

Safety Data Sheet

According to EC Directive 91/155/EEC

Date of issue: 28.07.2003
Supersedes edition of 05.05.1999

1. Identification of the substance/preparation and of the company/undertaking

Identification of the product

Catalogue No.: 817043
Product name: Thimerosal USP

Use of the substance/preparation

Pharmaceutical production and analysis

Company/undertaking identification

Company: Merck Schuchardt OHG * 85662 Hohenbrunn * Germany *
Tel: +49 8102/802-0
Emergency telephone No.: Please contact the regional Merck representation
in your country.

2. Composition/information on ingredients

Synonyms

Thiomersal, Merthiolate

CAS-No.:	54-64-8	EC-Index-No.:	080-004-00-7
M:	404.81 g/mol	EC-No.:	200-210-4
Formula Hill:	C ₉ H ₉ HgNaO ₂ S		

3. Hazards identification

Very toxic by inhalation, in contact with skin and if swallowed. Danger of cumulative effects. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. First aid measures

After inhalation: fresh air. If necessary, apply mouth-to-mouth resuscitation or mechanical ventilation. Immediately call in physician.
After skin contact: wash off with plenty of water. Dab with polyethylene glycol 400. Immediately remove contaminated clothing.
After eye contact: rinse out with plenty of water for at least 10 minutes with the eyelid held wide open. Immediately call in ophthalmologist.
After swallowing: make victim drink plenty of water, induce vomiting. Immediately call in physician.

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5. Fire-fighting measures

Suitable extinguishing media:
powder, Water, foam.

Special risks:
Combustible. Formation of hazardous combustion gases or vapours possible in event of fire. The following may develop in event of fire: sulfur oxides, mercury vapours.

Special protective equipment for fire fighting:
Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.

Other information:
Contain escaping vapours with water. Prevent fire-fighting water from entering surface water or groundwater.

6. Accidental release measures

Person-related precautionary measures:
Avoid substance contact. Avoid generation of dusts; do not inhale dusts. Ensure supply of fresh air in enclosed rooms.

Environmental-protection measures:
Do not allow to enter sewerage system.

Procedures for cleaning / absorption:
Take up dry. Avoid generation of dusts. Forward for disposal. Clean up affected area.

7. Handling and storage

Handling:

Notes for safe handling:
Work under hood . Do not inhale substance.

Storage:

Tightly closed. Dry. In a well-ventilated place. At +15°C to +25°C.
Accessible only for authorized persons.

8. Exposure controls/personal protection

Personal protective equipment:

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory protection: required when dusts are generated.

Eye protection: required

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Hand protection:

In full contact:
Glove material: nitrile rubber
Layer thickness: 0.11 mm
Breakthrough time: > 480 Min.

In splash contact:
Glove material: nitrile rubber
Layer thickness: 0.11 mm
Breakthrough time: > 480 Min.

The protective gloves to be used must comply with the specifications of EC directive 89/686/EEC and the resultant standard EN374, for example KCL 740 Dermatril® (full contact), 740 Dermatril® (splash contact). The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet and supplied by us as well as to the purpose specified by us. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Industrial hygiene:

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance. Under no circumstances eat or drink at workplace. Work under hood . Do not inhale substance.

9. Physical and chemical properties

Form:	solid		
Colour:	brownish		
Odour:	almost odourless		
pH value			
at 10 g/l H ₂ O	(20 °C)	~ 6.7	
Melting point		232-233 °C	(decomposition)
Boiling point		not available	
Ignition temperature		not available	
Flash point		not available	
Explosion limits	lower	not available	
	upper	not available	
Density		not available	
Bulk density		500 kg/m ³	
Solubility in			
water	(20 °C)	1000 g/l	

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10. Stability and reactivity

Conditions to be avoided

Above melting point.

Substances to be avoided

strong oxidizing agents, strong acids, strong bases, aluminium and reducing agents.

Hazardous decomposition products

in the event of fire: See chapter 5.

Further information

light-sensitive.

11. Toxicological information

Acute toxicity

LD₅₀ (oral, rat): 75 mg/kg.

Specific symptoms in animal studies:

Eye irritation test (rabbit): Slight irritations.

The literature data available to us do not conform with the labelling prescribed by the EC. The EC has dossiers which have not been published.

Further toxicological information

After skin contact: Danger of skin absorption.

After eye contact: Slight irritations.

Danger of cumulative effects.

Other notes:

Mercury compounds have a cytotoxic and protoplasmatoxic effect. Intoxication symptoms: acute: contact with eye causes severe lesions. Swallowing and inhalation of dusts damages mucous membranes of gastrointestinal and respiratory tract (metallic taste, nausea, vomiting, abdominal pain, bloody diarrhoea, intestinal burns, glottal oedema, aspiration pneumonia); drop in blood pressure, cardiac dysrhythmia, circulatory collapse, and renal failure; chronic: inflammation of the mouth with loss of teeth and mercurial line. The principal signs manifest themselves in the CNS (impaired speech, vision, hearing, and sensitivity, loss of memory, irritability, hallucinations, delirium inter alia).

The following applies to organic mercury compounds in general: long-term exposure leads to disorders/damage of the nervous system.

Further data

The product should be handled with the care usual when dealing with chemicals.

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12. Ecological information

Ecotoxic effects:

Quantitative data on the ecological effect of this product are not available.

Biological effects:

Highly toxic for aquatic organisms. May cause long-term adverse effects in the aquatic environment.
Hazard for drinking water supplies.

Further ecologic data:

The following applies to organic Hg compounds in general: biological effects: fish: *S. gairdnerii* toxic as from 0.002 mg/l .

Do not allow to enter waters, waste water, or soil!

13. Disposal considerations

Product:

Chemicals must be disposed of in compliance with the respective national regulations. Under www.retrologistik.de you will find country- and substance-specific information as well as contact partners.

Packaging:

Merck product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system. Under www.retrologistik.de you will find special information on the respective national conditions as well as contact partners.

14. Transport information

Land transport ADR, RID

UN 2025 QUECKSILBERVERBINDUNG, FEST, N.A.G. (THIMEROSAL), 6.1, II

Transport by river ADN, ADNR not tested

Transport by sea IMDG, GGVSee

UN 2025 MERCURY COMPOUND, SOLID, N.O.S. (THIMEROSAL), 6.1, II, Marine

Pollutant: PP

Ems 6.1-0

Transport by air CAO, PAX

MERCURY COMPOUND, SOLID, N.O.S., 6.1, UN 2025, II

The transport regulations are cited according to international regulations and in the form applicable in Germany (GGVSE). Possible national deviations in other countries are not considered.

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15. Regulatory information

Labelling according to EC Directives

Symbol:	T+ N	Very toxic Dangerous for the environment
R-phrases:	26/27/28-33-50/53	Very toxic by inhalation, in contact with skin and if swallowed. Danger of cumulative effects. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrases:	13-28-36-45-60-61	Keep away from food, drink and animal feeding stuffs. After contact with skin, wash immediately with plenty of water. Wear suitable protective clothing. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/Safety data sheets.
EC-No.:	200-210-4	EC label

Reduced labelling (1999/45/EC, Art. 10,4)

Symbol:	T+ N	Very toxic Dangerous for the environment
R-phrases:	26/27/28	Very toxic by inhalation, in contact with skin and if swallowed.
S-phrases:	28-45	After contact with skin, wash immediately with plenty of water. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

16. Other information

Reason for alteration

Chapter 8: personal protective equipment.
Chapter 9: change/addition in physical/chemical properties.
Chapter 10: stability and reactivity.

General update.

Regional representation:

This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.