1 PRODUCT AND COMPANY IDENTIFICATION

Manufacturer

Aqua Science, Inc.
1877 East 17th Avenue
Columbus, Ohio 43219

Emergency: CHEMTREC: 1-800-424-9300
Phone: 614-252-5000
Fax: 614-257-0008
Email: AquaInfo@aquascience.com
Web: aquascience.com

Product Identifier: C-100T
SDS Number: C-100T
Revision Date: 2/26/2018
Version: 2
Product Use: Cooling Water Treatment

2 HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

GHS Classification in Accordance with 29 CFR 1910 (OSHA HCS):

Health, Serious Eye Damage/Eye Irritation, 1
Health, Skin corrosion/irritation, 1 A
Physical, Corrosive to Metals, 1
Health, Serious Eye Damage/Eye Irritation, 2 A
Health, Acute toxicity, 4 Oral
Environmental, Hazards to the aquatic environment - Acute, 3

GHS Label Elements, Including Precautionary Statements

GHS Signal Word: DANGER

GHS Hazard Pictograms:

GHS Hazard Statements:

H318 - Causes serious eye damage
H314 - Causes severe skin burns and eye damage
H290 - May be corrosive to metals
H319 - Causes serious eye irritation
H302 - Harmful if swallowed
H402 - Harmful to aquatic life

GHS Precautionary Statements:

P234 - Keep only in original container.
P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
P264 - Wash skin thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P273 - Avoid release to the environment.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P301+330+331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+361+353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338 - IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER or doctor/physician.
P337+313 - Get medical advice/attention.
P363 - Wash contaminated clothing before reuse.
P390 - Absorb spillage to prevent material damage.
P406 - Store in a corrosive resistant container with a resistant inner liner.
P501 - Dispose of contents/container to the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Hazards not Otherwise Classified (HNOC) or not Covered by GHS

Route of Entry: Eyes; Ingestion; Inhalation and Skin.

Inhalation: Minimal respiratory tract irritation may occur with exposure to a large amount of material.

Skin Contact: Causes serious/severe skin damage.

Eye Contact: Causes severe/serious eye damage.

Ingestion: Harmful if swallowed.

3 COMPOSITION/INFORMATION OF INGREDIENTS

Ingredients:

Cas#	%	Chemical Name
1310-58-3	>10%	Potassium hydroxide
14860-53-8	>2%	Phosphonic acid, (1-hydroxyethylidene)bis-, tetrapotassium salt
9003-04-7	>2%	2-Propenoic acid, homopolymer, sodium salt
64665-57-2	>2%	1H-Benzotriazole, 4(or 5)-methyl-, sodium salt
37971-36-1	>2%	1,2,4-Butanetricarboxylic acid, 2-phosphono-
26099-09-2	>5%	2-Butenedioic acid (2Z)-, homopolymer

The exact percentage by weight of the ingredients in this formula is proprietary.

4 FIRST AID MEASURES

Inhalation: If symptoms develop as a result of inhalation, immediately move affected person away from exposure and into fresh air. Seek medical attention immediately. Keep person warm and quiet. If affected person is not breathing - begin artificial respiration. If person finds breathing difficult - administer oxygen.

Skin Contact: In case of contact, flush affected area with copious amounts of water for at least 15 minutes. Remove contaiminated clothing and shoes. Seek medical attention. Launder clothing before reuse.

Eye Contact: In case of contact, flush eyes with copious amounts of water for at least 15 minutes while holding eyelids apart. Remove any contaiminated clothing. Seek medical attention. Launder clothing before reuse.

Ingestion: If this product is swallowed, seek medical attention immediately. DO NOT induce vomiting as doing so will cause further damage to mouth and throat. If affected person is conscious and alert, immediately wash mouth with water and give water or milk to drink. If possible, do not leave affected person unattended.

5 FIRE FIGHTING MEASURES

Flash Point: None
Burning Rate: Not Applicable
LEL: N/A

UEL: N/A

In case of fire, use carbon dioxide or dry chemical to extinguish small fires. Use foam or water spray to extinguish large fires. Full protective equipment (bunker gear) and self-contained breathing apparatus (SCBA) should be used for all in door fires and any significant outdoor fires. If possible, firefighters should control run-off water to prevent environmental contamination.

6 ACCIDENTAL RELEASE MEASURES

In the event of a small spill, (liquid) absorb spilled product into inert material or (solid) sweep up into suitalble container scoop into a container for proper disposal. Avoid run-off into storm sewers and ditches. Large spills need to be contained - do not discharge into drains; report in accordance with applicable regulations; and pick up for proper disposal. Ventilate area. Avoid contact with eyes. Watch out for slippery conditions when spillage.

7 HANDLING AND STORAGE

Handling Precautions: Avoid breathing vapors or mist. Avoid contact with eyes, skin, or clothing. Handle with care and avoid spillage on the floor (slippage). Keep material out of reach of children. Launder contaminated clothing. Wash clothing before reuse and decontaminate or discard contaminated shoes. Wash thoroughly after handling.

Storage Requirements: Store in cool/dry area and ensure there is adequate ventilation. Keep container sealed tightly when not in use. Do not allow product to freeze.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94). Use mechanical (general) ventilation for storage areas.
Safety shower and eye bath.

Personal Protective Equipment: Potassium hydroxide (1310-58-3) [>10%]

Personal protective equipment

Eye/face protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact: Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested:Dermatril (KCL 740 / Aldrich Z677272, Size M)

Splash contact: Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested:Dermatril (KCL 740 / Aldrich Z677272, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection: Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

2-Propenoic acid, homopolymer, sodium salt (9003-04-7) [>2%]

Personal protective equipment

Eye/face protection: Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact: Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested:Dermatril (KCL 740 / Aldrich Z677272, Size M)

Splash contact: Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested:Dermatril (KCL 740 / Aldrich Z677272, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection: impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator.For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure: Do not let product enter drains.

Potassium hydroxide (1310-58-3) [>10%]

Components with workplace control parameters

C	2 mg/m3	USA. ACGIH Threshold Limit Values (TLV)

Eye, skin, & Upper Respiratory Tract irritation

C	2 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
C	2 mg/m3	USA. NIOSH Recommended Exposure Limits

2-Propenoic acid, homopolymer, sodium salt (9003-04-7) [>2%] : no data available

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, slightly yellowish, free-flowing liquid.		
Physical State:	Liquid	**Odor:**	No characteristic odor.

Spec Grav./Density:	1.16 - 1.19 typical.	**Solubility:**	Completely soluble in water.
Boiling Point:	> 212 Degrees F	**Percent Volatile:**	< 65%.
Flammability:	N/A	**Freezing/Melting Pt.:**	> 32 Degrees F
Vapor Pressure:	No data	**Flash Point:**	None
pH:	>12.	**UFL/LFL:**	None/None
Evap. Rate:	<1 (n-Butyl Acetate=1)		

10 STABILITY AND REACTIVITY

Reactivity:	No Data
Chemical Stability:	Product is stable under normal conditions. Avoid contact between this product and materials which support combustion (oxidizers) and corrosive materials (strong acids and bases).
Conditions to Avoid:	Oxidation promoting conditions (Heat and Sunlight).
Materials to Avoid:	Avoid contact between this product and strong oxidizing materials; Strong Acids; Strong bases; reactive metals.
Hazardous Decomposition:	Not known.
Hazardous Polymerization:	Will not occur.

11 TOXICOLOGICAL INFORMATION

Potassium hydroxide (1310-58-3) [>10%]

Information on toxicological effects

Acute toxicity:
LD50 Oral - rat - 333 mg/kg
Inhalation: no data available

Dermal: no data available

Skin corrosion/irritation: Skin - rabbit Result: Severe skin irritation - 24 h

Serious eye damage/eye irritation: Eyes - rabbit Result: Corrosive to eyes (OECD Test Guideline 405)

Respiratory or skin sensitisation: no data available

Germ cell mutagenicity: no data available

Carcinogenicity:
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available

Specific target organ toxicity - single exposure: no data available

Specific target organ toxicity - repeated exposure: no data available

Aspiration hazard: no data available

Additional Information:

RTECS: TT2100000

2-Propenoic acid, homopolymer, sodium salt (9003-04-7) [>2%]

Information on toxicological effects

Acute toxicity:
LD50 Oral - rat - > 40,000 mg/kg
Inhalation: no data available

Dermal: no data available

Skin corrosion/irritation: no data available

Serious eye damage/eye irritation: no data available

Respiratory or skin sensitisation: no data available

Germ cell mutagenicity: no data available

Carcinogenicity:
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available

Specific target organ toxicity - single exposure: no data available

Specific target organ toxicity - repeated exposure: no data available

Aspiration hazard: no data available

Additional Information:

RTECS: WD6826000

Gastrointestinal disturbance, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12 ECOLOGICAL INFORMATION

Potassium hydroxide (1310-58-3) [>10%]

Information on ecological effects

Toxicity:
Toxicity to fish LC50 - Gambusia affinis (Mosquito fish) - 80 mg/l - 96 h.

Persistence and degradability: The methods for determining the biological degradability are not applicable to inorganic substances.

Bioaccumulative potential: no data available

Mobility in soil: no data available

Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life.

no data available

2-Propenoic acid, homopolymer, sodium salt (9003-04-7) [>2%]

Information on ecological effects

Toxicity: no data available

Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects: no data available

13 DISPOSAL CONSIDERATIONS

Disposal methods:
The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Potassium hydroxide (1310-58-3) [>10%]

Waste treatment methods

Product: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging: Dispose of as unused product.

2-Propenoic acid, homopolymer, sodium salt (9003-04-7) [>2%]

Waste treatment methods

Product: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging: Dispose of as unused product.

14 TRANSPORT INFORMATION

UN3266, Corrosive liquid, basic, inorganic, n.o.s., 8, PGIII, (Contains Potassium Hydroxide and Phosphonates)

15 REGULATORY INFORMATION

Component (CAS#) [%] - CODES

RQ(1000LBS), Potassium hydroxide (1310-58-3) [>10%] CERCLA, CSWHS, MASS, OSHAWAC, PA, TSCA, TXAIR

Phosphonic acid, (1-hydroxyethylidene)bis-, tetrapotassium salt (14860-53-8) [>2%] TSCA

2-Propenoic acid, homopolymer, sodium salt (9003-04-7) [>2%] TSCA

1H-Benzotriazole, 4(or 5)-methyl-, sodium salt (64665-57-2) [>2%] TSCA

1,2,4-Butanetricarboxylic acid, 2-phosphono- (37971-36-1) [>2%] TSCA

2-Butenedioic acid (2Z)-, homopolymer (26099-09-2) [>5%] TSCA

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Regulatory CODE Descriptions
-----------------------------------------------------------------
RQ = Reportable Quantity
CERCLA = Superfund clean up substance
CSWHS = Clean Water Act Hazardous substances
MASS = MA Massachusetts Hazardous Substances List
OSHAWAC = OSHA Workplace Air Contaminants
PA = PA Right-To-Know List of Hazardous Substances
TSCA = Toxic Substances Control Act
TXAIR = TX Air Contaminants with Health Effects Screening Level
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16 OTHER INFORMATION

Notice to Reader:
To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier nor any of its subsidiaries, assumes any laibility whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibilty of the user. All materials present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Aqua Science, Inc. warrants that this product conforms to its chemical description and is reasonably fit for the purpose referred to in the directions for use when used in accordance with the directions under normal conditions. Buyer assumes the risk of any use outside of such directions.

Seller makes no other warranty or representation of any kind, express or implied, concerning the product, including NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITTNESS OF THE GOODS FOR ANY OTHER PARTICULAR PURPOSE. No such warranties shall be implied by law and no agent of the seller is authorized to alter this warranty in any way except in writing with a specific reference to this warranty.
The exclusive remedy against seller shall be in a claim for damages not to exceed the purchase price of the product, without regard to whether such a claim is based upon a breach of warranty or tort.

Any controversy or claim arising out or relating to this contract, or breach thereof, shall be settled by arbitration in accordance with the commercial arbitration rules of the American Arbitration Association, and judgement upon rendered by the Arbitrator(s) may be entered in any court having jurisdiction thereof.