

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Trade name : R 407C
 Use : Coolant
 Company identification : SOL SpA
 Via G. Borgazzi 27
 20052 MONZA Italia
 Tel : +39.039.23.961- Fax : +39.039.23.96.420
 Emergency phone nr : +39.089.301.810
 e-mail address of the competent person responsible for the Safety Data Sheet : msds@sol.it

2. HAZARDS IDENTIFICATION

Hazards identification : Not classified as dangerous product.
 Liquefied gas.
 In high concentrations may cause asphyxiation.
 When heated to decomposition, emits toxic fumes.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance / Preparation : Preparation.
 Components : This product is not hazardous but contains hazardous components.

Substance name	Contents	CAS No	EC No	Annex No	Classification
Difluoromethane (R32)		75-10-5	200-839-4	-----	F+; R12
Pentafluoroethane		354-33-6	206-557-8	-----	
1,1,1,2-Tetrafluoroethane (R 134a)		811-97-2	212-377-0	-----	

4. FIRST AID MEASURES

First aid measures
 - Inhalation : 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.

4. FIRST AID MEASURES (continued)

- Skin contact : Flush with plenty of water. Discard contaminated clothing. Seek medical attention if irritation or reddening occur.
- Eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Seek medical attention immediately.
- Ingestion : Ingestion is not considered a potential route of exposure.
- Note to physician : Treat symptomatically. Do not use adrenaline or similar cardiac stimulants.

5. FIRE-FIGHTING MEASURES

- Flammable class : Non flammable.
- Specific hazards : Exposure to fire may cause containers to rupture/explode.
- Hazardous combustion products : Under fire conditions, hazardous fumes will be present. Hydrogen fluoride.
- Extinguishing media
- 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 : Do not enter fire area without proper protective equipment, including respiratory protection.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : Evacuate area. Ensure adequate air ventilation. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.
- 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 : In case of small quantity released, ventilate the product, provided that an adequate ventilation exists. In case of large release, ventilate the area and contain the released product with sand or appropriate absorbent material

7. HANDLING AND STORAGE

- Personal protection : Protect eyes, face and skin from liquid splashes.
- Storage : Keep container below 50°C in a well ventilated place.
- Handling : Open valve slowly to avoid pressure shock. 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.
Material can accumulate some static charge during transfer. Containers must be properly grounded before beginning transfer.
Refer to supplier's container handling instructions.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Personal protection : Ensure adequate ventilation.
- Occupational Exposure Limits : 1,1,1,2-Tetrafluoroethane (R 134a) : OEL (UK)-LTEL [ppm] : 1000
1,1,1,2-Tetrafluoroethane (R 134a) : MAK (AU) Tagesmittelwert (ml/m³) : 1000
1,1,1,2-Tetrafluoroethane (R 134a) : MAK (AU) Tagesmittelwert (mg/m³) : 4200
1,1,1,2-Tetrafluoroethane (R 134a) : MAK (AU) Kurzzeitwerte (mg/m³) : 16800
1,1,1,2-Tetrafluoroethane (R 134a) : MAK (AU) Kurzzeitwerte (ml/m³) : 4000
Difluoromethane (R32) : LTEL - UK [ppm] : 1000

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state at 20 °C	: Liquefied gas.
Colour	: Colourless.
Odour	: Ethereal
Boiling point [°C]	: -43.6 / -36.6 °C
Vapour pressure [20°C]	: 10.7 bar
Relative density, gas (air=1)	: Heavier than air.
Relative density, liquid (water=1)	: 1.16
Solubility in water	: Insoluble.
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.
Hazardous decomposition products	: When heated to decomposition, emits dangerous fumes. (HF)

11. TOXICOLOGICAL INFORMATION

Toxicity information	
- Inhalation	: In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation.
- Dermal	: No toxicological effects from this product.
- Ingestion	: No toxicological effects from this product.

12. ECOLOGICAL INFORMATION

Environmental precautions	: Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.
Effect on ozone layer	: None.
Global warming potential (GWP)	: Contains greenhouse gas(es), GWP of mixture below 150 according to 842/2006/EC. Contains greenhouse gas(es)

13. DISPOSAL CONSIDERATIONS

General	: Do not discharge into any place where its accumulation could be dangerous. Refer to manufacturer or supplier for information on recovery or recycling.
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14. TRANSPORT INFORMATION

UN No.	: 3340
H.I. nr	: 20
ADR/RID	
Proper shipping name	: REFRIGERANT GAS R407C
- ADR Class	: 2
- ADR/RID Classification code	: 2 A
Labelling ADR	: 2.2

14. TRANSPORT INFORMATION (continued)

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 containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap nut or plug (where provided) is correctly fitted. - Ensure valve protection device (where provided) is correctly fitted. - Ensure there is adequate ventilation. - Compliance with applicable regulations.
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15. REGULATORY INFORMATION

EC Labelling	: Not classified as dangerous preparation/substance.
Symbol(s)	: None.
R Phrase(s)	: None.
S Phrase(s)	: None.

16. OTHER INFORMATION

Training advice	: Asphyxiant in high concentrations. Keep container in a well-ventilated place. Do not breathe the gas. The hazard of asphyxiation is often overlooked and must be stressed during operator training. Receptacle under pressure. Ensure all national/ local regulations are observed.
DISCLAIMER OF LIABILITY	: 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.
Note	: 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.

The contents and format of this SDS are in accordance with EC Commission Directive 2001/58/EC.

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