

SIG SOUTHERN INDUSTRIAL GAS SDN BHD

CHEMICAL SAFETY DATA SHEET

1,1,1,2-TETRAFLUOROETHANE, R134a

1. IDENTIFICATION OF THE SUBSTANCE

Product name 1,1,1,2-Tetrafluoroethane, R134a
Brand Name SSB R134a

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance/ Substance
Preparation
Components/ Contains no other components
Impurities or impurities which will influence the classification of the product.
CAS Nr 811-97-2
EEC Nr 212-377-0

3 HAZARDS IDENTIFICATION

Hazards identification Liquefied gas
In high concentrations may cause asphyxiation
Not classified as dangerous substance.

4 FIRST AID MEASURES

Inhalation In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation.
In low concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea and loss of co-ordination.
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 Immediately flush eyes thoroughly with water for at least 15 minutes.
In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance

Ingestion Ingestion is not considered a potential route of exposure.

5 FIRE FIGHTING MEASURES

Specific hazards Exposure to fire may cause containers to rupture/explode.
Non flammable

Hazardous combustion products Hazardous combustion products If involved in a fire the following toxic and/or corrosive fumes may be produced by thermal decomposition:
Carbonyl fluoride
Carbon monoxide
Hydrogen fluoride

Suitable extinguishing media All known extinguishants can be used.

Special protective equipment for fire fighters Move away from the container and cool with water from a protected position.
Use self-contained breathing apparatus and chemically protective clothing.

6 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.

Environmental precautions Try to stop release.
Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

Clean up methods Ventilate area.

7 HANDLING AND STORAGE

Handling and Storage Suck back of water into the container must be prevented.
Do not allow backfeed 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. Refer to supplier's container handling instructions.
Keep container below 50°C in a well ventilated place.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit value LTEL:1000ppm

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

9 PHYSICAL AND CHEMICAL PROPERTIES

Molecular weight 102

Melting point -101 °C

Boiling point -26.5 °C

Relative density, gas 3.5(air=1)

Relative density, liquid 1.2 (water=1)

Vapour Pressure 20°C 4.7 bar

Solubility mg/l water 1.5 g/l at 25°C

Appearance/Colour Colourless gas

Odour Ethereal

Poor warning properties at low concentrations.

Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

10 STABILITY AND REACTIVITY

Stability and Reactivity Stable under normal conditions.
Thermal decomposition yields toxic products which can be corrosive in the presence of moisture.
May react with aluminium.

11 TOXICOLOGICAL INFORMATION

General May produce irregular heart beat and nervous symptoms.

12 ECOLOGICAL INFORMATION

General When discharged in large quantities may contribute to the greenhouse effect.
Global warming factor 1300 (CO₂=1)

13 DISPOSAL CONSIDERATIONS

General Avoid discharge to atmosphere.
Do not discharge into any place where its accumulation could be dangerous.
Refer to supplier's waste gas recovery programme.
Contact supplier if guidance is required.

14 TRANSPORT INFORMATION

Proper Shipping Name 1,1,1,2-Tetrafluoroethane
UN Nr 3159
Class/Div 2
ADR/RID
Classification Code 2A
ADR/RID Hazard Nr 20
Labelling ADR Label 2.2: non flammable non toxic gas.
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.

15 REGULATORY INFORMATION

Contact local government authority

16 OTHER INFORMATION

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