

Revised date 01.08.2024

MATERIAL SAFETY DATA SHEET

HFC 236fa

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Corporate MSDS Number : TAB-003019
Composition : HFC 236fa (100%)
Chemical Formula : C₃H₂F₆
Chemical Name : 1,1,1,3,3,3-Hexafluoropropane
CAS# : 690-39-1
UN# : 3163
HS Code : 290346
Hazard : 2.2

COMPANY IDENTIFICATION

TABRIGAS Egypt
Port Said Free Zone area - Egypt
Sunday - Thursday (9:00 - 17:00)
00 202 2734 22 77 / 78 / 79
info@tabrigas.com
www.tabrigas.com

PRODUCT USE

Refrigerant
Fire Extinguishing Agent

TRADE NAMES & SYNONYMS

R 236fa
HFC-236fa
FE 36

HAZARDS IDENTIFICATION

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Classification of the GHS label elements : GASES UNDER PRESSURE - Liquefied gas substance or mixture
Signal word : Hazard pictograms
Signal word : Warning
Hazard statements : Contains gas under pressure; may explode if heated May cause frostbite. Displace oxygen and cause rapid suffocation Precautionary statements

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General	: Read and follow all Safety Data Sheets (SDS'S) before use. Read the label before use. Keep out of reach of children. If medical advice is needed, have a product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Always keep container in upright position.
Prevention	: Use only outdoors or in a well-ventilated area. Avoid breathing gas.□
Response	: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell
Storage	: Protect from sunlight. Store in a well-ventilated place.
Disposal	: Not applicable
Hazards not otherwise	: In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation.

FIRST-AID MEASURES

Skin 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 10 minutes. Get medical attention if irritation occurs.
- Remove the 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.
- 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 the affected area. Wash clothing before reuse. Clean shoes.

Ingestion :

- Remove the 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,
 - o acute and delayed Potential
 - o acute health effects

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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.
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.

FIRE FIGHTING MEASURES

Extinguishing media	
Suitable extinguishing	: Use an extinguishing agent suitable for the surrounding fire. Media
Unsuitable extinguishing	: None known.
Specific hazards arising	: Contains gas under pressure. In a fire or if heated, pressure from the chemical increase will occur and the container may burst or explode.
Hazardous thermal	: Decomposition products may include the following materials: decomposition products - Carbon dioxide - Carbon monoxide - Halogenated compounds
Special protective actions	: Promptly isolate the scene by removing all persons from the vicinity for firefighters of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact the supplier immediately for specialist advice. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

NOTE, Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

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Ventilate areas, especially low or enclosed places where heavy vapors might collect. Remove open flames. Use a self-contained breathing apparatus (SCBA) if large spill or leak occurs.

HANDLING AND STORAGE

Handling (Personnel)

Use sufficient ventilation to keep employee exposure below recommended limits.

Handling (Physical Aspects)

Eating, drinking, and smoking should be prohibited in areas where this material is handled, stored, and processed. Workers should wash their hands and face before eating, drinking, and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

Storage

Store following 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). Store locked up. Keep the container tightly closed and sealed until ready for use. Cylinders should be stored upright, with a valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredient name

Propane, 1,1,1,3,3,3-hexafluoro
TWA

Exposure limits

AIHA WEEL (United States, 10/2011).
1000 ppm 8 hours.

Appropriate engineering controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Experimental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters, or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

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 it. Ensure that eyewash stations and safety showers are close to the workstation location.

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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 specks of dust. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side- shields.

Skin 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. 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.

PHYSICAL AND CHEMICAL PROPERTIES

Color	: Colorless.
Odor	: Ether (slight)
Molecular weight	: 152.05 g/mole
PH	: No data available
Melting point/ Freezing point	: -103°C (-153.4°F)
boiling point / condensation point	: -1.4 0C (29.5 °F) □
Flash point	: Not applicable
Evaporation rate	: No data applicable
Flammability (Solid/gas)	: No data available
Specific Gravity	: 20.284 (ft ³ /lb)
Vapor Density	: 5.3 (calculated), (air=1)
Vapor Pressure	: 39.5 psia
Relative density	: No data applicable
Solubility in Water	: No data available

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Decomposition Temperature : Not data available

REACTIVITY DATA

Chemical Stability
Stable.

Conditions to Avoid
Avoid open flames and high temperatures.

Incompatibility with Other Materials
No data available

Decomposition
Decomposition products are hazardous. This material can be decomposed by high temperatures (open flames, glowing metal surfaces, etc.) forming hydrofluoric acid and possibly carbonyl fluoride.

These materials are toxic and irritating. Contact should be avoided.

Polymerization
Polymerization will not occur.

TOXICOLOGICAL INFORMATION

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Propane, 1,1,1,3,3,3- hexafluoro-	LC50 Inhalation Gas.	Rat	914000 ppm	1 hours

Irritation/Corrosion
Not available

Sensitization
Not available.

Mutagenicity
Not available.

Carcinogenicity
Not available.

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Reproductive toxicity
Not available.

Teratogenicity
Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Propane, 1,1,1,3,3,3-hexafluoro-	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)
Not available.

Aspiration hazard
Not available.

Information on the likely routes of exposure
Not available.

ECOLOGICAL INFORMATION

Toxicity
Not available

Persistence and degradability
Not available

Bio accumulative potential
Not available

DISPOSAL CONSIDERATIONS

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of safely. Empty containers or liners may retain some product residues. Do not puncture or incinerate the container.

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TRANSPORTATION INFORMATION

Shipping Information

DOT/IMO
Proper Shipping Name : 1,1,1,3,3,3-Hexafluoropropane
Hazard Class : 2.2
UN No. : 3163
DOT/IMO Label : Nonflammable gas

TDG
Proper Shipping Name : 1,1,1,3,3,3-Hexafluoropropane
Hazard Class : 2.2
UN No. : 3163
DOT/IMO Label : Nonflammable gas

REGULATORY INFORMATION

U.S. Federal Regulations

TSCA Inventory Status: Reported/Included.

TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312

Acute : Yes
Chronic : Yes
Fire : No
Reactivity : No
Pressure : Yes

HAZARDOUS CHEMICAL LISTS

SARA Extremely Hazardous Substance : No
CERCLA Hazardous Substance : No
SARA Toxic Chemical : No

Canadian Regulations

CEPA Status : DSL: REPORTED/INCLUDED.
WHMIS Classification : CLASS A Compressed Gas

This product has been classified under the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

OTHER INFORMATION

NFPA, NPCA-HMIS

NPCA-HMIS Rating



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Health : 1

Flammability : 0

Reactivity : 1

Personal Protection rating to be supplied by user depending on use conditions

Additional Information

MEDICAL USE: CAUTION: Do not use it in medical applications involving permanent implantation in the human body.

End of MSDS
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