

6.4 COOLANT SAFETY INFORMATION AND HANDLING INSTRUCTIONS

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

Trade name : R 410A
 MSDS Nr : 272
 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 preparation/substance.
 Compressed/liquefied gas. If involved in a fire the following toxic and/or corrosive fumes may be produced by thermal decomposition : Hydrogen fluoride.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Preparation	Preparation.				
Substance name	Contents	CAS No	EC No	Annex No	Classification
Difluoromethane (R32)	50 %	75-10-5	200-839-4	----	F+, R12
Pentafluoroethane	50 %	354-33-6	206-567-8	----	

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. Seek medical advice.
- Skin/eye contact : Rinse immediately with plenty of water. Seek medical advice.
- Ingestion : Ingestion is not considered a potential route of exposure.

5 FIRE-FIGHTING MEASURES

Specific hazards : On exposure to high temperature, may decompose, releasing toxic vapours. Gas/vapours can burn with air under very specific conditions

Hazardous combustion products : Under fire conditions, hazardous fumes will be present. Hydrogen fluoride.

Extinguishing media

- Suitable extinguishing media : All known extinguishants can be used.

5 FIRE-FIGHTING MEASURES (continued)

- Specific methods** : Use water stream to cool containers. Apply water spray or fog to cool nearby equipment.
- Special protective equipment for fire fighters** : In confined space use self-contained breathing apparatus.

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** : Leave evaporate and disperse.

7 HANDLING AND STORAGE

- Personal protection** : Protect eyes, face and skin from liquid splashes.
- Storage** : Keep container tightly closed in a cool, well ventilated place.
- Handling** : Prevent any contact with hot surfaces.
Keep away from heat.
Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

- Personal protection** : Ensure adequate ventilation.
- Respiratory protection** : An approved organic vapour respirator/supplied air or self-contained breathing apparatus must be used when vapour concentration exceeds applicable exposure limits.
- Hand protection** : Wear gloves.
- Eye protection** : Goggles. Face shield.
- Industrial hygiene** : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

9 PHYSICAL AND CHEMICAL PROPERTIES

- Physical state at 20 °C** : Liquefied gas.
- Colour** : Colourless.
- Odour** : Ethereal
- Freezing point [°C]** : -103 °C
- Boiling point [°C]** : -52.7 °C
- Decomposition point [°C]** : > 250°C
- Vapour pressure [bar]** : 12.46 barg @ 15 °C
- Relative density, gas (air=1)** : 2.3
- Relative density, liquid (water=1)** : 1.11 @ 15 °C

14 TRANSPORT INFORMATION (continued)

- IMO-IMDG code	: Class 2
IMO Packing group	: A
- EMS-Nr	: F-C S-V
- IMDG-Marine pollution	: YES •
Air transport	
- ICAO/IATA	: Packaging instructions cargo : 200 Packaging instructions passenger: 200
- IATA - Class or division	: 2
IATA Packing group	: A
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.
Personal precautions	: The driver shall not attempt to deal with any fire of the load.
In case of spillage and/or leakage	: Clean up even minor leaks or spills if possible without unnecessary risk.
Emergency action in case of accident	: No naked lights. No smoking. Keep public away from danger area. NOTIFY POLICE AND FIRE BRIGADE IMMEDIATELY.
Additional information	: None.

15 REGULATORY INFORMATION

EC Labelling	: Not classified as dangerous product.
S Phrase(s)	: S23 : Do not breathe the gas, fumes, vapours, spray. S9 : Keep container in a well-ventilated place.

16 OTHER INFORMATION

Training advice	: Contact with liquid may cause cold burns/frostbite. Keep container in well ventilated place. In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. The hazard of asphyxiation is often overlooked and must be stressed during operator training. Receptacle under pressure. Ensure all national/local regulations are observed.
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.
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.

16 OTHER INFORMATION (continued)

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