effects: Based on available data, the classification criteria are not met.

Symptoms/injuries after inhalation: EXPOSURE TO HIGH CONCENTRATIONS: Accelerated heart action. Disturbances of heart rate. Coordination disorders. Feeling of weakness. Respiratory difficulties. Vomiting. Nausea. Disturbances of consciousness. Risk of lung oedema. Respiratory collapse.

Symptoms/injuries after skin contact: Red skin. Blisters. Frostbites.

Symptoms/injuries after eye contact: Not applicable.

Symptoms/injuries after ingestion: Not applicable.

Chronic symptoms: No effects known.

Section 12	ECOLOGICAL INFORMATION
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12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
1,1,1,2-Tetrafluoroethane	LC50: 450 mg/l	Oncorhynchus mykiss (rainbow trout)	96 hours
	EC50 > 980 mg/l	Daphnia (water flea)	48 hours

Conclusion/Summary : Mild water pollutant (surface water). Maximum concentration in drinking water: 1.5 mg/l (fluoride) (Directive 98/83/EC). Slightly harmful to fishes (LC50(96h) 100-1000 mg/l). Slightly harmful to invertebrates (Daphnia) (EC50 (48h): 100 - 1000 mg/l).

12.2 Persistence and degradability

Conclusion/Summary : Not available

12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
1,1,1,2-Tetrafluoroethane	1.06 (OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method)	5 - 58 (Estimated value)	Low potential for bioaccumulation (BCF < 500).

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}): Not available.

Mobility: Not available.

12.5 Results of PBT and vPvB assessment

PBT: Not available.

vPvB: Not available.

12.6 Other adverse effects: No known significant effects or critical hazards.

This product does not contain chlorinated solvents or lead. Avoid release to the environment.

Section 13	DISPOSAL CONSIDERATIONS
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The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal: Offer surplus and non-recyclable solutions to a licensed disposal company. Avoid release to the environment.

Hazardous waste: RCRA 40 CFR 261 Classifications: USA Not classified
LWCA (the Netherlands): KGA category 06. Hazardous waste according to Directive 2008/98/EC.

Contaminated Packaging

Methods of disposal: Dispose of as unused product. Incineration or landfill should only be considered when recycling is not feasible. **Do not puncture, incinerate or compact aerosol can.**
When contents are depleted continue to depress button until all gas is expelled.

Special precautions:

Federal, State, and Local laws governing disposal of material can differ. Ensure proper disposal compliance with proper authorities before disposal.

Section 14	TRANSPORTATION INFORMATION
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	Proper Shipping Name	Hazard Class	UN number	NOTE
US DOT ground	Consumer Commodity	ORM-D	NA	Flame projection testing in accordance with 16CFR1500.45 found no flame projection.
US DOT air	AEROSOLS, non-flammable, (each not exceeding 1L capacity)	2.2	UN1950	May be classified as Consumer commodity, ID 8000, class 9, Y963 packing instruction DOT Labels required: Non-Flammable Gas
IATA	AEROSOLS, non-flammable, (each not exceeding 1L capacity)	2.2	UN1950	IATA Labels required: Non-Flammable Gas
IMDG	AEROSOLS, non-flammable, (each not exceeding 1L capacity)	2.2	UN1950	Limited Quantity: Y203

Section 15	REGULATORY INFORMATION
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US Federal Regulations: SDS complies with the OSHA Hazard Communication Rule, 29 CFR 1910.1200. CERCLA/Superfund, 40 CFR 117. 302: **---None of the chemicals have a reportable quantity---**
SARA Superfund and Reauthorization Act of 1986 Title III sections 302, 311,312 and 313:
Section 302 – Extremely hazardous substances (40 CFR 355): **---None of the chemicals are Section 302 hazards**

Section 311/312 – (40 CFR 370): **Sudden Release of Pressure Hazard**

Section 313 – List of Toxic Chemicals (40CFR 372): This product **does not** contain any chemicals on the 313 list of Toxic Chemicals.

Toxic Substance Control Act (TSCA): **All substances are TSCA listed.**

Resource Conservation and Recovery Act (RCRA 40 CFR 261) Subpart C & D: Refer to Section 13
Federal Water Pollution Control Act, Clean Water Act, 40 CFR 401.15 (formerly section 307) 40 CFR 116 (formerly section 311): This product contains no chemicals which are listed

California: **--- None of the chemicals are on the Proposition 65 list---**

Massachusetts: Not subject to Massachusetts Right To Know

Pennsylvania: 1,1,1,2-Tetrafluoroethane CAS 811-97-2

New Jersey: 1,1,1,2-Tetrafluoroethane CAS 811-97-2

INTERNATIONAL REGULATIONS:

Canada WHMIS: This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all the information required by the CPR.

To the best of our ability, this SDS is written in accordance to REACH Directive EC1907/2006 Annex II and GHS requirements.

Sections 16	OTHER INFORMATION
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NFPA HAZARD RATING:

Health: 1- Exposure could cause irritation but only minor residual injury even if no treatment is given.

Fire: 0- Will not burn

Reactivity: 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.

Special Hazard: none

HMIS III Rating

Health: 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability: 0 Minimal Hazard

Physical: 1 Slight Hazard

Personal Protection: B

REVISION DATES, SECTIONS, REVISED BY:

26-JUL-00	Original preparer: Amanda Wlodarczyk
02-APR-01,	Reviewed
12-Dec-05	Updated to ANSI format, mkb
15-Feb-10	Updated EU format, new address, mkb
13-Mar-12	Updated 2, 15, mkb
03-Aug-15	Updated to GHS, mkb
20-Jan-20	Updated and reviewed all sections, mkb

ABBREVIATIONS USED IN THIS DOCUMENT:

NE – Not Established, NA – Not Applicable, NIF – No Information Found

ABRIDGED LIST OF REFERENCES:

Code of Federal Regulations (CFR)

The Sigma-Aldrich Library of Regulatory and Safety Data: <http://www.sigmaaldrich.com/>

Chemical Guide and OSHA Hazardous Communication Standard

Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

The Environmental Protection Agency (www.epa.gov)

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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.