

Occidental Chemical Corporation

ACL[®] Chlorinated Isocyanurates

Product Details

Product Overview

Chlorinated isocyanurates are leading dry sanitizers for residential pools and spas, effectively eliminating germs and algae. Their disinfection properties make them an important component of dishwashing detergents and industrial water treatment products. OxyChem's chlorinated isocyanurates are also approved for routine potable water chlorination.

These products are characterized by their available chlorine content. Their different solubilities and forms are used to select the best product for each application.

ACL[®] 90 PLUS is OxyChem's name for trichloroisocyanuric acid (also named trichloro-s-triazinetriene). This product contains a minimum of 90 percent available chlorine and is available in either granular or tablet form. ACL 60 is OxyChem's name for sodium dichloroisocyanurate (sodium dichloro-s-triazinetriene), which contains a minimum of 62 percent available chlorine. ACL 56 is OxyChem's name for sodium dichloroisocyanurate dihydrate, which contains about 56 percent available chlorine. Both ACL 60 and ACL 56 chlorinated isocyanurates are sold as dry, granular products.

OxyChem markets chlorinated isocyanurates under the following product names:

[ACL[®] Chlorinating Compositions](#) - effective, economical disinfectants, germicides and algicides for sanitizing swimming pools and spas. Also used for formulation of cleaners and sanitizers.

[Towerbrom[®] and Towerchlor[®] Microbicides](#) - halogenated isocyanurate compositions for controlling biofouling in cooling waters and other industrial water treatment applications.

[ACL[®] Disinfecting Granules and Tablets](#) – EPA registered and NSF/ANSI certified dry products for routine chlorination of drinking water and wastewater.

Common Uses - Chlorinated Isocyanurates

Chlorinated isocyanurates are chlorine-containing derivatives of isocyanuric acid and are used as sanitizing, disinfecting and bleaching agents.

The primary end-use applications are as swimming pool sanitizers, machine dishwashing detergents, bleaches and other disinfecting cleaners. The three commercially useful

chlorinated isocyanurates are trichloroisocyanuric acid and sodium dichloroisocyanurate, anhydrous and dihydrate.

Chlorinated isocyanurates also have industrial applications as a water disinfectant, anti-slime, anti-fungal and as a virus-killer. They help prevent a condition known as biofouling, or bacterial build up on the inside of pipes.

OxyChem's chlorinated isocyanurates can also be used for routine chlorination of drinking water or wastewater.

Applications:

- Swimming pools and spas
- Cleaners and sanitizers
- Cooling towers and other industrial water treatment
- Chlorination of drinking water and wastewater

The ACL[®] Advantage



Swimming pools and spas - the ACL advantage

Chlorine is proven to be the best overall disinfectant, germicide, algacide and anti-slime agent available.

For more than a century chlorine has been used for swimming pool sanitation. Today, it's used in over 90 percent of all residential pools and in the majority of public pools in the United States.

- ACL products react with water to produce free chlorine and cyanuric acid which acts as a shield against ultraviolet (UV) light in sunlight, causing rapid decomposition of active chlorine. **ACL's active chlorine decomposes slower and lasts up to four times longer than bleach or calcium hypochlorite, resulting in less pool maintenance.**
- ACL products dissolve completely, leaving water perfectly clear, residue and cloud free. ACL products do not promote calcium scaling.

Compare Chlorine Products

	ACL 90	ACL 56 or 60	Calcium hypo	Liquid Chlorine
High chlorine	•			
Built-in chlorine stabilizer	•	•		
Easy to use	•			
Easy chlorine control	•			
Clear water	•	•		•
No scaling	•	•		•
Longer storage life	•	•	•	
No messy spills	•	•	•	
No need to pre-dissolve		•		
Reduced dissolved solids and build up	•	•	•	

Packaging

ACL products have excellent storage stability. Unlike liquid bleach, ACL products maintain their chlorine content almost indefinitely. Depending upon the grade, these products may be available in 50 kg., 300 lb. and 441 lb. drums as well as bulk bags.

Precautions

The ACL products are excellent sanitizers because of the oxidizing power of the contained chlorine. This unique characteristic can also make these products hazardous chemicals to handle and store. Guidelines for the safe handling and storage of these chemicals is spelled out on the product label and the MSDS (Material Data Safety Sheet), which are readily available from OxyChem.

ACL[®] - Chlorinating Compositions

The ACL products are available in bulk for manufacturing, tableting, repackaging and formulation use. These products are also available in various size containers for private label use.

The following table summarizes the products and the common package sizes available. Contact ACL Technical Service (877-873-4767) for other options.

The three grades denote different particle size ranges: XG (Extra Granular), G (Granular), and R (Regular or powder). See the Spec Sheets for the mesh sizes for each product.

Product	Grades	Package Sizes
ACL 90 PLUS Chlorinating Composition	XG G R	2755 lb. bulk bag 2205 lb. bulk bag 441 lb. drum 50 kg. drum
ACL 90T Tablets	3" 1" Sticks Larger Tabs	Variable up to 2205 lb. bulk bag or box
ACL 60 Chlorinating Composition	XG G	2805 lb. bulk bag 2205 lb. bulk bag 300 lb. drum 50 kg. drum
ACL 56 Chlorinating Composition	XG G	2805 lb. bulk bag 2205 lb. bulk bag 300 lb. drum 50 kg. drum

Cleaner and Sanitizer Formulations

ACL Chlorinating Compositions can be used in a number of formulated products, such as machine dishwashing detergents, industrial laundry bleaches, industrial and institutional cleaners and sanitizers. See our *Detergent, Bleach, Cleaner and Sanitizer Applications Handbook* for more details on formulating with chlorinated isocyanurates. OxyChem maintains several EPA registrations for different sanitizer formulations. Contact ACL Technical Service (877-873-4767) for more information.

ACL Chlorinating Compositions are available from our distributor, ChemPoint (800-485-9569 or www.chempoint.com). ChemPoint handles sales to LTL customers principally in the I&I Market.

ACL® Disinfecting Granules & Tablets

For drinking water and wastewater chlorination

- ACL 90 Disinfecting Granules
- ACL 90 Disinfecting Tablets (3" and 1")
- ACL 60 Disinfecting Granules
- ACL 56 Disinfecting Granules

These products are available in quick-dissolving granules and long-lasting tablets that offer superior performance, safety, convenience and are economical. They are approved by the United States EPA for routine chlorination of drinking water and wastewater, as well as for use in some emergency situations. These products are labeled for potable water applications and are certified to NSF/ANSI Standard 60 for drinking water treatment chemicals.

The following table summarizes the products and the common package sizes available. Contact ACL Technical Service (877-873-4767) for other options.

Product	Package Sizes
ACL 90 Disinfecting Granules	50 kg. plastic drum 50 lb. plastic pail
ACL 90 Disinfecting Tablets – 3" or 1"	50 kg. plastic drum 55 lb. (25 kg.) plastic pail
ACL 60 Disinfecting Granules	50 kg. fiber drum 50 lb. plastic pail 10 lb. plastic pail (case of 4)
ACL 56 Disinfecting Granules	50 kg. fiber drum 50 lb. plastic pail



[NSF/ANSI Certification](#)

Towerbrom[®] & Towerchlor[®]



Towerbrom[®] and Towerchlor[®] microbicides are halogenated isocyanurate compositions that generate available bromine and/or chlorine for the control of biofouling in cooling waters. Each is available in both a quick dissolving granular form, Towerbrom 60M granules or Towerchlor 56 granules, and a sustained release tablet form, Towerbrom 90M tablets or Towerchlor 90 tablets.

Towerbrom microbicides provide the broadest range of dosing practices of the solid bromine oxidizing microbicides. The effectiveness of Towerbrom products as bactericides and slimicides in recirculating water systems has been demonstrated by 20 years of use in a wide variety of water systems.

Towerchlor microbicides are excellent sources of free available chlorine for the control of biofouling in cooling waters. Towerchlor microbicides provide the safest and the easiest method of cooling water chlorination.

Towerbrom and Towerchlor microbicides were developed to address the increasing demands on a microbicide in industrial water treatment. Cooling water in a tower is continually contaminated by impurities in fresh water sources and by atmospheric air drawn through the tower to effect cooling. These contaminants contribute to scaling, corrosion, and biofouling problems that adversely affect the proper operation of the heat exchange equipment. Also, aerosols from the tower's exhaust have been identified as a source of microorganisms that can cause public health risks.

The Towerbrom and Towerchlor brochures are available for downloading.

Tablet Feeders

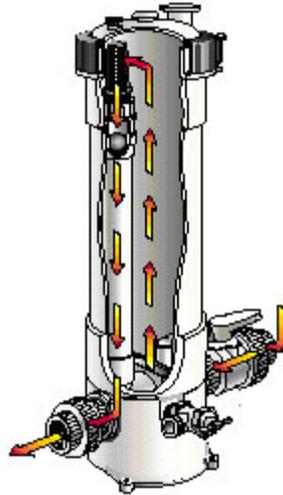
OxyChem offers two tablet feeders for use with Towerbrom[®] tablets, Towerchlor[®] tablets, and ACL[®] 90 Disinfecting Tablets. These are not available for swimming pool applications.

Model 1001X – feeds up to about 4.0 lb/day of three inch tablets. It is not recommended for 1" tablets.

Model 1040 - has a capacity of 40 pounds of tablets. It is the largest model shown in the picture (height ~ 50", ID 5.5"). It is designed for hard plumbing installations using 1" PVC pipe and includes standard threaded inlet and outlet fittings. Maximum working pressure is 50 psig. It feeds up to about 1.2 lb/hr for one inch tablets and 0.4 lb/hr for three inch tablets (at 3 gpm water flow and 70°F).

Features:

- Vent valve bleeds air to ease lid removal.
- Safety lock-ring spins off, freeing lid and providing easy access.
- Safety snap-lock provides secure seal.
- Screen and check ball are easy to reach for cleaning.
- Flow-through circulation creates maximum output of sanitized water.
- External dial control for easy adjustment of flow rate.
- Drain valve makes it easy to drain feeder for safe recharging and winterizing.
- Unions are included for easy installation.



For more information, call ACL Technical Service (877-873-4767). We can also recommend feeders from other manufacturers.

Literature - Chlorinated Isocyanurates

The following literature is available on OxyChem's web pages:

- ACL Disinfecting Compositions for Potable Water
- ACL Frequently Asked Questions
- Detergent, Bleach, Cleaner and Sanitizer Applications Handbook
- Towerchlor brochure
- Towerbrom brochure
- Specification Sheets
- MSDSs

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