Safety Data Sheet: CHEM-AQUA 18011

Supercedes Date: 12/06/2021 **Issuing Date:** 04/04/2022

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: CHEM-AQUA 18011
Recommended use Water treatment chemical
Information on Manufacturer
CHEM-AQUA, INC
BOX 152170
IRVING, TEXAS 75015

Product Code: 0879
Chemical nature Amines solution
Emergency Telephone
CHEMTREC® 800-424-9300
Telephone inquiry
972-579-2477

2. HAZARD IDENTIFICATION

Color Colorless to Amber **Physical state** Liquid **Odor** Fishy ammonia

GHS Classification

Physical Hazards

Flammable liquids	Category 4
Corrosive to metals	Category 1

Health Hazard

Acute Inhalation Toxicity - Gas	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin Corrosion/Irritation	Category 1
Serious Eye Damage/Eye Irritation	Category 1
Reproductive Toxicity	Category 2

Other hazards
None

Labeling
Signal Word
DANGER

Hazard statements
H227 - Combustible liquid
H314 - Causes severe skin burns and eye damage
H332 - Harmful if inhaled
H361 - Suspected of damaging fertility or the unborn child
H290 - May be corrosive to metals

Precautionary Statements
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from heat, sparks, open flames or hot surfaces.
P280 - Wear protective gloves, protective clothing, eye protection and face protection.
P264 - Wash face, hands and any exposed skin thoroughly after handling.
P260 - Do not breathe mist and vapor.
P271 - Use in a well-ventilated area.
P270 - Do not eat, drink or smoke when using this product
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P332 + P313 - If skin irritation occurs, get medical attention.
P363 - Wash contaminated clothing before reuse
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a physician.
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P342 + P311 - If experiencing respiratory symptoms, call a physician.
P301+ P330 + P331 - IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Call a physician if unwell.
P403 + P235 - Store in a well-ventilated place. Keep cool
P406 - Store in a corrosion-resistant container.
P390 - Absorb spillage to prevent damage.
P501 - Dispose of contents and container in accordance with applicable regulations

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Weight-%
Diethyl ethanolamine	100-37-8	10-30
Cyclohexylamine	108-91-8	7-13
Morpholine	110-91-8	7-13

*The exact percentage (concentration) of composition has been withheld as a trade secret

4. FIRST AID MEASURES

General advice Do not get in eyes, on skin or on clothing. Do not breathe vapors or spray mist.

Eye Contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately.

Skin Contact Remove immediately all contaminated clothing. Wash off immediately with plenty of water for at least least 15 minutes. Get medical attention immediately.

Inhalation Move to fresh air. In case of shortness of breath, give oxygen. If breathing has stopped, apply artificial artificial respiration. Get medical attention immediately.

Ingestion Rinse mouth. Drink 1 or 2 glasses of water. Do NOT induce vomiting. Get medical attention immediately. Never give anything by mouth to an unconscious person.

Notes to physician The product causes burns of eyes, skin and mucous membranes. Control of circulatory system, shock therapy if needed.

5. FIRE-FIGHTING MEASURES

Flash Point 153 °F / 67 °C **Method** Pensky Marten Closed Tester

Flammability Limits in Air %: Mixture. **Upper:** 75 **Lower:** 1.4

Suitable Extinguishing Media

Water spray. Carbon dioxide (CO2). Foam. Dry chemical. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific hazards arising from the chemical

Combustible Liquid. Solvent vapors are heavier than air and may spread along floors. Vapors may ignite and explode. Material can create slippery conditions. Contact with metals may evolve flammable hydrogen gas.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, NOHSC (approved or equivalent) and full protective gear.

NFPA **Health** 3 **Flammability** 2 **Instability** 0

HMIS - **Health** 3 **Flammability** 2 **Physical Hazard** 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Use personal protective equipment. Ensure adequate ventilation. Take precautionary measures against static discharges. Remove all sources of ignition. Materials can create slippery conditions.

Environmental precautions Do not flush into surface water or sanitary sewer system.

Methods for Containment Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

Methods for Cleaning Up Use clean non-sparking tools to collect absorbed material. Pick up and transfer to properly labeled containers.

Neutralizing Agent Acetic acid, diluted.

7. HANDLING AND STORAGE

Handling Do not get in eyes, on skin or on clothing. Do not breathe vapors or spray mist.

Storage Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Metal containers must be lined. Freezing will affect the physical condition but will not damage the material. Thaw and mix before using.

Storage Temperature **Minimum** 40 °F / 4 °C **Maximum** 120 °F / 49 °C

Storage Conditions **Indoor** X **Outdoor** **Heated** **Refrigerated**

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Chemical name	CAL/OSHA PEL	ACGIH TLV	OSHA PEL	NIOSH
Diethyl ethanolamine	2 ppm	TWA: 2 ppm Skin	TWA: 10 ppm TWA: 50 mg/m^3 Skin	100 ppm TWA: 10 ppm TWA: 50 mg/m^3
Cyclohexylamine	10 ppm	TWA: 10 ppm	No data available	TWA: 10 ppm TWA: 40 mg/m^3

Morpholine	20 ppm	TWA: 20 ppm Skin	TWA: 20 ppm TWA: 70 mg/m^3 Skin	1400 ppm STEL 30 ppm STEL 105 mg/m^3 TWA: 20 ppm TWA: 70 mg/m^3

Engineering Measures Ensure adequate ventilation, especially in confined areas. Where reasonably practicable this should should be achieved by the use of local exhaust ventilation and good general extraction.

Personal Protective Equipment

Eye/Face Protection Tightly fitting safety goggles. Face-shield.

Skin Protection Wear suitable protective clothing, Impervious gloves.

Respiratory Protection In case of insufficient ventilation wear suitable respiratory equipment. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

General Hygiene Considerations Wear protective gloves/clothing. Ensure that eyewash stations and safety showers are close to the workstation location. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid	**Viscosity**	Non viscous
Color	Colorless to Amber	**Odor**	Fishy ammonia
Odor Threshold	Not applicable	**Appearance**	Transparent
pH	12.18	**Specific Gravity**	0.988
Evaporation Rate	No data available	**Percent Volatile (Volume)**	100
VOC Content (%)	39.97	**VOC Content (g/L)**	395
Vapor pressure	16.43 mmHg @ 70°F	**Vapor Density**	No data available
Solubility	Soluble	**n-Octanol/Water Partition**	No data available
Melting Point/Range	No data available	**Decomposition Temperature**	No data available
Boiling Point/Range	No data available °F / 99 °C	**Flammability (solid, gas)**	No data available
Flash Point	153 °F / 67 °C	**Method**	Pensky Marten Closed Tester
Autoignition Temperature	No information available.		
Flammability Limits in Air %:	Mixture	**Upper:** 75 **Lower:** 1.4	

10. STABILITY AND REACTIVITY

Chemical Stability Stable. Hazardous polymerization does not occur.

Conditions to Avoid Keep away from open flames, hot surfaces, and sources of ignition, Protect from direct sunlight and extremes of temperatures.

Incompatible Products Strong oxidizing agents, Nitrous acid and other nitrosating agents, Strong acids, Metals, Strong bases, Contact with metals liberates hydrogen gas.

Decomposition Temperature No data available

Hazardous Decomposition Products Carbon oxides, Nitrogen oxides (NOx), Ammonia, Aldehydes, Hydrocarbons, Ketones, Hydrogen, by reaction with metals.

Possibility of Hazardous Reactions None under normal processing.

11. TOXICOLOGICAL INFORMATION

Product Information No information available.

The following values are calculated based on chapter 3.1 of the GHS document

Oral LD50 No information available

Dermal LD50 No information available

Inhalation LC50

Gas No information available

Mist No information available

Vapor No information available

Principle Route of Exposure Skin contact, Eye contact, Inhalation.

Primary Routes of Entry Skin contact, Skin Absorption.

Acute Effects:

Eyes Corrosive to the eyes and may cause severe damage including blindness.

Skin Causes skin burns.

Inhalation Causes burns. Harmful by inhalation.

Ingestion If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic Toxicity Liver and kidney injuries may occur. Inhaled corrosive substances can lead to a toxic edema of the lungs. Repeated or prolonged exposure may cause central nervous system damage. Contains a

known or suspected reproductive toxin.

Target Organ Effects: Central nervous system, Liver, Kidney, Respiratory system, Eyes, Skin.

Aggravated Medical Conditions Kidney disorders, Skin disorders, Neurological disorders, Respiratory disorders, Liver disorders.

Component Information

Acute Toxicity

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50	Draize Test	Other
Diethyl ethanolamine 100-37-8	= 1320 mg/kg (Rat)	= 1 mL/kg (Rabbit)	= 4.6 mg/L (Rat) 4 h	No data available	No data available
Cyclohexylamine 108-91-8	303 mg/kg (Rat)	= 277 mg/kg (Rabbit)	= 1000 ppm (Rat) 16 h	No data available	No data available
Morpholine 110-91-8	= 1050 mg/kg (Rat)	310 - 810 mg/kg Rabbit)	= 8 mg/l (Rat) 4 h	No data available	No data available

Chronic Toxicity

Chemical name	Mutagenicity	Sensitization	Developmental Toxicity	Reproductive Toxicity	Target Organ Effects
Diethyl ethanolamine 100-37-8	No data available	No data available	No data available	No data available	Skin; Eyes; Respiratory system
Cyclohexylamine 108-91-8	No data available	No data available	No data available	X	Skin; Central nervous system; Eyes; Respiratory system
Morpholine 110-91-8	No data available	No data available	No data available	No data available	Skin; Eyes; Respiratory system; Liver; Kidney

Carcinogenicity

Chemical name	ACGIH	IARC	NTP	OSHA	Other
Cyclohexylamine 108-91-8	Not applicable	Group 3	Not applicable	Not applicable	Not applicable
Morpholine 110-91-8	Not applicable	Group 3	Not applicable	Not applicable	Not applicable

12. ECOLOGICAL INFORMATION

Product Information

Toxicity to fish
Pimephales promelas (fathead minnow) 72 hour algae value 330.1 mg/L 96h

Additional Ecological Information: Toxicity data will be furnished on request.

Component Information

Chemical name	Toxicity to Algae	Toxicity to Fish	Microtox	Crustacea	Partition coefficient
Diethyl ethanolamine	EC50 = 30 mg/L Desmodesmus subspicatus 72 h	LC50 1660 - 1920 mg/L Pimephales promelas 96 h	No information available	83.6: 48 h Daphnia magna Straus mg/L EC50	0.21
Cyclohexylamine	EC50 = 20 mg/L Pseudokirchneriella subcapitata 96 h	LC50 44 - 90 mg/L Oncorhynchus mykiss 96 h LC50 = 470 mg/L Brachydanio rerio 96 h	EC50 = 120 mg/L 30 min	No information available.	1.2
Morpholine	EC50 = 28 mg/L Pseudokirchneriella subcapitata 96 h	LC50 375 - 460 mg/L Oncorh Oncorhynchus mykiss 96 h LC50 = 350 mg/L Lepomis macrochirus 96 h LC50 > 1000 mg/L Brachydanio rerio 96 h	EC50 = 57.0 mg/L 30 min	No information available.	-2.55

Persistence and Degradability No information available.

Bioaccumulation No information available.

Mobility No information available.

13. DISPOSAL CONSIDERATIONS

Product Disposal Dispose of in accordance with local regulations.

Container Disposal Empty containers should be taken for local recycling, recovery, or waste disposal.

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name Corrosive liquids, flammable, n.o.s.

Hazard Class	8
Subsidiary Hazard Class	3
UN-No	UN2920
Packing Group	II
Description	UN2920, Corrosive liquids, flammable, n.o.s.,(Morpholine, Cyclohexylamine),8(3),PG II

TDG

Proper shipping name	Corrosive liquids, flammable, n.o.s.
Hazard Class	8
Subsidiary Hazard Class	3
UN-No	UN2920
Packing Group	II
Description	UN2920, Corrosive liquids, flammable, n.o.s.,(Morpholine, Cyclohexylamine),8(3),PG II

ICAO

UN-No	UN2920
Proper Shipping Name	Corrosive liquids, flammable, n.o.s.
Hazard Class	8
Subsidiary Hazard Class	3
Packing Group	II
Shipping Description	UN2920, Corrosive liquids, flammable, n.o.s.,(Morpholine, Cyclohexylamine),8(3),PG II

IATA

UN-No	UN2920
Proper Shipping Name	Corrosive liquids, flammable, n.o.s.
Hazard Class	8
Subsidiary hazard class	3
Packing Group	II
ERG-Code	8L
Shipping Description	UN2920, Corrosive liquids, flammable, n.o.s.,(Morpholine, Cyclohexylamine),8(3),PG II

IMDG/IMO

UN proper shipping name	Corrosive liquids, flammable, n.o.s.
Hazard Class	8
Subsidiary Hazard Class	3
UN Number	UN2920
Packing Group	II
EmS No.	F-A, S-B
Description	UN2920, Corrosive liquids, flammable, n.o.s.,(Morpholine, Cyclohexylamine),8(3),PG II

15. REGULATORY INFORMATION

Inventories

TSCA	Listed
DSL / NDSL	Listed

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazardous Categorization

See Section 2

CERCLA

Chemical name	Hazardous Substances RQs	CERCLA EHS RQs
Cyclohexylamine	Not applicable	10000 lb TPQ 10000 lb

16. OTHER INFORMATION

Prepared By	Pamela Starkey
Supercedes Date:	12/06/2021
Issuing Date:	04/04/2022
Reason for Revision	Change to physical properties
Glossary	No information available.
List of References.	No information available.

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