

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: Turbo Blast Duster
Product Number: 8640, AS1017

Product description: Halocarbon 134a (1,1,1,2-Tetrafluoroethane)
Product type: Compressed air for blowing away dust
Application: Industrial applications, professional applications

Manufacturer: ACL Incorporated
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Chicago, IL 60609
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Emergency telephone: INFOTRAC: (01) 800.535.5053 (day or night)

Section 2	HAZARDOUS IDENTIFICATION
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2.1 Classification of the substance or mixture

Product definition: GASES UNDER PRESSURE - Liquefied gas

GHS-US classification

Aerosols: Cat 3

Label Elements

Hazard Pictograms:



Signal Word: Warning

Hazard Statement:

H229: 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

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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

Precautionary Statements Response:

If exposed or concerned: Get medical advice/attention

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: May cause frostbite. May displace oxygen and cause rapid suffocation.

Section 3	COMPOSITION / INFORMATION ON INGREDIENTS
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Substance/mixture: Substance

CHEMICAL	C.A.S. Number	Weight %
1,1,1,2 Tetrafluoroethane	811-97-2	100 %

Section 4	FIRST AID MEASURES
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Description of necessary first aid measures

Eye Contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. Get medical attention if irritation occurs.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin Contact: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. In case of contact with liquid, warm frozen tissues slowly with lukewarm water and get medical attention. Do not rub affected area. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if adverse health effects persist or are severe. Ingestion of liquid can cause burns similar to frostbite. If frostbite occurs, get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. As this product rapidly becomes a gas when released, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact: Liquid can cause burns similar to frostbite.
Inhalation : No known significant effects or critical hazards.
Skin contact : Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite. For frostbite, try to warm up the frozen tissues and seek medical attention.
Ingestion : Ingestion of liquid can cause burns similar to frostbite

Over-exposure signs/symptoms

Eye contact: Adverse symptoms may include the following: frostbite
Inhalation : No specific data.
Skin contact: Adverse symptoms may include the following: frostbite
Ingestion : Adverse symptoms may include the following: frostbite

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments No specific treatment.

Protection of first-aiders No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Section 5	FIRE FIGHTING MEASURES
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5.1 Extinguishing media

Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire. Use dry chemical, carbon dioxide, or foam. Use water to cool fire-exposed containers and to protect personnel.

Unsuitable extinguishing media: Do not direct a solid stream of water or foam into hot, burning pools this may result in frothing and increase fire intensity.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture: Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode.

Hazardous thermal decomposition products: Decomposition products may include the following materials: carbon dioxide, carbon monoxide, halogenated compounds

5.3 Advice for firefighters

Special protective actions for fire-fighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. For incidents involving large quantities, thermally insulated undergarments and thick textile or leather gloves should be worn.

Section 6	ACCIDENTAL RELEASE MEASURES
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6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Small spill: Immediately contact emergency personnel. Stop leak if without risk

Large spill: Immediately contact emergency personnel. Stop leak if without risk. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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
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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).

7.1 Precautions for safe handling

Protective measures: Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Do not get in eyes or on skin or clothing. Avoid breathing gas. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.

Advice on general occupational hygiene: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities: Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep container tightly closed and sealed until ready for use. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

7.3 Specific end use(s)

Recommendations: To remove dust buildup from circuit boards, cleaning insulating debris from pin connectors, removal of entrapped solvent from under surface mount devices.

Industrial sector specific solutions: Filtered to 0.2 microns

Section 8	EXPOSURE CONTROL / PERSONAL PROTECTION
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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).

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
1,1,1,2 Tetrafluoroethane	AIHA WEEL (United States, 10/2011). TWA: 1000 ppm 8 hours.

Recommended monitoring procedures

DNELs/DMELs: No DNELs/DMELs available.

PNECs: No PNECs available

8.2 Exposure controls

Appropriate engineering controls: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location

Eye/face protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with sideshields

Skin protection

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. If contact with the liquid is possible, insulated gloves suitable for low temperatures should be worn. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9	PHYSICAL AND CHEMICAL PROPERTIES
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Appearance	Colorless gas [Liquefied compressed gas]
Odor	Faint ethereal odor
pH	Neutral
Melting point/freezing point	-108°C (-162.4°F)
Initial boiling point and boiling range	-26°C (-14.8°F)
Flash point and method	Product does not sustain combustion.
Evaporation rate (H ₂ O=1)	Not applicable
Flammability (solid, gas, liquid)	Not flammable
Upper/lower flammability or explosive limits	Not applicable
Vapor pressure	81.3 (psig)
Vapor density (air=1)	3.5 (Air = 1)
Water solubility.	1 g/l
Partition coefficient: n-octanol/water	1.06
Autoignition temperature	>743°C (>1369.4°F)
Decomposition temperature	Not available
Kinematic Viscosity	Not available
Dynamic viscosity	Not available
Explosive properties	Not available
VOC	0

Section 10	STABILITY AND REACTIVITY
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Reactivity: No specific test data related to reactivity available for this product or its ingredients.

Chemical stability: The product is stable.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid: Keep away from heat, direct sunlight, open flames, sparks, or sources of ignition.

Incompatible Materials: Strong oxidizing agents, reducing agents, acids, alkalis.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced

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
1,1,1,2 - tetrafluoroethane	LC50 Inhalation Vapor	Rat	1500 g/m ³	4 hours

Irritation/Corrosion: Not available.

Sensitization: Not available.

Mutagenicity: Not available.

Carcinogenicity: Not available.

Reproductive toxicity: Not available.

Teratogenicity: Not available

Specific target organ toxicity (single exposure): Not available

Specific target organ toxicity (repeated exposure): Not available.

Aspiration hazard: Not available

Information on the likely routes of exposure: Not available.

Potential acute health effects

Eye contact: Liquid can cause burns similar to frostbite.

Inhalation : No known significant effects or critical hazards.

Skin contact : Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite.

Ingestion : Ingestion of liquid can cause burns similar to frostbite

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: Adverse symptoms may include the following: frostbite

Inhalation : No specific data..

Skin contact : Adverse symptoms may include the following: frostbite.

Ingestion : Adverse symptoms may include the following: frostbite

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects: Not available.

Potential delayed effects: Not available.

Long term exposure

Potential immediate effects: Not available.

Potential delayed effects: Not available.

Potential chronic health effects: Not available.

General: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Other information: No known significant effects or critical hazards.

Section 12	ECOLOGICAL INFORMATION
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12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
1,1,1,2 - tetrafluoroethane	Not available.	Not available.	Not available.

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
1,1,1,2 - tetrafluoroethane	Not available.	Not available.	Not available.	Not available.

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
1,1,1,2 - tetrafluoroethane	Not available.	Not available.	Not available.

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
1,1,1,2 - tetrafluoroethane	1.06	-	low

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.

Section 13 DISPOSAL CONSIDERATIONS

Do not puncture, incinerate or compact aerosol can.

When contents are depleted continue to depress button until all gas is expelled.

RCRA 40 CFR 261 Classifications: As packaged and after use, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it has neither the characteristics of Subpart C nor is listed in Subpart D.

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

Section 14 TRANSPORTATION INFORMATION

U.S. DOT Information: Basic Description: NON HAZARDOUS MATERIAL
Proper Shipping Name: Consumer Commodity
Hazard Class: NA
Packaging Group: NA
UN Number: NA
Limitations: NA

IATA: Proper Shipping Name: Aerosols, Non-Flammable
Hazard Class: 2.2
Packing Group: NA
UN Number: 1950
Limited Quantity: Y203

Ocean: Proper Shipping Name: Aerosols, Non-Flammable
Hazard Class: 2.2
Packing Group: NA
UN Number: 1950
Limited Quantity: Y203

Section 15	REGULATORY INFORMATION
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US Federal Regulations: MSDS 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**
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 Proposition 65: **--- None of the chemicals are on the Proposition 65 list---**

INTERNATIONAL REGULATIONS:

Canada WHMIS: 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.

REACH: To the best of our ability, this MSDS is written in accordance to REACH Directive EC1907/2006 Annex II and GHS requirements. There are no substances in this product on the Candidate List of Substances of Very High Concern (SvHC).

Sections 16	OTHER INFORMATION
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HMIS HAZARD RATING:

Health: Irritation or minor reversible injury possible.

Flammability: Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 °F (93 °C)

Physical Hazard: Materials that are normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosives.

Protective Equipment: Consult your supervisor and read the SDS

1	HEALTH
0	FLAMMABILITY
0	PHYSICAL HAZARD
x	PROTECTIVE EQUIPMENT

REVISION DATES, SECTIONS, REVISED BY:

19-Aug-13 Original Preparer: Steve Allen
27-Sept-13 Review, mkb
10-Jan-14 Changed name and part number, mkb
23-April-15 Updated to GHS, mkb

ABBREVIATIONS USED IN THIS DOCUMENT:

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

ABRIDGED LIST OF REFERENCES:

Code of Federal Regulations (CFR)
The Sigma-Aldrich Library of Regulatory and Safety Data
Chemical Guide and OSHA Hazardous Communication Standard
The Environmental Protection Agency (www.epa.gov)
http://oehha.ca.gov/prop65/prop65_list
<http://orise.orau.gov/emi/hazards-assessment/files/resources/epa-title3.pdf>

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