

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/13/2024

Reviewed on 06/13/2024

## 1 Identification

- **Product identifier**
- **Trade name:** Calibration Stock Std for Amine  
1,000 ppm NH<sub>3</sub>, DEA, MEA, MA, Cyclo
- **Article number:** LY473
- **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](mailto: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 2      H351 Suspected of causing cancer.  
Toxic to Reproduction 2      H361 Suspected of damaging fertility or the unborn child.

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



GHS08

- **Signal word** Warning
- **Hazard-determining components of labeling:**  
cyclohexylamine  
Diethanolamine
- **Hazard statements**  
Suspected of causing cancer.  
Suspected of damaging fertility or the unborn child.
- **Precautionary statements**  
Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Wear protective gloves/protective clothing/eye protection/face protection.  
IF exposed or concerned: Get medical advice/attention.  
Store locked up.  
Dispose of contents/container in accordance with local/regional/national/international regulations.

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



- **HMIS-ratings (scale 0 - 4)**



- **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: 108-91-8	cyclohexylamine	0.1%
CAS: 111-42-2	Diethanolamine	0.1%

#### · **Table of Nonhazardous Ingredients**

CAS: 7732-18-5	Water	99.286%
CAS: 12125-02-9	Ammonium Chloride, Reagent ACS Grade	0.314%
CAS: 74-89-5	methylamine (mono-)	0.1%
CAS: 141-43-5	2-Aminoethanol (Monoethanolamine), Reagent Grade	0.1%

### 4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **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.

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- **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.
- **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: 12125-02-9	Ammonium Chloride, Reagent ACS Grade	20 mg/m <sup>3</sup>
CAS: 74-89-5	methylamine (mono-)	15 ppm
CAS: 108-91-8	cyclohexylamine	1.8 ppm
CAS: 111-42-2	Diethanolamine	3 mg/m <sup>3</sup>
CAS: 141-43-5	2-Aminoethanol (Monoethanolamine), Reagent Grade	6 ppm

### · PAC-2:

CAS: 12125-02-9	Ammonium Chloride, Reagent ACS Grade	25 ppm
CAS: 74-89-5	methylamine (mono-)	64 ppm
CAS: 108-91-8	cyclohexylamine	8.6 ppm
CAS: 111-42-2	Diethanolamine	28 mg/m <sup>3</sup>
CAS: 141-43-5	2-Aminoethanol (Monoethanolamine), Reagent Grade	170 ppm

### · PAC-3:

CAS: 12125-02-9	Ammonium Chloride, Reagent ACS Grade	150 ppm
CAS: 74-89-5	methylamine (mono-)	350 ppm
CAS: 108-91-8	cyclohexylamine	30 ppm
CAS: 111-42-2	Diethanolamine	130 mg/m <sup>3</sup>
CAS: 141-43-5	2-Aminoethanol (Monoethanolamine), Reagent Grade	1,000 ppm

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Open and handle receptacle with care.
- **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.

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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: 108-91-8 cyclohexylamine**

REL Long-term value: 40 mg/m<sup>3</sup>, 10 ppm

TLV Long-term value: 10 ppm  
A4

**CAS: 111-42-2 Diethanolamine**

REL Long-term value: 15 mg/m<sup>3</sup>, 3 ppm

TLV Long-term value: 1\* mg/m<sup>3</sup>  
Skin; \*inhalable fraction and vapor, A3

· **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.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

· **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

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## 9 Physical and chemical properties

· <i>Information on basic physical and chemical properties</i>	
· <i>General Information</i>	
· <i>Appearance:</i>	
<i>Form:</i>	<i>Liquid</i>
<i>Color:</i>	<i>Colorless</i>
· <i>Odor:</i>	<i>Odorless</i>
· <i>Odor threshold:</i>	<i>Not determined.</i>
· <i>pH-value:</i>	<i>Not determined.</i>
· <i>Change in condition</i>	
<i>Melting point/Melting range:</i>	<i>0 °C (32 °F)</i>
<i>Boiling point/Boiling range:</i>	<i>100 °C (212 °F)</i>
· <i>Flash point:</i>	<i>Not applicable.</i>
· <i>Flammability (solid, gaseous):</i>	<i>Not applicable.</i>
· <i>Decomposition temperature:</i>	<i>Not determined.</i>
· <i>Ignition temperature:</i>	<i>Product is not selfigniting.</i>
· <i>Danger of explosion:</i>	<i>Product does not present an explosion hazard.</i>
· <i>Explosion limits:</i>	
<i>Lower:</i>	<i>Not determined.</i>
<i>Upper:</i>	<i>Not determined.</i>
· <i>Vapor pressure at 20 °C (68 °F):</i>	<i>23 hPa (17.3 mm Hg)</i>
· <i>Density at 20 °C (68 °F):</i>	<i>1.00137 g/cm<sup>3</sup> (8.35643 lbs/gal)</i>
· <i>Relative density</i>	<i>Not determined.</i>
· <i>Vapor density</i>	<i>Not determined.</i>
· <i>Evaporation rate</i>	<i>Not determined.</i>
· <i>Solubility in / Miscibility with</i>	
<i>Water:</i>	<i>Fully miscible.</i>
· <i>Partition coefficient (n-octanol/water):</i> <i>Not determined.</i>	
· <i>Viscosity:</i>	
<i>Dynamic:</i>	<i>Not determined.</i>
<i>Kinematic:</i>	<i>Not determined.</i>
· <i>Solvent content:</i>	
<i>Organic solvents:</i>	<i>0.2 %</i>
<i>Water:</i>	<i>99.3 %</i>
<i>VOC content:</i>	<i>0.20 %</i> <i>2.0 g/l / 0.02 lb/gal</i>
<i>Solids content:</i>	<i>0.3 %</i>
· <i>Other information</i>	<i>No further relevant information available.</i>

## 10 Stability and reactivity

· *Reactivity* *No further relevant information available.*

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- **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.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
*The product shows the following dangers according to internally approved calculation methods for preparations:*

- **Carcinogenic categories**

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

CAS: 111-42-2	Diethanolamine	2B
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- **NTP (National Toxicology Program)**

None of the ingredients is listed.
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- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.
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## 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:** Not hazardous for water.
- **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.

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· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

· <b>UN-Number</b>	
· <b>DOT, IMDG, IATA</b>	Not regulated
· <b>UN proper shipping name</b>	
· <b>DOT, IMDG, IATA</b>	Not regulated
· <b>Transport hazard class(es)</b>	
· <b>DOT, ADN, IMDG, IATA</b>	
· <b>Class</b>	Not regulated
· <b>Packing group</b>	
· <b>DOT, IMDG, IATA</b>	Not regulated
· <b>Environmental hazards:</b>	Not applicable.
· <b>Special precautions for user</b>	Not applicable.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>UN "Model Regulation":</b>	Not regulated

## 15 Regulatory information

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

· **Sara**

· <b>Section 355 (extremely hazardous substances):</b>	
CAS: 108-91-8	cyclohexylamine
· <b>Section 313 (Specific toxic chemical listings):</b>	
CAS: 111-42-2	Diethanolamine
· <b>TSCA (Toxic Substances Control Act):</b>	
Water	ACTIVE
Ammonium Chloride, Reagent ACS Grade	ACTIVE
methylamine (mono-)	ACTIVE
cyclohexylamine	ACTIVE
Diethanolamine	ACTIVE
2-Aminoethanol (Monoethanolamine), Reagent Grade	ACTIVE
· <b>Hazardous Air Pollutants</b>	
CAS: 111-42-2	Diethanolamine
· <b>Proposition 65</b>	
· <b>Chemicals known to cause cancer:</b>	
CAS: 111-42-2	Diethanolamine

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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)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

CAS: 108-91-8	cyclohexylamine	A4
CAS: 111-42-2	Diethanolamine	A3

· **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**



GHS08

· **Signal word** Warning

· **Hazard-determining components of labeling:**

cyclohexylamine

Diethanolamine

· **Hazard statements**

Suspected of causing cancer.

Suspected of damaging fertility or the unborn child.

· **Precautionary statements**

Obtain special instructions before use.

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

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

IF exposed or concerned: Get medical advice/attention.

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 0.1, 06/13/2024: Reviewed SDS for accuracy. MH/STN

06/13/2024 / 1.0

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· **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)  
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  
Carcinogenicity 2: Carcinogenicity – Category 2  
Toxic to Reproduction 2: Reproductive toxicity – Category 2

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

US