



# Trichloroisocyanuric Acid

## Product Stewardship Summary February 2008

Chemical Name:	trichloroisocyanuric acid
Synonyms:	trichlor; trichloro-s-triazinetriene; 1,3,5-trichloro-s-triazine-2,4,6- trione; TCCA
CAS Number:	87-90-1
CAS Name:	trichloro-s-triazinetriene
EC (EINECS) Number:	201-782-8

- *General Description.* Trichloroisocyanuric acid (Trichlor) is a white, granular or tableted solid with a mild chlorine-like odor. Trichlor is registered for water sanitization by the U.S. EPA under the Federal Insecticide, Fungicide, and Rodenticide Act.
- *Manufacture.* During production, potential exposure to the concentrate by humans and the environment is tightly controlled and confined through strong industrial hygiene protocols and processes, engineering of the manufacturing equipment, and the use of personal protective equipment.
- *Applications.* Trichlor is used as a sanitizer to kill bacteria and control algae in recreational water such as swimming pools and hot tubs. It is sold through retail stores to pool and spa owners for this use.
- *Benefits.* Trichlor dissolves slowly, providing a steady source of chlorine sanitizer which lasts up to one week in swimming pools. It also contains a stabilizer that protects the chlorine from dissipation by sunlight. Trichlor is an effective sanitizer in swimming pools and can also be used in granular form as an algaecide for black algae on white plaster surfaces in swimming pools.
- *General Precautions.* Trichlor in concentrated form is corrosive to

the eyes and skin, and burns may occur within a short time from the onset of exposure. Trichlor in concentrated form is toxic when ingested and has low acute toxicity from skin exposure. In the unlikely event concentrated Trichlor is inhaled for 4 or more hours, it is considered toxic. The effects of such inhalation are confined initially to severe irritation to the respiratory tract. In diluted form and in its end-use environment, Trichlor does not pose any significant risk to humans and the environment.

Trichlor does not damage genetic material and is therefore not considered to be a mutagen.

From repeated inhalation exposure of the concentrated dry product, the primary effect from Trichlor is damage to the upper respiratory tract and lungs. Effects from repeated ingestion are irritation to severe irritation of the gastrointestinal tract. Trichlor is not absorbed through the skin in significant amounts; therefore, the only effect from repeated skin contact would be irritation and/or burns.

Trichlor is not a cancer-causing agent.

Trichlor does not impair reproductive performance, fertility, or fetal development.

Trichlor in concentrated form is highly toxic to fish, aquatic invertebrates and aquatic plants; however, once diluted and in its end-use environment, it does not pose any significant risk to aquatic organisms.

Absorption of Trichlor by the body is very low and considered insignificant; however, if it is absorbed, it is excreted rapidly with no potential for bioaccumulation.

The toxicological effects (irritation and/or burns) of Trichlor are due to the presence of chlorine in the molecule.

- *Physical Precautions.* Contamination or improper use may cause fire, explosion or the release of toxic gases. Users must not allow TCCA to contact any foreign matter, including other water treatment products. If TCCA is exposed to small amounts of water, it can react

violently to produce heat and toxic gases and spatter. Users must not add water to this product, but rather add this product only into water. Exposure to heat can cause this product to rapidly decompose, leading to intense fire, explosion, and the release of toxic gases. This product must be stored in a cool, dry, well ventilated area. TCCA is a strong oxidizing agent. This product can increase fire intensity. This product must be kept away from heat, flame, and burning material.

- *Likelihood of Exposure.* Although most transfers of the chemical are contained in enclosed spaces, exposure to the chemical could occur at a manufacturing facility, treating plant, and site of an accidental release during shipment. End users of Trichlor are unlikely to be exposed when transferring the product from its container to the pool through a floater, feeder, or skimmer. It is important to carefully read and follow all label directions.
- *Risk Management.* The likelihood of exposure to the chemical is low when the end-user carefully reads and follows all label directions for proper use. The risk of adverse effect to health could potentially occur if the concentrated product comes in contact with the skin or if there is significant, direct inhalation, when a container of the concentrated material is opened or during addition to the pool. Once dissolved in pool water, Trichlor will cause no harm to the bathers in the water and actually protects bathers from harmful waterborne pathogens.

For additional information, please visit our web site at [www.archchemicals.com](http://www.archchemicals.com) and click on “Contact Us”.

This summary is intended to give general information about the chemical or categories of chemicals addressed. It is not intended to be, and should not be relied upon as, a substitute for the detailed health and safety information contained in the Material Safety Data Sheet (or any other required hazard communication material) for this product, which should be consulted before use of the chemical or treatment for exposure. As with any product, it is very important to read and carefully follow all label directions and warnings. This summary does not amend, modify, or replace required regulatory and/or legal communication documents.