

**SIGMA-ALDRICH****SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**

Product name : D-Penicillamine

Product Number : P4875

Brand : Sigma

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**2. HAZARDS IDENTIFICATION****Risk advice to man and the environment**

Irritating to eyes, respiratory system and skin.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Formula : C<sub>5</sub>H<sub>11</sub>NO<sub>2</sub>S

Molecular Weight : 149,21 g/mol

CAS-No.	EC-No.	Index-No.	Classification	Concentration
<b>Penicillamine</b>				
52-67-5	200-148-8	-	Xi, R36/37/38	-

**4. 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**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**5. FIRE-FIGHTING MEASURES****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**

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.

**Environmental precautions**

Do not let product enter drains.

**Methods for cleaning up**

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

**7. HANDLING AND STORAGE****Handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

**Storage**

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

Recommended storage temperature: 2 - 8 °C

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Personal protective equipment****Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**

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

**Eye protection**

Safety glasses

**Skin and body protection**

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**Hygiene measures**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

Form                      solid

**Safety data**

pH                         no data available

Melting point           210 °C

Boiling point            no data available

Flash point              no data available

Ignition temperature   no data available

Lower explosion limit    no data available  
Upper explosion limit    no data available  
Water solubility            no data available

## 10. STABILITY AND REACTIVITY

### Storage stability

Stable under recommended storage conditions.

### Materials to avoid

Strong oxidizing agents

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NO<sub>x</sub>), Sulphur oxides

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

LD50 Oral - rat - 6.170 mg/kg

### Irritation and corrosion

no data available

### Sensitisation

Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

### Chronic exposure

Carcinogenicity - mouse - Intraperitoneal

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Leukaemia Blood: Lymphomas including Hodgkin's disease.

Carcinogenicity - Child - Oral

Tumorigenic: Carcinogenic by RTECS criteria. Leukaemia

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.

Genotoxicity in vitro - Human - lymphocyte

Sister chromatid exchange

Genotoxicity in vitro - Hamster - Lungs

Cytogenetic analysis

Genotoxicity in vitro - Human - lymphocyte

Cytogenetic analysis

Genotoxicity in vitro - Hamster - Lungs

Sister chromatid exchange

Developmental Toxicity - mouse - Oral

Specific Developmental Abnormalities: Craniofacial (including nose and tongue).

Developmental Toxicity - rat - Oral

Specific Developmental Abnormalities: Central nervous system. Specific Developmental Abnormalities: Skin and skin appendages. Specific Developmental Abnormalities: Musculoskeletal system.

Developmental Toxicity - Human - female - Unreported

Specific Developmental Abnormalities: Craniofacial (including nose and tongue). Specific Developmental Abnormalities: Skin and skin appendages.

Developmental Toxicity - rat - Intraperitoneal

Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.

Developmental Toxicity - Hamster - Oral

Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Central nervous system. Specific Developmental Abnormalities: Musculoskeletal system.

Reproductive toxicity - rat - Oral

Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Respiratory system.

Reproductive toxicity - rat - Oral

Effects on Newborn: Sex ratio.

Reproductive toxicity - rat - Oral

Effects on Newborn: Growth statistics (e.g., reduced weight gain).

Reproductive toxicity - mouse - Oral

Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Embryo or Fetus: Fetal death.

Reproductive toxicity - Hamster - Oral

Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Embryo or Fetus: Fetal death.

#### Potential Health Effects

**Inhalation**

May be harmful if inhaled. Causes respiratory tract irritation.

**Skin**

May be harmful if absorbed through skin. Causes skin irritation.

**Eyes**

Causes eye irritation.

**Ingestion**

May be harmful if swallowed.

#### Additional Information

RTECS: YV9425000

## 12. ECOLOGICAL INFORMATION

#### Elimination information (persistence and degradability)

no data available

#### Ecotoxicity effects

no data available

#### Further information on ecology

no data available

## 13. DISPOSAL CONSIDERATIONS

#### Product

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

#### Contaminated packaging

Dispose of as unused product.

## 14. TRANSPORT INFORMATION

#### ADR/RID

Not dangerous goods

#### IMDG

Not dangerous goods

**IATA**

Not dangerous goods

**15. REGULATORY INFORMATION****Labelling according to EC Directives**

Hazard symbols

Xi

Irritant

R-phrases)

R36/37/38

Irritating to eyes, respiratory system and skin.

S-phrases)

S26

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36

Wear suitable protective clothing.

**16. OTHER INFORMATION****Further information**

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