

Difluoroethane (R152a)

SDS_045_CLP



2.1 : flammable gas.

Danger**1 Identification of the substance/mixture and of the company/undertaking**

Product identifier
Trade name : Difluoroethane (R152a)
SDS Nr : SDS_045_CLP
Chemical description : Difluoroethane (R152a)
CAS No : 000075-37-6
EC No : 200-866-1
Index No : ---
Chemical formula : C₂H₄F₂
Registration-No. : Registration deadline not expired.
Use : Industrial and professional. Perform risk assessment prior to use.
Company identification : Air Liquide UK Ltd.
Station Road
Coleshill
Birmingham B46 1JY United Kingdom
E-Mail address (competent person): : David Hopper
Emergency telephone number : 01675 462695

2 Hazards identification**Classification of the substance or mixture**

Hazard Class and Category Code
Regulation EC 1272/2008 (CLP)


• **Physical hazards** : Flammable gases - Category 1 - Danger (H220)
Gases under pressure - Liquefied gas - Warning (H280)
Classification EC 67/548 or EC 1999/45 : Not included in Annex VI.
F+; R12

Label elements

Labelling Regulation EC 1272/2008 (CLP)

• **Hazard pictograms**



	SAFETY DATA SHEET	Page : 2 / 6
		Revised edition no : 0
		Date : 9 / 11 / 2010
		Supersedes : 0 / 0 / 0
Difluoroethane (R152a)		SDS_045_CLP

2 Hazards identification (continued)

- Hazard pictograms code : GHS02 - GHS04
- Signal word : Danger
- Hazard statements : H220 : Extremely flammable gas.
H280 : Contains gas under pressure; may explode if heated.
- Precautionary statements
 - Prevention : P210 : Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
 - Response : P377 : Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 : Eliminate all ignition sources if safe to do so.
 - Storage : P403 : Store in a well-ventilated place.

Labelling EC 67/548 or EC 1999/45

Symbol(s)



R Phrase(s)

S Phrase(s)

- : F+ : Extremely flammable
- : R12 : Extremely flammable.
- : S9 : Keep container in a well-ventilated place.
- : S16 : Keep away from sources of ignition - No smoking.
- : S33 : Take precautionary measures against static discharges.

Other hazards

Other hazards : None.

3 Composition/information on ingredients

Substance / Preparation : Substance.

Substance name	Contents	CAS No	EC No	Index No	Registration no	Classification
Difluoroethane (R152a)	100 %	75-37-6	200-866-1	-----	NOTE 2	F+, R12 ----- Flam. Gas 1 (H220) Flam. Gas 1 (H220) Liq. Gas (H280)

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

Note 1: Listed in Annex IV / V REACH, exempted from registration.

Note 2: Registration deadline not expired.

Full text of R-phrases see chapter 16

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.
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 : For liquid spillage - flush with water for at least 15 minutes.
- Ingestion : Ingestion is not considered a potential route of exposure.

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Station Road Coleshill Birmingham B46 1JY United Kingdom



SAFETY DATA SHEET

Page : 3 / 6

Revised edition no : 0

Date : 9 / 11 / 2010

Supersedes : 0 / 0 / 0

Difluoroethane (R152a)

SDS_045_CLP

5 Fire-fighting measures

- Specific hazards** : Exposure to fire may cause containers to rupture/explode.
- 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.
- 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.
Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire.
- Special protective equipment for fire fighters** : Use self-contained breathing apparatus and chemically protective clothing.

6 Accidental release measures

- Personal precautions** : Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.
Evacuate area.
Ensure adequate air ventilation.
Eliminate ignition sources.
- 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** : Take precautionary measures against static discharge.
Suck back of water into the container must be prevented.
Purge air from system before introducing gas.
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.
Keep away from ignition sources (including static discharges).
Refer to supplier's container handling instructions.
- Storage** : Segregate from oxidant gases and other oxidants in store.
Keep container below 50°C in a well ventilated place.

8 Exposure controls/personal protection

- Personal protection** : Ensure adequate ventilation.
Do not smoke while handling product.

9 Physical and chemical properties

- Physical state at 20 °C** : Gas.
- Colour** : Colourless gas.



SAFETY DATA SHEET

Page : 4 / 6

Revised edition no : 0

Date : 9 / 11 / 2010

Supersedes : 0 / 0 / 0

Difluoroethane (R152a)

SDS_045_CLP

9 Physical and chemical properties (continued)

Odour	: Sweetish.
Molecular weight	: 67
Melting point [°C]	: -117
Boiling point [°C]	: -25
Critical temperature [°C]	: 113
Vapour pressure [20°C]	: 5.1 bar
Relative density, gas (air=1)	: 2.3
Relative density, liquid (water=1)	: 1
Solubility in water [mg/l]	: No reliable data available.
Flammability range [vol% in air]	: 4 to 20.2
Auto-ignition temperature [°C]	: 455
Other data	: Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

10 Stability and reactivity

Hazardous decomposition products	: Thermal decomposition yields toxic products which can be corrosive in the presence of moisture.
Incompatible materials	: Can form explosive mixture with air. May react violently with oxidants. Air, Oxidiser.
Conditions to avoid	: Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Heat.

11 Toxicological information

Toxicity information	: No known toxicological effects from this product.
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12 Ecological information

Ecological effects information	: Contains Fluorinated greenhouse gases covered by the Kyoto protocol.
Global warming potential [CO2=1]	: 120

13 Disposal considerations


General	: Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste gas should be flared through a suitable burner with flash back arrestor. Toxic and corrosive gases formed during combustion should be scrubbed before discharge to atmosphere. Do not discharge into any place where its accumulation could be dangerous. Contact supplier if guidance is required.
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14 Transport information

UN number	: 1030
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Station Road Coleshill Birmingham B46 1JY United Kingdom

 AIR LIQUIDE TM	SAFETY DATA SHEET	Page : 5 / 6
		Revised edition no : 0
		Date : 9 / 11 / 2010
		Supersedes : 0 / 0 / 0
Difluoroethane (R152a)		SDS_045_CLP

14 Transport information (continued)

- Labelling ADR, IMDG, IATA



: 2.1 : flammable gas.

Land transport

ADR/RID

H.I. nr : 23
 UN proper shipping name : 1,1-DIFLUOROETHANE (REFRIGERANT GAS R 152A)
 Transport hazard class(es) : 2
 - ADR/RID Classification code : 2 F
 - Packing Instruction(s) - General : P200
 - Tunnel Restriction : B/D Tank carriage: Passage forbidden through tunnels of category B, C, D and E;
 Other carriage: Passage forbidden through tunnels of category D and E

Sea transport

- IMO-IMDG code
 • Proper shipping name : 1,1-DIFLUOROETHANE (REFRIGERANT GAS R 152A)
 • Class : 2.1
 - IMO Packing group : P200
 - Emergency Schedule (EmS) - Fire : F-D
 - Emergency Schedule (EmS) - Spillage : S-U
 - Instructions - Packing : P200

Air transport


- ICAO/IATA
 - Proper shipping name : 1,1-DIFLUOROETHANE (REFRIGERANT GAS R 152A)
 • Class : 2.1
 • Passenger and Cargo Aircraft :
 • Cargo Aircraft only :
 - Packing instruction : 200

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.

 AIR LIQUIDE TM	SAFETY DATA SHEET	Page : 6 / 6
		Revised edition no : 0
		Date : 9 / 11 / 2010
		Supersedes : 0 / 0 / 0
Difluoroethane (R152a)		SDS_045_CLP

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture : Ensure all national/local regulations are observed.

Seveso regulation 96/82/EC : Listed

16 Other information

Ensure operators understand the flammability hazard.

Contact with liquid may cause cold burns/frostbite.

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

List of full text of R-phrases in section 3. : R12 : Extremely flammable.

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.

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