MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY INFORMATION

Aqua Tri
17872 Mitchell, Suite 250
Irvine, Ca 92614-6034
24 HOUR EMERGENCY TELEPHONE: Chemtrec 1-800-424-9300
TO REQUEST AN MSDS: WWW.AQUATRI.com or 1-949-474-7707

SUBSTANCE: ALL CLEAR 1" CHLORINATING TABLETS EPA REG NUMBER: 09215-6
SUBSTANCE: ALL CLEAR 3" JUMBO CHLORINATING TABLETS EPA REG NUMBER: 09215-7
SUBSTANCE: ALL CLEAR JUMBO CHLORINATING STICKS EPA REG NUMBER: 09215-7

SYNONYMS:
Trichloroisocyanuric acid; Trichloro-s-triazinetrione; Trichlor;
1,3,5-Triazine-2,4,6(1H,3H,5H)-trione,1,3,5-trichloro-; Symclosene; TCCA

PRODUCT USE: algaecide, microbiocide/microbiostat, disinfectant, sanitizer, bactericide, fungicide, bleaching agent

REVISION DATE: Sep 12 2007

2. HAZARDS IDENTIFICATION

OSHA REGULATORY STATUS: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

GHS CLASSIFICATION:
Acute toxicity, Category 2

GHS SYMBOL:
Skull and crossbones

GHS SIGNAL WORD: DANGER

GHS HAZARD STATEMENT:
Fatal if inhaled

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* EMERGENCY OVERVIEW: *
* COLOR: white *
* PHYSICAL FORM: crystals, granules *
* ODOR: chlorine odor *
* SIGNAL WORD: DANGER *
* MAJOR HEALTH HAZARDS: CORROSIVE. CAUSES IRREVERSIBLE EYE DAMAGE. MAY CAUSE *
* BURNS TO MOIST SKIN IF NOT PROMPTLY REMOVED. MAY BE FATAL IF INHALED. *
* HARMFUL IF SWALLOWED OR ABSORBED THROUGH THE SKIN. IRRITATING TO NOSE *
* AND THROAT. *
* PHYSICAL HAZARDS: Strong oxidizer. *
* ECOLOGICAL HAZARDS: This pesticide is toxic to fish and aquatic organisms. *
* PRECAUTIONARY STATEMENTS: Do not get in eyes, on skin, or on clothing. *

* Do not breathe dust, vapor or spray mist. Wear goggles, faceshield or *
* safety glasses. Wash thoroughly with soap and water after handling. *
* Remove contaminated clothing and wash before reuse. *
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POTENTIAL HEALTH EFFECTS:
INHALATION:
This material in the form as sold is not expected to produce respiratory effects. Particles of respirable size are generally not encountered. The respirable fraction is typically less than 0.1% by weight for the granular and extra granular grades. If ground or otherwise in a powdered form, effects similar to a corrosive substance may occur. May cause severe irritation of the respiratory tract with coughing, choking, pain and possibly burns of the mucous membranes. If significant or prolonged exposure occurs, pulmonary edema may develop, either immediately or more often within a period of 5-72 hours. The symptoms may include tightness in the chest, dyspnea, frothy sputum, cyanosis, and dizziness. Physical findings may include moist rales, low blood pressure and high pulse pressure. Severe cases may be fatal.
SKIN CONTACT:
This material is corrosive to the skin. Direct contact with wet material or moist skin may cause severe irritation, pain, and possibly burns. Dry material is less irritating than wet material. This material is not a skin sensitizer based on studies with guinea pigs.
EYE CONTACT:
This material is corrosive to the eye. Direct contact may cause severe irritation, pain and burns, possibly severe, and permanent damage including blindness. The degree of injury depends on the concentration and duration of contact.
INGESTION:
Not a likely route of exposure. Harmful if swallowed. Ingestion may cause immediate pain and severe burns of the mucous membranes. There may be discoloration of the tissues. Swallowing and speech may be difficult at first and then almost impossible. The effects on the esophagus and gastrointestinal tract may range from irritation to severe corrosion. Edema of the epiglottis and shock may occur.

TARGET ORGANS: cardiovascular system, kidneys, bladder
CHRONIC EFFECTS:
Based on animal studies, exposure to concentrations of mono sodium cyanurate at the solubility limit may cause cardiovascular, kidney and urinary bladder effects.

CARCINOGEN STATUS:
OSHA: No
NTP: No
IARC: No

See Section 11: TOXICOLOGICAL INFORMATION

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3. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT: TRICHLORO-S-TRIAZINETRIONE
CAS NUMBER: 87-90-1
PERCENTAGE: 98-100

4. FIRST AID MEASURES

INHALATION: Move person to fresh air. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. If respiration or pulse has stopped, have a trained person administer Basic Life Support (Cardio-Pulmonary Resuscitation/Automatic External Defibrillator) and CALL FOR EMERGENCY SERVICES IMMEDIATELY.

SKIN CONTACT: Immediately flush contaminated areas with water. Remove contaminated clothing, jewelry, and shoes immediately. Wash contaminated areas with soap and water. Thoroughly clean and dry contaminated clothing and shoes before reuse. IF IRRITATION OCCURS, GET MEDICAL ATTENTION.

EYE CONTACT: Immediately flush eyes with a directed stream of water for at least 15 minutes, forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissues. Washing eyes within several seconds is essential to achieve maximum effectiveness. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION: Never give anything by mouth to an unconscious or convulsive person. If swallowed, do not induce vomiting. Give water. If vomiting occurs spontaneously, keep airway clear. Give more water when vomiting stops. GET MEDICAL ATTENTION IMMEDIATELY.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Negligible fire hazard. If heated by outside source to temperatures above 240 C (464 F), this product will undergo decomposition with the evolution of noxious gases but no visible flame. Wet material may generate nitrogen trichloride, an explosion hazard.

EXTINGUISHING MEDIA: Flood with water. Do not use dry chemicals, carbon dioxide or halogenated extinguishing agents.

FIRE FIGHTING: Consider evacuation of personnel located downwind. Keep unnecessary people away, isolate hazard area and deny entry. Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Wear NIOSH approved positive-pressure self-contained breathing apparatus in pressure-demand mode. Material which appears undamaged except for being damp on the outside, should be opened and inspected immediately. DO NOT attempt to reseal contaminated drums. Damp material should be neutralized to a non-oxidizing state. Contact Aqua Tri for instructions for handling and disposal of damp material.

SENSITIVITY TO MECHANICAL IMPACT: Not sensitive

SENSITIVITY TO STATIC DISCHARGE: Not sensitive

HAZARDOUS COMBUSTION PRODUCTS:
  Thermal decomposition or combustion products: chlorine, nitrogen, nitrogen trichloride, cyanogen chloride, oxides of carbon, phosgene

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6. ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE:
Keep unnecessary people away, isolate hazard area and deny entry. DO NOT add water to spilled materials. DO NOT use floor sweeping compounds to clean up spills. Sweep and scoop spilled material into clean, dedicated equipment. Every attempt should be made to avoid mixing spilled material with other chemicals or debris when cleaning up. DO NOT attempt to reseal contaminated drums. DO NOT transport wet or damp material. Damp material should be neutralized to a non-oxidizing state. Contact Aqua Tri for instructions for handling and disposal of damp material. Keep out of water supplies and sewers. Releases should be reported, if required, to appropriate agencies.

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7. HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. (NFPA Oxidizer Class 1) Do not allow water to get in container. If liner is present, tie after each use. Keep container tightly closed and properly labeled. Store containers on pallets. Keep away from food, drink and animal feed. Keep separated from incompatible substances. Product has an indefinite shelf life if stored in original container in a cool, dry place.

HANDLING: Do not get in eyes, on skin, or on clothing. Avoid breathing vapors or dust when opening container. Avoid creation of dust. Wash thoroughly after handling. Never add water to this product. Always add product to large quantities of water. Use clean, dry utensils. Do not add the product to any dispensing device containing residuals of other products.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS:
ACL® 90 PLUS CHLORINATING COMPOSITION:
  Chlorine and chlorine compounds may be found in slight amounts in the head space of containers of ACL® Products.

  TRICHLORO-S-TRIAZINETRIONE:
    0.5 mg/m3 recommended TWA 8 hour(s) (internal Occupational Exposure Limit)

  CHLORINE:
    1 ppm (3 mg/m3) OSHA ceiling
    0.5 ppm (1.5 mg/m3) OSHA TWA (vacated by 58 FR 35338, June 30, 1993)
    1 ppm (3 mg/m3) OSHA STEL (vacated by 58 FR 35338, June 30, 1993)
    0.5 ppm ACGIH TWA
    1 ppm ACGIH STEL

BIOLOGICAL LIMIT VALUES:
ACL® 90 PLUS CHLORINATING COMPOSITION:
No biological limit value(s) available.

VENTILATION: Use only in well ventilated areas. Provide local exhaust ventilation where dust or mist may be generated. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear chemical safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear protective clothing to minimize skin contact. When potential for contact with dry material exists, wear disposable coveralls suitable for dust exposure. Contaminated clothing should be removed and laundered before reuse.

GLOVES: Wear suitable gloves.

PROTECTIVE MATERIAL TYPES: butyl rubber, natural rubber, neoprene, nitrile, polyvinyl chloride (PVC), Tyvek®

RESPIRATOR: A NIOSH approved respirator with N95 (dust, fume, mist) filters may be permissible under certain circumstances.
The added protection of a full face piece respirator is required when visible dusty conditions are encountered or eye irritation occurs.
Acid gas cartridges with N95 filters are required when fumes or vapor may be generated.
A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant the use of a respirator.

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9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: solid
COLOR: white
PHYSICAL FORM: crystals, granules
ODOR: chlorine odor
MOLECULAR WEIGHT: 232.4
MOLECULAR FORMULA: $C_3N_3O_3Cl_3$
BOILING POINT: Not applicable
MELTING POINT: 478 F (248 C)
DECOMPOSITION POINT: 478 F (248 C)
VAPOR PRESSURE: <0.002 Pa @ 20 C
VAPOR DENSITY: Not applicable
SPECIFIC GRAVITY: Not available
DENSITY: 2.1 g/mL @ 25 C
BULK DENSITY: 63-66 lbs/ft3 (loose)
WATER SOLUBILITY: 1.2 mg/100 g @ 20 C
PH: 2.9-3.5 @ 25 C (1% solution)
VOLATILITY: Not applicable
ODOR THRESHOLD: Not available
EVAPORATION RATE: Not applicable
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

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10. STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Do not get water inside container. Wet material may generate nitrogen trichloride, an explosion hazard. Avoid contact with easily oxidizable organic material.

INCOMPATIBILITIES: acids, ammonia, bases, floor sweeping compounds, calcium hypochlorite, reducing agents, organic solvents and compounds

HAZARDOUS DECOMPOSITION:
Thermal decomposition or combustion products: chlorine, nitrogen, nitrogen trichloride, cyanogen chloride, oxides of carbon, phosgene

POLYMERIZATION: Will not polymerize.

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11. TOXICOLOGICAL INFORMATION

ACL® 90 PLUS CHLORINATING COMPOSITION:
IRRITATION DATA: PRIMARY SKIN IRRITATION: Severe Irritation, Corrosive (rabbit, 24 hr); PRIMARY EYE IRRITATION: Severe Irritation, Corrosive (rabbit, 24 hr)
TOXICITY DATA: 809 mg/kg oral-rat LD50; >2000 mg/kg skin-rabbit LD50; >2000 mg/kg skin-rat LD50; 0.09-0.29 mg/L/4 hour(s) inhalation-rat LC50
Monosodium cyanurate was administered via drinking water to rats for 104 weeks at concentrations of 0, 400, 1200, 2400, and 5375 ppm (solubility limit). No compound-related effects on body weights, clinical signs of toxicity or food or water consumption were noted during the study. An increased incidence of gross lesions in the urinary tract, calculi in the kidney and lesions in the heart were observed in males receiving the highest dose level of 5375 ppm (solubility limit). The health effects seen in this study were due to precipitation of the test substance in the urinary tract when the test substance was fed at the solubility limit. Adverse health effects were not seen at lower doses where precipitation did not occur.
MUTAGENIC DATA: Not mutagenic in 5 salmonella strains and 1 E. Coli strain with or without mammalian microsomal activation. REPRODUCTIVE EFFECTS DATA: There are no known or recorded effects on reproductive function or fetal development.
ACUTE TOXICITY LEVEL:
Highly Toxic: inhalation
Harmful: ingestion

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12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:
FISH TOXICITY: This material is believed to be highly toxic to aquatic life. 0.23-0.40 mg/L 96 hour(s) LC50 Bluegill Sunfish; 0.24-0.37 mg/L 96 hour(s) LC50 Rainbow Trout

INVERTEBRATE TOXICITY: 0.17-0.80 mg/L 48 hour(s) LC50 Water flea.

ALGAL TOXICITY: <0.5 mg/L 3 hours EC50 Green algae

OTHER TOXICITY: 1021-1630 mg/kg oral-Mallard duck LD50; 1638 mg/kg oral-N. Bobwhite Quail LD50; >10,000 ppm diet-Mallard duck LC50; 7422 ppm diet-N. Bobwhite Quail LD50;

FATE AND TRANSPORT:

BIODEGRADATION: This material is subject to hydrolysis. Cyanuric acid produced by hydrolysis is biodegradable.

PERSISTENCE: This material is believed not to persist in the environment. Free available chlorine is rapidly consumed by reaction with organic and inorganic materials to produce chloride ion. The stable degradation products are chloride ion and cyanuric acid.

BIOCONCENTRATION: Trichloroisocyanuric acid hydrolyzes in water liberating chlorine and cyanuric acid. These products are not bioaccumulative.

OTHER ECOLOGICAL INFORMATION: This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product into sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of EPA.

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13. DISPOSAL CONSIDERATIONS

Use or reuse if possible. This material is a registered pesticide. Dispose in accordance with all applicable regulations. Do not put product, spilled product, or filled or partially filled containers into the trash or waste compactor. Contact with incompatible materials could cause a reaction and fire. DO NOT transport wet or damp material. Damp material should be neutralized to a non-oxidizing state. Contact Aqua Tri for instructions for handling and disposal of damp material. See product label for container disposal information. May be subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.

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14. TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:

PROPER SHIPPING NAME: Trichloroisocyanuric acid, dry
ID NUMBER: UN2468
HAZARD CLASS OR DIVISION: 5.1
PACKING GROUP: II
LABELING REQUIREMENTS: 5.1

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

SHIPPING NAME: Trichloroisocyanuric acid, dry
UN NUMBER: UN2468
CLASS: 5.1
PACKING GROUP/RISK GROUP: II

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15. REGULATORY INFORMATION

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30): Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):
ACUTE: Yes
CHRONIC: No
FIRE: Yes
REACTIVE: Yes
SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65): Not regulated.

OSHA PROCESS SAFETY (29CFR1910.119): Not regulated.

OTHER U.S. REGULATIONS: Federal Insecticide, Fungicide and Rodenticide Act (FIFRA): Registered pesticide (40 CFR 152).

STATE REGULATIONS:

California Proposition 65: Not regulated.

NEW JERSEY WORKER AND COMMUNITY RIGHT TO KNOW:

REPORTING REQUIREMENT:
TRICHLORO-S-TRIAZINETRIONE 87-90-1 98-100%

RIGHT TO KNOW HAZARDOUS SUBSTANCE LIST:
TRICHLORO-S-TRIAZINETRIONE 87-90-1 98-100%

SPECIAL HEALTH HAZARD SUBSTANCE LIST:
TRICHLORO-S-TRIAZINETRIONE 87-90-1 98-100%

PENNSYLVANIA RIGHT TO KNOW:

REPORTING REQUIREMENT:
TRICHLORO-S-TRIAZINETRIONE 87-90-1 98-100%

HAZARDOUS SUBSTANCE LIST:
TRICHLORO-S-TRIAZINETRIONE 87-90-1 98-100%

ENVIRONMENTAL HAZARDOUS SUBSTANCE LIST:
Not regulated.

SPECIAL HAZARDOUS SUBSTANCE LIST:
Not regulated.

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: Material is regulated as a pesticide, therefore is not regulated under WHMIS.

NATIONAL INVENTORY STATUS:

U.S. INVENTORY (TSCA): Listed on inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

CANADA INVENTORY (DSL/NDSL): Listed on DSL.

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16. OTHER INFORMATION

NFPA RATINGS (SCALE 0-4): HEALTH=2 FIRE=0 REACTIVITY=2

HMIS RATINGS (SCALE 0-4): HEALTH=3 FLAMMABILITY=0 REACTIVITY=2

This information is intended solely for the use of individuals trained in the NFPA and/or HMIS systems. Rated using 2nd Edition HMIS Instructions.

Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, material safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this Material Safety Data Sheet available to your employees.

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