



# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 01/27/2015

Version 1.3

## SECTION 1. Identification

### Product identifier

Product number 109939  
Product name Arsenic standard 1000 mg As, (As<sub>2</sub>O<sub>5</sub> in H<sub>2</sub>O) Titrisol®

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

Identified uses Reagent for analysis

### Details of the supplier of the safety data sheet

Company EMD Millipore Corporation | 290 Concord Road, Billerica, MA 01821,  
United States of America | General Inquiries: +1-978-715-4321 |  
Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)

Emergency telephone 800-424-9300 CHEMTREC (USA)  
+1-703-527-3887 CHEMTREC (International)  
24 Hours/day; 7 Days/week

## SECTION 2. Hazards identification

### GHS Classification

Carcinogenicity, Category 1A, H350

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

### GHS-Labeling

*Hazard pictograms*



*Signal Word*

Danger

*Hazard Statements*

H350 May cause cancer.

*Precautionary Statements*

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P281 Use personal protective equipment as required.

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P308 + P313 IF exposed or concerned: Get medical advice/ attention.

P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

## Other hazards

None known.

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## SECTION 3. Composition/information on ingredients

Chemical nature

Aqueous solution

### Hazardous ingredients

*Chemical Name (Concentration)*

CAS-No.

*Arsenic acid (>= 1 % - < 5 % )*

7778-39-4

Exact percentages are being withheld as a trade secret.

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## SECTION 4. First aid measures

### Description of first-aid measures

#### *Inhalation*

After inhalation: fresh air. Consult a physician.

#### *Skin contact*

After skin contact: wash off with plenty of water. Remove contaminated clothing. Consult a physician.

#### *Eye contact*

After eye contact: rinse out with plenty of water. Call in ophthalmologist.

#### *Ingestion*

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Never give anything by mouth to an unconscious person.

### Most important symptoms and effects, both acute and delayed

The following applies to arsenic and its compounds in general: they take effect as capillary and enzyme toxins. Symptoms of arsenic poisoning: acute: after inhalation, mucosal irritations with coughing, dyspnoea, pain in the thorax. Perforations within the respiratory tract are possible. After oral uptake, gastrointestinal disorders with vomiting, diarrhea, and spasms, CNS disorders with headache, confusion, shaking fits and disturbed consciousness, cardiovascular disorders all the way to circulatory collapse. Chronic: exanthema, dermal lesions in the form of hyperkeratosis and hypermelanosis, loss of hair, conjunctivitis and polyneuropathy, impaired hepatic function, and renal damage. After accumulation in the liver, kidneys, and skin, arsenic is eliminated from the organism only slowly. Experience has shown arsenic compounds to be carcinogenic in man.

### Indication of any immediate medical attention and special treatment needed

No information available.

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## SECTION 5. Fire-fighting measures

### Extinguishing media

#### *Suitable extinguishing media*

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapors.

### Advice for firefighters

#### *Special protective equipment for fire-fighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

#### *Further information*

Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid substance contact. Do not breathe vapors, aerosols.

Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### Environmental precautions

Do not empty into drains.

### Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent and neutralizing material (e.g. Chemizorb® H<sup>+</sup>, Art. No. 101595).

Dispose of properly. Clean up affected area.

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## SECTION 7. Handling and storage

### Precautions for safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapors/aerosols.

Observe label precautions.

### Conditions for safe storage, including any incompatibilities

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Storage temperature: no restrictions.

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## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

#### Ingredients

Basis	Value	Threshold limits	Remarks
<i>Arsenic acid 7778-39-4</i>			
ACGIH	Time Weighted Average (TWA):	0.01 mg/m <sup>3</sup>	Expressed as: as As
NIOSH/GUIDE	Ceiling Limit Value and Time Period (if specified):	0.002 mg/m <sup>3</sup>	Ceiling Limit Value 15-min Expressed as: as As
Z1A	Time Weighted Average (TWA):	0.01 mg/m <sup>3</sup>	Expressed as: as As

### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

### Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

### Hygiene measures

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

### Eye/face protection

Safety glasses

### Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

### Other protective equipment:

protective clothing

### Respiratory protection

required when vapors/aerosols are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## SECTION 9. Physical and chemical properties

Physical state	liquid
Color	colorless
Odor	odorless
Odor Threshold	No information available.

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pH	ca. 1.7 at 68 °F (20 °C)
Melting point	No information available.
Boiling point	No information available.
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Density	1.02 g/cm <sup>3</sup> at 68 °F (20 °C)
Relative density	No information available.
Water solubility	at 68 °F (20 °C) soluble
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	No information available.
Oxidizing properties	No information available.

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## SECTION 10. Stability and reactivity

### Reactivity

See below

### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### Possibility of hazardous reactions

Violent reactions possible with:

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The generally known reaction partners of water.

## Conditions to avoid

no information available

## Incompatible materials

no information available

## Hazardous decomposition products

no information available

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## SECTION 11. Toxicological information

### Information on toxicological effects

#### *Likely route of exposure*

Eye contact, Skin contact

#### *Acute oral toxicity*

Acute toxicity estimate: > 2,000 mg/kg

Calculation method

#### *Acute inhalation toxicity*

Acute toxicity estimate: > 5 mg/l; 4 h

Calculation method

#### *CMR effects*

Carcinogenicity:

Possible human carcinogen

#### *Specific target organ systemic toxicity - single exposure*

The substance or mixture is not classified as specific target organ toxicant, single exposure.

#### *Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

#### *Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

### Carcinogenicity

IARC

Group 1: Carcinogenic to humans

Arsenic acid

7778-39-4

OSHA

Arsenic acid

7778-39-4

NTP

Known carcinogen.

Arsenic acid

7778-39-4

ACGIH

A1: Confirmed human carcinogen

Arsenic acid

7778-39-4

### Further information

Quantitative data on the toxicity of this product are not available.

Further toxicological data:

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Further data:

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

## Ingredients

### *Arsenic acid*

#### *Acute oral toxicity*

Acute toxicity estimate: 100.1 mg/kg

Expert judgment

#### *Acute inhalation toxicity*

Acute toxicity estimate: 0.6 mg/l; dust/mist

Expert judgment

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## SECTION 12. Ecological information

### Ecotoxicity

No information available.

### Persistence and degradability

No information available.

### Bioaccumulative potential

No information available.

### Mobility in soil

No information available.

## Ingredients

### *Arsenic acid*

#### *Partition coefficient: n-octanol/water*

log Pow: -3.14

(calculated)

(Lit.) Bioaccumulation is not expected.

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## SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

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**SECTION 14. Transport information**

**Land transport (DOT)**

**UN number** UN 1556  
**Proper shipping name** ARSENIC COMPOUND, LIQUID, N.O.S. (ARSENIC PENTOXIDE)  
**Class** 6.1  
**Packing group** II  
**Environmentally hazardous** --

**Air transport (IATA)**

**UN number** UN 1556  
**Proper shipping name** ARSENIC COMPOUND, LIQUID, N.O.S. (ARSENIC PENTOXIDE SOLUTION)  
**Class** 6.1  
**Packing group** II  
**Environmentally hazardous** --  
**Special precautions for user** no

**Sea transport (IMDG)**

**UN number** UN 1556  
**Proper shipping name** ARSENIC COMPOUND, LIQUID, N.O.S. (ARSENIC PENTOXIDE SOLUTION)  
**Class** 6.1  
**Packing group** II  
**Environmentally hazardous** --  
**Special precautions for user** yes  
**EmS** F-A S-A

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**SECTION 15. Regulatory information**

**United States of America**

**SARA 313**

The following components are subject to reporting levels established by SARA Title III, Section 313:

*Ingredients*

Arsenic acid 7778-39-4 3.7 %

**SARA 302**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.



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## DEA List I

Not listed

## DEA List II

Not listed

## US State Regulations

### Massachusetts Right To Know

*Ingredients*

Arsenic acid

### Pennsylvania Right To Know

*Ingredients*

Arsenic acid

### New Jersey Right To Know

*Ingredients*

Arsenic acid

### California Prop 65 Components

WARNING: this product contains a chemical known in the State of California to cause cancer.

*Ingredients*

Arsenic acid

## Notification status

TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL.

KOREA: Not in compliance with the inventory

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## SECTION 16. Other information

### Training advice

Provide adequate information, instruction and training for operators.

### Labeling

*Hazard pictograms*



*Signal Word*

Danger

*Hazard Statements*

H350 May cause cancer.

H411 Toxic to aquatic life with long lasting effects.

*Precautionary Statements*

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## Prevention

P201 Obtain special instructions before use.

P273 Avoid release to the environment.

## Response

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Restricted to professional users.

## Full text of H-Statements referred to under sections 2 and 3.

H350

May cause cancer.

## Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

Revision Date 01/27/2015

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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