

MATERIAL SAFETY DATA SHEET

TRADE NAMES

ALL CLEAR ALGAE KILL

MANUFACTURER

AQUA TRI
17872 Mitchell
Irvine, CA 92614
(949)474-7707

MSDS DATE: 12-22-94

EMERGENCY PHONE #
Call CHEMTREC 1-800-424-9300

ADDITIONAL NAMES

ALL CLEAR ALGAE KILL

EPA Reg. No.
09215-3

I. PRODUCT IDENTIFICATION HAZARDOUS INGREDIENTS

HMIS HAZARD RATINGS

HEALTH HAZARD 3

FIRE HAZARD 1

REACTIVITY 2

Based on the National Paint & Coatings Association HMIS rating system .

SARA /TITLE III HAZARD CATEGORIES

Immediate (ACUTE) Health: YES
Delayed (CHRONIC) Health: NO
Fire Hazard: YES

Reactive Hazard: YES
Sudden Release of Pressure: NO

Synonyms(s): Trichloroisocyanuric acid; Trichloro-s-triazinetriene
Chemical Name: 1,3,5-Triazine-2,4,6 (1H,3H,5H)-trione, 1,3,5-trichloro-

Chemical Formula: C3N3O3Cl3

Chemical Family: Chlorinated isocyanurates
CAS No.: 87-90-1

DOT Proper Shipping Name: Trichloroisocyanuric Acid, dry
DOT Hazard Class 5.1
Packing Group II
DOT I.D. No.: UN2468
DOT Label(s): Oxidizer
U.S. Surface Freight Classification: Trichloroisocyanuric Acid (Bleach Assistant Compound, N.O.I.B.N., dry)

Reportable Quantity (RQ)
Under U.S. EPA CERCLA
Regulations:
Ignitability and Reactivity.

100 lbs. RCRA Unlisted Hazardous Waste - Characteristic of

Hazardous Ingredient(s) Under OSHA Hazard Communication Standard:

This substance is identified as a hazardous chemical under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200):

Trichloroisocyanuric Acid, CAS Reg. No. 87-90-1

II. WARNING STATEMENTS - HEALTH HAZARDS

KEEP OUT OF REACH OF CHILDREN

DANGER!

HIGHLY CORROSIVE

CAUSES IRREVERSIBLE EYE DAMAGE

CAUSES BURN TO SKIN

IRRITATING TO NOSE AND THROAT

MAY BE FATAL IF SWALLOWED

WILL BURN WITH THE EVOLUTION OF CHLORINE AND EQUALLY TOXIC GASES

STRONG OXIDIZING AGENT

CONTACT WITH WATER SLOWLY LIBERATES IRRITATING AND HAZARDOUS CHLORINE
CONTAINING GASES

DECOMPOSES AT 460 F TO 480 F WITH LIBERATION OF HARMFUL GASES

Mix only with water. Use clean dry utensils. Do not add this product to any dispensing device containing remnants of any other product. Such use may cause a violent reaction leading to fire or explosion. Contamination with moisture, organic matter, or other chemicals may start a chemical reaction with generation of heat, liberation of hazardous gases, and possible generation of fire and explosion.

EFFECTS OF OVEREXPOSURE

ACUTE:

On contact with moisture, this material readily hydrolyzes to hypochlorous acid and cyanuric acid. The tissue damage resulting from contact is considered to result, in part, from its hypochlorous acid decomposition products. May cause gastrointestinal and respiratory tract irritation. May be severely irritating or corrosive to eyes and skin.

CHRONIC:

No known chronic effects.

III. DIRECTIONS FOR USE:

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

For use in swimming pools and spas to control algae. Do not mix with other chemicals. Re-entry into swimming pools and spas at available chlorine levels above 3ppm is prohibited. See product labels for specific use directions.

IV. PRECAUTIONARY MEASURES

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

Wear goggles or face shield, rubber gloves and protective clothing when handling this product.

Avoid breathing dust or fumes.

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

Remove and wash contaminated clothing before reuse.

Chemical should not come in direct contact with surface of vinyl liner, fiberglass, acrylic, colored plaster, or painted pools and spas.

Do not pour into the pool skimmer.

Do not mix with other chemicals.

V. EMERGENCY AND FIRST AID PROCEDURES

Statement Of Practical Treatment (First Aid): If Swallowed, drink large amounts of water. Do Not induce vomiting. Avoid alcohol. Call a physician or poison control center immediately. Get medical attention. Never give anything by mouth to an unconscious person. If On Skin, immediately brush off excess chemical and flush with cold water for at least 15 minutes. Remove contaminated clothing. Wash clothing before reuse. If irritation persists, call a physician. If In eyes, Flush with cold water for at least 15 minutes. Get medical attention. If Inhaled, remove person to fresh air. Call a physician. Note To Physician: Probable mucosal damage may contraindicate the use of gastric lavage.

In Case Of: Fire, if possible, isolate container in open air or well ventilated area. Flood with large volume of water.

In Case Of: Contamination or Decomposition, do not reseal container.

VI. OCCUPATIONAL CONTROL PROCEDURES

Eye Protection: Wear chemical splash goggles and have eye baths immediately available where there is potential for eye contact.

Skin Protection: Wear appropriate protective gloves and protective clothing that provide a barrier to prevent skin contact. Consult glove manufacturer to determine appropriate type glove for given application. Wash immediately if skin is contaminated. Launder contaminated clothing and clean protective equipment before reuse. Provide a safety shower at any location where skin contact can occur. Wash thoroughly after handling.

RESPIRATORY:

NIOSH/MSHA approved respirator, following manufacturer's recommendations, should be used as a precautionary measure where airborne contaminants may occur. (OSHA 1910.134).

Ventilation: Provide ventilation to control exposure levels below airborne exposure limits. Use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

Airborne Exposure Limits:

Typical Product Composition:

Active Ingredient:

Trichloro-s-triazinetrione	99.9%
Other Ingredients	0.1%
	<hr/>
	100.0%

Available Chlorine 90%

OSHA PEL/TWA: None established

ACGIH TLV/TWA: None established

Chlorine*

OSHA PEL/TWA: 0.5 ppm (1.5 mg/m3)

OSHA PEL/STEL: 1.0 ppm (3.0 mg/me)

ACGIH TLV/TWA: 0.5 ppm (1.5 mg/m3)

ACGIH TLV/STEL: 1.0 ppm (3.0 mg/m3)

(*) A potential chemical found in slight amounts in the head space of containers of All-Clear Algae Kill.

VII. FIRE PROTECTION INFORMATION

All-Clear Algae Kill is not flammable. They will, however, moderately increase the burning rate and may cause spontaneous ignition of combustible material with which they come in contact. Also, if heated by an outside source to a temperature of 460-480 F, this material will undergo self-sustaining decomposition with evolution of heat and dense noxious gases.

EXTINGUISHING MEDIA:

In case of fire or smoke call the fire department. Do not attempt to extinguish the fire without a self contained breathing apparatus (SCBA). Do not let the fire burn. Flood with copious amounts of water. DO NOT use ABC or other dry chemical extinguishers since there is the potential for a violent reaction.

SPECIAL FIRE FIGHTING PROCEDURES:

Firefighters should wear full protective clothing and self-contained breathing apparatus (SCBA). Using a 10% solution of sodium carbonate, thoroughly decontaminate fire fighting equipment including all fire fighting wearing apparel after the incident.

Unusual Fire and Explosion Hazards: Small quantities of water react with All-Clear Algae Kill to form hazardous quantities of nitrogen trichloride which can present an explosion hazard.

Immediately after a fire has been extinguished a check should be made for wet chlorinating materials. Any spilled material from burned or broken drums including any chlorinating material remaining in broken drums should be assumed contaminated and discarded as outlined in the "Spill Leak and Disposal information" section of this material safety data sheet. Do not attempt to re-close broken drums, even for movement to disposal area. They should be left open to disperse any nitrogen trichloride that is formed.

All Clear Algae Kill containers which appear undamaged except for being damp on the outside, should be opened and inspected within eight hours of the time water was first applied. If the drum is damaged or the tablets are damp, the product should be discarded immediately in accordance with the Spill Leak and Disposal section of this MSDS.

VIII. REACTIVITY DATA

Materials to Avoid: This product is intended for use in dilute solutions with water. The preparation of concentrated solutions or slurries of All Clear Algae Kill is not recommended. All Clear Algae Kill reacts with water to form hypochlorous acid and cyanuric acid. Also avoid contact with easily oxidizable organic material; ammonia, urea, or similar nitrogen containing compounds; inorganic reducing compounds; calcium hypochlorite; alkalis.

Hazardous Decomposition Products: Chlorine-containing gases can be produced. Traces of phosgene can be liberated at temperatures greater than 400 F or when product is contaminated as noted above.

Hazardous Polymerization: Does not occur.

IX. HEALTH EFFECTS SUMMARY

Effects of Exposure

Dermal contact and inhalation are expected to be the primary routes of occupational exposure to this material. All Clear Algae Kill is considered to be corrosive to the eyes and skin. Exposure to dust or fumes has been reported to produce eye, nose, throat, and respiratory tract irritation.

On contact with moisture All Clear Algae Kill readily hydrolyze to hypochlorous acid and cyanuric acid. The tissue damage resulting from contact with this material is considered to result, in part, from its hypochlorous acid decomposition products.

Vapor space in a closed container of chlorinating tablets may contain a slight amount of chlorine gas and other chlorine containing compounds from decomposition of the product. Exposure to chlorine gas has been reported to cause burning of the eyes with lacrimation; burning of the nose and mouth with rhinorrhea; and irritation of the linings of the entire respiratory tract with coughing, a choking sensation, substernal pain, vomiting, nausea, dizziness and syncope. The onset of severe respiratory symptoms following exposure to chlorine, including pulmonary edema and pneumonitis, may be delayed.

Toxicological Data

All Clear Algae Kill

Oral LD50 (Rat): 600 mg/kg, Slightly Toxic

Dermal LD50 (Rabbit): 7,600 mg/kg, Practically Nontoxic

Eye Irritation (Rabbit, 24-hr): Corrosive

Skin Irritation (Rabbit, 24-hr): Corrosive

DOT Skin Corrosion (Rabbit, 4-hr): Not Corrosive

Rats were exposed by inhalation to dust of Trichloro-s-Triazinetrione at exposure levels of 3.2, 10.1 and 31 mg/m³ for 6 hours/day, 5 days/week for 4 weeks. Signs of irritation including lacrimation, salivation and labored breathing were observed at the mid- and high-exposure levels. Increased adrenal weights and blood chemistry parameter alterations were also noted in the mid- and high-exposure groups. No adverse histopathological effects were observed. The no-effect level is considered to be 3.2 mg/m³.

A study in the scientific literature reports that trichloroisocyanuric acid was negative for mutagenic activity in microbial assays with five *S.typhimurium* strains and one strain of *E.coli*, both with and without mammalian microsomal activation.

Additional Information

A Threshold Limit Value (TLV) has been established by the American Conference of Governmental Industrial Hygienists for chlorine. For further information on chlorine, please refer to the current edition of the Documentation of The Threshold Limit Values and Biological Exposures Indices.

PHYSICAL DATA

Appearance: White granular powder

Odor: Slight chlorine odor

Melting Point: 225-230 C (decomposes)

Loose Bulk Density (lbs./cu. ft.): 56-60

Solubility @ 25 C: 1.2g/100g H₂O

pH (1% solution @ 25 C): 3.0-3.5

Note: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

X. SPILL, LEAK & DISPOSAL INFORMATION

This Spill, Leak And Disposal Information Is Applicable For **All Clear Algae Kill**.

Emergency Spill and Leak Information: Contain spilled material. Any spillage of chlorinating tablets should be cleaned up as soon as possible to prevent contamination with foreign material with which it may react. See "Reactivity Data" section of this document.

Keep Spilled Material Dry. If allowed to stand in damp or wet areas, tear-producing vapors may result.

Sweep, scoop, or vacuum up all spilled material, contaminated soil, and other contaminated material and place in clean, dry containers for disposal. Do not attempt to re-close wet drums even for movement to disposal area. They should be left open to disperse any nitrogen trichloride, that is formed. Complete cleanup on a dry basis if possible. Floor sweeping compounds should not be used in the removal of this products as fuming, fire, and explosion may result. Follow all protective measures indicated in the "Occupational Control Procedures" section of this document.

As currently defined, wastes of unneutralized All Clear Algae Kill are hazardous substances, exhibiting the characteristics of ignitability (D001) and reactivity (D003) under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). If 100 pounds or more of stored waste material are released into

the environment, it must be reported to the National Response Center (800-424-8802 or 202-426-2675). Since local, state, and federal laws may vary, consult your attorney or appropriate regulatory officials for information relating to spill reporting.

Keep unneutralized All Clear Algae Kill out of sewers, watersheds and water systems. Do not contaminate water, food or feed by storage or disposal.

Waste Disposal: Dispose of in accordance with all local, state, and federal regulations.

Wastes of this pesticide are acutely hazardous and may cause irreversible eye damage and burns to skin and may be dangerous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional office for guidance.

As currently defined in Federal Resource Conservation and Recovery Act (RCRA) regulations, this material when discarded, is a hazardous waste exhibiting the characteristics of ignitability (D001) and reactivity (D003). See 40 CFR 261.23. Its disposal, therefore, is regulated by Federal RCRA regulations. Consult your attorney or appropriate regulatory officials for information regarding additional state and local waste disposal requirements.

Do not dispose of filled or partially filled containers in a common waste compactor. Contaminants in the compactor such as oil, sawdust, floor-sweeping compound, etc. could cause spontaneous decomposition of the material at ambient temperatures resulting in rupture of the drum and fire.

Container Disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in sanitary landfill, or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Storage And Disposal: Do not contaminate water, food, or feed by storage or disposal. Storage- Store in original container and keep container tightly closed away from heat or open flame. Store in a cool, dry, well ventilated place. Do not allow water to get into container. Keep container off wet floors.

XI. ENVIRONMENTAL EFFECTS

48-hr LC50 Daphnia magna: 0.21 mg active ingredient/liter, Highly Toxic

96-hr LC50 Bluegill sunfish: 0.4 mg/l, Highly Toxic

96-hr LC50 Rainbow trout: 0.24 mg/l, Highly Toxic

Oral LD50 Mallard Duck: 1,021 mg/kg, Slightly Toxic

8-Day Dietary LC50 Mallard Duck: >10,000 ppm, Practically Nontoxic

8-Day Dietary LC50 Bobwhite quail: >10,000 ppm, Practically Nontoxic

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 to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

Notice:

OSHA Standard 29CFR 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.

To aid our customers in complying with regulatory requirements, SARA Title III hazard categories for this product are indicated in Section I. If the word "YES" appears next to any category, this product may be reportable by you under the requirements of 40 CFR Part 370. Please consult those regulations for details.

Notice:

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Aqua Tri makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Aqua Tri be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. No Representations Or Warranties, Either Express Or Implied, Of Merchantability, Fitness For A Particular Purpose Or Of Any Other Nature Are Made Hereunder With Respect To Information Or The Product To Which Information Refers.