

SC-471 Solution: A Supplement to BIOXIDE® Solution

SC-471 solution is a supplemental product that when dosed in tandem with BIOXIDE® solution, the resulting two-step patented dosing process can achieve a higher degree of odor and corrosion control. Additionally, SC-471 solution can help economize BIOXIDE solution dosing by reducing the concentration of bacteria in the wastewater, thereby extending the residence time of the BIOXIDE solution residual and simultaneously reducing nitrogen-induced float.

In many wastewater streams low levels of dissolved sulfides may be present at the nitrate addition point. To address this, SC-471 solution, a sulfide-scavenger, is dosed in tandem with BIOXIDE solution to react immediately with small quantities of dissolved sulfides and prevent the downstream formation of new sulfides. The SC-471 solution component also reacts with fats, oils, and grease to help minimize the accumulation of these deposits at the point of application.

BIOXIDE solution provides a source of bound oxygen (nitrate-oxygen) to naturally occurring facultative anaerobic denitrifying bacteria present in wastewater, which the bacteria metabolize preferentially over alternative sources of oxygen, such as sulfate. Denitrification is a respiratory process where nitrate is reduced to nitrogen gas (N₂) via a number of intermediates. The product of this reaction is inert nitrogen gas, rather than the odorous, toxic and corrosive hydrogen sulfide gas normally produced when sulfate reducing bacteria (SRB) metabolize sulfate.

BIOXIDE solution dosed with supplemental SC-471 solution is effective at controlling odors within minutes and also results in a slight reduction in Biological Oxygen Demand (BOD). In addition, supplementing BIOXIDE solution with SC-471 solution also combats most other odors commonly found in wastewater treatment systems, including organics. Hydrogen sulfide generation is also further reduced via destruction of the slime layer via SC-471 solution.

Proper dosage (as determined by Evoqua Water Technologies) of both BIOXIDE solution and the supplemental SC-471 solution to a wastewater stream provides for a population of beneficial bacteria, which oxidize dissolved hydrogen sulfide and other reduced sulfur compounds as part of their metabolism.



SC-471 SOLUTION BENEFITS

- Achieve a higher degree of odor and corrosion control
- Reduce dissolved sulfides at the nitrate addition point
- Minimize accumulation of fats, oils and grease
- Combats a range of odorants, including organics

TYPICAL APPLICATIONS

- Lift stations/Wetwells
- Force Mains/Pressure Mains
- Gravity Interceptors

TYPICAL FEED REQUIREMENTS

Treatment via SC-471 solution is typically applied as a supplement to BIOXIDE® solution in a collection system at the point-source of odor but may also be dosed at different points. From carefully selected injection point(s), the benefits will spread throughout the collection system to the influent of the treatment plant. The process has been documented to reduce dissolved hydrogen sulfide from over 50 mg/l to < 0.1 mg/l in numerous wastewater collection force mains, wet wells and gravity interceptors. Similar results have been achieved with BIOXIDE solution plus supplemental SC-471 treatment in sludge lagoons and storage tanks. Due to the biochemical nature of this process, complete sulfide removal is extremely cost effective in applications where extended detention times produce septic conditions.

For additional treatment information, including dosage specific to your application, please contact your Evoqua Water Technologies representative.

STORAGE AND HANDLING

SC-471 solution is an oxidizer. Do not get in eyes, or on skin, or clothing. Wear protective gloves, protective clothing, eye, and face protection. Do not taste or swallow. Do not handle with bare hands. Wash hands thoroughly after handling. Avoid breathing fumes. Do not eat, drink, or smoke when using this product.

Must be stored in a well-ventilated place. Store locked up. Follow all local, state and federal regulations for

storage. Do not dump on the ground or release into any body of water. All disposal methods must be in compliance with all Federal, State, Local and Provincial laws, and regulations. Regulations may vary in different locations.

Suitable handling materials include fiberglass, resistant plastics (e.g. HDXLPE, PVC, CPVC, PVDF, PTFE), resistant elastomers (e.g. FFKM, FKM), and resistant metals (titanium, Hastelloy, tantalum).

See Safety Data Sheet for additional safety and handling information before storing or handling SC-471 solution.

PACKAGING

SC-471 solution is normally shipped in bulk deliveries or 330-gallon totes. For further information, please contact your Evoqua Water Technologies representative. For reorders and customer service, call 1-800-345-3982.

TYPICAL PHYSICAL PROPERTIES*

Sodium Chlorite, wt%	15.0-35.0
Appearance	Clear to cloudy, pale yellow liquid
Odor	Slight chlorine odor
Crystallization Point	<= -7°C (20°F)
Specific Gravity	1.1-1.3
pH	>12 @ 25°C

*Typical properties are listed for information only and are not to be considered as specification requirements.



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