

Connecting**Chemistry**

CLORIOUS₂ FOR IRRIGATION WATER AND FOOD PROCESSING APPLICATIONS



WHAT IS UNIQUE ABOUT CLORIOUS₂?
CLORIOUS₂ IS CHLORINE DIOXIDE – MADE SAFE, SIMPLE, PURE AND EASY TO APPLY – DELIVERED READY-TO-USE, WITH NO DECANTING OR ADDITIONAL HANDLING.

KEY FACTS

- Up to 40 times more effective than hypochlorite
- Best product for removing and preventing biofilm
- Very quick acting
- Selective action – clorious₂ attacks primarily bacteria and single celled organisms
- No residue on produce and no taint
- Kills all food and water borne pathogens – Listeria, pseudomonads, E.coli and salmonella
- Safe, simple and easy to use – plug and play
- Negligible chlorite, chlorate and chlorine by-products – below EU MRL
- Low corrosivity, as Clorious₂ contains no acid
- Extends shelf life on washed produce
- Patented technology, produced and distributed by Brenntag

Chlorine Dioxide normally requires either on-site generation, risky and unsafe hazardous manual mixing on-site and/or expensive, complicated dosing systems. Clorious₂ is dosed directly from the drum, which has incorporated an exposure free dry-coupling and via a dosing pump into the water system (N.B. Information on dosing systems are available on request). Approved for drinking water and for use in the production of organic products.

Clorious₂ is BPR and drinking water compliant.

Clorious₂

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CLORIOUS2 IN THE FOOD AND BEVERAGE INDUSTRY

Several applications in the food and beverage industry have taken advantages of Clorious2's unique benefits, including:

- Tomato growing, horticulture: irrigation water - tomatoes, salad washing (tomatoes/peppers/salad leaves/onions)
- Vegetable production: vegetable washing
- Processed meat and poultry production: process water, recycled water
- Smokehouses: process wash water
- Breweries and Distilleries: incoming water - borehole water
- Food production: process water - ingredient

CHLORATE MRL

Chronic exposure to chlorate is associated with negative effects on thyroid function and damage to the red blood cells.

Since 2010, there has been an EU-wide ban on the use of pesticides containing sodium chlorate. In accordance with EU regulations, the default maximum residue limit (MRL) of 0.01 mg/kg is valid for chlorate residues in food pending a specific MRL.

Chlorate is formed as a by-product when using chlorine dioxide or sodium hypochlorite for the disinfection of water. Significant concentrations of chlorate can develop during storage of sodium hypochlorite stock solutions (decomposition) which may compromise the MRL for chlorate in produce.

INDEPENDENT PURITY TESTING OF CHLORINE DIOXIDE SOLUTION

Anions	Clorious2 - 0.6ige Chlordioxidlösung	Results
ClO ₂	0.55 (92%)	%
Chloride	780	mg/L
Chlorite	181	mg/L
Chlorate	174	mg/L

Parameter	Unit	Limit	Calculated concentration at 0.2 mg/L ClO ₂
Chloride	mg/L	250 ²⁾	0.026
Chlorite	mg/L	0.2 ²⁾	0.06
Chlorate	mg/L	0.07 ³⁾	0.006

1) Maximum concentration ClO₂ according to § 11 German Drinking Water Regulation (TVO 2001) is 0.4 mg/L

2) Limit value in accordance with § 11 German Drinking Water Regulation (TVO 2001)

3) Limit value in accordance with § 11 German Drinking Water Regulation (TVO 2017)

For further information, please contact your dedicated Account Manager or our Clorious2 Commercial Team at:

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