

Material Safety Data Sheet

R-601c

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

Corporate MSDS Number : TAB-00133

Product Use

Refrigerant
Blowing agent

Trade names and Synonyms

R-601c

Company Identification

TABRIGAS EGYPT – PACKAGER / DISTRIBUTOR

COMPOSITION/INFORMATION ON INGREDIENTS

Components

Material	CAS Number	Concentration %
Cyclopentane	287-92-3	100

HAZARDS IDENTIFICATION

Hazards identification:

Highly flammable Liquid.

FIRST AID MEASURES

Inhalation

In low concentrations may cause narcotic effects. Symptoms may include dizziness, Headache, nausea and loss of co-ordination.

In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation.

Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

Skin/eye contact

For liquid spillage - flush with water for at least 15 minutes

Remove contaminated clothing

Immediately flush eyes thoroughly with water for at least 15 minutes.

Obtain medical assistance

Ingestion

Rinse mouth with water, do not induce vomiting, call a doctor.

FIRE FIGHTING MEASURES

Specific hazards

Exposure to fire may cause containers to rupture/explode.

Hazardous combustion products

Incomplete combustion may form carbon monoxide

Suitable extinguishing media

All known extinguishants can be used.

Specific methods

If possible, stop flow of product.

Move away from the container and cool with water from a protected position.

Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire.

Special protective equipment for fire fighters

In confined space use self-contained breathing apparatus.

ACCIDENTAL RELEASE MEASURES

Personal precautions

Evacuate area.

Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.

Ensure adequate air ventilation.

Eliminate ignition sources.

Environmental precautions

Try to stop release.

Prevent from entering sewers, basements and work pits, or any place where its accumulation can be dangerous.

Clean up methods

Ventilate area.

Absorb excess liquid spillage on inorganic absorbent material such as fine sand, brick dust etc. Place spent absorbent in sealed packages and contact specialist waste disposal contractor.

HANDLING AND STORAGE

Handling and storage

Ensure equipment is adequately earthed.

Suck back of water into the container must be prevented.

Purge air from system before introducing liquid.

Do not allow back feed into the container.

Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.

Keep away from ignition sources (including static discharges).
Segregate from oxidant gases and other oxidants in store.
Refer to supplier's container handling instructions.
Keep container below 50°C in a well ventilated place.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protection

Ensure adequate ventilation.
Do not smoke while handling product.
Protect eyes, face and skin from liquid splashes.

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES

Molecular weight	: 70.14
Melting point	: -94 °C
Boiling point	: 49 °C
Relative density, gas	: 2.4 (air=1)
Relative density, liquid	: 0.7 (water=1)
Vapor Pressure 20°C	: 0.35 bar(a).
Solubility mg/l water	: 156 mg/l at 25°C
Appearance/Color	: Colorless liquid
Odor	: Sweetish Poor warning properties at low concentrations.
Flammability range	: 1.1-8.7 vol% in air.
Flash point	: -39°C.
Auto ignition temperature	: 361 °C

STABILITY AND REACTIVITY

Stability and reactivity

Can form explosive mixture with air.
May react violently with oxidants.

TOXICOLOGICAL INFORMATION

General

In low concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea and loss of co-ordination.
Irritation to eyes, skin and respiratory tract.

ECOLOGICAL INFORMATION

General

Toxic to water organisms.

DISPOSAL CONSIDERATIONS

General

Avoid discharge to the environment.
Do not discharge into areas where there is a risk of forming an explosive mixture with air.
Waste gas should be flared through a suitable burner with flash back arrestor.
Do not discharge into any place where its accumulation could be dangerous.
Contact supplier if guidance is required.

TRANSPORTATION INFORMATION

Proper shipping name	: Cyclopentane
UN Nr	: 1146
Class	: 3
ADR/RID Classification code	: F1
ADR/RID Hazard Nr	: 33
Packing group	: II
Labeling ADR	: Label 3: Danger of fire (flammable liquid).
IMDG EmS codes	: F-E, S-D
IMDG Marine pollutant	: No
IATA passenger packing instruction	: 305/Y305
IATA passenger max. Quantity/pack	: 5L/1L
IATA cargo packing instruction	: 307
IATA cargo max. Quantity/pack	: 60L

Other transport information:

Avoid transport on vehicles where the load space is not separated from the driver's compartment.
Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.
Before transporting product containers ensure that they are firmly secured and:

- Cylinder valve is closed and not leaking
- valve outlet cap nut or plug (where provided) is correctly fitted
- Valve protection device (where provided) is correctly fitted
- There is adequate ventilation.
- Compliance with applicable regulations.

REGULATORY INFORMATION

Number in Annex I of Dir 67/548	601-030-00-2.
EC Classification	F;R11 R52/53
-Symbols	F: Highly flammable

Labeling of cylinders

-Symbols

Label 3: flammable liquid

-Risk phrases

R11 Highly flammable

R52/53 Harmful to aquatic organisms, may cause long term adverse Effects in the aquatic environment.

-Safety phrases

S9 Keep container in well ventilated place.

S16 Keep away from ignition sources - No smoking.

S29 Do not empty into drains.

S33 Take precautionary measures against static discharges.

S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

OTHER INFORMATION

Ensure all national/local regulations are observed.

Ensure operators understand the flammability hazard.

The hazard of asphyxiation is often overlooked and must be stressed during operator training.

Users of breathing apparatus must be trained.

This Safety Data Sheet has been established in accordance with the applicable European Directives and applies to all countries that have translated the Directives in

Their national laws.

Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no

Liability for injury or damage resulting from its use can be accepted.

End of MSDS