

# Safety data sheet

## R 410 A

Creation date : 25.01.2006  
Revision date : 10.08.2013

Version : 1.2

GB/ E

SDS No. : 9208  
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### 1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

**Product name**

R 410 A

**Trade name**

R 410 A

**Components/Impurities**

Contains the following components:

50% w/w Difluoromethane (R32) (F+;R12) {EINECS No. 200-839-4}

50% w/w Pentafluoroethane (R125) {EINECS No. 206-557-8}

**Relevant identified uses**

Industrial and professional. Perform risk assessment prior to use.

**Uses advised against**

Consumer use.

**Company identification**

BOC, Priestley Road, Worsley, Manchester M28 2UT

**E-Mail Address** ReachSDS@boc.com

**Emergency phone numbers (24h):** 0800 111 333

### 2 HAZARDS IDENTIFICATION

**EC Classification**

Not classified as dangerous preparation.

In high concentrations may cause asphyxiation

**Risk advice to man and the environment**

Liquefied gas.

### 3 COMPOSITION/INFORMATION ON INGREDIENTS

**Substance/Preparation:** Preparation.

**Components/Impurities**

**Contains the following components:**

**1,1,1,2,2 -Pentafluoroethane (R 125)** 50 %

**CAS No:** 354-33-6 **EINECS No.:** 206-557-8

**EC classification of pure substance:**

Proposed by the industry

Not classified as a dangerous substance. .

In high concentrations may cause asphyxiation.

**Difluoromethane (R 32)** 50 %

**CAS No:** 75-10-5 **EINECS No.:** 200-839-4

**EC classification of pure substance:**

Proposed by the industry

F+; R12

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

### 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.

Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contaminated clothing. Drench affected area with water for at least 15 minutes

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**

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 container away or 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**

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

**Clean up methods**

Ventilate area.

### 7 HANDLING AND STORAGE

**Handling**

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 handling instructions.

**Storage**

Keep container below 50°C in a well ventilated place. Secure cylinders to prevent them from falling.

### 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

None of the components have assigned exposure limits. (EH40/2011).

**Personal protection**

Ensure adequate ventilation. Wear working gloves and safety shoes while handling containers.

### 9 PHYSICAL AND CHEMICAL PROPERTIES

**General information**

**Appearance/Colour:** Colourless gas.

**Odour:** Ethereal. Poor warning properties at low concentrations.

**Important information on environment, health and safety**

**Molecular weight:** 120 g/mol (C2HF5). 52,024 g/mol (CH2F2).

**Melting point:** -103 °C (C2HF5). -136 °C (CH2F2).

**Boiling point:** -51.6 °C

**Critical temperature:** 72.1 °C

**Autoignition temperature:** 648 °C (CH2F2).

**Flammability range:** 14 %(V) - 33 %(V) (CH2F2).

**Relative density, gas (Air=1):** 2.5 (air=1)

**Relative density, liquid (Water=1):** 1.09 (water=1)

**Vapour Pressure:** 14.4 bar(a).

**Critical pressure:** 35,2 bar (C2HF5). 58,1 bar (CH2F2).

**Solubility in water:** No reliable data available.

**Other data**

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

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### 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. Avoid aluminium, magnesium and zinc.

### 11 TOXICOLOGICAL INFORMATION

#### Acute toxicity

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 Potential GWP

1900 (CO<sub>2</sub>=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.

**EWC Nr. 16 05 05**

### 14 TRANSPORT INFORMATION

#### ADR/RID

Class	2	Classification Code	2A
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#### UN number and proper shipping name

UN 3163 LIQUEFIED GAS, N.O.S.. (Difluoromethane, 1,1,1,2,2 - Pentafluorethane)

Labels	2.2	Hazard number	20
Packing Instruction	P200		

#### IMDG

Class	2.2
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#### UN number and proper shipping name

UN 3163 LIQUEFIED GAS, N.O.S.. (Difluoromethane, 1,1,1,2,2 - Pentafluorethane)

Labels	2.2
Packing Instruction	P200
EmS	FC, SV

#### IATA

Class	2.2
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#### UN number and proper shipping name

UN 3163 LIQUEFIED GAS, N.O.S.. (Difluoromethane, 1,1,1,2,2 - Pentafluorethane)

Labels	2.2
Packing Instruction	P200

#### 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. Ensure that the container valve is closed and not leaking. Ensure that the valve outlet cap nut or plug (where provided) is correctly fitted. Ensure that the valve protection device (where provided) is correctly fitted. Ensure adequate ventilation. Ensure compliance with applicable regulations.

### 15 REGULATORY INFORMATION

#### Number in Annex I of Dir 67/548

Not applicable for preparations.

#### EC Classification

Not classified as dangerous preparation.

### 16 OTHER INFORMATION

#### Wording of risk sentences from chapter 3

RAs	Asphyxiant in high concentrations.
R12	Extremely flammable.

Ensure all national/local regulations are observed.  
Contact with liquid may cause cold burns/frost bite.  
Asphyxiant in high concentrations.  
Keep container in well ventilated place.  
Do not breathe the gas.

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.

#### Advice

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. Details given in this document are believed to be correct at the time of going to press.

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.

End of document