



Material Safety Data Sheet

R -143a

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

Corporate MSDS Number : TAB-00110

Product Use

Refrigerant

Trade names and Synonyms

1, 1, 1-Trifluoroethane
HFC-143a

Company Identification

TABRIGAS EGYPT – PACKAGER / DISTRIBUTOR

COMPOSITION/INFORMATION ON INGREDIENTS

Components

Material	CAS Number	%
1, 1, 1-Trifluoroethane (R143a)	420-46-2	100 %

HAZARDS IDENTIFICATION

Extremely flammable.

Rapid evaporation of the liquid may cause frostbite.

Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing.

FIRST AID MEASURES

General advice

If unconscious place in recovery position and seek medical advice. Never give anything by mouth to an unconscious person. If breathing is irregular or stopped, administer artificial respiration. If symptoms persist, call a physician.

Inhalation

Move to fresh air. Keep patient warm and at rest. Artificial respiration and/or oxygen may be necessary.

Skin contact

Wash off with warm water. Take off all contaminated clothing immediately.

Eye contact

Rinse thoroughly with plenty of water, also under the eyelids. Consult a physician.

Notes to physician

Treatment

Do not give adrenaline or similar drugs.

FIRE FIGHTING MEASURES

Specific hazards during fire fighting

pressure build-up In the event of fire the following can be released: hydrogen fluoride Exposure to decomposition products may be a hazard to health.

Special protective equipment for fire-fighters

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. Wear neoprene gloves during cleaning up work after a fire.

Further information

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Cool containers / tanks with water spray.

ACCIDENTAL RELEASE MEASURES

Personal precautions

Evacuate personnel to safe areas. Ventilate the area.

Environmental precautions

Should not be released into the environment.

Methods for cleaning up

Evaporates.

HANDLING AND STORAGE

Handling

Advice on safe handling

Provide sufficient air exchange and/or exhaust in work rooms.

Advice on protection against fire and explosion

Vapors may form explosive mixtures with air. Take measures to prevent the build up of electrostatic charge. Keep away from heat and sources of ignition. When using do not smoke.

Storage

Requirements for storage areas and containers

Keep container tightly closed in a dry and well-ventilated place. Store in original container.

Advice on common storage

No materials to be especially mentioned.

German storage class

2A: Compressed, liquefied or pressurized gas

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures

Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Respiratory protection

For rescue and maintenance work in storage tanks use self-contained breathing apparatus. Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.

Hand protection

Heat insulating gloves

Eye protection

Wear safety glasses with side shields. Additionally wear a face shield where the possibility exists for face contact due to splashing, spraying or airborne contact with this material.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES

Form	: liquefied gas,
Color	: colorless,
Odor	: ether-like,
Melting point/range	: -111,3 °C at 1 013 hPa
Boiling point/range	: -47,2 °C at 1 013 hPa
Flash point	: -90 °C
Ignition temperature	: 750 °C
Lower explosion limit	: ca.7 %(V)
Upper explosion limit	: ca.16 %(V)
Vapor pressure	: 11 050 hPa at 20 °C
Vapor pressure	: 23 100 hPa at 50 °C
Density	: 0,953 g/cm ³ at 20 °C, (as liquid)
Density	: 1, 16 g/cm ³ at -47,6 °C, (as liquid)
Density	: 0, 0035 g/cm ³ at ca. 21 °C (1 013 hPa)
Density	: 0, 0045 g/cm ³ at -47, 2 °C (1 013 hPa)
Relative vapor density	: 2,960

STABILITY AND REACTIVITY

Materials to avoid

Alkali metals, alkaline earth metals, powdered metals, powdered metal salts

Hazardous decomposition products

Hydrogen fluoride, Carbonyl fluoride, carbon dioxide (CO₂), Carbon monoxide

TOXICOLOGICAL INFORMATION

Acute inhalation toxicity

1, 1, 1-Trifluoroethane (R143a)
LC50/4 h/rat: > 1 855 mg/l

Carcinogenicity assessment
Animal testing did not show any carcinogenic effects.

Toxicity to reproduction assessment
Did not show mutagenic or teratogenic effects in animal experiments.

Human experience
Excessive exposures may affect human health, as follows:
Inhalation
Severe shortness of breath, narcosis, Irregular cardiac activity

Further information
Cardiac sensitization threshold limit: 1 031 170 mg/m³
Anesthetic effects threshold limit: 1 718 600 mg/m³
Rapid evaporation of the liquid may cause frostbite.

ECOLOGICAL INFORMATION

Ozone depletion potential
Equal to zero

Global warming potential (CO₂ = 1)
Equal to 4 300

DISPOSAL CONSIDERATIONS

Product
Can be used after re-conditioning.

Contaminated packaging
Empty pressure vessels should be returned to the supplier.

TRANSPORTATION INFORMATION

ADR

Class : 2
Classification Code: 2F
HI No : 23
UN-No : 2035
Labeling No. : 2.1
Proper shipping name : 1, 1, 1-Trifluoroethane



IATA_C

Class : 2.1
UN-No : 2035
Labeling No. : 2.1
Proper shipping name : 1, 1, 1-Trifluoroethane

IMDG

Class : 2.1
UN-No : 2035
Labeling No. : 2.1
Proper shipping name : 1, 1, 1-Trifluoroethane

REGULATORY INFORMATION

Labeling according to EC Directives

Symbol(s)	: F+	Extremely flammable
R-phrase(s)	: R12	Extremely flammable.
S-phrase(s)	: S 7	Keep container tightly closed.
	S 9	Keep container in a well-ventilated place.
	S16	Keep away from sources of ignition - No smoking.
	S33	Take precautionary measures against static discharges.
	S59	Refer to manufacturer/supplier for information on Recovery/recycling.

End of MSDS