SAFETY DATA SHEET

Issue Date 13-Feb-2018 **Revision Date** 18-May-2017 **Version** 3

Section 1: Identification: Product identifier and chemical identity

Product identifier
Product Name Sodium Arsenite Solution
Product Code(s) 104732

Other means of identification
Safety data sheet number M01868

Recommended use of the chemical and restrictions on use

Recommended Use Chlorine removal in fluorine determination.

Uses advised against No information available

Details of manufacturer or importer

Manufacturer
Hach Company P.O. Box 389 Loveland, CO 80539 USA +1(970) 669-3050

Supplier
HACH Pacific 26 Brindley Street Dandenong South, 3175 AU Tel: 1300 887 735

Emergency telephone number
13 11 26

Section 2: Hazard(s) identification

GHS Classification

Mutagenicity	Category 1B - (H340)
Carcinogenicity	Category 1A - (H350)
Reproductive toxicity	Category 1B - (H360)
Chronic aquatic toxicity	Category 2 - (H411)

Label elements

Health hazard
Environment

Signal word - Danger

Hazard statements

H340 - May cause genetic defects
H350 - May cause cancer
H360 - May damage fertility or the unborn child
H411 - Toxic to aquatic life with long lasting effects

EU Specific Hazard Statements
Not applicable

Precautionary statements
P201 - Obtain special instructions before use
P281 - Use personal protective equipment as required
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P405 - Store locked up
P273 - Avoid release to the environment
P391 - Collect spillage
P501 - Dispose of contents/ container to an approved waste disposal plant

Other hazards
Toxic to aquatic life

No information available

Section 3: Composition and information on ingredients, in accordance with Schedule 8

Substance

Not applicable

Mixture

Chemical name	Formula	CAS No.	EC No.	Percent Range
Sodium arsenite	$NaAsO_2$	7784-46-5	232-070-5	<1%

Section 4: FIRST AID MEASURES

Emergency telephone number
Poisons Information Center, Australia: 13 11 26
Poisons Information Center, New Zealand: 0800 764 766

Description of necessary first aid measures

General advice Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention.

Inhalation Remove to fresh air.

Skin contact Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Ingestion Clean mouth with water and drink afterwards plenty of water.

For emergency responders

Self-protection of the first aider No information available.

Most important symptoms/effects, acute and delayed

Symptoms No information available.

Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians Treat symptomatically.

Section 5: Firefighting measures

Suitable Extinguishing Media

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

Unsuitable Extinguishing Media No information available

Specific hazards arising from the chemical

Specific hazards arising from the chemical No information available.

Flammable properties
During a fire, this product decomposes to form toxic gases.

Explosive properties
Not classified according to GHS criteria.

Hazardous combustion products This material will not burn.

Specific/special fire-fighting measures

Specific/special fire-fighting measures No information available.

Special protective equipment and precautions for fire-fighters

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required. Keep people away from and upwind of spill/leak.

Other Information Use personal protective equipment as required. Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Avoid release to the environment. Collect spillage. Dispose of contents/container to an approved waste disposal plant.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading.

Methods for cleaning up Cover liquid spill with sand, earth or other non-combustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Sweep up and shovel into suitable containers for disposal.

Precautions to prevent secondary hazards
Clean contaminated objects and areas thoroughly observing environmental regulations. See section 8 for more information. See

section 13 for more information.

Section 7: Handling and storage, including how the chemical may be safely used

Preventive measures for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes.

Precautions for safe handling

General Hygiene Considerations Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store locked up.

Incompatible materials Strong oxidizing agents, strong acids, and strong bases.

Section 8: Exposure controls and personal protection

Control parameters

Exposure Limits .

Legend See section 16 for terms and abbreviations

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hand Protection Wear suitable gloves.

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear suitable protective clothing.

General Hygiene Considerations Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

Environmental exposure controls Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

Thermal hazards None under normal processing.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	aqueous solution	**Color**	colorless
Odor	None	**Odor threshold**	No data available

Property	Values	Remarks • Method
Molecular weight	No data available	
pH	10.0	
Melting point/freezing point	~ 0 °C / 32 °F	Estimation based on theoretical calculation
Boiling point / boiling range	> ~ 100 °C / 212 °F	Estimation based on theoretical calculation
Evaporation rate	1.1 (water = 1)	
Vapor pressure	23.777 mm Hg / 3.17 kPa at 25 °C / 77 °F	Estimation based on theoretical calculation
Vapor density (air = 1)	0.62 (air = 1)	
Specific gravity (water = 1 / air = 1)	0.988	
Partition Coefficient (n-octanol/water)	Not applicable	
Soil Organic Carbon-Water Partition Coefficient	Not applicable	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	No data available	
Kinematic viscosity	No data available	

Solubility(ies)

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

Chemical Name	Solubility classification	Solubility	Solubility Temperature
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

Other Information

Metal Corrosivity

Steel Corrosion Rate No data available
Aluminum Corrosion Rate No data available

Volatile Organic Compounds (VOC) Content

Chemical name	CAS No.	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Sodium arsenite	7784-46-5	No data available	-

Explosive properties

Upper explosion limit	No data available
Lower explosion limit	No data available

Flammable properties

Flash point	No data available
Method	No information available

Flammability Limit in Air

Upper flammability limit:	No data available
Lower flammability limit:	No data available

Oxidizing properties	No data available.
Bulk density	Not applicable
Particle Size	No information available
Particle Size Distribution	No information available

Section 10: STABILITY AND REACTIVITY

Reactivity
Not applicable.

Chemical stability
Stability Stable under normal conditions.

Explosion data
Sensitivity to Mechanical Impact None
Sensitivity to Static Discharge None.

Possibility of Hazardous Reactions
Possibility of Hazardous Reactions None under normal processing.

Hazardous polymerization
None under normal processing.

Conditions to avoid
Conditions to avoid None known based on information supplied.

Incompatible materials
Incompatible materials Strong oxidizing agents, strong acids, and strong bases.

Hazardous Decomposition Products
arsenic compounds. Sodium oxides.

Section 11: TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure
Product Information

Inhalation	No known effect based on information supplied.
Eye contact	No known effect based on information supplied.
Skin contact	No known effect based on information supplied.
Ingestion	No known effect based on information supplied.
Symptoms	No information available.

Aggravated Medical Conditions None known.
Toxicologically synergistic products None known.
Toxicokinetics, metabolism and distribution No information available.

Product Acute Toxicity Data

Oral Exposure Route	No data available
Dermal Exposure Route	No data available
Inhalation (Dust/Mist) Exposure Route	No data available
Inhalation (Vapor) Exposure Route	No data available
Inhalation (Gas) Exposure Route	No data available

Unknown Acute Toxicity
0 % of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	8,039.00 mg/kg
ATEmix (dermal)	29,412.00 mg/kg
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

Ingredient Acute Toxicity Data

Oral Exposure Route If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium arsenite (<1%) CAS#: 7784-46-5	Rat LD_{50}	41 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

Dermal Exposure Route If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium arsenite (<1%) CAS#: 7784-46-5	Rat LD_{50}	150 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Dust/Mist) Exposure Route	If available, see data below
Inhalation (Vapor) Exposure Route	If available, see data below
Inhalation (Gas) Exposure Route	If available, see data below

Product Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route	No data available
Dermal Exposure Route	No data available
Inhalation (Dust/Mist) Exposure Route	No data available
Inhalation (Vapor) Exposure Route	No data available
Inhalation (Gas) Exposure Route	No data available

Ingredient Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route	If available, see data below
Dermal Exposure Route	If available, see data below
Inhalation (Dust/Mist) Exposure Route	If available, see data below
Inhalation (Vapor) Exposure Route	If available, see data below
Inhalation (Gas) Exposure Route	If available, see data below

Aspiration toxicity
No data available

Product Skin Corrosion/Irritation Data
No data available.

Ingredient Skin Corrosion/Irritation Data
If available, see data below

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium arsenite (<1%) CAS#: 7784-46-5	Existing human experience	Human	None reported	None reported	Skin irritant	No information available

Product Serious Eye Damage/Eye Irritation Data
No data available.

Ingredient Eye Damage/Eye Irritation Data
If available, see data below

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium arsenite (<1%) CAS#: 7784-46-5	Existing human experience	Human	None reported	None reported	Eye irritant	No information available

Sensitization Information

Product Sensitization Data
Skin Sensitization Exposure Route No data available.
Respiratory Sensitization Exposure Route No data available.

Ingredient Sensitization Data
Skin Sensitization Exposure Route If available, see data below.
Respiratory Sensitization Exposure Route If available, see data below.

Chronic Toxicity Information

Product Specific Target Organ Toxicity Repeat Dose Data
Oral Exposure Route No data available.
Dermal Exposure Route No data available.
Inhalation (Dust/Mist) Exposure Route No data available.
Inhalation (Vapor) Exposure Route No data available.
Inhalation (Gas) Exposure Route No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data
Oral Exposure Route If available, see data below
Dermal Exposure Route If available, see data below
Inhalation (Dust/Mist) Exposure Route If available, see data below
Inhalation (Vapor) Exposure Route If available, see data below
Inhalation (Gas) Exposure Route If available, see data below

Product Carcinogenicity Data
Oral Exposure Route No data available
Dermal Exposure Route No data available
Inhalation (Dust/Mist) Exposure Route No data available
Inhalation (Vapor) Exposure Route No data available
Inhalation (Gas) Exposure Route No data available

Ingredient Carcinogenicity Data

Chemical name	CAS No.	ACGIH	IARC	NTP	OSHA
Sodium arsenite	7784-46-5	A1	Group 1	Known	X

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	A1 - Known Human Carcinogen
IARC (International Agency for Research on Cancer)	Group 1 - Carcinogenic to Humans
NTP (National Toxicology Program)	Known - Known Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	X - Present

Oral Exposure Route If available, see data below
Dermal Exposure Route If available, see data below
Inhalation (Dust/Mist) Exposure Route If available, see data below
Inhalation (Vapor) Exposure Route If available, see data below
Inhalation (Gas) Exposure Route If available, see data below

Product Germ Cell Mutagenicity *invitro* **Data**
No data available.

Ingredient Germ Cell Mutagenicity *invitro* **Data**
If available, see data below

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium arsenite (<1%) CAS#: 7784-46-5	DNA damage	Human liver	0.001 mmol/L	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical name	**Test**	**Cell Strain**	**Reported dose**	**Exposure time**	**Results**	**Key literature references and sources for data**
Sodium arsenite (<1%) CAS#: 7784-46-5	DNA damage	Human lung	0.001 mmol/L	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

Product Germ Cell Mutagenicity *invivo* **Data**
Oral Exposure Route No data available
Dermal Exposure Route No data available
Inhalation (Dust/Mist) Exposure Route No data available
Inhalation (Vapor) Exposure Route No data available
Inhalation (Gas) Exposure Route No data available

Ingredient Germ Cell Mutagenicity *invivo* **Data**
Oral Exposure Route If available, see data below

Chemical name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium arsenite (<1%) CAS#: 7784-46-5	Specific locus test	Mouse	140 mg/kg	10 weeks	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical name	**Test**	**Species**	**Reported dose**	**Exposure time**	**Results**	**Key literature references and sources for data**
Sodium arsenite (<1%) CAS#: 7784-46-5	DNA damage	Mouse	100 mg/kg	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

Dermal Exposure Route If available, see data below
Inhalation (Dust/Mist) Exposure Route If available, see data below
Inhalation (Vapor) Exposure Route If available, see data below
Inhalation (Gas) Exposure Route If available, see data below

Product Reproductive Toxicity Data

Oral Exposure Route	No data available
Dermal Exposure Route	No data available
Inhalation (Dust/Mist) Exposure Route	No data available
Inhalation (Vapor) Exposure Route	No data available
Inhalation (Gas) Exposure Route	No data available

Ingredient Reproductive Toxicity Data

Oral Exposure Route If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium arsenite (<1%) CAS#: 7784-46-5	Rat TD_{Lo}	0.05478 mg/kg	None reported	**Effects on Embryo or Fetus** Abortion **Effects on Newborn** Stillbirth	RTECS (Registry of Toxic Effects of Chemical Substances)

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium arsenite (<1%) CAS#: 7784-46-5	Rat TD_{Lo}	41 mg/kg	None reported	**Effects on Embryo or Fetus** Fetal death Fetotoxicity (except death e.g. stunted fetus)	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Dust/Mist) Exposure Route	If available, see data below
Inhalation (Vapor) Exposure Route	If available, see data below
Inhalation (Gas) Exposure Route	If available, see data below

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity Toxic to aquatic life with long lasting effects

Unknown Aquatic Toxicity 0 % of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Product Ecological Data

Aquatic toxicity

Fish	No data available
Crustacea	No data available
Algae	No data available

Ingredient Ecological Data

Aquatic toxicity

Fish If available, see ingredient data below

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium arsenite (<1%) CAS#: 7784-46-5	96 hours	*Esox masquinongy*	LC_{50}	0.55 mg/L	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)

Crustacea If available, see ingredient data below

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium arsenite (<1%) CAS#: 7784-46-5	48 Hours	None reported	EC_{50}	1.27 mg/L	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)

Algae If available, see ingredient data below

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium arsenite	96 hours	None reported	EC_{50}	0.07 mg/L	GESTIS (Information System on

(<1%) CAS#: 7784-46-5					Hazardous Substances of the German Social Accident Insurance)

Other Information

Persistence and degradability

Product Biodegradability Data
No data available.

Ingredient Biodegradability Data

Chemical name	Test method	Biodegradation	Exposure time	Results
Sodium arsenite (<1%) CAS#: 7784-46-5	None reported	None reported	None reported	Not readily biodegradable

Bioaccumulation

Product Bioaccumulation Data
No data available.

Partition Coefficient (n-octanol/water) Not applicable

Ingredient Bioaccumulation Data

Mobility

Soil Organic Carbon-Water Partition Coefficient Not applicable

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Other adverse effects
Contains a substance with an endocrine-disrupting potential.

Section 13: DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

Section 14: TRANSPORT INFORMATION

ADG Not regulated

IATA Not regulated

IMDG Not regulated
Marine pollutant This material meets the definition of a marine pollutant

Additional information
There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods.
If the item is not in a reagent set or kit, the classification given above applies.
If the item is part of a reagent set or kit the classification would change to the following:
UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.
If the item is not regulated, the Chemical Kit classification does not apply.

Section 15: REGULATORY INFORMATION

Regulatory information

National regulations

Australia
Model Work Health and Safety Regulations
[NOHSC:2011(2003] National Code of Practice for the Preparation of Material Safety Data Sheets
Labelling of Workplace Hazardous Chemicals Code of Practice
See section 8 for national exposure control parameters

National pollutant inventory
Subject to reporting requirement

Chemical name	National pollutant inventory
Sodium arsenite - 7784-46-5	10 tonne/yr Threshold category 1 2000 tonne/yr Threshold category 2b 60000 MWH Threshold category 2b 20 MW Threshold category 2b

Banned and/or restricted
This product contains one or more substance(s) subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV). Verify that requirements related to using, handling, and storing substances subject to prohibition, authorization or restriction are met.

Chemical name	Carcinogen	Restricted substance
Sodium arsenite - 7784-46-5	-	For abrasive blasting at a concentration of >0.1% as Arsenic For spray painting as Arsenic

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
TCSI	Complies
AICS	Complies
NZIoC	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TCSI - Taiwan Chemical Substances Inventory

AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

International Regulations

Ozone-depleting substances (ODS) Not applicable

Persistent Organic Pollutants Not applicable

Export Notification requirements Not applicable

Section 16: Any other relevant information

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

NIOSH IDLH	*Immediately Dangerous to Life or Health*
ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
NDF	*no data*

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Ceiling Limit Value	MAC	Maximum Allowable Concentration
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

Issue Date 13-Feb-2018

Revision Date 18-May-2017

Revision Note
16
(M)SDS sections updated

Reference Sources for Section 11
See Section 11: TOXICOLOGICAL INFORMATION

Disclaimer
USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

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End of Safety Data Sheet