



MATERIAL SAFETY DATA SHEET

Product Name: NAVA Algacide 50
Product id: 2006-AZ
Revision date: 12/19/08

1. Identification of the substance & the company

Trade name: Algacide 10
Chemical family: Quaternary Ammonium Compound
Type of product and use: Algacide
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 *Clear, colorless to straw colored liquid
Corrosive to the eyes, skin, gastrointestinal tract, and
respiratory system*

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.
- **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.
HMS Ratings (Scale 0-4) Health = 3, Fire = 2, Reactivity = 0.



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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) Pensky Martin Closed Cup
Flammable/Explosion limits Not available

Suitable extinguishing media Carbon dioxide, dry chemicals, foam, water spray (fog).
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



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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)
- 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

Evaporation rate (ether=1) Not determined

Vapor pressure ~44mmHg (68°F)

Vapor density Estimated to be heavier than air

Viscosity Not determined

Solubility:



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- 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 CO₂, CO and HCl
Hazardous polymerization Will not occur

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

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



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regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate.

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
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



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16. Other information

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