Material Safety Data Sheet

NA (Not Applicable), **ND** (Not Determined), **NE** (Not Established, **NT** (Not Tested)

IDENTITY *(As Used on Label and List)*	*Note: Blank spaces are not permitted. If any item is not applicable, or no Information is available, the space must be marked to indicate that.*
Microbiocide 28-I	

Section I

Manufacturer's Name Water Chemistry, Inc.	Emergency Telephone Number (540) 989-0400
Address (*Number, Street, City, State, and ZIP code)* 3404 Aerial Way Drive	Telephone Number for Information (540) 343-3618
Roanoke, VA 24018	Date Prepared June 2012
	Signature of Preparer (*Optional)*

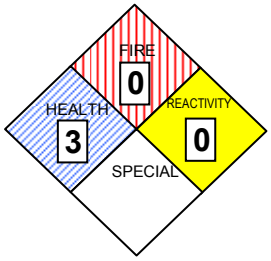
Section II – Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity: Common Name(s)	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
Magnesium Nitrate	NA	NA		1.7%
5-Chloro-2-methyl-4-isothiazolin-3-one	NA	NA		1.11%
2-Methyl-4-isothiazolin-3-one	NA	NA		.39%

The information in this data sheet has been assembled based on our studies And on the work of others. The manufacturer makes no warranties, expressed or implied, as to the accuracy, completeness, or adequacy of the information contained herein. The manufacturer shall not be liable (regardless of fault) to the vendee, the vendee's employees, or anyone for any direct, special or consequential damages arising out of or in connection with the accuracy, completeness, adequacy, or furnishing of such information.

HAZARD RATING

4 = EXTREME
3 = HIGH
2 = MODERATE
1 = SLIGHT
0 = INSIGNIFICANT
* = CHRONIC HEALTH HAZARD – SEE SECTION VI



SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point	100°C (212°F)	pH (Neat) pH (100 ppm in water)	2.5 to 5 (Acidic) 6.5
Vapor Pressure (mmHg)	0.01 mm of Hg (@20°C)	Melting Point	-3.°C (26.6°F)
Density	1.01 to 1.03 (20°C / 68°F)	Evaporation Rate (Water = 1)	1

Solubility in Water
Soluble in cold water. Soluble in hot water.

Appearance and Odor
Green to pale yellow liquid with a pungent (strong) odor

SECTION iv – Fire and Explosion Hazard Data

Flash Point (Method Used)	Flammable Limits	LEL	UEL
Closed cup: >100°C (212°F) (Pensky-Martens)		NA	NA

Extinguishing Media
Water fog, carbon dioxide, foam, dry chemical.

Special Fire Fighting Procedures
Firefighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Unusual Fire and Explosion Hazards
Thermal decomposition of product can produce toxic vapors of sulfur dioxide, hydrogen chloride and oxides of nitrogen.

Section V – Reactivity Data			Microbiocide 28-I
Stability	Unstable		Conditions to Avoid Do not heat or store above 50°C as decomposition may increase packaging pressure.
	Stable	X	

Incompatibility (Materials to Avoid)
Strong acids, strong bases, strong oxidizers, reducing agents, amines and mercaptans.

Hazardous Decomposition or Byproducts
Thermal decomposition of product can produce toxic vapors of sulfur dioxide, hydrogen chloride, and oxides of nitrogen.

Section VI – Health Hazard Data

Route(s) of Entry:	Inhalation?	Skin?	Eyes?	Ingestion?
	Yes	Yes	Yes	Yes

Health Hazards (Acute and Chronic) **EYE:** Very hazardous in case of eye contact (irritant, corrosive). Inflammation of the eye is characterized by redness, watering and itching. **SKIN:** Very hazardous in case of skin contact (corrosive, irritating). Skin contact may produce burns. Skin inflammation is characterized by itching, scaling, reddening or, occasionally, blistering. **INHALATION:** May be harmful if inhaled. Do not breathe mists of the undiluted product. Effects will depend on solution strength and length of time of exposure.

INGESTION: Ingestion is not expected to be a primary route of exposure.

Toxicity:		
Acute Oral	LD50 = 3810 mg/kg Rat	Acute Inhalation LC50 = 1.4 mg/l (4 hours) Female rat.
Acute Dermal	LD50 = >5000 mg/kg Rabbit	Acute Inhalation LC50 = 1.5 mg/l (4 hours) Male rat.
Environmental Toxicity:	LC50 = 0.16 mg/l 48 hours Daphnia magna	LC50 = 0.28 mg/l 96 hours Bluegill sunfish
	LC50 = 0.19 mg/l 96 hours Rainbow trout	LC50 = 0.3 mg/l 96 hours Sheepshead minnow
	LC50 = 0.55 mg/l 96 hours Sand shrimp	LC50 = 1.9 mg/l 96 hours Bay mussel

Carcinogenicity:
Not shown as carcinogenic by OSHA, IARC, or NTP.

Emergency and First Aid Procedures

EYE: Flush immediately with copious amounts of tap water or normal saline (minimum of 15 minutes). Take exposed Individual to a health care professional, preferably an ophthalmologist, for further evaluation.

SKIN: Wash exposed area with plenty of water. Repeat washing. Remove contaminated clothing and wash thoroughly before reuse. If irritation persists consult a health care professional.

INHALATION: Immediately move exposed individual to fresh air. If individual experiences nausea, headache, dizziness, has difficulty in breathing or is cyanotic, seek a health care professional immediately.

INGESTION: DO NOT INDUCE VOMITING. Rinse with copious amounts of water or milk, first. Irrigate the esophagus and dilute stomach contents by slowly giving one (1) to two (2) glasses of water or milk. Avoid giving alcohol or alcohol related products. In cases where the individual is semi-comatose, comatose or convulsing, DO NOT GIVE FLUIDS BY MOUTH. In case of intentional ingestion of the product seek medical assistance immediately.

Section VII – Precautions for Safe Handling and Use

Steps to be Taken in Case Material is Released or Spilled Initially minimize area affected by the spill. Block any routes to water systems. Recover as much of the pure product as possible into appropriate containers. Spill or leak residuals may have to be collected and disposed of. Clay, soil, or commercially available absorbents may be used to contain the spill.

Waste Disposal Method
Contact appropriate local, state, and federal regulatory agencies before discharging or disposing of waste material.

Precautions to Be Taken in Handling and Storing Keep container closed when not in use. Store in a cool, dry place.
Do not breathe mists or get in eyes, skin, or clothing. Wash hands thoroughly after handling.

Other Precautions Wear safety goggles or face shield, rubber gloves, hat, long sleeve shirt, long pants, and boots when working where misting may occur or where exposure to the product may occur.

DOT Shipping Information: UN3265, Corrosive Liquid, Acidic, Organic, N.O.S., (5-Chloro-2-methyl-4-isothiazonline-3-one, 2-Methyl-4-isothiazolin-3-one, Class 8, P.G. II, (ERG Guide 153)

Section VIII – Control Measures

Respiratory Protection (Specify Type) When misting may occur in the work area, a NIOSH/MSHA approved respirator may be required. Use a respirator approved for the material and level of exposure. Eye wash fountains in the area strongly recommended.

Ventilation	Local Exhaust	Special
	Yes	NA
	Mechanical (General)	Other
	Yes	NA

Protective Gloves
Chemical resistant gloves

Other Protective Clothing or Equipment If splashing can occur, a face shield is advisable.
Indirect ventilation goggles, body-protective clothing, and chemical resistant safety shoes.

Work/Hygienic Practices The handling precautions for this product are based on the characteristics of the neat product unless otherwise specified.