

# Safety Data Sheet

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## Suva 134a (1, 1, 1, 2- Tetrafluoroethane, R134a)

**MSDS Nr : 300-00-0034BOC Version : 1.02 Date : 26/02/1998**

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### 1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

Product name Suva 134a (1, 1, 1, 2- Tetrafluoroethane, R134a)

Company identification see heading and/or footer

Emergency phone numbers see heading and/or footer

### 2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation Substance.

Components/Impurities Contains no other components or impurities which will influence the classification of the product.

CAS Nr 00811-97-2

EEC Nr (from EINECS) 2123770

### 3 HAZARDS IDENTIFICATION

Hazards identification In high concentrations may cause asphyxiation.

Liquefied gas

### 4 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 In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing.

Obtain medical assistance

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

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 If involved in a fire the following toxic and/or corrosive fumes may be produced by thermal decomposition:

Carbonyl fluoride

Hydrogen fluoride

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.

Special protective equipment for fire fighters 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 for country Great Britain: LTEL:1000ppm (EH 40/97)  
Personal protection Ensure adequate ventilation.  
Do not smoke while handling product.

## 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 No reliable data available.  
Appearance/Colour Colourless gas  
Odour Ethereal  
Poor warning properties at low concentrations.  
Other data 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.

## 11 TOXICOLOGICAL INFORMATION

General May produce irregular heart beat and nervous symptoms.

## 12 ECOLOGICAL INFORMATION

General Not covered by the 'Montreal Protocol'.  
Ozone depletion factor 0  
Global warming factor 0.28 (R11=1)

## 13 DISPOSAL CONSIDERATIONS

General Must not be discharged 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

UN Nr 3159  
Class/Div 2.2 (Non flammable, non toxic gases)  
ADR/RID Item Nr 2, 2°A  
ADR/RID Hazard Nr 20  
EIGA Groupcard Nr 20G39  
Labelling ADR Label 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**

Labelling of cylinders

- Symbols Label 2: non flammable non toxic gas
- Risk phrases RA5 Asphyxiant in high concentrations.
- Safety phrases S9 Keep container in well ventilated place.  
S23 Do not breathe the gas.

## **16 OTHER INFORMATION**

Ensure all national/local regulations are observed.

Contact with liquid may cause cold burns/frost bite.

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

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.