Printing date 06/05/2024 Reviewed on 06/05/2024

1 Identification

· Product identifier

· Trade name: Acidified Sodium Arsenite Solution

· Article number: ND578

· Details of the supplier of the safety data sheet

· Manufacturer/Supplier: Aqua Solutions, Inc. 6913 Highway 225 DEER PARK, TX 77536 USA 800-256-2586

· Information department:

Technical Coordinator

Sherman Nelson shermann@aquasolutions.org

· Emergency telephone number: Chemtrec: 800-424-9300 Canutec: 613-996-6666



2 Hazard(s) identification

· Classification of the substance or mixture



GHS08 Health hazard

Carcinogenicity 1A

H350 May cause cancer.

Specific Target Organ Toxicity - Repeated Exposure 2 H373 May cause damage to organs through prolonged or repeated exposure.



Skin Corrosion 1A

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

- Eye Damage 1
 ----• Label elements
- · GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
- · Hazard pictograms





GHS05

GHS08

- · Signal word Danger
- · Hazard-determining components of labeling:

Hydrochloric Acid

Sodium m-Arsenite

· Hazard statements

Causes severe skin burns and eye damage.

May cause cancer.

May cause damage to organs through prolonged or repeated exposure.

(Contd. on page 2)

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(Contd. of page 1)

· Precautionary statements

Obtain special instructions before use.

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

Do not breathe dusts or mists.

Wash thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Rinse mouth. Do NOT induce vomiting.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a poison center/doctor.

IF exposed or concerned: Get medical advice/attention.

Specific treatment (see on this label).

Get medical advice/attention if you feel unwell.

Wash contaminated clothing before reuse.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- · Classification system:
- · NFPA ratings (scale 0 4)



Health = 3Fire = 0Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = *3Fire = 0

- · Other hazards
- · Results of PBT and vPvB assessment
- · **PBT**: Not applicable.
- · vPvB: Not applicable.

3 Composition/information on ingredients

- · Chemical characterization: Mixtures
- · Description: Mixture of the substances listed below with nonhazardous additions.

· Dangerous comp	· Dangerous components:		
CAS: 7647-01-0	Hydrochloric Acid	17.243%	
CAS: 7784-46-5	Sodium m-Arsenite	1.0%	
· ·	ardous Ingredients		
CAS: 7732-18-5	Water	81.736%	
CAS: 68584-22-5	Benzenesulfonic acid, C10-16-alkyl derivs.	0.012%	
CAS: 9004-82-4	Sodium lauryl ether sulfate	0.007%	
CAS: 1309-48-4	Magnesium Oxide	0.001%	
CAS: 64-17-5	Ethyl Alcohol, Absolute 200 Proof	0.001%	

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Trade name: Acidified Sodium Arsenite Solution

(Contd. of page 2)

4 First-aid measures

- · Description of first aid measures
- · General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- · After inhalation: In case of unconsciousness place patient stably in side position for transportation.
- · After skin contact: Immediately wash with water and soap and rinse thoroughly.
- · After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- · After swallowing: Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- · Information for doctor:
- · Most important symptoms and effects, both acute and delayed No further relevant information available.
- · Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures

- · Extinguishing media
- · Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- · Special hazards arising from the substance or mixture

During heating or in case of fire poisonous gases are produced.

- · Advice for firefighters
- · Protective equipment: Mouth respiratory protective device.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

· Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

· Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

· Protective Action Criteria for Chemicals

1 rote out of 12 control of 12		
· PAC-1:		
CAS: 7647-01-0	Hydrochloric Acid	1.8 ppm
CAS: 7784-46-5	Sodium m-Arsenite	0.91 mg/m^3
CAS: 1309-48-4	Magnesium Oxide	30 mg/m³
CAS: 64-17-5	Ethyl Alcohol, Absolute 200 Proof	1,800 ppm
CAS: 111-42-2	Diethanolamine	3 mg/m ³
		(Contd. on page 4)

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		(Contd. of page 3
· PAC-2:		
CAS: 7647-01-0 I	Hydrochloric Acid	22 ppm
CAS: 7784-46-5 S	Sodium m-Arsenite	10 mg/m^3
CAS: 1309-48-4 N	Magnesium Oxide	120 mg/m³
CAS: 64-17-5	Ethyl Alcohol, Absolute 200 Proof	3300* ppm
CAS: 111-42-2 I	Diethanolamine	28 mg/m³
· PAC-3:		
CAS: 7647-01-0 I	Hydrochloric Acid	100 ppm
CAS: 7784-46-5 S	Sodium m-Arsenite	170 mg/m³
CAS: 1309-48-4 N	Magnesium Oxide	730 mg/m³
CAS: 64-17-5	Ethyl Alcohol, Absolute 200 Proof	15000* ppm
CAS: 111-42-2 I	Diethanolamine	130 mg/m³

7 Handling and storage

- · Handling:
- · Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

- · Information about protection against explosions and fires: Keep respiratory protective device available.
- · Conditions for safe storage, including any incompatibilities
- · Storage:
- · Requirements to be met by storerooms and receptacles: No special requirements.
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: Keep receptacle tightly sealed.
- · Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see section 7.
- · Control parameters

CAS: 7647-01-0 Hydrochloric Acid		
NIOSH RECOMENDED EXP LIM	[I] Ceiling limit value: 7.0 mg/m3 mg/m³	
PEL	Ceiling limit value: 7 mg/m³, 5 ppm	
REL	Ceiling limit value: 7 mg/m³, 5 ppm	
TLV	Ceiling limit value: 2 ppm	
	A4	
CAS: 7784-46-5 Sodium m-Arsen	ite	
PEL	Long-term value: 0.01 mg/m³ as As; 29CFR1910.1018	
REL	Ceiling limit value: 0.002 mg/m³ as As; 15min; See Pocket Guide App. A	

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Trade name: Acidified Sodium Arsenite Solution

TLV Long-term value: 0.01 mg/m^3 as As (Contd. of page 4)

- · Additional information: The lists that were valid during the creation were used as basis.
- · Exposure controls
- · Personal protective equipment:
- · General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection:



Tightly sealed goggles

· **Body protection:** Protective work clothing

9 Physical and chemical properties

- · Information on basic physical and chemical properties
- · General Information
- · Appearance:

Form: Liquid
Color: Clear

Odor: Odorless

Odor threshold: Not determined.

· pH-value: Not determined.

(Contd. on page 6)

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Trade name: Acidified Sodium Arsenite Solution

		(Contd. of page
Change in condition		
Melting point/Melting range:	Undetermined.	
Boiling point/Boiling range:	100 °C (212 °F)	
Flash point:	Not applicable.	
Flammability (solid, gaseous):	Not applicable.	
Decomposition temperature:	Not determined.	
Ignition temperature:	Product is not selfigniting.	
Danger of explosion:	Product does not present an explosion hazard.	
Explosion limits:		
Lower:	Not determined.	
Upper:	Not determined.	
Vapor pressure at 20 °C (68 °F):	23 hPa (17.3 mm Hg)	
Density at 20 °C (68 °F):	1.0265 g/cm³ (8.56614 lbs/gal)	
Relative density	Not determined.	
Vapor density	Not determined.	
Evaporation rate	Not determined.	
Solubility in / Miscibility with		
Water:	Fully miscible.	
Partition coefficient (n-octanol/wate	e r): Not determined.	
Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
Solvent content:		
Organic solvents:	0.0 %	
Water:	81.7 %	
VOC content:	0.00 %	
	0.0 g/l / 0.00 lb/gal	
Solids content:	0.0 %	
Other information	No further relevant information available.	

10 Stability and reactivity

- · Reactivity No further relevant information available.
- · Chemical stability
- · Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions No dangerous reactions known.
- · Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known.

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Trade name: Acidified Sodium Arsenite Solution

(Contd. of page 6)

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:

· LD/LC50 1	· LD/LC50 values that are relevant for classification:	
ATE (Acut	te Toxicity	Estimate)
Oral	LD50	4,100 mg/kg (rat)
Dermal	LD50	15,000 mg/kg (rat)
Inhalative	LC50/4h	50 mg/l

- · Primary irritant effect:
- · on the skin: Strong caustic effect on skin and mucous membranes.
- · on the eye:

Strong caustic effect.

Strong irritant with the danger of severe eye injury.

- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations: Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)			
CAS: 7784-46-5	Sodium m-Arsenite	1	
CAS: 64-17-5	Ethyl Alcohol, Absolute 200 Proof	1	
CAS: 111-42-2	Diethanolamine	2B	
,	· NTP (National Toxicology Program)		
CAS: 7784-46-5	Sodium m-Arsenite	K	
· OSHA-Ca (Occupational Safety & Health Administration)			
CAS: 7784-46-5 Sodium m-Arsenite			

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes:

Water hazard class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Danger to drinking water if even extremely small quantities leak into the ground.

- · Results of PBT and vPvB assessment
- · **PBT**: Not applicable.
- · vPvB: Not applicable.

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Trade name: Acidified Sodium Arsenite Solution

· Other adverse effects No further relevant information available.

(Contd. of page 7)

13 Disposal considerations

- · Waste treatment methods
- · Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

· UN-Number · DOT, IMDG, IATA	UN3289
· UN proper shipping name · DOT	Toxic liquid, corrosive, inorganic, n.o.s. (Sodium m-Arser Hydrochloric Acid)
· IMDG, IATA	TOXIC LIQUID, CORROSIVE, INORGANIC, N.O.S. (Sodium Arsenite, Hydrochloric Acid)
· Transport hazard class(es)	
· DOT	
· Class	8 Corrosive substances
· Label	8
· IMDG, IATA	
· Class · Label	8 Corrosive substances 8
· Packing group · DOT, IMDG, IATA	II
· Environmental hazards:	Not applicable.
· Special precautions for user	Warning: Toxic substances
· Hazard identification number (Kemler o	
· EMS Number:	F-A,S-B
· Segregation groups	(SGG1) Acids
· Stowage Category · Stowage Code	B SW2 Clear of living quarters.

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Trade name: Acidified Sodium Arsenite Solution

	(Contd. of page
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
$\cdot DOT$	
· Quantity limitations	On passenger aircraft/rail: 1 L
~ ,	On cargo aircraft only: 30 L
·IMDG	
· Limited quantities (LQ)	1L
\cdot Excepted quantities (\widetilde{EQ})	Code: E2
~ ~ ~ ~ ~	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 3289 TOXIC LIQUID, CORROSIVE, INORGANIC, N.O
	(SODIUM M-ARSENITE, HYDROCHLORIC ACID), 8, II

7 - 1		<i>C</i>
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- · Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Sara

· Suru	
· Section 355 (extremely hazardous substances):	
CAS: 7784-46-5 Sodium m-Arsenite	

· Section 313 (Specific toxic chemical listings):

CAS: 7784-46-5 Sodium m-Arsenite CAS: 111-42-2 Diethanolamine

· TSCA (Toxic Substances Control Act):

Water	ACTIVE
Hydrochloric Acid	ACTIVE
Sodium m-Arsenite	ACTIVE
Benzenesulfonic acid, C10-16-alkyl derivs.	ACTIVE
Sodium lauryl ether sulfate	ACTIVE
Magnesium Oxide	ACTIVE
Ethyl Alcohol, Absolute 200 Proof	ACTIVE
Diethanolamine	ACTIVE

Hazardous	Air	Pollutant	c

CAS: 7647-01-0	Hydrochloric Acid
CAS: 7784-46-5	Sodium m-Arsenite
CAS: 111-42-2	Diethanolamine

· Proposition 65

· Chemicals	known	to cause	cancer:

CAS: 7784-46-5 Sodium m-Arsenite
CAS: 111-42-2 Diethanolamine

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

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Trade name: Acidified Sodium Arsenite Solution

		(Contd. of page 9)
· Chemicals know	n to cause reproductive toxicity for males:	
None of the ingre	edients is listed.	
· Chemicals know	n to cause developmental toxicity:	
CAS: 64-17-5 E	thyl Alcohol, Absolute 200 Proof	
Carcinogenic ca	tegories	
· EPA (Environm	ental Protection Agency)	
CAS: 7784-46-5	Sodium m-Arsenite	A
· TLV (Threshold	Limit Value)	
CAS: 7784-46-5	Sodium m-Arsenite	A1
CAS: 1309-48-4	Magnesium Oxide	A4
CAS: 64-17-5	Ethyl Alcohol, Absolute 200 Proof	A3
CAS: 111-42-2	Diethanolamine	A3
· NIOSH-Ca (Nat	ional Institute for Occupational Safety and Health)	
CAS: 7784-46-5	Sodium m-Arsenite	

- GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
- · Hazard pictograms





GHS05 C

- · Signal word Danger
- · Hazard-determining components of labeling:

Hydrochloric Acid

Sodium m-Arsenite

· Hazard statements

Causes severe skin burns and eye damage.

May cause cancer.

May cause damage to organs through prolonged or repeated exposure.

· Precautionary statements

Obtain special instructions before use.

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

Do not breathe dusts or mists.

Wash thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Rinse mouth. Do NOT induce vomiting.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a poison center/doctor.

IF exposed or concerned: Get medical advice/attention.

Specific treatment (see on this label).

Get medical advice/attention if you feel unwell.

Wash contaminated clothing before reuse.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

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Trade name: Acidified Sodium Arsenite Solution

(Contd. of page 10)

· National regulations:

· Additional classification according to Decree on Hazardous Materials:

Carcinogenic hazardous material group III (dangerous).

· Information about limitation of use:

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- · Department issuing SDS: Environment protection department.
- · Contact:

Date of Preparation / Last Revision:

· Date of preparation / last revision

Revision 1.2, 06/05/2024: Reviewed SDS for accuracy. MH/STN

Revision 0.0, 05-29-2024: Creation date for SDS. STN

06/05/2024

· Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA)

NOC NATIONAL CONTRACTOR OF THE STATE OF THE

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

 $PBT: Persistent, \, Bioaccumulative \, and \, Toxic$

 $vPvB: \ very \ Persistent \ and \ very \ Bioaccumulative$

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Skin Corrosion 1A: Skin corrosion/irritation – Category 1A

Eye Damage 1: Serious eye damage/eye irritation - Category 1

Carcinogenicity 1A: Carcinogenicity - Category 1A

Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) - Category 2

* * Data compared to the previous version altered.

HS