

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 3.0 Revision Date 02.01.2009

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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 : Warfarin®

Product Number : A2250  
Brand : Fluka

Company : Sigma-Aldrich Chemie BV  
Stationsplein 4  
3331 LL ZWIJNDRECHT  
NETHERLANDS

Telephone : +31 78-620-5411  
Fax : +31 78-620-5421  
Emergency Phone # : 112  
E-mail address : eurtechserv@sial.com

### 2. HAZARDS IDENTIFICATION

#### Risk advice to man and the environment

May cause harm to the unborn child. Also toxic: danger of serious damage to health by prolonged exposure if swallowed. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Coumafene  
4-Hydroxy-3-(3-oxo-1-phenylbutyl)coumarin

Formula : C<sub>19</sub>H<sub>16</sub>O<sub>4</sub>  
Molecular Weight : 308,33 g/mol

CAS-No.	EC-No.	Index-No.	Classification	Concentration
<b>Warfarin</b>				
81-81-2	201-377-6	607-056-00-0	T, Repr.Cat.1, R61 - R48/25 - R52/53	-

### 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. Evacuate personnel to safe areas.

### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### 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 exposure - obtain special instructions before use. 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.

## 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. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (EN 143) 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).

#### 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

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form                      solid

Colour white

**Safety data**

pH no data available  
Melting point 162 - 164 °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 insoluble

**10. STABILITY AND REACTIVITY**

**Storage stability**

Stable under recommended storage conditions.

**Materials to avoid**

Strong oxidizing agents, Strong acids, Strong bases

**Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides

**11. TOXICOLOGICAL INFORMATION**

**Acute toxicity**

LD50 Oral - rat - 1,6 mg/kg

LD50 Dermal - rat - 1.400 mg/kg

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Chromodacryorrhea.  
Behavioral:Muscle weakness. Kidney, Ureter, Bladder:Hematuria.

**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.

May cause congenital malformation in the fetus.

**Signs and Symptoms of Exposure**

Inhibition of blood coagulation., Abnormal clotting, bruising or bleeding.

**Potential Health Effects**

**Inhalation** May be harmful if inhaled. May cause respiratory tract irritation.  
**Skin** May be harmful if absorbed through skin. May cause skin irritation.  
**Eyes** May cause eye irritation.  
**Ingestion** Toxic if swallowed.  
**Target Organs** Blood,

**Additional Information**

RTECS: GN4550000

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

no data available

**Ecotoxicity effects**Toxicity to fish LC50 - *Oncorhynchus mykiss* (rainbow trout) - > 16 mg/l - 96 hToxicity to daphnia and other aquatic invertebrates. EC50 - *Daphnia magna* (Water flea) - > 17 mg/l - 48 h**Further information on ecology**

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**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**

UN-Number: 2811 Class: 6.1 Packing group: I  
Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (Warfarin)

**IMDG**

UN-Number: 2811 Class: 6.1 Packing group: I EMS-No: F-A, S-A  
Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (Warfarin)  
Marine pollutant: No

**IATA**

UN-Number: 2811 Class: 6.1 Packing group: I  
Proper shipping name: Toxic solid, organic n.o.s. (Warfarin)

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

EC Label

Hazard symbols

T Toxic

R-phrase(s)

R61 May cause harm to the unborn child.  
R48/25 Also toxic: danger of serious damage to health by prolonged exposure if swallowed.  
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)

S53 Avoid exposure - obtain special instructions before use.  
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S61

Avoid release to the environment. Refer to special instructions/ Safety data sheets.

Restricted to professional users.

## 16. OTHER INFORMATION

### Further information

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