



Material Safety Data Sheet

R -125

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

Corporate MSDS Number : TAB-00109

Product Use

Refrigerant
Fire extinguishing agent

Trade names and Synonyms

Pentafluoroethane
R-125
HFC-125

Company Identification

TABRIGAS EGYPT – PACKAGER / DISTRIBUTOR

COMPOSITION/INFORMATION ON INGREDIENTS

Components

Material	CAS Number	%
Pentafluoroethane	354-33-6	100 %

HAZARDS IDENTIFICATION

Emergency Overview

Rapid evaporation of the liquid may cause frostbite

Potential Health Effects

Skin

Contact with liquid or refrigerated gas can cause cold burns and frostbite.

Eyes

Contact with liquid or refrigerated gas can cause cold burns and frostbite.

Inhalation

May cause: Central nervous system depression, Anesthetic effects, and dizziness, confusion, in coordination, drowsiness, or unconsciousness, irregular heartbeat with a strange sensation in the chest, heart thumping, and apprehension, feeling of fainting, dizziness or weakness.
Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing.

Carcinogenicity

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

FIRST AID MEASURES

Skin contact

Take off all contaminated clothing immediately. Flush area with lukewarm water. Do not use hot water. If frostbite has occurred, call a physician.

Eye contact

In case of eye contact Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Inhalation

Remove from exposure, lie down. Move to fresh air. Keep patient warm and at rest. Artificial respiration and/or oxygen may be necessary. Consult a physician.

Ingestion

Is not considered a potential route of exposure.

Notes to physician

Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, that may be used in situations of emergency life support should be used with special caution.

FIRE FIGHTING MEASURES

Flammable Properties

Flash Point	: does not flash
Lower explosion limit	: Method: None per ASTM E681
Upper explosion limit	: Method: None per ASTM E681

Fire and Explosion Hazard

Pressure build-up
Hazardous thermal decomposition products:
Carbon oxides
Hydrogen fluoride
Carbonyl fluoride
Fluorocarbons

Firefighting Instructions

In the event of fire, wear self-contained breathing apparatus.
Wear neoprene gloves during cleaning up work after a fire.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Cool containers / tanks with water spray.

ACCIDENTAL RELEASE MEASURES

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

Safeguards (Personnel)

Evacuate personnel to safe areas. Ventilate the area.



Spill Cleanup
Evaporates.

Accidental Release Measures
Should not be released into the environment.

HANDLING AND STORAGE

Handling (Personnel)
Avoid breathing vapours or mist. Avoid contact with skin, eyes and clothing. Provide sufficient air exchange and/or exhaust in work rooms.

Handling (Physical Aspects)
No special protective measures against fire required.

Storage
Valve protection caps and valve outlet threaded plugs must remain in place unless container is secured with valve outlet piped to use point.
Do not drag, slide or roll cylinders. Never attempt to lift cylinder by its cap.
Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder.
Cylinders should be stored upright and firmly secured to prevent falling or being knocked over.
Separate full containers from empty containers. Keep at temperature not exceeding 52°C. Do not store near combustible materials. Keep container tightly closed in a dry and well-ventilated place.
Store in original container.
Protect from contamination.

Storage temperature
< 52 °C (< 126 °F)

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls
Ensure adequate ventilation, especially in confined areas. Local exhaust should be used when large amounts are released.

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
Additional protection: Impervious gloves

Eye protection
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. Wear safety glasses or overall chemical splash goggles.

Protective measures
Self-contained breathing apparatus (SCBA) is required if a large release occurs.



Exposure Guidelines

Exposure Limit Values

Pentafluoroethane
AEL * (DUPONT) 1,000 ppm 8 & 12 hr. TWA

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES

Form : Liquefied gas
Color : colorless
Odor : ether-like
Boiling point : -48.1 °C (-54.6 °F) at 1,013 hPa
% Volatile : 100 %
Vapor Pressure : 13,779 hPa at 25 °C (77 °F)
Density : 1.22 g/cm³ at 20 °C (68 °F)
(as liquid)
Water solubility : 0.9 g/l at 25 °C (77 °F) at 1,013 hPa
Vapor density : 4.2
(Air = 1.0)

STABILITY AND REACTIVITY

Stability

Stable under recommended storage conditions.

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

Hazardous thermal decomposition products: Carbon oxides, Hydrogen fluoride, Carbonyl fluoride, Fluorocarbons

TOXICOLOGICAL INFORMATION

Pentafluoroethane

Carcinogenicity

Animal testing did not show any carcinogenic effects.



Reproductive toxicity

Did not show mutagenic or teratogenic effects in animal experiments.

Further information

Cardiac sensitization threshold limit: > 245400 mg/m³

Anesthetic effects threshold limit: 490800 mg/m³

Rapid evaporation of the liquid may cause frostbite.

Pentafluoroethane

Inhalation 4 h LC50

800000 ppm , rat

Cardiac sensitization

Repeated dose toxicity

Inhalation

rat

No toxicologically significant effects were found.

Mutagenicity

Did not cause genetic damage in animals.

Did not cause genetic damage in cultured mammalian cells.

Did not cause genetic damage in cultured bacterial cells.

Teratogenicity

Animal testing showed no developmental toxicity.

ECOLOGICAL INFORMATION

No data are available.

DISPOSAL CONSIDERATIONS

Waste Disposal:

Recover by distillation or remove to a permitted waste disposal facility.

Comply with applicable Federal, State/Provincial and Local Regulations.

Environmental Hazards:

Empty pressure vessels should be returned to the supplier.

TRANSPORTATION INFORMATION

DOT	UN number	: 3220
	Proper shipping name	: Pentafluoroethane
	Class	: 2.2
	Labeling No.	: 2.2



IATA_C UN number : 3220
 Proper shipping name : Pentafluoroethane
 Class : 2.2
 Labeling No. : 2.2

IMDG UN number : 3220
 Proper shipping name : Pentafluoroethane
 Class : : 2.2
 Labeling No. : 2.2

REGULATORY INFORMATION

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370)

Immediate (Acute) Health	Y	Fire	N
Delayed (Chronic) Health	N	Reactive	N
		Sudden Release of Pressure	Y

The components of this product are all on the TSCA Inventory list.

End of MSDS