

Technical Data – Clo2Sure

Summary

Clo2Sure is a simple, safe and easy-to-apply EU-manufactured single-component and one-drum non-gaseous Chlorine Dioxide solution generated in situ via dilution in the target water stream to an operating concentration. The highly concentrated aqueous 3% and 10% inorganic Chlorine Oxide solution requires low dose rates and provides cost-effective, safe and environmentally friendly production of Chlorine Dioxide without onsite manufacture or generation systems.

Product Information

The Chlorine Dioxide in Clo2Sure is produced in an equilibrium matrix from a single container, the Chlorine Dioxide remains in the liquid phase and is not released as a gas. This non-gaseous Chlorine Dioxide can be applied effectively in applications previously unsuitable for alternative Chlorine Dioxide products, including hot and turbulent water applications.

Clo2Sure functions by penetrating the cell walls of single-celled organisms (Prokaryotic) and disrupting the cell membrane and membrane function. This causes the cell to lose its structural integrity, subdivide (multiply), and die without leading to bio-resistance.

Due to the equilibrium matrix, the chemistry recycles available Sodium Chlorite – a main by-product of Chlorine Dioxide – back into Chlorine Dioxide, thus increasing its overall efficacy, efficiency and performance as an oxidising biocide.

The Clo2Sure Chlorine Dioxide molecule remains permanently in the liquid phase, which decreases the corrosion potential and plastic degradation of pipework, operating plant and equipment. No fluorinated plastic, PTFE or PVDF dosing systems or lines are required.

Technical Data:

Active Substance	Sodium Chlorite for the generation of Chlorine Dioxide in situ by oxidation.
CAS No.	7758-19-2
BAUA Registration No.	N-89134
UFI-No.	2YFY-D1S2-J00U-V55E
Customs Tariff No.	28289000
ADR	UN 3266 Class 8 Pack II
Active Substance:	Art 95 listed supply – Sodium Chlorite – GB & EU
Approved Product Types	PT2,3,4,5,11,12
pH Application Range	pH 4-8.7
Shelf life	>6 months from the date of manufacture (temperature dependent)
Appearance	Yellow liquid, characteristic odour
Freezing point	-5°C
Density	Clo2Sure Plus - 1.2 g/ml at 20°C, Clo2Sure Standard - 1.1 g/ml at 20°C
Solubility	unlimited

Applications:



Potable water



Animal drinking water



Food processing



Cooling water



Swimming pools



Industrial Water



Healthcare



Agriculture



Dairy Hygiene



Offshore

Application Rates: Clo2Sure Plus

Product Type	Application	Recommended dose rate (product) and exposure times
PT2 – Disinfectant and Algaecide	Disinfection of Swimming pools	3-10ml/m3, 15-20 mins per day
	Disinfection jacuzzi pools	1-15ml/m3, 5-20 mins per day
	Disinfection of filters – Swimming pools and Jacuzzis	Basic disinfection – 50ml/m3, 6-8 hours. Backwash – 50ml/m3, 6-8 hours Filter disinfection – 1500ml/m3, 6-10 hours
	Wastewater Disinfection	Shock 1000ml/m3
PT3 Veterinary Hygiene	Walls and Floor disinfection	500- 750ml/m3 10-20 mins
PT4 Food and Feed Areas	Disinfection of hard and non-porous surfaces	30ml/m3, 10 mins
	Disinfection of water systems	300ml/m3 – 30-60 minutes
	Disinfection of bottling lines, CIP systems	300ml/m3 – 30-60 minutes
	Tank disinfection	50-100ml/m3 – 1-4 hours
PT5 – Human and Animal Drinking water	Potable water Disinfection	3-5ml/m3, continuous dosing
	Animal drinking water	Flushing offline - 50-100ml/m3 – 6-12 hours Drinking online – 3-15ml/m3 continuous dosing
PT11 – Preservatives for liquid cooling and processing systems	Water for cooling plant and non-drinking water process systems	5-25ml/m3 – continuous dosing
	Process cooling water – food processing	5-25ml/m3 – continuous dosing
	Cooling towers	5-25ml/m3 – measuring as 0.05-0.1ppm as Free Chlorine

Application Rates: Clo2Sure Standard

Product Type	Application	Recommended dose rate (product) and exposure times
PT2 – Disinfectant and Algaecide	Disinfection of Swimming pools	4-35ml/m3, 15-20 mins per day
	Disinfection jacuzzi pools	4-50ml/m3, 5-20 mins per day
	Disinfection of filters – Swimming pools and Jacuzzis	Basic disinfection – 160ml/m3, 6-8 hours. Backwash – 160ml/m3, 6-8 hours Filter disinfection – 5000ml/m3, 6-10 hours
	Wastewater Disinfection	Shock 3500ml/m3
PT3 Veterinary Hygiene	Walls and Floor disinfection	1600- 2400ml/m3 10-20 mins
PT4 Food and Feed Areas	Disinfection of hard and non-porous surfaces	100ml/m3, 10 mins
PT4 Food and Feed Areas PT5 – Human and Animal Drinking water	Disinfection of water systems	1000ml/m3 – 30-60 minutes
	Disinfection of bottling lines, CIP systems	1000ml/m3 – 30-60 minutes
	Tank disinfection	150-350ml/m3 – 1-4 hours
	Potable water Disinfection	10-18ml/m3, continuous dosing
PT5 – Human and Animal Drinking water	Animal drinking water	Flushing offline - 160-350ml/m3 – 6-12 hours Drinking online – 10-45ml/m3 continuous dosing
PT11 – Preservatives for liquid cooling and processing systems	Water for cooling plant and non-drinking water process systems	15-80ml/m3 – continuous dosing
	Process cooling water – food applications	15-80ml/m3 – continuous dosing
	Cooling towers	15-80ml/m3 – measuring as 0.05-0.1ppm as Free Chlorine

Summary of Testing and Efficacy Clo2Sure Plus & Standard

Test
EN 13623:2010 Biocidal efficiency, Quantitative suspension test for the evaluation of bactericidal activity against Legionella of Chemical disinfectant for aqueous systems
EN 1040:2005 Chemical disinfectants and antiseptics. Quantitative suspension test for the evaluation of basic bactericidal activity of chemical disinfectants and antiseptics. Test method and requirements (phase 1) is classified in the following ICS categories: 71.100.35 Chemicals for industrial and domestic disinfection purposes. 11.080.20 Disinfectants and antiseptics
EN 13697 Bactericidal Efficacy of Disinfectants
EN 1276 Bactericidal Efficacy of Disinfectants
EN 1275:2005 Chemical disinfectants and antiseptics. Quantitative suspension test for the evaluation of basic fungicidal or basic yeast. Activity of chemical disinfectants and antiseptics. Test method and requirements (phase 1)
EN 13697 Fungicidal Efficacy of Disinfectant
EN 13704:2018 Bacillus subtilis : Quantitative suspension test for the evaluation of sporicidal activity of chemical disinfectants used in food, industrial, domestic and institutional areas.
EN1650 Fungicidal Efficacy of Disinfectant
EN 1275 (June 1997) Fungicidal Efficacy – Aspergillus niger, Candida albicans
EN 13624:2013 Chemical Disinfectants and Antiseptics – Quantitative suspension test for the evaluation of fungicidal and yeasticidal activity in medical areas
Virus activating properties summary
EN14476:2013 A2:2019 Virus activating properties – Adenovirus / Norovirus / Poliovirus
EN1677:2018 Virus activating properties, Carrier test Adenovirus / Norovirus
EN1677:2018 Virus activating properties, Carrier test Adenovirus / Norovirus
EN14476 Clean – Adeno / MNV / Polio
EN16777 Carrier test, Adenovirus Type 5 / MNV
EN14476 Clean – Adenovirus Type 5 / MNV / Poliovirus Type 1 / MNV

Packaging:

Product	Packaging – non-returnable
Clo2Sure Plus	6kg, 12kg, 24kg, 240kg, 1200kg 5L, 10L, 20L, 200L, IBC
Clo2Sure Standard	5.5kg, 11kg, 22kg, 220kg, 110kg 5L, 10L, 20L, 200L, IBC

Handling and Storage:

Clo2Sure products must be stored away from direct sunlight and heat sources.

Do not allow the product to freeze. Do not mix concentrated Clo2Sure with other chemicals.

Keep away from and do not mix with acids. Always follow the safety data sheet and label information before use.

Contact information:

For more information, please contact Aevira Ltd info@aevira.com or your local distributor.

Clo2Sure Plus and Clo2Sure Standard are registered brand names wholly owned by Aevira Ltd and are Authorised Biocidal Products.