

Material Safety Data Sheet

R -413A

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

Corporate MSDS Number : TAB-00126

Product Use

Refrigerant

Trade names and Synonyms

R-413A
ISCEON® MO49

Company Identification

TABRIGAS EGYPT – PACKAGER / DISTRIBUTOR

COMPOSITION/INFORMATION ON INGREDIENTS

Components

Material	CAS Number	%
1,1,1,2-Tetrafluoroethane (HFC-134a)	811-97-2	88
Octafluoropropane	76-19-7	9
Isobutene	75-28-5	3

HAZARDS IDENTIFICATION

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 firefighting:

Pressure build-up

Special protective equipment for fire-fighters:

In the event of fire, wear self-contained breathing apparatus.

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:

No special protective measures against fire required.

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

Components with workplace control parameters

Components	CAS-No.	Type Form of exposure	Control Parameters	Update	Basis
1,1,1,2- Tetrafluoroethane (R134a)	811-97-2	TWA	4 240 mg/m ³ 1 000 ppm	2001	EH40 OES

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

Hand protection

Heat insulating gloves

Eye protection

Safety glasses

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,
pH	: neutral
Boiling point/range	: -35 °C at 1 013 hPa
Flash point	: does not flash
Upper explosion limit	: Not applicable
Vapor pressure	: 6 830 hPa at 20 °C
Density	: 1,214 g/cm ³ at 20 °C, (as liquid)
Water solubility	: Slightly soluble
Relative vapor density	: 3,9

 STABILITY AND REACTIVITY

Conditions to Avoid

The product is not flammable in air under ambient conditions of temperature and pressure. When pressurized with air or oxygen the mixture may become flammable. Certain mixtures of HCFCs or HFCs with chlorine may become flammable or reactive under certain conditions.

Incompatibility

Alkali metals Alkaline earth metals, powdered metals, powdered metal salts

Hazardous decomposition products

Hydrogen halides, carbon dioxide (CO₂), Carbon monoxide, fluorocarbons, carbonyl halides

TOXICOLOGICAL INFORMATION

Acute inhalation toxicity

1, 1, 1, 2-Tetrafluoroethane (HFC-134a)

LC50/ 4 h/ rat :

> 2 085 mg/l

Carcinogenicity assessment :

Did not show carcinogenic effects in animal experiments.

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, Irregular cardiac activity, narcosis

Further information:

Rapid evaporation of the liquid may cause frostbite.

ECOLOGICAL INFORMATION

Toxicity to fish

1, 1, 1, 2-Tetrafluoroethane (R134a) :

LC50 / 96 h/ Oncorhynchus mykiss (rainbow trout) : 450 mg/l

Aquatic toxicity

1, 1, 1, 2-Tetrafluoroethane (R134a) :

/ EC50/ 48 h/ Daphnia: 980 mg/l

Global warming potential (GWP) :

1 800

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	: 2A
	HI No	: 20
	UN-No	: 1078
	Labeling No.	: 2.2
	Proper shipping name	: Refrigerant gas, n.o.s. (Tetrafluoroethane, Perfluoropropane)
IATA_C	Class	: 2.2
	UN-No	: 1078
	Labeling No.	: 2.2
	Proper shipping name	: Refrigerant gas, n.o.s. (Tetrafluoroethane, Perfluoropropane)
IMDG	Class	: 2.2
	UN-No	: 1078
	Labelling No.	: 2.2
	Proper shipping name	: Refrigerant gas, n.o.s. (Tetrafluoroethane, Perfluoropropane)

REGULATORY INFORMATION

Labeling according to EC Directives

The product does not need to be labeled in accordance with EC directives or respective national Laws.

End of MSDS