

Brim Technologies, Inc  
151 Industrial Way East  
Eatonton, NJ 07724  
973-895-8826

## Technical Data Sheet

### Safe DChlor T Series

(Sodium thiosulfate, anhydrous Tablets)



Active Ingredient: sodium thiosulfate, CAS No. 7772-98-7

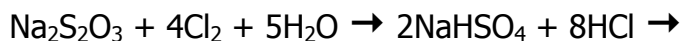
Inert Ingredients: sodium chloride

Intended Use:

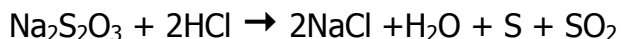
Dechlorination is the process of removing residual chlorine (or chloramines) from disinfected water. Treatment of chlorinated water can be accomplished by many methods. Tablets offer a convenient and functional alternative to sloppy and unstable liquids. Tablets are precisely formulated to contain exact quantities of neutralizers to match specific applications. Dechlorination agents are added to environmental collection samples to avoid the possibility of reactions that may occur between free chlorine and contaminants present in test samples. The presence of dechlorination agents will arrest chlorine reactions that may subsequently interfere with analysis.

Reactions:

Sodium thiosulfate will function as a dechlorination or reducing agent when mixed with chlorine-containing water, sodium thiosulfate reacts with the chlorine according to the following equation;



Sodium thiosulfate further reacts with hydrochloric acid (produced in the previous reaction) to form breakdown products such as salt, water and sulfur;



Treating Samples for Residual Chlorine:

Samples subject to chlorine interference must be checked for the presence of chlorine and treated with sodium thiosulfate prior to analysis. Samples that may be affected include coliforms, inorganic phenols, ammonia nitrogen, total Kjeldahl nitrogen and select samples for organic analysis.

The sample source may be checked with potassium iodide starch paper test strips to document the presence or absence of chlorine. If residual chlorine is present, treat sample with sodium thiosulfate until no residual chlorine is detected.

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(Sodium thiosulfate tablets, anhydrous )

#### Dosage Guidelines:

#### Sodium Thiosulfate, anhydrous (STA) vs. Sodium Thiosulfate, pentahydrate (STP)

Solid sodium thiosulfate is commercially available as sodium thiosulfate anhydrous or sodium thiosulfate pentahydrate. The difference between the two is the amount of water molecules attached to the thiosulfate. Anhydrous ( $\text{Na}_2\text{S}_2\text{O}_3$ ) is waterless and the pentahydrate contains 5 molecules of water ( $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$ ). Since the molecular weight of the STP is higher than that of the STA the pentahydrate grade will require a higher dose for dechlorination. All Safe DChlor sodium thiosulfate tablets contain anhydrous form of sodium thiosulfate and require approximately 39% less dose vs. the pentahydrate form.

Below is the recommended use ratio for neutral water (pH 5-8):

1.4:1 mg sodium thiosulfate (anhydrous): ppm  $\text{Cl}_2$

#### pH Sensitivity

Sodium thiosulfate is sensitive to solution pH. More sodium thiosulfate is required to dechlorinate acidic solutions (low pH) vs. alkaline solutions (high pH). It is recommended that the end user determine the solution pH and adjust dosage to normalize for pH.

Below is the recommended use ratio for acidic water (pH 2-5):

2.5:1 mg sodium thiosulfate (anhydrous): ppm  $\text{Cl}_2$

Below is the recommended use ratio for alkaline water (pH 8-12):

0.8:1 mg sodium thiosulfate (anhydrous): ppm  $\text{Cl}_2$

### Safe DChlor T Series

(Sodium thiosulfate Tablets, anhydrous)

Product selection: Sodium thiosulfate tablets are available in three strengths (10mg, 20mg & 30mg) and designed for collection volumes between 125ml and 1,500ml.

<b>Safe DChlor:</b>	<b>T10</b>	<b>T20</b>	<b>T30</b>
Sodium thiosulfate content:	10 mg	20 mg	30 mg
Dechlorination capacity* ( $\text{Cl}_2$ / liter):	7 ppm	14 ppm	21 ppm

\* Neutral pH water

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### Safe DChlor T Series (Sodium thiosulfate, anhydrous Tablets)

Packaging: Safe DChlor T Series tablets are packaged in 5,000 & 500 count bottles or in bulk 65,000 count containers. Contact customer service for custom sizes and shapes.

Storage & Handling: Store between 5°C and 25°C, Keep in a tightly closed container stored in a cool dry area. Avoid excessive heat and humidity. Replace cap when not in use.

Stability: Stable under ordinary conditions of use.

Long Term Stability: Shelf life studies indicate that the product is stable for more than three years when stored under the recommended conditions. Check product label for expiration date. Listed below is a typical storage stability profile of Safe DChlor T10 after aging three years at ambient temperature

Storage period	Initial	1 Year	3 Years
Sodium thiosulfate content, mg/tablet (↘ 3%)	11.3	11.1	10.6

Contact: Brim Technologies

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References: 40 CFR Part 136.3  
Standard Methods for the Examination of Water and Wastewater, 18<sup>th</sup> Edition

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