

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Product name : 2,2,4,4-Tetrafluoro-1,3-dithietane
CAS-No. : 1717-50-6

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

Identified uses : Laboratory chemicals, Manufacture of substances

2. HAZARDS IDENTIFICATION

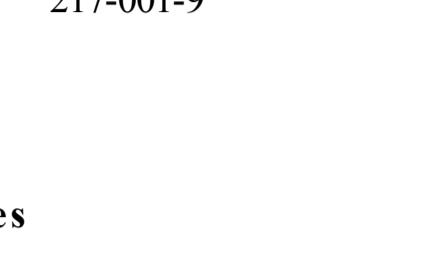
2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]
Flammable liquids (Category 3)

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

2.2 Label elements

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



Signal word : Warning

Hazard statement(s) : H226 Flammable liquid and vapour.

Precautionary statement(s) : none

Supplemental Hazard Statements : none

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

Hazard symbol(s) : none

R-phrase(s) : R10 Flammable.

S-phrase(s) : none

2.3 Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Formula : C2F4S2
Molecular Weight : 164,15 g/mol

Component	Concentration
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2,2,4,4-Tetrafluoro-1,3-dithietan

CAS-No. : 1717-50-6
EC-No. : 217-001-9

4. FIRST AID MEASURES

4.1 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

Flush eyes with water as a precaution.

If swallowed

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

4.2 Most important symptoms and effects, both acute and delayed

4.3 Indication of any immediate medical attention and special treatment needed

no data available

5. FIRE-FIGHTING MEASURES

5.1 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.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Sulphur oxides, Hydrogen fluoride

5.3 Advice for fire fighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid breathing vapors, mist or gas. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions

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

6.3 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).

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid inhalation of vapour or mist.

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

7.2 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.

Stench.

7.3 Specific end uses

no data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

8.2 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

Impervious clothing. 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 AXBEK (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).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 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 point : no data available

f) Initial boiling point and boiling range : 49 - 50 °C - lit.

g) Flash point : 35,56 °C - closed cup

h) Evaporation rate : no data available

i) Flammability (solid, gas) : no data available

j) Upper/lower flammability or explosive limits : no data available

k) Vapour pressure : no data available

l) Vapour density : no data available

m) Relative density : 1,582 g/cm3 at 25 °C

n) Water solubility : no data available

o) Partition coefficient: n-octanol/water : no data available

p) Autoignition temperature : no data available

q) Decomposition temperature : no data available

r) Viscosity : no data available

s) Explosive properties : no data available

t) Oxidizing properties : no data available

u) Special properties for user : no data available

9.2 Other safety information

no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

no data available

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid sparks

no data available

10.5 Strong oxidizing agents

no data available

10.6 Hazardous decomposition products

no data available

Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

no data available

Skin corrosion/irritation

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 a carcinogen.

WHO: No component of this product present at levels greater than or equal to 0,1% is identified as a carcinogen.

EU: No component of this product present at levels greater than or equal to 0,1% is identified as a carcinogen.

Other: No component of this product present at levels greater than or equal to 0,1% is identified as a carcinogen.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation

May be harmful if inhaled. May cause respiratory tract irritation.

Skin

May be harmful if swallowed. May be harmful if absorbed through skin. May cause skin irritation.

Eyes

May cause eye irritation.

Additional Information

RETECS: Not available

IMDG: Not available

IMDG: 1993

IMDG: 1993