

DIOTIN

CREATING A CLEANER TOMORROW TODAY

TECHNICAL DATA SHEET

Liquid disinfectant and oxidising agent for water purification.

DIOTIN is a highly efficient biocide in a stable liquid formulation for water disinfection and microbial control in multiple applications.

When diluted in the water stream, DIOTIN forms stable, liquid chlorine dioxide by oxidation from Sodium Chlorite. DIOTIN requires no onsite chemical mixing or additional secondary chemicals.

DIOTIN remains as liquid and does not form a gas. The equilibrium reaction allows for the regeneration of chlorine dioxide from the precursor sodium chlorite. The product remains effective, in the water phase significantly longer than generated chlorine dioxide and other biocides.

DIOTIN can be successfully applied in applications unsuitable for generated chlorine dioxide and other oxidising biocides. These applications include disinfection of (potable) water and associated equipment (e.g. tanks, pipes, calorifiers and filters), hot water, down well water injection, turbulent water systems, pressure drop, cooling tower and spray systems. DIOTIN is also highly effective in the oxidative precipitation of heavy metals such as soluble Iron or Manganese. DIOTIN is registered for use under the Biocidal Product Register (BPR) for the following product types: PT2, PT3, PT4, PT5, PT11 and PT12. The equilibrium regeneration of chlorine dioxide from Sodium Chlorite means that DIOTIN is inherently stable over a wide range of concentrations in solution. It improves user safety and biocidal performance whilst reducing chemical and raw material consumption, supply chain logistics and overall energy usage when compared to traditional biocides.

The active biocide in DIOTIN is chlorine dioxide and sodium hypochlorite. Hypochlorite is present in slight excess to maintain the equilibrium and sustain chlorine dioxide, in the liquid phase. This process mitigates formation of chlorinated by-products such as Trihalomethanes or Haloacetic acids, which are suppressed by the complex. The selective and controlled oxidation of DIOTIN efficiently targets the single-cell organisms of bacteria (e.g. Legionella E.coli, Vibrio cholerae), fungi and algae. Used correctly, chlorine dioxide will effectively eliminate biofilm formation, safely and without disruption to the water system or supply.

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DOSING

DIOTIN can be dosed manually or directly from the original container using a suitable dosing pump. It can also be controlled automatically by a timer, on flow rate using a contact head water meter, or by chemical residual measurement using either oxidation-reduction (ORP) or a free chlorine inline sensor and controller. Fluorinated plastics are not required for use with DIOTIN.

MEASUREMENT

When added to water systems, the chlorine dioxide created in solution from DIOTIN exists in complex equilibrium. Therefore, for reliable testing of chemical residual and control of DIOTIN dosage, we recommend using the DPD colorimetric method. DIOTIN dosage rate should be controlled on Total chlorine measurement and adjusted as necessary, to provide a minimum recommended Free chlorine reserve as active residual. Free and Total chlorine can be measured using DPD1 and DPD3 reagents, respectively. For best results, we recommend using colorimetric, photometric or electrochemical meters. The following dosing quantities are understood to be general guidelines. The actual required dosage is dependent on several factors, such as the degree of water contamination, and must be sufficient to comply with your local authority microbial control regulations. Talk to your representative for more specific guidance for your system.

Application	Typical Dosage (ml/m ³ water)	Total Chlorine (mg/l)	Free Chlorine Minimum (mg/l)
Potable water	10	0.6	0.25
Swimming Pool/Spa	30 - 40	1.8 - 2.4	1.0
Evaporative cooling tower	(15 – 20)/C*	0.9 - 1.2	0.5
Process water	20 - 100	1.2 - 6.0	0.5
Hot & Cold Water services†	10 - 15	0.6 - 0.9	0.25

* Divide guidance dosage by cooling tower cycles of concentration, C, for required chemical addition.

† For system flushing & compliance disinfection/cleaning refer to HSG 274 & BS 8558 for dosage and contact time.

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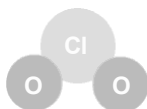
DILUTION OF DIOTIN

DIOTIN can be diluted prior to use to a minimum concentration of one part in twenty with water (i.e. 1:19 ratio). Only deionised or demineralised water, low in calcium and magnesium, should be used to prevent the precipitation of insoluble salts.

PROPERTIES

Biocide	Chlorine Dioxide (ClO ₂) & Sodium Hypochlorite
Active Substances	Sodium chlorite & Sodium Hypochlorite
Appearance	Liquid preparation
Concentration of active substance	6% (produces 60g oxidant per 1kg of product)

Unique Liquid Chlorine Dioxide with an extended release mechanism for improved performance over a longer period.



High efficacy against 99,99 % of bacteria. Viruses, fungi and yeast even at low dosage rates.



Performs across a wider temperature range than generated Chlorine Dioxide.



HEALTH & SAFETY

Always read the label and Safety Data Sheet before use. Always apply good chemical handling. Detailed information can be found in the Material Safety Data Sheet (MSDS).



UN 3266, Sodium chlorite/Sodium hypochlorite, Class 8, PG II. See MSDS for further shipping information.

PACKAGING TYPES: 5kg, 25kg, 1,100kg, 25,000kg

REGISTERED PRODUCT

b a u a :

Federal Institute for Occupational Safety and Health

Approved types of usage: PT2 / PT3 / PT4 / PT5 / PT11 / PT12

The information given in this data sheet corresponds to our current state of knowledge and is intended to provide information about our products and their use. They are not intended to assure certain properties or their suitability for a specific purpose. Any existing third-party property rights must be considered. Perfect quality is ensured as per our General Terms and Conditions of Sale.

TDS v1 / EN / Updated 01.2025 / Supersedes previous versions.