

## METHYL DIFLUOROACETATE 433-53-4 MSDS

### Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE

#### Product identifiers

Product name : Methyl difluoroacetate

CAS-No. : 433-53-4

#### Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

### Section 2. HAZARDS IDENTIFICATION

#### Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Flammable liquids (Category 3)

Acute toxicity, Inhalation (Category 4)

Acute toxicity, Dermal (Category 4)

Acute toxicity, Oral (Category 4)

Skin irritation (Category 2)

Eye irritation (Category 2)

Specific target organ toxicity - single exposure (Category 3)

#### Classification according to EU Directives 67/548/EEC or 1999/45/EC

Flammable. Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes, respiratory system and skin.

#### Label elements

#### Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram

Signal word Warning

Hazard statement(s)

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

Precautionary statement(s)

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P280 Wear protective gloves/ protective clothing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove

contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard none

Statements

**According to European Directive 67/548/EEC as amended.**

Hazard symbol(s)

R-phrases(s)

R10 Flammable.

R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

R36/37/38 Irritating to eyes, respiratory system and skin.

S-phrases(s)

S16 Keep away from sources of ignition - No smoking.

S23 Do not breathe vapour.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

**Other hazards - none**

### **Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**

#### **Substances**

Formula : C<sub>3</sub>H<sub>4</sub>F<sub>2</sub>O<sub>2</sub>

Molecular Weight : 110,06 g/mol

Component Concentration

#### **Methyl difluoroacetate**

CAS-No. 433-53-4 -

EC-No. 207-089-7

### **Section 4. FIRST AID MEASURES**

#### **Description of first aid measures**

##### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

##### **If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

##### **In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

##### **In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

##### **If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

##### **Most important symptoms and effects, both acute and delayed**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

##### **Indication of any immediate medical attention and special treatment needed**

no data available

### **Section 5. FIREFIGHTING MEASURES**

#### **Extinguishing media**

**Suitable extinguishing media**

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large

fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or

spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

**Special hazards arising from the substance or mixture**

Carbon oxides, Hydrogen fluoride

**Advice for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**Further information**

Use water spray to cool unopened containers.

**Section 6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to

form explosive concentrations. Vapours can accumulate in low areas.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**Methods and materials for containment and cleaning up**

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and

place in container for disposal according to local regulations (see section 13).

**Reference to other sections**

For disposal see section 13.

**Section 7. HANDLING AND STORAGE****Precautions for safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic

charge.

**Conditions for safe storage, including any incompatibilities**

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are

opened must be carefully resealed and kept upright to prevent leakage.

**Specific end use(s)**

no data available

## **Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Control parameters**

### **Components with workplace control parameters**

### **Exposure controls**

#### **Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and

at the end of workday.

#### **Personal protective equipment**

##### **Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

##### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type

of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air

respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

## **Section 9. PHYSICAL AND CHEMICAL PROPERTIES**

### **Information on basic physical and chemical properties**

- a) Appearance      Form: liquid  
Colour: colourless
- b) Odour      no data available
- c) Odour Threshold      no data available
- d) pH      no data available
- e) Melting point/freezing      no data available  
point
- f) Initial boiling point and 85 - 86 °C - lit.  
boiling range
- g) Flash point      23,9 °C - closed cup

- h) Evaporation rate      no data available
- i) Flammability (solid, gas) no data available
- j) Upper/lower      no data available  
flammability or  
explosive limits
- k) Vapour pressure      no data available
- l) Vapour density      no data available
- m) Relative density      1,26 g/cm<sup>3</sup> at 25 °C
- n) Water solubility      slightly soluble, soluble
- o) Partition coefficient: n- no data available  
octanol/water
- p) Auto-ignition      no data available  
temperature
- q) Decomposition      no data available  
temperature
- r) Viscosity      no data available
- s) Explosive properties      no data available
- t) Oxidizing properties      no data available

**Other safety information**

no data available

**Section 10. STABILITY AND REACTIVITY**

**Reactivity**

no data available

**Chemical stability**

no data available

**Possibility of hazardous reactions**

no data available

**Conditions to avoid**

Heat, flames and sparks.

**Incompatible materials**

Strong oxidizing agents

**Hazardous decomposition products**

Other decomposition products - no data available

**Section 11. TOXICOLOGICAL INFORMATION**

**Information on toxicological effects**

**Acute toxicity**

no data available

**Skin corrosion/irritation**

no data available

**Serious eye damage/eye irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

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.

**Reproductive toxicity**

no data available

**Specific target organ toxicity - single exposure**

Inhalation - May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure**

no data available

**Aspiration hazard**

no data available

**Potential health effects**

**Inhalation** Harmful if inhaled. Causes respiratory tract irritation.

**Ingestion** Harmful if swallowed.

**Skin**

Harmful if absorbed through skin. Causes skin irritation.

**Eyes** Causes serious eye irritation.

**Signs and Symptoms of Exposure**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Additional Information**

RTECS: Not available

## **Section 12. ECOLOGICAL INFORMATION**

**Toxicity**

no data available

**Persistence and degradability**

no data available

**Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**Results of PBT and vPvB assessment**

no data available

**Other adverse effects**

no data available

## **Section 13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting

as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal

company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

**Section 14. TRANSPORT INFORMATION**

**UN number**

ADR/RID: 1993      IMDG: 1993      IATA: 1993

**UN proper shipping name**

ADR/RID: FLAMMABLE LIQUID, N.O.S. (Methyl difluoroacetate)

IMDG: FLAMMABLE LIQUID, N.O.S. (Methyl difluoroacetate)

IATA:      Flammable liquid, n.o.s. (Methyl difluoroacetate)

**Transport hazard class(es)**

ADR/RID: 3      IMDG: 3      IATA: 3

**Packaging group**

ADR/RID: III      IMDG: III      IATA: III

**Environmental hazards**

ADR/RID: no      IMDG Marine Pollutant: no      IATA: no

**Special precautions for user**

no data available

**Section 15. REGULATORY INFORMATION**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

no data available

**Chemical Safety Assessment**

no data available

**Section 16. OTHER INFORMATION**

**Further information**

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The above information is believed to be correct but does not purport to be all inclusive and shall be

used only as a guide. The information in this document is based on the present state of our knowledge

and is applicable to the product with regard to appropriate safety precautions. It does not represent any

guarantee of the properties of the product. Corporation and its Affiliates shall not be held

liable for any damage resulting from handling or from contact with the above product. See  
and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.