



SAFETY DATA SHEET

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

Revision Date 01/26/2015

Version 1.4

SECTION 1. Identification

Product identifier

Product number	106277
Product name	Sodium arsenite solution $c(\text{NaAsO}_2) = 0.05 \text{ mol/l}$ (0,1 N) Titripur® Reag. USP

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

Identified uses	Reagent for analysis
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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)
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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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.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P405 Store locked up.

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

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature Aqueous solution

Hazardous ingredients

Chemical Name (Concentration)

CAS-No.

Arsenic trioxide ($\geq 0.1 \% - < 1 \%$)

1327-53-3

Exact percentages are being withheld as a trade secret.

sodium arsenite ($\geq 0.1 \% - < 1 \%$)

7784-46-5

Exact percentages are being withheld as a trade secret.

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.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. 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® OH⁻, Art. No. 101596).

Dispose of properly. Clean up affected area.

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.

Store at +15°C to +25°C (+59°F to +77°F).

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SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Ingredients

Basis	Value	Threshold limits	Remarks
<i>Arsenic trioxide 1327-53-3</i>			
ACGIH	Time Weighted Average (TWA):	0.01 mg/m ³	Expressed as: as As
NIOSH/GUIDE	Ceiling Limit Value and Time Period (if specified):	0.002 mg/m ³	Ceiling Limit Value 15-min Expressed as: as As
Z1A	Time Weighted Average (TWA):	0.01 mg/m ³	Expressed as: as As
<i>sodium arsenite 7784-46-5</i>			
ACGIH	Time Weighted Average (TWA):	0.01 mg/m ³	Expressed as: as As
NIOSH/GUIDE	Ceiling Limit Value and Time Period (if specified):	0.002 mg/m ³	Ceiling Limit Value 15-min Expressed as: as As
Z1A	Time Weighted Average (TWA):	0.01 mg/m ³	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
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Color	colorless
Odor	odorless
Odor Threshold	No information available.
pH	ca. 9.3 at 68 °F (20 °C)
Melting point	No information available.
Boiling point	No information available.
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapor pressure	No information available.
Relative vapor density	No information available.
Density	1.005 g/m ³ 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.
Ignition temperature	Not applicable

SECTION 10. Stability and reactivity

Reactivity

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See below

Chemical stability

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

Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water.

Conditions to avoid

no information available

Incompatible materials

no information available

Hazardous decomposition products

no information available

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

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	
	sodium arsenite	7784-46-5
	Arsenic trioxide	1327-53-3
OSHA	sodium arsenite	7784-46-5
	Arsenic trioxide	1327-53-3
NTP	Known carcinogen.	
	sodium arsenite	7784-46-5
	Arsenic trioxide	1327-53-3

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ACGIH	A1: Confirmed human carcinogen	
	sodium arsenite	7784-46-5
	Arsenic trioxide	1327-53-3

Further information

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

Further toxicological data:

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.

Further data:

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Ingredients

Arsenic trioxide

Acute oral toxicity

LD50 Rat: 14.6 mg/kg (IUCLID)

Symptoms: Vomiting, gastric pain, bloody diarrhea

LDLO human: 1.429 mg/kg (RTECS)

sodium arsenite

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

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 trioxide

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Toxicity to fish

LC50 Oncorhynchus mykiss (rainbow trout): 20.2 mg/l; 96 h (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates

EC50 Daphnia magna (Water flea): 8.2 mg/l; 24 h (ECOTOX Database)

sodium arsenite

No information available.

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.

SECTION 14. Transport information

Land transport (DOT)

UN number	UN 1686
Proper shipping name	SODIUM ARSENITE, AQUEOUS SOLUTION
Class	6.1
Packing group	II
Environmentally hazardous	--

Air transport (IATA)

UN number	UN 1686
Proper shipping name	SODIUM ARSENITE, AQUEOUS SOLUTION
Class	6.1
Packing group	II
Environmentally hazardous	--
Special precautions for user	no

Sea transport (IMDG)

UN number	UN 1686
Proper shipping name	SODIUM ARSENITE, AQUEOUS SOLUTION
Class	6.1
Packing group	II
Environmentally hazardous	--
Special precautions for user	yes
EmS	F-A S-A

SECTION 15. Regulatory information

United States of America

SARA 313

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

Ingredients

sodium arsenite	7784-46-5	0.153 %
Arsenic trioxide	1327-53-3	0.487 %

SARA 302

The following components are subject to reporting levels established by SARA Title III, Section 302:

Ingredients

sodium arsenite	7784-46-5
Arsenic trioxide	1327-53-3

DEA List I

Not listed

DEA List II

Not listed

US State Regulations

Massachusetts Right To Know

Ingredients

Arsenic trioxide
sodium arsenite

Pennsylvania Right To Know

Ingredients

Arsenic trioxide

New Jersey Right To Know

Ingredients

Arsenic trioxide
sodium arsenite

California Prop 65 Components

WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

Ingredients

Arsenic trioxide

California Prop 65 Components

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

Ingredients

sodium arsenite
Arsenic trioxide

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

SECTION 16. Other information

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Training advice

Provide adequate information, instruction and training for operators.

Labeling

Hazard pictograms



Signal Word

Danger

Hazard Statements

H350 May cause cancer.

H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements

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.

Revision Date 01/26/2015

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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