

# TECHNICAL BULLETIN



19 Motivation Dve Wangara, WA, 6065 AUSTRALIA  
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Page 1 of 4

Date of Issue: 4/4/2016

Last revision: February 2016

File C:\Users\Conrado Concepcion\AppData\Local\Temp\WordHelper\SDIC-StabilisedChlorine.docx

## SDIC STABILISED CHLORINE CHLORINATING AGENT

### SDIC - SODIUM DICHLOROISOCYANURATE

Contains 560 g/kg available CHLORINE (Cl) present as  
SODIUM DICHLOROISOCYANURATE DIHYDRATE

#### WARNING

**Harmful if swallowed**  
**Causes serious eye irritation**  
**May cause respiratory irritation**  
**Very toxic to aquatic life**  
**Very toxic to aquatic life with long lasting effects**

**IF SWALLOWED:** Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.  
**IF INHALED:** Remove victim to fresh air and keep at rest in a position comfortable for breathing.

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Call a POISON CENTER or doctor/physician if you feel unwell. Contact with acids liberates toxic gas. Avoid breathing dust. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

**EMERGENCY INFORMATION:** FIRE: SPILLS: Spills: Eliminate ignition sources. Wear full protective suit. Prevent entry into waterways. Transfer into clean labelled drums for disposal.

Fire: Use water fog or fine spray. Additional information is listed in the Material Safety Data Sheet.

**IN AN EMERGENCY DIAL 000 POLICE OR FIRE BRIGADE**



**UN 3077 ENVIRONMENTALLY  
HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(SODIUM DICHLORISOCYANURATE  
CLASS 9 HAZCHEM \*2Z PG III**



**BATCH NO. 40948  
CONTENTS 20 kg nett**



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Page 2 of 4

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## MATERIAL & FUNCTION

**SDIC** is available as the anhydrous salt and the dihydrate. It is also called Sodium dichloroisocyanurate, Sodium Dichloro-s-Triazinetrione, sodium 3,5-dichloro-2,4,6-trioxo-1,3,5-triazinan-1-ide and is a stable source of chlorine used as a disinfectant, biocide, industrial deodorant and detergent. In small doses it is common in water purification tablets/filters.

It is the sodium salt of dichloroisocyanuric acid. It is white in colour, and appears as crystallised granules, powder or tablets.

It is reactive with water, urea, ammonia, reducing agents and strong bases. Reaction produces toxic fumes including chlorine gas and leaves a residue of cyanuric acid.

## PROPERTIES

Molecular formula  $C_3Cl_2N_3NaO_3$  (anhydrous);  $C_3Cl_2N_3NaO_3 \cdot 2H_2O$  (dihydrate)

Molar mass 219.95 g (anhydrous); 256 (dihydrate)

Bulk Density 0.7 g/cm<sup>3</sup> (as granules)

Melting point 225 °C (anhyd)

Solubility in water 25 g/100 mL

The Free Available Chlorine: 64.5% (anhydrous), 55.5% (dihydrate)

The distribution of the various chemical species in aqueous solutions of SDIC. Dissolution of **SDIC** to provide 1.0 mg of Total Available Chlorine (TAC) per litre, at

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Page 3 of 4

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pH 7.0, gives the following: 48.1% TAC from hypochlorous acid, 26.8% TAC from monochlorocyanurate, 11.8% TAC from dichlorocyanurate, 12.8% TAC from hypochlorite and less than 1% from other chlorocyanurates and chlorocyanuric acids.

## APPLICATIONS

*Drinking water:* **This is only recommended for emergency use.** The Free Available Chlorine (FAC) content of pure **SDIC** is 64.5% and of the dihydrate is 55.5%; the Free Available Chlorine of elemental chlorine is 100% by definition.

Therefore, development of 1 mg of FAC per litre, typical for drinking-water treatment, requires approximately 1.6 mg of anhydrous **SDIC** per litre and approximately 1.8 mg/l for the dihydrate.

The guideline value for **SDIC** for use in drinking-water would be 50 mg/L (rounded value), assuming that a 60-kg adult drinks 2 litres of water and allowing 80% of the TDI (using the unrounded value of 2.2 mg/kg of body weight for anhydrous **SDIC**) to come from drinking-water.

However, the controlling factors would be the level of free chlorine and the residue of cyanuric acid, particularly if there was topping up of chlorine in a static system under emergency conditions. The concentration of free chlorine should normally be such that it should not give rise to unacceptable tastes and should not normally exceed the guideline value of 5 mg/l for free chlorine (from: WHO, 2003)

*For Swimming Pool Use.* The directions are controlled by the APVMA and directions on the label should be consulted.

### *Worksafe Risk and Safety statements*

Anhydrous: O Oxidizing, Xn Harmful N Harmful for the environment; R8 Contact with

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combustible material may cause fire. R22 Harmful if swallowed. R31 Contact with acids liberates toxic gas. R36/37 Irritating to eyes and respiratory system. R50: Very toxic to aquatic organisms. R53: May cause long-term adverse effects in the aquatic environment. S2 Keep out of the reach of children. S8 Keep container dry. S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S41 In case of fire and/or explosion, do not breathe fumes. S60: This material and its container must be disposed of as hazardous waste. S61: Avoid release to the environment. Refer to special instructions/Material Safety Data Sheets.

## PACKAGING

2, 4 and 20 kg

## IMPORTANT NOTICE TO CUSTOMER

*Since the use of this product is beyond the control of either seller or manufacturer, their only obligation shall be to replace any quantity of product which is proven defective. They cannot assume any risk or liability in excess of the purchase price of the product itself, which does not include labour or any consequential damages resulting from the use of this product. Determining the suitability of this product for any intended use shall be solely the responsibility of the user. **ALWAYS TEST FIRST***