

**Material Safety Data Sheet**

Version 3.0  
Revision Date 08/28/2009  
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**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Difluoromethane

Product Number : 318043  
Brand : Aldrich

Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +18003255832  
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Emergency Phone # : (314) 776-6555

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms : HFC-32

Formula : CH<sub>2</sub>F<sub>2</sub>  
Molecular Weight : 52.02 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>Difluoromethane</b>			
75-10-5	200-839-4	-	-

**3. HAZARDS IDENTIFICATION****Emergency Overview****OSHA Hazards**

Flammable Gas, Target Organ Effect

**Target Organs**

Damage to the heart., Heart

**HMIS Classification**

Health Hazard: 0  
Chronic Health Hazard: \*  
Flammability: 4  
Physical hazards: 3

**NFPA Rating**

Health Hazard: 0  
Fire: 4  
Reactivity Hazard: 0

**Potential Health Effects**

<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation.
<b>Skin</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May cause eye irritation.
<b>Ingestion</b>	May be harmful if swallowed.

4. FIRST AID MEASURES

**General advice**  
 Move out of dangerous area.

**If inhaled**  
 If breathed in, move person into fresh air. If not breathing give artificial respiration

**In case of skin contact**  
 Wash off with soap and plenty of water.

**In case of eye contact**  
 Flush eyes with water as a precaution.

**If swallowed**  
 Never give anything by mouth to an unconscious person. Rinse mouth with water.

5. FIRE-FIGHTING MEASURES

**Flammable properties**  
 Flash point                      no data available  
 Ignition temperature      no data available

**Suitable extinguishing media**  
 Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for fire-fighters**  
 Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**  
 Avoid breathing vapors, mist or gas.

**Environmental precautions**  
 Do not let product enter drains.

**Methods for cleaning up**  
 Wipe up with absorbent material (e.g. cloth, fleece).

7. HANDLING AND STORAGE

**Handling**  
 Normal measures for preventive fire protection.

**Storage**  
 Keep container tightly closed in a dry and well-ventilated place.  
 Contents under pressure.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
Difluoromethane	75-10-5	TWA	1,000 ppm	2008-01-01	USA. Workplace

### Personal protective equipment

#### Respiratory protection

Respiratory protection is not required. Where protection is desired, use multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

For prolonged or repeated contact use protective gloves.

#### Eye protection

Face shield and safety glasses

#### Hygiene measures

General industrial hygiene practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	gaseous
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### Safety data

pH	no data available
Melting point	-136 °C (-213 °F) - lit.
Boiling point	-51.6 °C (-60.9 °F) - lit.
Flash point	no data available
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Density	1.1 g/mL at 25 °C (77 °F)
Water solubility	no data available

## 10. STABILITY AND REACTIVITY

### Storage stability

Stable under recommended storage conditions.

### Materials to avoid

Sodium/sodium oxides, Potassium, Calcium, Alkali metals

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen fluoride

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

LC50 Inhalation - rat - 4 h - 1,890,000 mg/m3

LC50 Inhalation - mouse - 1,810,000 mg/m3

Remarks: Behavioral:Change in motor activity (specific assay). Behavioral:Ataxia. Respiratory disorder

**Irritation and corrosion**

no data available

**Sensitisation**

no data available

**Chronic exposure**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Signs and Symptoms of Exposure**

narcosis, Exposure to large amounts can cause:, Damage to the heart.

**Potential Health Effects**

<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation.
<b>Skin</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May cause eye irritation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Target Organs</b>	Damage to the heart., Heart,

**Additional Information**

RTECS: PA8537500

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**12. ECOLOGICAL INFORMATION****Elimination information (persistence and degradability)**

no data available

**Ecotoxicity effects**

no data available

**Further information on ecology**

no data available

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**13. DISPOSAL CONSIDERATIONS****Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

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**14. TRANSPORT INFORMATION****DOT (US)**

UN-Number: 3252 Class: 2.1

Proper shipping name: Difluoromethane  
Marine pollutant: No  
Poison Inhalation Hazard: No

**IMDG**

UN-Number: 3252 Class: 2.1  
Proper shipping name: DIFLUOROMETHANE  
Marine pollutant: No

EMS-No: F-D, S-U

**IATA**

UN-Number: 3252 Class: 2.1  
Proper shipping name: Difluoromethane  
IATA Passenger: Not permitted for transport

**15. REGULATORY INFORMATION**

**OSHA Hazards**

Flammable Gas, Target Organ Effect

**DSL Status**

All components of this product are on the Canadian DSL list.

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Fire Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

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**New Jersey Right To Know Components**

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**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

**16. OTHER INFORMATION**

**Further information**

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