

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product name : Aquamira Water Purification Tablet  
 Product code : 67400, 67401, 67405, 67406, 67407  
 EPA registration number : 70060-22-71766  
 Substance number : 216241  
 Chemical family : Preparation based on: inorganic salts

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Recommended use\*: Approved only for uses listed on the FIFRA label.

\* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

#### 1.3. Details of the supplier of the safety data sheet

Aquamira Technologies, Inc  
 917 West 600 North  
 Logan, UT 84321 - USA  
 T 360-306-5586

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC 1 (800) 424-9300

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Acute Toxicity 4 (Oral)  
 Acute Toxicity 4 (Dermal)  
 Acute Toxicity 4 (Inhalation - dust)  
 Skin Corrosion 1C  
 Serious Eye Damage 1  
 Aquatic Acute 1

#### 2.2. Label elements

##### GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

Harmful in contact with skin. Harmful if inhaled. Harmful if swallowed. Causes severe skin burns and eye damage. Very toxic to aquatic life.

Precautionary statements (GHS-US) :

Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment. Do not breathe dust or mist. Do not eat, drink or smoke when using this product. Wash with plenty of water and soap thoroughly after handling. Immediately call a poison center/doctor. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If inhaled: Remove person to fresh air and keep comfortable for breathing. If on skin (or hair): Take off immediately all contaminated clothing. Wash with plenty of soap and water. If swallowed: rinse mouth. Do NOT induce vomiting. Collect spillage. Store locked up. Dispose of contents/container to hazardous or special waste collection point.

#### 2.3. Hazards Not Otherwise Classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture. See section 12 - Results of PBT and vPvB assessment.

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### 2.4. Unknown acute toxicity (GHS US)

62-64 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal).

1-2 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Oral).

72-73 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation - Dust).

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable.

### 3.2. Mixture

Name	Product identifier	%
Sodium hydrogen sulphate	(CAS No) 7681-38-1	25 – 50
Chlorous acid, sodium salt	(CAS No) 7758-19-2	5 – 7

\* The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

General advice	: First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.
First-aid measures after inhalation	: If inhaled, keep patient calm, remove to fresh air and seek medical attention. Immediately administer a corticosteroid from a controlled/metered dose inhaler.
First-aid measures after skin contact	: If on skin, wash affected areas with water while removing contaminated clothing. Seek medical attention.
First-aid measures after eye contact	: If in eyes, seek medical attention. Wash affected eyes for at least 15 minutes under running water with eyelids held open.
First-aid measures after ingestion	: If swallowed, do NOT induce vomiting. Rinse mouth. Drink plenty of water. Immediate medical attention required.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms	: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11. Further important symptoms and effects are so far not known.
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### 4.3. Indication of any immediate medical attention and special treatment needed

Note to physician	: Treatment - After inhalation of decomposition products: Pulmonary odema prophylaxis. Medical monitoring for at least 24 hours.
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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Water in copious quantities, water spray.
Unsuitable extinguishing media	: Carbon dioxide, organic compounds.
Additional information	: If large amounts of the product are involved in a fire, it is possible that the application of water mist or fog could release enough chlorine dioxide gas in a confined space to present an explosion hazard.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: Substance/product may act as an oxidizer. Upon exposure to water or water vapor, chlorine dioxide gas is released.
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### 5.3. Advice for firefighters

Protection during firefighting	: Wear a self-contained breathing apparatus.
Further information	: Substance/product is an oxidizing agent and can supply oxygen to stimulate or accelerate the combustion of organic or other combustible substances/products. Fight fire from maximum distance.
Impact sensitivity	: Method: Explosive properties Assessment: Product is not explosive when subjected to mechanical impact.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Avoid dust formation. Use personal protective clothing. Information regarding personal protective measures see, section 8.
Environmental precautions	: Notify proper authorities. Contain contaminated water/firefighting water. Do not discharge into waterways or sewer systems without proper authorization.

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### 6.2. Methods and material for containment and cleaning up

- For small amounts : Contain with dust binding material and dispose of.  
For large amounts : Pick up with suitable appliance and dispose of.

### 6.3. Reference to other sections

See section 8 for further information on protective clothing and equipment and section 13 for advice on waste disposal.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- General measures : Breathing must be protected when large quantities are decanted without local exhaust ventilation.  
Protect against fire and explosion : Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy. Avoid dust formation.

### 7.2. Conditions for safe storage, including any incompatibilities

- Suitable materials for containers : High density polyethylene (HDPE) and Low density polyethylene (LDPE).  
Further information on storage conditions : Store in unopened original containers in a cool and dry place. Protect against moisture. Avoid dust formation.

### 7.3. Specific end use(s)

Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Sodium hydrogen sulphate (7681-38-1)	
ACGIH	Not applicable
OSHA	Not applicable

Chlorous acid, sodium salt (7758-19-2)	
ACGIH	Not applicable
OSHA	Not applicable

### 8.2. Exposure controls

Users of a pesticidal product should refer to the product label for personal protective equipment requirements.

- Advice on system design : Ensure adequate ventilation.

#### Personal protective equipment

#### **RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS:**

- Hand protection : Wear chemically resistant protective gloves.  
Eye protection : Tightly fitting safety goggles (chemical goggles).  
Body protection : Body protection must be chosen based on level of activity and exposure.  
Respiratory protection : Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator.  
General safety and hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Hands and/or face should be washed before breaks and at the end of the shift.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

- Physical state : Solid  
Appearance : Tablets  
Colour : White  
Odour : Slight  
Odour threshold : No data available  
pH : 6 - 7 ( 0.0025 %(m))  
Melting range : 120 - 190 °C (248 - 374 °F) The substance / product decomposes  
Freezing point : No data available  
Boiling point : Not applicable  
Flash point : Not applicable

*Information on: Chlorine oxide (ClO2)*

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Lower explosion limit	: 10 %(V) ( 20 °C, 1013.25 hPa) Literature data.
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Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Not flammable
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Vapour pressure	: Negligible
Relative density	: No data available
Bulk density	: 1500 kg/m <sup>3</sup>
Relative vapour density at 20 °C	: Not relevant
Solubility	: Reacts with water
Partition coefficient: n-octanol/water	: The substance/product decomposes therefore not determined
Auto-ignition temperature	: No data available
Decomposition temperature	: 135 °C (275 °F) (DSC (DIN 51007))
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: Not applicable

### 9.2. Other information

No additional information available.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Oxidizing properties	: Not fire-propagating (Regulation 440/2008/EC, A.17)
Reactions with water/air	: Toxic gases: yes Peroxides: no
Formation of flammable gases	: Remarks: Forms no flammable gases in the flammable gases: presence of water. Method: Manual of tests and criteria. Test N.5 (United Nations Recommendations on the Transport of Dangerous Goods).

### 10.2. Chemical stability

Stable under normal storage conditions. Keep dry in storage.

### 10.3. Possibility of hazardous reactions

The product is stable if stored and handled as prescribed/indicated. Upon exposure to water or water vapor, chlorine dioxide gas is released.

### 10.4. Conditions to avoid

Heat. Light. Sources of ignition. Avoid electro-static charge. Humidity. Avoid dust formation. Incompatible materials.

### 10.5. Incompatible materials

Strong acids. Reducing agents. Water.

### 10.6. Hazardous decomposition products

No hazardous decomposition products if stored and handled as prescribed/indicated. Thermal decomposition: 135 °C / 275 °F (DSC (DIN 51007)).

## SECTION 11: Toxicological information

### 11.1. Primary routes of exposure

Primary routes of exposure	: Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.
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### 11.2. Acute Toxicity/Effects

Acute toxicity	: Of moderate toxicity after single ingestion. Of pronounced toxicity after short-term skin contact.
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Aquamira Water Purifier Tablets	
LD50 oral rat	> 500 mg/kg The value meets the highest applied test concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.
LD50 dermal rat	400 – 1000 mg/kg The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

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LC50 inhalation rat	The product has not been tested.
Skin irritation	Species: rabbit Result: moderately irritating
Eye irritation	Species: rabbit Result: Severely irritating. Method: OECD Guideline 405

### 11.3. Chronic Toxicity/Effects

Genetic toxicity : Assessment of mutagenicity: The product has not been tested. The statement has been derived from the properties of the individual components. The data on toxicology refer to the active ingredient.

*Information on: Chlorous acid, sodium salt:*

*Assessment of mutagenicity: The substance was mutagenic in a bacterial test system. The substance was not mutagenic in a test with mammals.*

### Chlorous acid, sodium salt (7758-19-2)

IARC group	3 - Not classifiable
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Other information : The product has not been tested. The statements on toxicology have been derived from the properties of the individual components.

### 11.4. Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11. Further important symptoms and effects are so far not known.

## SECTION 12: Ecological information

### 12.1. Aquatic Toxicity

Assessment of aquatic toxicity : Very toxic (acute effect) to aquatic organisms. The product has not been tested. The statement has been derived from the properties of the individual components. The hydrolysis products are not acutely harmful to aquatic organisms.

Toxicity to fish : *Information on: Chlorous acid, sodium salt  
LC50 > 100 mg/l, Brachydanio rerio*

Toxicity to aquatic invertebrates : *Information on: Chlorous acid, sodium salt  
LC50 0.063 mg/l, Daphnia magna*

Toxicity to microorganisms : *Information on: sodium hydrogen sulphate  
DIN 38412 Part 8 aquatic bacterium/EC10 (16 h):  $\geq 1,000$  mg/l  
Nominal concentration.*

### 12.2. Persistence and degradability

Assessment biodegradation and elimination (H2O) : Inorganic product which cannot be eliminated from water by biological purification processes. The product has not been tested. The statement has been derived from the properties of the individual components. The product contains (a) poorly biodegradable component(s). The product is unstable in water. The elimination data also refer to products of hydrolysis. Well eliminable from water by adsorption on activated sludge.

Information on Stability in Water (Hydrolysis) : *Information on: Chlorous acid, sodium salt  
In contact with water the substance will hydrolyse rapidly.*

### 12.3. Additional information

Other ecotoxicological advice : The product has not been tested. The statement has been derived from the properties of the individual components. The product contains substances classified as dangerous for the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal of substance : Incinerate in suitable incineration plant, observing local authority regulations. Dispose of in a RCRA-licensed facility. Do not discharge into drains/surface waters/groundwater.

Container disposal : Dispose of in a licensed facility. Empty containers or liners may retain product residues. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

RCRA : D003

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### SECTION 14: Transport information

#### Land Transport

In accordance with DOT (Department of Transportation)

UN-No.(DOT) : UN3134  
Proper Shipping Name (DOT) : WATER-REACTIVE SOLID, TOXIC, N.O.S. (contains SODIUM CHLORITE, TROCLOSENE SODIUM, DIHYDRATE)  
Transport hazard class(es) (DOT) : 4.3, 6.1  
Hazard labels (DOT) :



Packing group (DOT) : II, Limited Quantity

### SECTION 15: Regulatory information

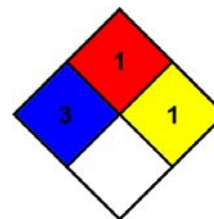
#### 15.1. US Federal regulations

Registration status: : Biocide - TSCA, US released / exempt

#### Sodium hydroxide (1310-73-2)

CERCLA RQ	1000 lbs
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NFPA health hazard : 3  
NFPA fire hazard : 1  
NFPA reactivity : 1



#### HMIS III Rating

Health :3  
Flammability :0  
Physical :1

#### Labeling requirements under FIFRA

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

#### DANGER:

CORROSIVE.

CAUSES IRREVERSIBLE EYE DAMAGE.

CAUSES SKIN BURNS.

HARMFUL IF ABSORBED THROUGH SKIN.

HARMFUL IF SWALLOWED.

Do not get in eyes, on skin, or on clothing.

Wear protective eyewear (goggles, face shield, or safety glasses).

Wear protective clothing.

Wear chemical resistant protective gloves.

Wash thoroughly with soap and water after handling and before eating, drinking and using tobacco.

Remove contaminated clothing immediately and wash before reuse.

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### SECTION 16: Other information

Version number : 1.1  
Date of issue : 07/30/2015  
Revision date : 01/19/2016  
Other information : None.

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