Printing date 06/04/2024 Reviewed on 06/04/2024

1 Identification

· Product identifier

· Trade name: ICP mixed Stock Standard 10 ppm

10.0 each: Al, Sb, Ba, Bi, B, K, P, Ag, Na, W, Zr

· Article number: GIN011

· 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



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2 Hazard(s) identification

· Classification of the substance or mixture



GHS05 Corrosion

Skin Corrosion 1A H314 Causes severe skin burns and eye damage.

Eye Damage 1 H318 Causes serious eye damage.

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



GHS05

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

Nitric Acid

· Hazard statements

Causes severe skin burns and eye damage.

· Precautionary statements

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.

Specific treatment (see on this label).

(Contd. on page 2)

Reviewed on 06/04/2024 Printing date 06/04/2024

Trade name: ICP mixed Stock Standard 10 ppm

10.0 each: Al, Sb, Ba, Bi, B, K, P, Ag, Na, W, Zr

(Contd. of page 1)

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 = 0

Reactivity = 0

· HMIS-ratings (scale 0 - 4)



3 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 components:			
CAS: 7697-37-2	Nitric Acid	5.0%	
. Table of Nonhazardous Ingredients			

· Table of Nonhazardous Ingredients		
CAS: 7732-18-5	Water	94.949%
CAS: 7784-27-2	Aluminum Nitrate	0.014%
CAS: 7664-39-3	Hydrofluoric Acid 49-51% Aqueous Solution	<0.01%
CAS: 10043-35-3	boric acid	0.006%
CAS: 7631-99-4	Sodium Nitrate	0.004%
CAS: 7722-76-1	Ammonium Phosphate Monobasic	0.004%
CAS: 7757-79-1	Potassium Nitrate	0.003%
CAS: 7761-88-8	Silver Nitrate	0.002%
CAS: 10022-31-8	Barium Nitrate	0.002%
CAS: 11120-25-5	Ammonium Paratungstate	0.002%
CAS: 13826-66-9	zirconium oxynitrate	0.002%
CAS: 7440-36-0	Antimony Metal	0.001%
CAS: 7440-69-9	bismuth	0.001%

4 First-aid measures

- · Description of first aid measures
- · General information: Immediately remove any clothing soiled by the product.
- · 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.

(Contd. on page 3)

Printing date 06/04/2024 Reviewed on 06/04/2024

Trade name: ICP mixed Stock Standard 10 ppm

10.0 each: Al, Sb, Ba, Bi, B, K, P, Ag, Na, W, Zr

(Contd. of page 2)

- · 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.
- $\cdot \textit{Indication of any immediate medical attention and special treatment needed}$

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

· PAC-1:		
CAS: 7697-37-2	Nitric Acid	0.16 ppm
CAS: 7784-27-2	Aluminum Nitrate	83 mg/m³
CAS: 7664-39-3	Hydrofluoric Acid 49-51% Aqueous Solution	1.0 ppm
CAS: 10043-35-3	B boric acid	6 mg/m³
CAS: 7631-99-4	Sodium Nitrate	4.1 mg/m ³
CAS: 7722-76-1	Ammonium Phosphate Monobasic	17 mg/m³
CAS: 7757-79-1	Potassium Nitrate	9 mg/m³
CAS: 7761-88-8	Silver Nitrate	$0.047 mg/m^3$
CAS: 10022-31-8	Barium Nitrate	2.9 mg/m ³
CAS: 11120-25-5	Ammonium Paratungstate	4.1 mg/m ³
CAS: 13826-66-9	zirconium oxynitrate	25 mg/m³
CAS: 7440-36-0	Antimony Metal	1.5 mg/m ³
		(Contd. on page 4)

-US

Printing date 06/04/2024 Reviewed on 06/04/2024

Trade name: ICP mixed Stock Standard 10 ppm

10.0 each: Al, Sb, Ba, Bi, B, K, P, Ag, Na, W, Zr

CAS: 7440-69-9	bismuth	15 mg/m³
PAC-2:	1	
CAS: 7697-37-2	Nitric Acid	24 ppm
CAS: 7784-27-2	Aluminum Nitrate	920 mg/
CAS: 7664-39-3	Hydrofluoric Acid 49-51% Aqueous Solution	24 ppm
CAS: 10043-35-3	boric acid	23 mg/n
CAS: 7631-99-4	Sodium Nitrate	45 mg/n
CAS: 7722-76-1	Ammonium Phosphate Monobasic	190 mg/
CAS: 7757-79-1	Potassium Nitrate	100 mg/
CAS: 7761-88-8	Silver Nitrate	0.9 mg/s
CAS: 10022-31-8		350 mg/
CAS: 11120-25-5	Ammonium Paratungstate	45 mg/n
CAS: 13826-66-9	zirconium oxynitrate	220 mg/
CAS: 7440-36-0	Antimony Metal	13 mg/n
CAS: 7440-69-9	bismuth	170 mg/
<i>PAC-3:</i>		·
CAS: 7697-37-2	Nitric Acid	92 ppm
CAS: 7784-27-2	Aluminum Nitrate	5,500 mg/
CAS: 7664-39-3	Hydrofluoric Acid 49-51% Aqueous Solution	44 ppm
CAS: 10043-35-3	boric acid	830 mg/m
CAS: 7631-99-4	Sodium Nitrate	270 mg/m
CAS: 7722-76-1	Ammonium Phosphate Monobasic	1,100 mg/
CAS: 7757-79-1	Potassium Nitrate	600 mg/m
CAS: 7761-88-8	Silver Nitrate	5.4 mg/m ²
CAS: 10022-31-8	Barium Nitrate	2,100 mg/
CAS: 11120-25-5	Ammonium Paratungstate	270 mg/m
CAS: 13826-66-9	zirconium oxynitrate	1,300 mg/
CAS: 7440-36-0	Antimony Metal	80 mg/m³
CAS: 7440-69-9	hismuth	990 mg/m

7 Handling and storage

- · Handling:
- · Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

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.

(Contd. on page 5)

Printing date 06/04/2024 Reviewed on 06/04/2024

Trade name: ICP mixed Stock Standard 10 ppm

10.0 each: Al, Sb, Ba, Bi, B, K, P, Ag, Na, W, Zr

(Contd. of page 4)

· 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
- · Components with limit values that require monitoring at the workplace:

CAS: 7697-37-2 Nitric Acid

PEL Long-term value: 5 mg/m³, 2 ppm REL Short-term value: 10 mg/m³, 4 ppm

Long-term value: 5 mg/m³, 2 ppm

TLV Short-term value: (4) NIC-0.025* ppm

Long-term value: (2) ppm *inh. fraction + vapor, NIC-A4

- · 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.

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

(Contd. on page 6)

Printing date 06/04/2024 Reviewed on 06/04/2024

Trade name: ICP mixed Stock Standard 10 ppm 10.0 each: Al, Sb, Ba, Bi, B, K, P, Ag, Na, W, Zr

(Contd. of page 5)

 $\cdot \textit{Body protection:} \ Protective \ work \ clothing$

Physical and chemical propert	
Information on basic physical and c	hemical properties
General Information	
· Appearance: Form:	Liquid
Color:	Elquiu Clear
· Odor:	Odorless
· Odor threshold:	Not determined.
· pH-value at 20 °C (68 °F):	<2
· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	83 °C (181.4 °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):	$1.02565 \ g/cm^3 \ (8.55905 \ lbs/gal)$
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
Water:	Fully miscible.
· Partition coefficient (n-octanol/wate	r): Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Water:	94.9 %
VOC content:	0.00 %
	0.0 g/l / 0.00 lb/gal
Solids content:	0.0 %
· Other information	No further relevant information available.

Printing date 06/04/2024 Reviewed on 06/04/2024

Trade name: ICP mixed Stock Standard 10 ppm

10.0 each: Al, Sb, Ba, Bi, B, K, P, Ag, Na, W, Zr

(Contd. of page 6)

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.

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:
- · LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Inhalative LC50/4h 60 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)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

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 1 (Self-assessment): slightly hazardous for water

(Contd. on page 8)

Printing date 06/04/2024 Reviewed on 06/04/2024

Trade name: ICP mixed Stock Standard 10 ppm

10.0 each: Al, Sb, Ba, Bi, B, K, P, Ag, Na, W, Zr

(Contd. of page 7)

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

- · Results of PBT and vPvB assessment
- · **PBT**: Not applicable.
- · vPvB: Not applicable.
- · Other adverse effects No further relevant information available.

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.

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· UN-Number · DOT, IMDG, IATA	UN3264
UN proper shipping nameDOTIMDG, IATA	Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid) CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric Acid)

- · Transport hazard class(es)
- $\cdot DOT$

· Label



· Class 8 Corrosive substances

· IMDG, IATA



ClassLabel8 Corrosive substances8

· Packing group

· DOT, IMDG, IATA

· Environmental hazards: Not applicable.

(Contd. on page 9)

Printing date 06/04/2024 Reviewed on 06/04/2024

Trade name: ICP mixed Stock Standard 10 ppm

10.0 each: Al, Sb, Ba, Bi, B, K, P, Ag, Na, W, Zr

	(Contd. of page
· Special precautions for user	Warning: Corrosive substances
· Hazard identification number (Kemler code	
· EMS Number:	F- A , S - B
· Segregation groups	(SGG1) Acids
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· 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 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O
G	(NITRIC ACID), 8, III

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture No further relevant information available.

· Sara			
· Section 355 (extremely hazardous substances):			
CAS: 7697-37-2	CAS: 7697-37-2 Nitric Acid		
CAS: 7664-39-3	Hydrofluoric Acid 49-51% Aqueous Solution		
· Section 313 (Spec	rific toxic chemical listings):		
CAS: 7697-37-2	Nitric Acid		
CAS: 7784-27-2	Aluminum Nitrate		
CAS: 7664-39-3	Hydrofluoric Acid 49-51% Aqueous Solution		
CAS: 7757-79-1	Potassium Nitrate		
CAS: 7761-88-8	Silver Nitrate		
CAS: 10022-31-8	Barium Nitrate		
CAS: 7440-36-0	CAS: 7440-36-0 Antimony Metal		
· TSCA (Toxic Sub	stances Control Act):		
Water		ACTIVE	
Nitric Acid	Nitric Acid ACTIV		
Hydrofluoric Acia	Hydrofluoric Acid 49-51% Aqueous Solution ACTIVE		
boric acid ACTIVE		ACTIVE	
Sodium Nitrate ACTIVI		ACTIVE	
Ammonium Phosp	Ammonium Phosphate Monobasic ACTIVE		
	(Cor	ntd. on page 10)	

Reviewed on 06/04/2024 Printing date 06/04/2024

Trade name: ICP mixed Stock Standard 10 ppm

10.0 each: Al, Sb, Ba, Bi, B, K, P, Ag, Na, W, Zr

	(Contd. of page 9
Potassium Nitrate	ACTIVE
Silver Nitrate	ACTIVE
Barium Nitrate	ACTIVE
Ammonium Paratungstate	ACTIVE
zirconium oxynitrate	ACTIVE
Antimony Metal	ACTIVE
bismuth	ACTIVE
Hazardous Air Pollutants	'
CAS: 7664-39-3 Hydrofluoric Acid 49-51% Aqueous Solution	
Proposition 65	

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency)			
CAS: 10043-35-3	boric acid	I (oral)	
CAS: 10022-31-8	Barium Nitrate	D, CBD(inh), NL(oral)	
,	· TLV (Threshold Limit Value)		
CAS: 10043-35-3	boric acid	A4	
CAS: 10022-31-8	Barium Nitrate	A4	
· NIOSH-Ca (National Institute for Occupational Safety and Health)			
None of the ingredients is listed.			

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



GHS05

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

Nitric Acid

· Hazard statements

Causes severe skin burns and eye damage.

· Precautionary statements

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.

(Contd. on page 11)

Printing date 06/04/2024 Reviewed on 06/04/2024

Trade name: ICP mixed Stock Standard 10 ppm

10.0 each: Al, Sb, Ba, Bi, B, K, P, Ag, Na, W, Zr

(Contd. of page 10)

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.

Specific treatment (see on this label).

Wash contaminated clothing before reuse.

Store locked up.

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

· 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, 06/04/2024: Reviewed SDS for accuracy. MH/STN

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

06/04/2024

· 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)

 $HMIS: Hazardous\ Materials\ Identification\ System\ (USA)$

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

* Data compared to the previous version altered.

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