

**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

Version 4.0 Revision Date 13.03.2010

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

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

Product name : Neostigmine methyl sulfate

Product Number : N2126

Brand : Sigma

Company : Sigma-Aldrich (Shanghai) Trading Co., Ltd  
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**2. HAZARDS IDENTIFICATION****Classification of the substance or mixture**

According to Regulation (EC) No1272/2008

Acute toxicity, Oral (Category 2)

Skin irritation (Category 2)

Eye irritation (Category 2)

Respiratory sensitization (Category 1)

Specific target organ toxicity - single exposure (Category 3)

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

Irritating to eyes, respiratory system and skin. May cause sensitization by inhalation and skin contact. Very toxic if swallowed.

**Label elements**

Pictogram



Signal word

Danger

Hazard statement(s)

H300

Fatal if swallowed.

H315

Causes skin irritation.

H319

Causes serious eye irritation.

H334

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335

May cause respiratory irritation.

Precautionary statement(s)

P261

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

P264

Wash hands thoroughly after handling.

P301 + P310

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P342 + P311

If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

Hazard symbol(s)	
T+	Very toxic
R-phrases(s)	
R36/37/38	Irritating to eyes, respiratory system and skin.
R42/43	May cause sensitization by inhalation and skin contact.
R28	Very toxic if swallowed.
S-phrases(s)	
S36	Wear suitable protective clothing.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**Other hazards** - none

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms	:	3-(N,N-Dimethylcarbamoyloxy)-N,N,N,-trimethylanilinium methyl sulfate
Formula	:	C <sub>13</sub> H <sub>22</sub> N <sub>2</sub> O <sub>6</sub> S
Molecular Weight	:	334,39 g/mol

CAS-No.	EC-No.	Index-No.	Classification	Concentration
<b>Neostigmine metilsulfate</b>				
51-60-5	200-109-5	-	Acute Tox. 2; Skin Irrit. 2; Eye Irrit. 2; Resp. Sens. 1; STOT SE 3; H300, H315, H319, H334, H335 T+, R36/37/38 - R42/43 - R28	-

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 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.

### Methods and materials for containment and cleaning up

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

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## 7. HANDLING AND STORAGE

### Precautions for safe 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.

### Conditions for safe storage

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

Recommended storage temperature: -20 °C

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (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

Face shield and 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.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	solid
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### Safety data

pH	no data available
Melting point	142 - 144 °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

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## 10. STABILITY AND REACTIVITY

**Chemical stability**

Stable under recommended storage conditions.

**Conditions to avoid**

no data available

**Materials to avoid**

Strong oxidizing agents

**Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx), Sulphur oxides

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**11. TOXICOLOGICAL INFORMATION****Acute toxicity**

LD50 Oral - mouse - 7,5 mg/kg

Remarks: Respiratory disorder

**Skin corrosion/irritation**

no data available

**Serious eye damage/eye irritation**

no data available

**Respiratory or skin sensitization**

May cause allergic respiratory reaction.

**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**

Reproductive toxicity - mouse - Subcutaneous

Effects on Newborn: Sex ratio.

**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**

May be harmful if inhaled. Causes respiratory tract irritation.

**Ingestion**

May be fatal if swallowed.

**Skin**

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

**Eyes**

Causes eye irritation.

**Additional Information**

RTECS: CY1225000

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**12. ECOLOGICAL INFORMATION****Toxicity**

no data available

**Persistence and degradability**

no data available

**Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**PBT and vPvB assessment**

no data available

**Other adverse effects**

no data available

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### 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.

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### 14. TRANSPORT INFORMATION

**ADR/RID**

UN-Number: 2811 Class: 6.1

Packing group: II

Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (Neostigmine metilsulfate)

**IMDG**

UN-Number: 2811 Class: 6.1

Packing group: II

EMS-No: F-A, S-A

Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (Neostigmine metilsulfate)

Marine pollutant: No

**IATA**

UN-Number: 2811 Class: 6.1

Packing group: II

Proper shipping name: Toxic solid, organic, n.o.s. (Neostigmine metilsulfate)

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### 15. REGULATORY INFORMATION

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

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### 16. OTHER INFORMATION

**Text of H-code(s) and R-phrases mentioned in Section 3**

Acute Tox.	Acute toxicity
Eye Irrit.	Eye irritation
H300	Fatal if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
Resp. Sens.	Respiratory sensitization
Skin Irrit.	Skin irritation
T+	Very toxic
R28	Very toxic if swallowed.
R36/37/38	Irritating to eyes, respiratory system and skin.
R42/43	May cause sensitization by inhalation and skin contact.

**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. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

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