



## MATERIAL SAFETY DATA SHEET

Product Name	<b>Azure Algaecide 10</b>	
Product id	2006-10AZ	
Revision date	20/12/2006	Revision: 2
Supersedes	16/01/2006	

### 1. Identification of the substance & the company

Trade name	Algaecide 10
Chemical family	Quaternary Ammonium Compound
Type of product and use	Algaecide
Supplier	NAVA Water Products 95 MacCorkle Ave. SW, South Charleston, WV 25303 , USA Tel: (304) 746-3000
Emergency Telephone	Chemtrec (800)424-9300 Medical 1-800-420-9236

### 2. Composition / information on ingredients

Components CAS	Weight %	ACGIH-TLV Data	OSHA (PEL) Data
Alkyl dimethyl benzyl ammonium chloride (C12-16) 68424-85-1	10	Not determined	Not determined
Ethanol 64-17-5	2	1000 ppm	1000 ppm; 1900 mg/m <sup>3</sup>
Water 7732-18-5	88	Not determined	Not determined

### 3. Hazards identification

Emergency overview	<i>Clear, colorless to straw colored liquid</i> <i>Corrosive to the eyes, skin, gastrointestinal tract, and respiratory system</i>
Potential Health Effects:	
- Eye Contact	Causes burns and may result in permanent injury to eyes including blindness
- Skin contact	Causes burns. Brief exposures may cause irritation and defatting of the skin.



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<b>- Inhalation</b>	Mists and vapors can irritate the throat and respiratory tract. High vapor concentrations may cause central nervous system effects. Symptoms may include headaches, dizziness and drowsiness.
<b>- Ingestion</b>	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea and even death
<b>Chronic effects/Carcinogenicity</b>	Ingestion of ethanol by pregnant women can cause reproductive toxicity to the fetus
<b>NFPA Ratings (Scale 0-4)</b>	Health = 3, Fire = 2, Reactivity = 0.
<b>HMIS Ratings (Scale 0-4)</b>	Health = 3, Fire = 2, Reactivity = 0.

### 4. First-aid measures

<b>Eye contact</b>	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advise.
<b>Skin contact</b>	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advise.
<b>Inhalation</b>	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advise.
<b>Ingestion</b>	Call poison control center, or doctor immediately for treatment advise. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.
<b>Note to physician</b>	Probable mucosal damage may contraindicate the use of gastric lavage.

### 5. Fire - fighting measures

<b>Flash point</b>	200°F Pensky Martin Closed Cup
<b>Flammable/Explosion limits</b>	Not available
<b>Suitable extinguishing media</b>	Carbon dioxide, dry chemicals, foam, water spray (fog).
<b>Fire fighting procedure</b>	Cool containers with water spray. Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA).



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Unusual fire and explosion hazards	Vapours can form explosive mixtures with air. Vapour may travel considerable distance to source of ignition and flash back. When heated to decomposition, may release poisonous fumes.
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### 6. Accidental release measures

Personal precautions	Isolate spill area and restrict non essential personnel. Wear protective equipment to avoid skin contact, eye contact and breathing vapors. Stop leak if possible without personal risk. Stay upwind. Keep out of low areas where vapors may accumulate. Avoid heat, flames, sparks and other sources of ignition.
Methods for cleaning up	Ventilate closed spaces before entering. All equipment used when handling the product must be grounded. Floor will be slippery. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Prevent entry into waterways, sewers, basements or confined areas. Absorb on sand, earth or vermiculite. Keep in suitable, closed containers for disposal. Use non sparking tools in cleanup operations. Large Spills: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor but will increase foaming. Water may not prevent ignition in closed spaces.

### 7. Handling and storage

Handling	Avoid contact with skin and eyes. Keep containers tightly closed.
Storage	Keep away from heat, sparks and open flame. Keep from freezing. Store in a cool, well-ventilated area away from incompatible materials (see "materials to avoid"). Prevent electrostatic charge buildup by using common bonding and grounding techniques.

### 8. Exposure controls / personal protection

Ventilation requirements	Provide adequate ventilation.
Personal protective equipment:	
- Respiratory protection	NIOSH approved respirator
- Hand protection	Impervious gloves (rubber or neoprene)



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- Eye protection	Chemical safety goggles Use a face shield if splashing is possible.
- Skin and body protection	Body covering clothes and boots
Hygiene measures	Safety shower and eye bath should be provided. Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking

### 9. Physical and chemical properties

Appearance	Colourless to light straw liquid
Boiling point/range	Not determinable
Vapour pressure	Not determined
Evaporation rate (ether=1)	Not determined
Viscosity	Not determined
Solubility:	
- Solubility in water	Soluble
Specific gravity	0.98
Voc content(%)	50%
pH	6-8

### 10. Stability and reactivity

Stability	Stable under normal conditions
Materials to avoid	Strong oxidizing agents Reducing agents
Conditions to avoid	Keep away from heat.
Hazardous decomposition products	CO <sub>2</sub> , CO and HCl
Hazardous polymerization	Will not occur

### 11. Toxicological information

Acute toxicity:	
- Rat oral LD <sub>50</sub>	445 mg/kg
- Rat dermal LD <sub>50</sub>	>1800 mg/kg
- Eye irritation (rabbit)	Corrosive
- Dermal irritation (rabbit)	Severe irritant
Carcinogenicity	Not classified by IARC. Not included in NTP 11th Report on Carcinogens.



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### 12. Ecological information

Information on ecological effects	No information available
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### 13. Disposal considerations

Waste disposal	This substance, when discarded or disposed of, is a characteristic hazardous waste according to Federal regulation (40 CFR 261) and is assigned the EPA Hazardous Waste Number of D001. The discarding or disposal of this material must be done at a properly permitted facility in accordance with the regulations of 40 CFR 262, 263, 264 and 268. Additionally, the discarding or disposal of this material may be further regulated by state, regional, or local regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate.
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### 14. Transportation information

UN No.	1903
DOT	Disinfectant Liquid Corrosive (Quaternary Ammonium Compound) Class: 8 - Corrosives Label: CORROSIVE (8) Packing Group: III
IMO	Class: 8 - Corrosives Label: CORROSIVE (8) Packing Group: III
ICAO/IATA	Packing group: III Hazard Label (s): Corrosive Class: 8

### 15. Regulatory information

USA	All the ingredients in this preparation are reported in the EPA TSCA Inventory. This product is subject to registration under FIFRA
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<b>Sara 313</b>	Not listed	
<b>Sara (311, 312) hazard class</b>	This product is categorized as an immediate health hazard, and fire hazard	
<b>- Massachusetts right-to-know list</b>	Listed	
<b>- New Jersey right-to-know list</b>	Listed	
<b>- Pennsylvania right to know list</b>	Listed	
<b>- Illinois toxic substances list</b>	Listed	
<b>Canada</b>	Listed in DSL	
<b>WHMIS hazard class</b>	B3 combustible liquids E corrosive material	
<b>EU</b>	Reported in EINECS	
<b>Japan</b>	One or more ingredients are not listed on the ENCS inventory	
<b>China inventory</b>	Listed	
<b>Korea</b>	Listed in ECL	
<b>Philippines</b>	Listed in PICCS	

### 16. Other information

**This data sheet contains changes from the previous version in section(s)**

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The information in this Material Safety Data Sheet should be provided to all who will use, handle, store, transport, or otherwise be exposed to this product.

This information has been prepared for the guidance of plant engineering, operations and management and for persons working with or handling this product.

Additionally, if this Material Safety Data Sheet is more than three years old, you should contact NAVA Water products at the phone number listed below to make certain that this sheet is current.



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**End of safety data sheet**