

Vita-D-Chlor Dechlorination Chemicals and Systems

As a leader in the industry, Integra Chemical's Vita-D-Chlor provides safe and effective dechlorination. A number of dechlorination systems are available to implement Vita-D-Chlor effectively and to safely and instantaneously remove chlorine without causing environmental problems. Key benefits are enhanced environmental protection, operator safety and public acceptance.



Applications

Vita-D-Chlor provides a solution to a variety of dechlorination requirements.

- Hydrant flushing
- Water main installations and maintenance
- Reservoir overflow
- Fire flow testing
- Filter backwash
- Permit compliance
- Reservoir and tank draining and cleaning
- Dewatering
- Well cleaning
- Highly chlorinated water release to wastewater treatment plant

Tablets and Slo-Tabs

Vita-D-Chlor Tablets are the only tablets that utilize Vitamin C chemistry. They are 100% soluble and 100% organic. Unlike tablets made with sulfur compounds, they contain no ingredients that could be toxic to fish and other aquatic life.

One Vita-D-Chlor Tablet is capable of neutralizing approximately 8,500 gallons of water with 1 ppm chlorine. Tablets are well suited for chlorine neutralization in hydrant flushes as well as line flushes of both municipal water and super-chlorinated water. They are fast-dissolving and can accommodate a high volume of water over a short period of time.

Vita-D-Chlor Tablets are commonly utilized with dechlorination/diffuser equipment as well as with simple tools such as socks, bags or mats. These tools make dechlorination while using tablets very simple, safe and practical for field use.

NEW Vita-D-Chlor Slo-Tabs utilize the same safe Vitamin C chemistry as our original Vita-D-Chlor Tablets. Slo-Tabs dissolve at a rate which is 7 to 10 times slower than the regular tablets, making them a viable option for applications that require longer periods between tablet changes, such as auto flushing units.

US EPA Water Quality Criteria For Total Residual Chlorine (TRC)

Acute Toxicity Criterion for receiving streams

- 0.019 mg/L (ppm)

Chronic Toxicity Criterion for receiving streams

- 0.011 mg/L (ppm)

Canadian Environmental Quality Guidelines

0.019 mg/L (ppm)
1987 proposed Water Quality Criterion for receiving streams

AWWA Standard C655-09 (under I.A US Regulations, last paragraph of subsection 1.)
"Chlorine discharge limits in water releases into receiving streams and wetlands shall not exceed 0.01 mg/L (or a more stringent limit)."

Granular and Neutral

Vita-D-Chlor is the only Ascorbic Acid (Vitamin C) with NSF certification for dechlorinating water. Vita-D-Chlor Neutral is the only Sodium Ascorbate with NSF certification for dechlorinating water. Vita-D-Chlor and Vita-D-Chlor Neutral are both 100% organic, completely soluble, and provide a safe, rapid and complete method of dechlorination. These products completely neutralize both chlorine and chloramines.

Vita-D-Chlor is a more environmentally conscious method of dechlorination than traditional sulfur-based chemicals. Unlike sulfur-based compounds, Vita-D-Chlor is not toxic to humans or animals nor does it deplete oxygen in treated water. In fact, it is made with an essential vitamin for humans and many animals, which is known to boost the immune system in fish.

Vita-D-Chlor Neutral has all of the same dechlorination benefits as Vita-D-Chlor, plus a few more. It is over four times more soluble, which allows it to dissolve more quickly and easily. Vita-D-Chlor Neutral can be used to make a more highly concentrated feed solution than original Vita-D-Chlor. Additionally, Vita-D-Chlor Neutral will not adversely lower the pH of waters being treated, even when used in high concentrations.

Vita-D-Chlor TABLET SPECIFICATIONS:

Active ingredient	Ascorbic Acid
Activity	1 tablet neutralizes 8,500 gallons with 1ppm chlorine
Quantity needed to neutralize 1ppm chlorine	
Diameter	2 5/8"
Thickness	1"
Weight	115g (4 oz.)
Appearance	White tablet with citrus odor
Packaging	Plastic screw cap bottle and resealable plastic pail (airtight)
Shelf life	Up to 3 years
Sizes	6, 20, 40, 140 tablets

Vita-D-Chlor SLO-TAB SPECIFICATIONS:

Active ingredient	Ascorbic Acid
Activity	1 Slo-Tab neutralizes 7,500 gallons with 1ppm chlorine
Quantity needed to neutralize 1ppm chlorine	
Diameter	2 5/8"
Thickness	1"
Weight	115g (4 oz.)
Appearance	White tablet with citrus odor
Packaging	Plastic screw cap bottle and resealable plastic pail (airtight)
Shelf life	Up to 3 years
Sizes	6, 20, 40, 140 tablets

Vita-D-Chlor GRANULAR SPECIFICATIONS:

Active ingredient	Ascorbic Acid
Activity	1 gram per 100 gallons
Quantity needed to neutralize 1ppm chlorine	22 lbs. per 1 million gallons
Form	Easy dissolving fine granular
Quality	NSF Certified (Dechlorination and antioxidant chemical) Meets pharmaceutical industry standards for purity (USP)
Packaging	Plastic screw cap bottle and resealable plastic pail (airtight)
Shelf life	Up to 3 years
Sizes	2.5 kg (5.5 lbs.), 12 kg (26.5 lbs.), 25 kg (55 lbs.)

Vita-D-Chlor NEUTRAL SPECIFICATIONS:

Active ingredient	Sodium Ascorbate
Activity	1 gram per 100 gallons
Quantity needed to neutralize 1ppm chlorine	22 lbs. per 1 million gallons
Form	Easy dissolving fine granular
Quality	NSF Certified (Dechlorination and antioxidant chemical) Meets pharmaceutical industry standards for purity (USP)
Packaging	Plastic screw cap bottle and resealable plastic pail (airtight)
Shelf life	Up to 3 years
Sizes	2.5 kg (5.5 lbs.), 12 kg (26.5 lbs.), 25 kg (55 lbs.)

<http://www.PumpStoreUSA.com/store/dechlorination>



deChlorinator

CHLORINE LEVELS

0–200 ppm

FLUSH RATE

175–900 gpm

SETUP TIME

2–7 minutes



Benefits/Features

- ▶ Dechlorinates full-range of chlorine levels
- ▶ Utilizes NSF granular material for lowest-cost operations
- ▶ Durable construction, small, compact design
- ▶ Dechlorinate or chlorinate with one unit
- ▶ Sample port for untreated water sampling and feed solution makeup
- ▶ Connects directly to hydrant or hose extension

Procedure

1. Setup the deChlorinator on the hydrant (diffuser should be used for safety)
2. Mix suitable quantity of Vita-D-Chlor into a pail of water (measurement chart supplied)
3. Set needle valve to setting listed on the measurement chart
4. Place feed tube into the pail and begin flush
5. Adjust needle valve for greatest efficiency and test for complete dechlorination

Hydro-Hitch, Aqua-D-Chlor

CHLORINE LEVELS

0–50 ppm

FLUSH RATE

200–1,500+ gpm

SETUP TIME

1–3 minutes



Benefits/Features

- ▶ Simple, low cost and economical
- ▶ Accepts both 2.5" and 5" Storz connections
- ▶ Allows flushing from hydrant side outlet or steamer port.
- ▶ Built in hitch mount
- ▶ Lightweight aluminum construction with powder coat finish
- ▶ Adjustable tablet dissolve rates
- ▶ Accepts pitot for flow measurement

Procedure (Treatment up to 3ppm chlorine)

1. Set connection hose between hydrant and Hydro-Hitch
2. Place tablet screen in the Aqua-D-Chlor unit
3. Place required amount of Vita-D-Chlor tablets in the screen
4. Flush and test for complete dechlorination

Benefits/Features

- ▶ Simple, low cost
- ▶ Dissipates/diffuses discharge water
- ▶ Utilizes tablets for simplified operations
- ▶ Tablets are contained within the device
- ▶ Traps debris in the discharge
- ▶ Accepts pitot for flow measurement
- ▶ Connects directly to hydrant or hose extension
- ▶ No pre-flush solution mixing
- ▶ No connections to an external chemical source are required
- ▶ Available in steel or lightweight aluminum

Procedure (Treatment up to 5ppm chlorine)

1. Setup the LPD on the hydrant
2. Put stainless steel Vita-D-Chlor Tablet Screen in the tablet chamber
3. Place 4 Vita-D-Chlor Tablets into the Tablet Screen
4. Flush and test for complete dechlorination

LPD-250

CHLORINE LEVELS

0–10 ppm

FLUSH RATE

200–1,250 gpm

SETUP TIME

1–3 minutes

Equipment Options

- Vita-D-Chlor Screen
- Pitot Kit
- Hitch Mount
- Extension Hose



<http://www.PumpStoreUSA.com/store/dechlorination>

Benefits/Features

- ▶ Dechlorinate while flow-testing or flushing
- ▶ Minimal friction loss
- ▶ Does not stress hydrant nozzles
- ▶ Available in 2.5", 4" and 4.5" models
- ▶ Durable construction
- ▶ Small, compact design

Procedure (Treatment up to 3ppm chlorine)

1. Setup the Dechlor Demon to hydrant (Hose Monster diffuser should be used for safety)
2. Add Vita-D-Chlor Tablets to mixing tank
3. Fill tank with water and connect to Dechlor Demon
4. Open ball-valve halfway
5. Begin flush and adjust ball-valves for greatest efficiency and test for complete dechlorination

Dechlor Demon

CHLORINE LEVELS

0–50 ppm

FLUSH RATE

150–900 gpm

SETUP TIME

2–7 minutes



Bazooka

CHLORINE LEVELS

0–25 ppm

FLUSH RATE

200–785 gpm

SETUP TIME

1–5 minutes



Benefits/Features

- ▶ Accurate control of chemical usage with rotameter rate valve
- ▶ Liquid Feed Adaptor available to dechlorinate up to chlorine level of 200 ppm
- ▶ Lightweight, durable construction
- ▶ Reasonable price
- ▶ Small, compact design

Procedure (Treatment up to 3ppm chlorine)

1. Setup the Bazooka on the hydrant (diffuser should be used for safety)
2. Place 1 Vita-D-Chlor Tablet into the tablet chamber
3. Set rotameter at 1 gpm and begin flush
4. Adjust rotameter for greatest efficiency and test for complete dechlorination

<http://www.PumpStoreUSA.com/store/dechlorination>

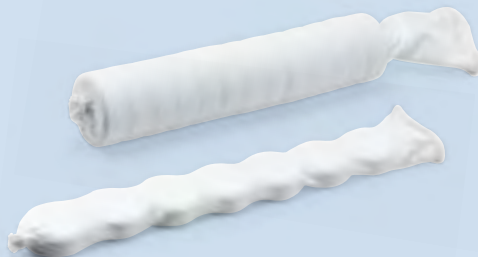
Taby Mat

The Vita-D-Chlor Taby Mat offers a simple solution to dechlorinate water from a water main break or any other unexpected water release. It also offers a simple way to dechlorinate flush water without having to set up specialized equipment.

Taby Mat holds up to three tablets. The mat is constructed of durable nylon mesh "silt-fabric" for long life. Use a rope or cord through the grommet, tied to a heavy object to hold mat in place in the flow stream. A stake or long nail can also be used to hold the mat in place while allowing the water to flow over the tablets.

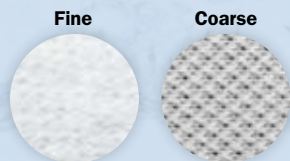


Available in 3, 6 & 24 tablet sizes



Tablet Sock

The Vita-D-Chlor Tablet Sock was created as a low-cost, disposable tool to utilize Vita-D-Chlor Tablets for a variety of dechlorination situations. Under most circumstances when dechlorinating potable water at approximately 1 ppm chlorine, three tablets in the sock will be enough to neutralize 25,000 gallons. Sock is constructed from filter fabric and is available in either fine or coarse. The fine fabric reduces or slows the dissolve time of tablets. The coarse fabric allows faster tablet dissolve time and is intended for use with high flow rates or higher chlorine levels.



SenSafe® Test Strips

Free Chlorine test strips combine a wide range of detection with a patented free chlorine indicator. Free chlorine is perfect for determining whether or not you have the correct amount of sanitizer present and for determination of the correct amount of Vita-D-Chlor necessary for dechlorination of potable and mildly chlorinated water.

Free Chlorine Test Strips are available in bottles of 50.

FREE CHLORINE 0–6 ppm

Graduated at 0, 0.05, 0.1, 0.2, 0.4, 0.6, 0.8, 1.2, 1.5, 2, 2.6, 4 & 6 ppm (mg/L)

FREE CHLORINE 0–25 ppm

Graduated at 0, 0.25, 0.5, 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 15, 20 & 25 ppm (mg/L)

FREE CHLORINE 0–120 ppm

Graduated at 1, 5, 10, 20, 40, 80 & 120 ppm (mg/L)

FREE CHLORINE 0–750 ppm

Graduated at 0, 25, 50, 100, 200, 300, 400, 500 & 750 ppm (mg/L)



WaterWorks® 5-Way Test Strips

5-Way test strips report results for free chlorine, total chlorine, pH, total alkalinity and total hardness—all on the same strip. Utilizing a single dip-and-read method, these strips offer accurate and reliable results in less than 30 seconds.

5-Way Test Strips are available in bottles of 50.

SENSITIVITY; FREE AND TOTAL CHLORINE 0–10 ppm

Graduated at 0, 0.5, 1, 2, 4 & 10 ppm (mg/L)

pH 6–8.5

Graduated at 6.2, 6.8, 7.2, 7.8, 8.4

TOTAL HARDNESS 0–425 ppm

Graduated at 0, 25, 50, 120, 250, 425 ppm

TOTAL ALKALINITY 0–240 ppm

Graduated at 0, 40, 80, 120, 180 & 240 ppm

www.Vita-D-Chlor.com

Visit www.Vita-D-Chlor.com for additional information and technical resources that can be used when planning for a variety of dechlorination projects. Be sure to check out the on-line calculators for help with determining the quantity of Vita-D-Chlor required for pipeline and reservoir dechlorination projects. A calculator for venturi/injection dechlorination is also provided.

If you require further information or have additional questions, simply call us at 800.322.6646, or visit www.Vita-D-Chlor.com

North America municipal users:

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|----------------|--------------|
| Seattle | Philadelphia |
| Tacoma | Atlanta |
| Portland | Anchorage |
| San Francisco | Tucson |
| San Jose | Phoenix |
| Los Angeles | Kelowna |
| Dallas | Raleigh |
| Denver | Durham |
| Ft. Worth | Ottawa |
| Long Beach | Ann Arbor |
| Salt Lake City | |



Equipment: Up-to-date information on equipment available for field dechlorination.



Use Calculations: Formulas for determining the amount of Vita-D-Chlor needed for your dechlorination project are provided. Three working calculators for pipeline, reservoir, and injection system applications are also available.

