



MATERIAL SAFETY DATA SHEET

Product Name	Azure Algaecide 50	
Product id	2006-AZ	
Revision date	10/12/2006	Revision: 2
Supersedes	16/01/2006	

1. Identification of the substance & the company

Trade name	Algaecide 50
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	50	Not determined	Not determined
Ethanol 64-17-5	5	1000 ppm	1000 ppm; 1900 mg/m ³
Water 7732-18-5	45	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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- Inhalation	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.
- Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea and even death
Chronic effects/Carcinogenicity	Ingestion of ethanol by pregnant women can cause reproductive toxicity to the fetus
NFPA Ratings (Scale 0-4)	Health = 3, Fire = 2, Reactivity = 0.
HMIS Ratings (Scale 0-4)	Health = 3, Fire = 2, Reactivity = 0.

4. First-aid measures

Eye contact	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.
Skin contact	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.
Inhalation	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.
Ingestion	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.
Note to physician	Probable mucosal damage may contraindicate the use of gastric lavage.

5. Fire - fighting measures

Flash point	130°F (54.4°C) Pinsky Martin Closed Cup
Flammable/Explosion limits	Not available
Suitable extinguishing media	Carbon dioxide, dry chemicals, foam, water spray (fog).



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Fire fighting procedure Cool containers with water spray. Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA).

Unusual fire and explosion hazards Vapour may travel considerable distance to source of ignition and flash back. Vapours can form explosive mixtures with air.

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.



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8. Exposure controls / personal protection

Ventilation requirements Provide adequate ventilation.

Personal protective equipment:

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|----------------------------|---|
| - Respiratory protection | NIOSH approved respirator |
| - Hand protection | Impervious gloves (rubber or neoprene) |
| - 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	Clear, colourless to straw colored liquid with benzaldehyde (organic) odor
Vapour pressure	~44mmHg (68°F)
Vapor density	Estimated to be heavier than air
Evaporation rate (ether=1)	Not determined
Viscosity	Not determined
Solubility:	
- Solubility in water	Soluble
Specific gravity	0.96 (8 lbs/gal)
Voc content(%)	10%
pH	6-8 for 10% Aqueous Solution

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 ₂ , CO and HCl
Hazardous polymerization	Will not occur



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11. Toxicological information

Acute toxicity:	
- Rat oral LD50	880 mg/kg
- Rat dermal LD50	>2000 mg/kg
- Eye irritation (rabbit)	Corrosive
- Dermal irritation (rabbit)	Corrosive
Carcinogenicity	Not classified by IARC. Not included in NTP 11th Report on Carcinogens.

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



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ICAO/IATA	Class: 8 Hazard Label (s): Corrosive Packing group: III	

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
Sara 313	Not listed
Sara (311, 312) hazard class	This product is categorized as an immediate health hazard, and fire hazard
- Massachusetts right-to-know list	Listed
- New Jersey right-to-know list	Listed
- Pennsylvania right to know list	Listed
- Illinois toxic substances list	Listed
Canada	Listed in DSL
WHMIS hazard class	B3 combustible liquids E corrosive material
EU	Reported in EINECS
Japan	One or more ingredients are not listed on the ENCS inventory
China inventory	Listed
Korea	Listed in ECL
Philippines	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.

Information is supplied upon the condition that the persons receiving same will make their own determination as to its safety and suitability for their purposes prior to use.

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End of safety data sheet