

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/22/2024

Reviewed on 05/22/2024

1 Identification

- **Product identifier**
- **Trade name:** Mixed IC Std 30ppm Na,10ppm
5 ppm ea:Li,K, NH₃Mg,Ca,50 ppm MDEA in 2 mM HNO₃
- **Article number:** MOT160
- **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
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**
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)**
- Health = 1
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.

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· **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	0.2%
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- **Table of Nonhazardous Ingredients**

CAS: 7732-18-5	Water	99.761%
CAS: 7447-40-7	Potassium Chloride	0.01%
CAS: 7647-14-5	Sodium Chloride	0.008%
CAS: 105-59-9	N-Methyldiethanolamine, 99%	0.005%
CAS: 110-91-8	Morpholine 99+%, Redistiled, Reagent A.C.S.	0.005%
CAS: 7791-18-6	Magnesium Chloride Hexahydrate	0.004%
CAS: 7447-41-8	Lithium Chloride	0.003%
CAS: 10035-04-8	Calcium Chloride Dihydrate	0.002%
CAS: 12125-02-9	Ammonium Chloride, Reagent ACS Grade	0.002%
CAS: 141-43-5	2-Aminoethanol (Monoethanolamine), Reagent Grade	0.001%

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.

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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).

Dispose contaminated material as waste according to section 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: 110-91-8	Morpholine 99+%, Redistiled, Reagent A.C.S.	30 ppm
CAS: 7791-18-6	Magnesium Chloride Hexahydrate	34 mg/m ³
CAS: 7447-41-8	Lithium Chloride	2.3 mg/m ³
CAS: 10035-04-8	Calcium Chloride Dihydrate	16 mg/m ³
CAS: 12125-02-9	Ammonium Chloride, Reagent ACS Grade	20 mg/m ³
CAS: 141-43-5	2-Aminoethanol (Monoethanolamine), Reagent Grade	6 ppm

· PAC-2:

CAS: 7697-37-2	Nitric Acid	24 ppm
CAS: 110-91-8	Morpholine 99+%, Redistiled, Reagent A.C.S.	1,300 ppm
CAS: 7791-18-6	Magnesium Chloride Hexahydrate	370 mg/m ³
CAS: 7447-41-8	Lithium Chloride	25 mg/m ³
CAS: 10035-04-8	Calcium Chloride Dihydrate	170 mg/m ³
CAS: 12125-02-9	Ammonium Chloride, Reagent ACS Grade	54 mg/m ³
CAS: 141-43-5	2-Aminoethanol (Monoethanolamine), Reagent Grade	170 ppm

· PAC-3:

CAS: 7697-37-2	Nitric Acid	92 ppm
CAS: 110-91-8	Morpholine 99+%, Redistiled, Reagent A.C.S.	8000** ppm
CAS: 7791-18-6	Magnesium Chloride Hexahydrate	1,600 mg/m ³
CAS: 7447-41-8	Lithium Chloride	150 mg/m ³
CAS: 10035-04-8	Calcium Chloride Dihydrate	1,100 mg/m ³
CAS: 12125-02-9	Ammonium Chloride, Reagent ACS Grade	330 mg/m ³
CAS: 141-43-5	2-Aminoethanol (Monoethanolamine), Reagent Grade	1,000 ppm

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 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/m ³ , 2 ppm
REL	Short-term value: 10 mg/m ³ , 4 ppm Long-term value: 5 mg/m ³ , 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:**

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:	Clear
Odor:	Odorless

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· Odor threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
Melting point/Melting range:	0 °C (32 °F)
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):	1.0188 g/cm ³ (8.50189 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:	
Organic solvents:	0.0 %
Water:	99.8 %
VOC content:	0.01 % 0.1 g/l / 0.00 lb/gal
Solids content:	1.9 %
· 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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11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

ATE (Acute Toxicity Estimate)

Inhalative	LC50/4h	1,500 mg/l
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- **Primary irritant effect:**

- **on the skin:** No irritant effect.
- **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: 110-91-8	Morpholine 99+%, Redistiled, Reagent A.C.S.	3
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· **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
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.

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

14 Transport information

· UN-Number	Not regulated
· DOT, ADN, IMDG, IATA	Not regulated
· UN proper shipping name	Not regulated
· DOT, ADN, IATA	Not Regulated
· IMDG	Not regulated
· Transport hazard class(es)	Not regulated
· DOT, ADN, IMDG, IATA	Not regulated
· Class	Not regulated
· Packing group	Not regulated
· 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**
No further relevant information available.
- **Sara**

· Section 355 (extremely hazardous substances):	
CAS: 7697-37-2	Nitric Acid
· Section 313 (Specific toxic chemical listings):	
CAS: 7697-37-2	Nitric Acid
· TSCA (Toxic Substances Control Act):	
Water	ACTIVE
Nitric Acid	ACTIVE
Potassium Chloride	ACTIVE
Sodium Chloride	ACTIVE
N-Methyldiethanolamine, 99%	ACTIVE
Morpholine 99+%, Redistiled, Reagent A.C.S.	ACTIVE
Lithium Chloride	ACTIVE
Ammonium Chloride, Reagent ACS Grade	ACTIVE

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2-Aminoethanol (Monoethanolamine), Reagent Grade

ACTIVE

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **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)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

CAS: 110-91-8 | Morpholine 99+%, Redistilled, Reagent A.C.S.

A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **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:

· **Date of preparation / last revision**

Revision 1.2, 05/22/2024: Reviewed SDS for accuracy. MH/STN
05/22/2024

· **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)

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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

· *** Data compared to the previous version altered.**

US