

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/27/2017

Reviewed on 11/27/2017

1 Identification

- **Product identifier**
- **Trade name:** Mixed Metal Standard
1.0 ppm Each Component
- **Article number:** INT003
- **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 sherman@aquasolutions.org
- **Emergency telephone number:**
Chemtrec: 800-424-9300
Canutec: 613-996-6666



2 Hazard(s) identification

- **Classification of the substance or mixture**
The product is not classified according to the Globally Harmonized System (GHS).
- **Label elements**
- **GHS label elements** Not Applicable
- **Hazard pictograms** Not Applicable
- **Signal word** Not Applicable
- **Hazard statements** Not Applicable
- **Precautionary statements**
If swallowed: Call a poison center/doctor if you feel unwell.
If on skin: Wash with plenty of water.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**

0	0	0
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 - Health = 0
 - Fire = 0
 - Reactivity = 0
- **HMIS-ratings (scale 0 - 4)**

HEALTH	1	Health = 1
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.
- **Dangerous components:** Not Applicable

· **Table of Nonhazardous Ingredients**

CAS: 7697-37-2	Nitric Acid	0.203%
CAS: 7789-02-8	Chromium Nitrate Nonahydrate	0.0077%
CAS: 10026-22-9	Cobalt Nitrate Hexahydrate	0.0049%
CAS: 10099-74-8	Lead Nitrate	0.0016%
CAS: 7761-88-8	Silver Nitrate	0.0016%
CAS: 7440-02-0	Nickel Metal	0.001%
CAS: 7439-89-6	Iron Metal	0.001%
CAS: 7440-66-6	Zinc Metal	0.001%
CAS: 7440-50-8	copper	0.001%
CAS: 7732-18-5	Water	99.778%

4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately rinse with water.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** If symptoms persist consult 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** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **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).

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Dispose contaminated material as waste according to item 13.

· **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: 10026-22-9	Cobalt Nitrate Hexahydrate	0.3 mg/m ³
CAS: 10099-74-8	Lead Nitrate	0.24 mg/m ³
CAS: 7761-88-8	Silver Nitrate	0.047 mg/m ³
CAS: 7440-02-0	Nickel Metal	4.5 mg/m ³
CAS: 7439-89-6	Iron Metal	3.2 mg/m ³
CAS: 7440-66-6	Zinc Metal	6 mg/m ³
CAS: 7440-50-8	copper	3 mg/m ³

· **PAC-2:**

CAS: 7697-37-2	Nitric Acid	24 ppm
CAS: 10026-22-9	Cobalt Nitrate Hexahydrate	23 mg/m ³
CAS: 10099-74-8	Lead Nitrate	180 mg/m ³
CAS: 7761-88-8	Silver Nitrate	0.9 mg/m ³
CAS: 7440-02-0	Nickel Metal	50 mg/m ³
CAS: 7439-89-6	Iron Metal	35 mg/m ³
CAS: 7440-66-6	Zinc Metal	21 mg/m ³
CAS: 7440-50-8	copper	33 mg/m ³

· **PAC-3:**

CAS: 7697-37-2	Nitric Acid	92 ppm
CAS: 10026-22-9	Cobalt Nitrate Hexahydrate	140 mg/m ³
CAS: 10099-74-8	Lead Nitrate	1,100 mg/m ³
CAS: 7761-88-8	Silver Nitrate	5.4 mg/m ³
CAS: 7440-02-0	Nickel Metal	99 mg/m ³
CAS: 7439-89-6	Iron Metal	150 mg/m ³
CAS: 7440-66-6	Zinc Metal	120 mg/m ³
CAS: 7440-50-8	copper	200 mg/m ³

7 Handling and storage

· **Handling:**

· **Precautions for safe handling** No special measures required.

· **Information about protection against explosions and fires:** No special measures required.

· **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:** None.

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· **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 item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** *The lists that were valid during the creation were used as basis.*
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** *Not required.*
- **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:** *Goggles recommended during refilling.*
- **Body protection:** *Protective work clothing*

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Liquid
Color:	Light grey
Odor:	Odorless
Odor threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C (212 °F)

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· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	
Decomposition temperature:	Not determined.
· Auto igniting:	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):	1.0008 g/cm ³ (8.35168 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/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Water:	99.8 %
VOC content:	0.00 %
	0.0 g/l / 0.00 lb/gl
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.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.

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- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
 The product is not subject to classification according to internally approved calculation methods for preparations:
 When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

CAS: 10026-22-9	Cobalt Nitrate Hexahydrate	2B
CAS: 10099-74-8	Lead Nitrate	2A
CAS: 7440-02-0	Nickel Metal	2B

- **NTP (National Toxicology Program)**

CAS: 10099-74-8	Lead Nitrate	R
CAS: 7440-02-0	Nickel Metal	R

- **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
 Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **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:** Smaller quantities can be disposed of with household waste.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

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14 Transport information

· UN-Number	
· DOT, ADN, IMDG, IATA	Not regulated
· UN proper shipping name	
· DOT, ADN, IATA	Not regulated
· IMDG	Not Regulated
· Transport hazard class(es)	
· DOT, ADN, IMDG, IATA	
· Class	Not regulated
· Packing group	
· DOT, IMDG, IATA	Not regulated
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	Not regulated

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture	
· Sara	
· Section 355 (extremely hazardous substances):	
CAS: 7697-37-2	Nitric Acid
· Section 313 (Specific toxic chemical listings):	
CAS: 7697-37-2	Nitric Acid
CAS: 7789-02-8	Chromium Nitrate Nonahydrate
CAS: 10026-22-9	Cobalt Nitrate Hexahydrate
CAS: 10099-74-8	Lead Nitrate
CAS: 7761-88-8	Silver Nitrate
CAS: 7440-02-0	Nickel Metal
CAS: 7440-66-6	Zinc Metal
CAS: 7440-50-8	copper
· TSCA (Toxic Substances Control Act):	
Nitric Acid	
Lead Nitrate	
Silver Nitrate	
Nickel Metal	
Iron Metal	
Zinc Metal	
copper	
Water	

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- TSCA new (21st Century Act) (Substances not listed)
- Proposition 65

· **Chemicals known to cause cancer:**

CAS: 10099-74-8	Lead Nitrate
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CAS: 7440-02-0	Nickel Metal
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· **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: 10099-74-8	Lead Nitrate	B2
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CAS: 7440-66-6	Zinc Metal	D, I, II
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CAS: 7440-50-8	copper	D
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· **TLV (Threshold Limit Value established by ACGIH)**

CAS: 10099-74-8	Lead Nitrate	A3
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CAS: 7440-02-0	Nickel Metal	A5
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· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

CAS: 7440-02-0	Nickel Metal
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· **GHS label elements** Not Applicable

· **Hazard pictograms** Not Applicable

· **Signal word** Not Applicable

· **Hazard statements** Not Applicable

· **Precautionary statements**

If swallowed: Call a poison center/doctor if you feel unwell.

If on skin: Wash with plenty of water.

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

Continue rinsing.

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**

11-27-2017: review SDS for accuracy. STN

Creation date for SDS 01-20-2015. STN

11/27/2017 / -

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

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IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
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)
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

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