



USP-OC31™, CHLORITE OXIDANT BLEND, FOR SULFIDE AND ORGANIC ODOR CONTROL

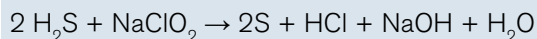
Introduction

USP-OC31 is a chlorite-based oxidant blend that is designed to efficiently and rapidly oxidize hydrogen sulfide and organic odors in wastewater collection systems, treatment plants (headworks, thickeners, dewatering operations) and industrial wastewaters. USP-OC31 is environmentally-friendly and does not form chlorinated by-products, with the end-product being table salt (sodium chloride).

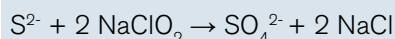
USP-OC31 Properties & Dosing

USP-OC31's main active ingredient, sodium chlorite (NaClO_2), is a fast-reacting oxidant (seconds) that provides immediate control of hydrogen sulfide and many other organic odors in collection systems, treatment plants and industrial wastewaters, particularly in solids processing operations. Unlike hypochlorite, USP-OC31 does not react with ammonia and does not form chlorinated organics. USP-OC31 oxidizes hydrogen sulfide according to the following equation:

Neutral-Acid pH:



Alkaline pH:



Theoretical dose ratios of USP-OC31 are dependent on the pH of the solution being treated. Under neutral-acid pH, the theoretical dose ratio is 1.4 lbs NaClO_2 per 1 lb H_2S , with practical dose rates anywhere from 1.6 to 4 depending on the application. Under alkaline pH conditions, the theoretical dose ratio is 5.6 lbs NaClO_2 per 1 lb H_2S with practical dose rates anywhere from 6 to 12 lbs per lb H_2S depending on the application.

Benefits of USP-OC31

USP Technologies offers full-service, turn-key programs that include all equipment and installation, equipment maintenance, application and technical support, inventory management, process control options and safety training. These programs offer the following benefits:

- Cost-effective odor control
- No capital equipment
- Simple feed system
- Fast reaction, allowing system placement near odor release point
- No troublesome by-products
- Efficient and immediate reaction with sulfide and organic odors



USP Technologies' Value-Added Offering

USP-OC31's full-service treatment program provides the highest level of safety, performance and operational reliability.

USP-OC31	<ul style="list-style-type: none"> ▪ Fast-acting and environmentally friendly chlorite based oxidant blend ▪ Available in bulk quantities of up to 4,000 gallon tank trucks or via 300 gallon totes
Storage Vessel	<ul style="list-style-type: none"> ▪ Fully outfitted double-walled storage tank ▪ Internal tank is of heavy-duty, linear high-density polyethylene, and the external tank is HDPE, sized to provide 110% containment capacity ▪ Each unit comes equipped with fill line, inspection ports, overflow pipe, and breather vents ▪ A level transmitter feeds the ChemWatch™ monitor for tank level and for inventory management
Dosing Module	<ul style="list-style-type: none"> ▪ USP skid-mounted dosing modules are custom pre-wired, pre-piped and shop tested for ease of installation and start-up reliability ▪ Includes two diaphragm metering pumps with suction and discharge piping ▪ Standard fittings include back-pressure regulator, pressure relief valves, degassing solenoid, calibration assembly and leak detection ▪ Power and communications panels are included with electrical tie-ins and emergency shut-off switches ▪ Housed in a protective environmental enclosure with internal sump for spill containment
Chemical Management	<ul style="list-style-type: none"> ▪ ChemWatch™ advanced controller provides real-time remote monitoring including dose rate verification, variance alarming, tank levels, leak detection and internet accessibility ▪ Deliveries will be scheduled as required to maintain continuous operations ▪ Automated delivery alerts to site personnel when product is needed
Safety	<ul style="list-style-type: none"> ▪ Safety shower & eyewash stations ▪ Operating manuals & proper placarding ▪ Safety training, including equipment orientation
Technical and Applications Services	<ul style="list-style-type: none"> ▪ USP-OC31 applications support, including optimization and monthly reports ▪ Maintenance of storage and dosing systems ▪ Preventative maintenance service visits ▪ Process troubleshooting

About USP Technologies

USP Technologies' ongoing mission is to help customers meet their water quality objectives by providing eco-efficient solutions that reduce and recover cost, energy, resources and space. Through a collaborative method of working closely with customers to solve problems, we are dedicated to developing innovative, sustainable and cost-effective solutions that successfully meet the highest standards of environmental stewardship. Our consultative approach includes application assessment, technology selection and field implementation of a custom engineered treatment solution. Our turn-key programs seamlessly integrate storage and dosing equipment systems, chemical supply, inventory and logistics management, and ongoing field and technical support. USP Technologies has been serving the water, wastewater and remediation markets for more than 20 years and has offices and field service locations throughout North America. We are the largest direct supplier of peroxygen-based technologies for environmental service applications and we manage hundreds of successful full-service chemical programs that treat over 1.0 billion gallons of water per day.

Getting Started

We look forward to supporting your treatment needs, whatever the scale of your requirements. To obtain a streamlined treatment solution tailored to your specific project, give us a call at (877) 346-4262.

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