OxyClara AOP

MINERAL-OXYCHLORIDE

ROS TECHNOLOGY • ODOR & CORROSION CONTROL

ADVANCED OXIDATION. POWERFUL ODOR CONTROL.

Liquid ROS technology for municipal and industrial treatment

OxyClara AOP uses mineral-oxychloride chemistry to generate reactive oxygen species that oxidize sulfide and odor-causing contaminants.



HYDROGEN SULFIDE

Oxidizes sulfide and targets nuisance odors

BIOFILM MANAGEMENT

Oxidative action targets the protective biofilm matrix

CORROSION DRIVERS

Helps address sulfide and bioiflm associated with corrosion

ROS POWERS THE AOP

Reactive oxygen species include hydroxyl radicals (•OH), singlet oxygen ($^1O_2$), superoxide ($O_2^{\bullet-}$), and hydrogen peroxide (H_2O_2).

$M_xO_yCl_z$

General mineral-oxychloride notation

≈2.8 V

Hydroxyl radical reference potential



APPLICATIONS

- Wastewater odor-control programs
- Wet scrubber treatment
- Industrial process water
- Cooling tower biofilm management



PACKAGED LIQUID SUPPLY

- 275-gallon totes and 55-gallon drums
- No bulk tanker chemical deliveries
- Feed with chemical metering equipment
- Warehouse stock for planned replenishment

Performance depends on dose, contact time, pH and treatment demand. Use according to the product label and SDS; confirm material compatibility.

OCPE
ODOR CONTROL PRODUCTS & EQUIPMENT

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ROS TECHNOLOGY • ODOR & CORROSION CONTROL

LIQUID ADVANCED OXIDATION

Understanding the reagent, the process and the equipment.

Delivered as a liquid. Reactive chemistry develops during treatment.

WHAT IS OXYCLARA AOP?

Our OxyClara AOP is a water-soluble mineral-oxychloride reagent for municipal and industrial treatment. Its catalytic chemistry generates reactive oxygen species (ROS) during contact with water and contaminants. We deliver the reagent as a liquid; reactive radicals form during treatment rather than remaining as long-lived radicals in the container.



AOP DESCRIBES A PROCESS — NOT ONE MACHINE

Advanced oxidation processes generate highly reactive oxidizing species to transform contaminants. Familiar systems use UV with hydrogen peroxide, ozone with hydrogen peroxide, or other catalytic approaches. Hydrogen peroxide alone is an oxidant; it is not automatically an AOP. OxyClara uses chemically driven liquid reagent technology rather than requiring a dedicated ozone generator or UV reactor for its described standalone application.



Illustrative treatment settings.

AUTOMATIC ORP-BASED DOSING

An ORP sensor measures the treated water and sends a signal to the controller. The controller adjusts the chemical metering pump to maintain the selected ORP setpoint. The pump meters OxyClara from the tote or drum to the injection point. Setpoint selection and verification depend on the application, pH, oxidant demand, mixing and contact time.

ORP SENSOR → CONTROLLER → METERING PUMP

$M_xO_yCl_z$

General mineral-oxychloride notation; not a disclosed formulation.

ROS include hydroxyl radicals (• OH), singlet oxygen ($^1O_2$), superoxide (O_2^-) and hydrogen peroxide (H_2O_2). **ROS** is the reactive chemistry; AOP is the treatment process.

We tailor treatment to the application. Confirm formulation, intended use, dose and contact time.

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CHEMISTRY & REACTIVE OXYGEN

What the formulation does - and how to interpret the chemistry

A STABILIZED LIQUID WITH REACTIVE TREATMENT CHEMISTRY

OxyClara is supplied as an aqueous mineral-oxychloride formulation. Its treatment approach combines oxidizing chemistry with mineral-associated catalytic pathways. The general notation $M_xO_yCl_z$ describes a chemical family; it is not a disclosed molecular formula, active assay or dosing specification. Reactive intermediates develop during treatment rather than being stored as a lasting inventory of free radicals.

WHAT REACTIVE OXYGEN SPECIES DO

Reactive oxygen species (ROS) encompass several chemically different oxidants and intermediates. Hydroxyl radicals can attack susceptible bonds through electron transfer, hydrogen abstraction and addition reactions. Superoxide, peroxide and excited oxygen may participate in related pathways. Their presence and useful reaction rates depend on the formulation and water matrix. Hydroxide, OH^-, is not the hydroxyl radical, •OH; singlet oxygen is an excited molecule, not an oxygen ion.

FENTON / HABER-WEISS: REACTION PATHWAYS

Classical reactions illustrate how metals and peroxygen intermediates can support radical generation. These ideal balances do not identify the proprietary catalysts, quantify radical yield, or establish a feed rate for OxyClara. [1]

$$Fe^{2+} + H_2O_2 \rightarrow Fe^{3+} + {\bullet}OH + OH^-$$

$$O_2{\bullet}^- + H_2O_2 \rightarrow O_2 + {\bullet}OH + OH^-$$



OXIDATION STRENGTH IS DIFFERENT FROM PROCESS ORP

A commonly quoted hydroxyl-radical reference potential is about 2.8 V under specified reference conditions. It is not a measured bulk-liquid voltage for OxyClara. A mixture does not acquire a higher potential by adding species potentials together. Process ORP is measured in millivolts and changes with pH, chemical demand, residuals and probe condition. Neither value alone demonstrates removal efficiency. [2]

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SULFIDE, ODORS & BIOFILM

Treatment mechanisms and performance boundaries

HYDROGEN SULFIDE & ODOR CONTROL

Oxidation consumes dissolved sulfide and can reduce the sulfide available to release as hydrogen sulfide gas. In a wet scrubber, gas must first contact the circulating liquid so treatment can occur. Gas-to-liquid transfer, mixing, oxidant demand and contact time all affect removal. Sulfur products depend on treatment conditions; do not assume every application produces only sulfate.

BIOFILM MANAGEMENT

Our oxidative treatment targets the extracellular polymeric substance (EPS) matrix and associated microorganisms. Disrupting the protective matrix can expose deposits to cleaning and treatment. Established biofilm, limited penetration and competing organic demand can require a tailored program; a single dose does not establish permanent control.

ADDRESSING CORROSION DRIVERS

Reducing sulfide and controlling biofilm may help address conditions associated with corrosion. This is not a guarantee of corrosion inhibition. Track corrosion directly using coupons, inspections or other appropriate measurements. Confirm compatibility of the concentrate and treated water with metals, elastomers, coatings and downstream equipment.





Illustrative applications; not performance-test images.

OXIDATION POTENTIAL IS NOT A REMOVAL GUARANTEE

Our liquid reagent supports reactive oxygen chemistry during treatment. Hydroxyl radicals have a reference oxidation potential of about 2.8 V, compared with about 2.07 V for molecular ozone. These reference values differ from process-water ORP readings. Ozone-based AOPs can also generate hydroxyl radicals. Results depend on dose, pH, contact time and treatment demand.

Measure the outcome:

Dissolved sulfide • Gas-phase H_2S • Odor response
Biofilm condition • Corrosion trend

We validate application performance through bench and pilot testing.

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WET SCRUBBERS & DEGASIFIER EXHAUST

Connect chemical oxidation to gas-transfer performance

DISSOLVE THE GAS, THEN TREAT THE LIQUID

In a packed tower or other wet scrubber, hydrogen sulfide first transfers from the gas into the recirculating liquid. OxyClara is metered into that liquid to oxidize absorbed sulfide. Reliable removal requires both sufficient gas-liquid contact and sufficient chemical capacity. Strong liquid-phase chemistry cannot compensate for poor liquid distribution, bypassing or inadequate contact time.



Design variable	What to establish
Gas duty	Peak and normal gas flow, inlet H_2S, outlet objective and other gas constituents.
Contactor	Packing condition, wetting, liquid-to-gas ratio, pressure drop and mist elimination.
Recirculation	Sump volume, liquid flow, mixing, chemical injection and representative sampling.
Liquid condition	pH, temperature, oxidant demand, residual, conductivity and solids.
Controls	Validated ORP response plus direct inlet/outlet H_2S measurement.

A PRACTICAL FIT FOR ODOR AND GAS-TREATMENT SYSTEMS

Evaluate OxyClara for hydrogen-sulfide service in wastewater odor scrubbers, RO degasifier exhaust scrubbers and selected industrial gas-treatment duties. A degasifier releases gases from water; an exhaust scrubber treats the released gas. The equipment functions and sampling points should remain distinct. Sulfur may leave as dissolved oxidized species or solids, depending on conditions; establish blowdown and residuals handling during the trial.

WHAT THE SUPPLIED SCRUBBER STUDY CONTRIBUTES

The supplied bench report describes H_2S suppression using a 3% test solution while liquid ORP rose from approximately −150 to +100 mV. It offers a feasibility starting point. Incomplete gas-flow and concentration-basis information prevents a dependable full-scale capacity calculation. The reported 1:2 product-to-H_2S mass ratio is a study reference, not a universal feed instruction. Historical cost comparisons are not current project pricing. [3]

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DOSING & PROCESS CONTROL

Measure demand, establish response and automate deliberately

START WITH THE TREATMENT OBJECTIVE

For collection systems, measure dissolved sulfide and headspace H_2S at the dosing point and downstream locations. For scrubbers, measure gas-phase inlet and outlet H_2S together with gas and recirculation flow. Select a measurable endpoint before choosing a feed rate. Background organics, reduced metals and other substances compete for oxidant.

STEP-BY-STEP OPERATING APPROACH

Step	Operating approach
1. Characterize	Record flow, pH, temperature, sulfide, retention time, existing chemicals and peak loading.
2. Bench test	Use representative water and realistic mixing/contact conditions; include an untreated control.
3. Pilot	Confirm chemical consumption, outlet quality, biofilm condition and downstream response.
4. Control	Use calibrated feed equipment with flow pacing and a validated feedback signal.
5. Verify	Trend direct treatment endpoints, chemical use and alarms during normal and peak conditions.

USE ORP AS FEEDBACK, NOT A UNIVERSAL PASS/FAIL NUMBER

ORP can support automated dosing after its relationship with the desired treatment result is established. No single ORP threshold proves biofilm removal, disinfection or complete sulfide oxidation in every water. Check pH with ORP and maintain clean, calibrated probes. Measurable residual may include chlorine-related species; verify the relevant residual analytically rather than treating ORP as a concentration test.

RESIDUAL PROTECTION STILL FOLLOWS CHEMICAL DEMAND

Short-lived radicals and a longer-lived measurable residual are different parts of the treatment process. Recontamination and background demand can consume the remaining chemical capacity. Continuous or intermittent maintenance feed should follow the observed load and treatment response. A claimed long residual does not eliminate the need for downstream checks.

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PRODUCT PROFILE & HANDLING

SDS properties • product supply • safe handling



55-gallon drums and IBC totes. Confirm ordered tote fill volume.

TYPICAL PHYSICAL & CHEMICAL PROPERTIES

Property	Value	Property	Value
Appearance	Clear yellow liquid with soft green undertones	Freezing point	−25.6°C (−14°F)
Odor	Slight chlorine	Flammability	None reported
Concentrate pH	11.0–12.0 at 20°C (68°F)	Flash point	Not applicable
Specific gravity	1.14–1.22	Vapor pressure	12.1 mm Hg at 20°C
Water solubility	Complete	Estimated density	9.8 lb/US gal
Boiling point	110°C	Thermal stability	Decomposition begins at approximately 26.7°C (80°F)

SDS reference values; confirm current product SDS and lot data. Concentrate pH is not treatment-water pH.

HANDLING & COMPATIBILITY

Wear chemical splash goggles, compatible gloves and protective clothing; use face protection where splashing is possible. Provide ventilation, eyewash and a safety shower. Avoid skin and eye contact and breathing mist. **Do not mix.** Keep concentrate away from acids, ammonia, incompatible metals and unreviewed chemicals. Follow the current SDS and label.

STORAGE & EQUIPMENT

Store cool, protected from sunlight and heat. Heating accelerates decomposition. Use compatible tanks, seals, pumps and piping. Track delivery date and active assay. Confirm shelf life for the supplied grade.

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EVIDENCE & ENGINEERING VALIDATION

Use benchmarks to plan a trial and measured results to select a program

A supplied reference table reports the following suspended-cell results for *Salmonella enterica* 10708 after 30 minutes. These data concern the underlying chemistry, not a new OxyClara field trial. [6]

Treatment	Dose (ppm)	Initial CFU/mL	CFU/mL, 30 min	Reported log reduction
Hypochlorite	10	2.00×10^7	1.89×10^5	2.02
Hypochlorite	100	1.58×10^7	<5	6.49
Mineral-oxychloride reagent	2	2.00×10^7	<5	6.60

The <5 result is below the stated detection limit, not proof of zero viable organisms. Reported log values are reproduced as supplied; obtain the complete test method and dose basis before using them for design. A planktonic-cell test does not demonstrate removal of mature biofilm or performance against every organism.

VERIFY PERFORMANCE IN THE ACTUAL SYSTEM

Confirm sulfide removal, odor response and biofilm condition independently. Oxidation can alter organics without complete mineralization; check COD/TOC, transformation products and downstream biology where relevant. Where chlorine-related residuals are present, assess applicable discharge limits. Include DBP and bromate testing where relevant, and maintain required residual monitoring.



PROJECT VALUE AND APPLICATION DOCUMENTS

A ready-to-feed liquid may fit an existing metering footprint and simplify an approved chemical program. Compare delivered chemical use, equipment changes, operator effort, residuals and total cost at the same treatment endpoint. Potable-water and antimicrobial applications require the documentation, use limits and directions applicable to the supplied OxyClara product. Confirm product-specific certification, registration and treatment-credit requirements.

TECHNICAL BASIS

[1] IUPAC Gold Book: Fenton reaction, FT06786; Haber-Weiss reaction, HT06787. [2] OCPE chemistry review and supplied mineral-oxychloride technical article. [3] Supplied OxyClara wet-scrubber study. [4] Published formulation SDS, revised February 12, 2019; current product SDS governs. [5] Product-label handling principles and NSF/ANSI/CAN 60 listing conditions reviewed October 17, 2026; product-specific applicability requires confirmation. [6] Supplied OxyClara technical bulletin: microbial benchmark table.

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PROTECT THE ASSET. TARGET THE BIOFILM.



Conceptual treatment illustration

Biofilm can harbor sulfide-producing bacteria. OxyClara oxidative chemistry targets the protective matrix and associated microorganisms—helping address conditions that drive odors and infrastructure deterioration.

DISRUPT THE EPS MATRIX

CONTROL SULFIDE & ODORS

SUPPORT ASSET PROTECTION

HOW TREATMENT APPROACHES DIFFER

pH control:
Reduces H_2S release through chemical equilibrium.

Nitrate:
Supports biological sulfide prevention.

Iron salts:
Bind sulfide through precipitation.

OxyClara:
Targets sulfide and the biofilm matrix through oxidation.

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ADDRESS THE BIOFILM. REDUCE CORROSION DRIVERS.
PROTECT YOUR INVESTMENT.

Biofilm penetration and removal depend on dose, contact time and system conditions. Verify biofilm response and corrosion trends in a site-specific treatment program.

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ONE CHEMICAL. MULTIPLE APPLICATIONS.

LOWER QUOTED COST PER GALLON.*



Conceptual illustration based on field photos of established installations.



275-gallon totes • 55-gallon drums.

TARGET H_2S. ATTACK THE PROTECTIVE BIOFILM MATRIX.

No bulk tanker deliveries. Warehouse stock for planned replenishment.



Wastewater odor & corrosion control



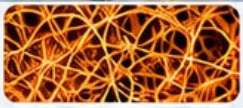
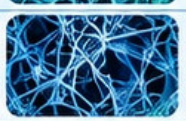
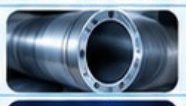
Wet scrubbers



RO degasifier exhaust scrubbers



Water treatment

CATALYST + PEROXIDE	OXYCLARA
 **SUPPLY & INVENTORY** Separate catalyst and peroxide inventories. Bulk tanker chemical deliveries.	 **SUPPLY & INVENTORY** One ready-to-feed product. Packaged inventory supports planned replenishment.
 **LIFT-STATION STORAGE** Dedicated catalyst tank and 50% peroxide tank, with oxidizer handling requirements.	 **LIFT-STATION STORAGE** No separate bulk 50% peroxide storage or feed required.
 **TREATMENT FOCUS** Published focus: sulfide oxidation and suppression. EPS penetration is not demonstrated in materials reviewed.	 **TREATMENT FOCUS** Targets hydrogen sulfide and attacks the protective EPS biofilm matrix.
 **EPS MATRIX** Catalase can limit unactivated peroxide penetration in some biofilms. Activated formulations require separate evaluation.	 **EPS MATRIX** Oxidative attack on matrix proteins and polysaccharides helps disrupt biofilm and expose embedded microorganisms.
 **ASSET PROTECTION** Remaining H_2S can support sulfuric-acid formation on moist, biologically active surfaces.	 **ASSET PROTECTION** Addresses sulfide and biofilm together to help reduce biogenic corrosion drivers.
 **PROGRAM ECONOMICS** Include peroxide, catalyst, feed equipment, delivery and replenishment costs.	 **PROGRAM ECONOMICS** Lower quoted purchase cost per gallon,* Compare total cost at equivalent performance.

SIMPLIFY SUPPLY. ATTACK BIOFILM. PROTECT INFRASTRUCTURE.

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*Project-specific pricing; confirm delivered quotes. Rotate inventory within approved shelf life.
OxyClara concentrate is corrosive; follow current label and SDS. Dosing alone does not ensure treatment of headspace biofilm. No head-to-head EPS test is represented.
Peroxide penetration: Stewart et al., Applied and Environmental Microbiology 66 (2000), 836–838.

Rev. 10/18/2026

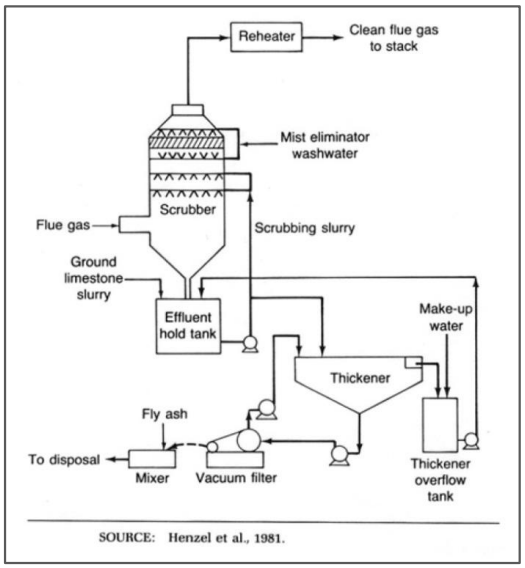
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Hydroxyl Radical eliminates H_2S in Wet Scrubbers & Flue Gases

In a recent study in Houston, TX, H_2S was removed from a natural gas stream containing 2,000 mg/l of H2S and 5% CO2 using mineral oxychloride. mineral oxychloride is a new mineral oxychloride compound that generates Reactive Oxygen Species (ROS) like hydroxyl radical ions and others ions in a highly soluble form that is easy to use. The study, which simulated operating conditions of a wet scrubber, found that the high concentration of soluble hydroxyl radical ions quickly took the ORP (oxidation-reduction potential as measured by mV) from -150 mV to +100 mV, completely eliminating the H_2S. The residual materials left in solution were inert sulfate compounds.


(Gongyi Lianghui Environmental Protection Machinery Equipment Factory)

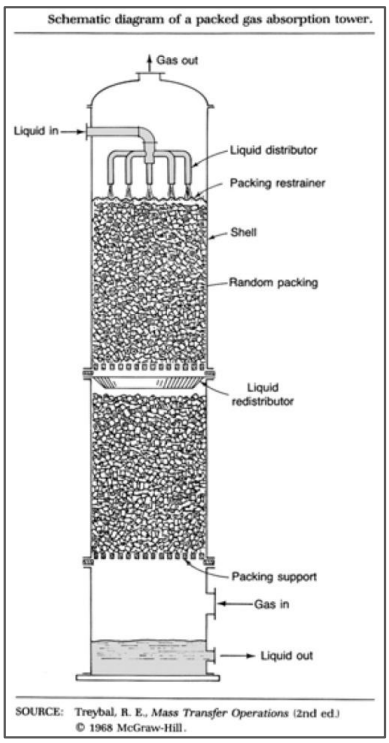
Sour gas and sour water are terms used to describe gas and water containing significant amounts of hydrogen sulfide (H_2S). Sour water and sour gas applications are abundant at oil refineries and natural gas plants. The "sweetening" of gas and water refers to the processes used to remove H_2S and organosulfide compounds. Hydrodesulfurization is a method used to remove sulfur in these applications. It is a catalytic chemical process used to capture the sulfides in natural gas and refined petroleum products including gasoline, jet fuel, kerosene, fuel oils and diesel fuel. The H_2S gas is subsequently converted into elemental sulfur with the Claus Process.



SOURCE: Henzel et al., 1981.

One of the reasons that it is important to remove sulfides from natural gas and refined petroleum products is to reduce the sulfur dioxide emitted when the fuel is combusted in automobile engines, power plants and furnaces. The U.S. Environmental Protection Agency (EPA) has focused on SO_2 as a pollutant for decades. The largest sources of SO_2 emissions are from fossil fuel combustion at power plants (73%) and other industrial facilities (20%). In 2010, the U.S. EPA revised the primary SO_2 National Ambient Air Quality Standards (NAAQS) by establishing a new one-hour standard at a level of 75 ppb. The EPA revoked the two existing primary standards

because they would not provide additional public health protection given a one-hour standard at 75 ppb.



According to the U.S. EPA, current scientific evidence links short-term SO_2 exposures, ranging from 5 minutes to 24 hours, with an array of adverse respiratory effects, including bronchial constriction and increased asthma symptoms. These effects are particularly important for asthmatics at elevated ventilation rates (e.g. while exercising or playing). Studies also show a connection between short-term SO_2 exposure and increased visits to emergency departments and hospital admissions for respiratory illnesses, particularly in at-risk populations such as children, the elderly, and asthmatics.

Wet scrubbing is one of the processes used to remove Nitrogen compounds (NO_x) and Sulfur compounds (SO_x). During this process, particulates and pollutants are removed from a gas or liquid stream through contact with a scrubbing liquid. The scrubbing liquid is typically a water-based solution that is recirculated through a sprayer at the top of a tower, with the gas stream moving up the tower from the bottom. This countercurrent flow is used to efficiently capture particulate matter and absorb specific chemicals from the gas. Acidic solutions (sulfuric acid solutions) absorb alkaline gases such as ammonia, and alkaline solutions (caustic soda, sodium hypochlorite, lime slurry) absorb acidic gases such as sulfur dioxide, carbon dioxide and hydrogen sulfide. The goal of this treatment is to keep hydrogen sulfide below 4 mg/l. In the area of non-regenerative systems there are four types of chemical scavengers: aldehyde-based, metallic oxide-based, caustic-based and other processes (oxidants).

The Problem

There are many types of chemical scavengers available to use in a wet scrubber scheme. However, there are several criteria for gas and liquid treatments: 1) rapid rate of reaction, 2) non-reversible reaction path (no reversion to H_2S), 3) cost efficiency per mole of H_2S removed, and 4) prevention of solids formation (e.g. dithiazine).

The Solutions – Hydroxyl Radical Ions

A variety of chemical oxidizers have been used in wet scrubbers for the removal of hydrogen sulfide. How quickly and efficiently the hydrogen sulfide is oxidized is directly proportional to the oxidant's oxidation potential. The contact time for hydrogen sulfide to react is inversely proportional to the oxidation potential of the chemical used as the oxidizer. (Note that the higher the oxidation potential, the quicker the reaction.)

Oxidation Potential of Various Oxidizers

Oxidizer	Formula	Oxidation Potential
Fluorine	NF_3	3.0
Hydroxyl Radical	OH^-	2.8
Ozone	O_3	2.1
Hydrogen Peroxide	H_2O_2	1.8
Potassium Permanganate	$KMnO_4$	1.7
Chlorine Dioxide	ClO_2	1.5
Chlorine	Cl_2	1.4
Oxygen	O_2	1.2
Hypochlorite	OCl	0.9

mineral oxychloride generates hydroxyl radical ions which are one of several reactive oxygen species (ROS) that meets the above criteria. It is a new low-cost technology that is easy to use in a variety of applications and systems. It will oxidize sulfur compounds to sulfur oxide or elemental sulfur. By using a simple tool, the ORP meter, and controlling treatment dosage between +100 mV to +300 mV, we eliminate H2S. mineral oxychloride reacts quickly and will not permit reversion back to H2S or form precipitants. (Note that mineral oxychloride will generate elemental sulfur
[S^0] if the ORP is run above +700 mV.)

The capital cost to set up a system to feed mineral oxychloride is low. The chemical feed system is simply a metering pump and a chemical storage tank. For a fully- automated system, you would need to install an ORP controller on the return line or in the sump. The ORP controller can be used to monitor the millivolts (mV) and control chemical dosing of mineral oxychloride.

Below is a cost comparison of several treatment systems:

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Odor Control Technologies Cost Comparison

Technology (Max H_2S Conc.)	Capital Cost YR 2009	Annual O&M YR 2009	Cost per lb. of H_2S Removed
Chemical Scrubber (100 ppm)*	$206,000	$148,000	$3.50
Bio-Scrubber (100 ppm)*	$383,000	$10,200	$0.24
Bio-Filter (5 ppm)*	$355,000	$65,000	$30.62
Std. Carbon Scrubber (5 ppm)*	$100,000	$315,000	$148.41
Catalytic Carbon Scrubber (5 ppm)*	$140,000	$30,100	$14.18
Mineral oxychloride (2,000 ppm)**	$10,000	$4,700	$0.0040
Triazine (2,000 ppm)*	$300,000	$30,000	$0.0132

All technologies are rated at 10,000 cfm or 75,000 lbs of air per day with 200 ppm of H_2S
* Rated maximum removal rate
** mineral oxychloride has no limit on the amount of H2S removal

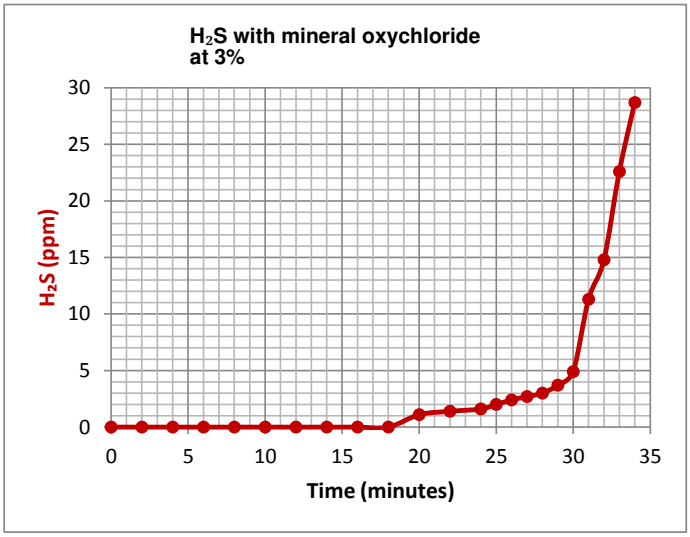
The graph of mineral oxychloride at 3%

demonstrates that 1 mg/l of mineral oxychloride

is required to remove 2.0 mg/l of H_2S (by weight). The graph demonstrates

that by continuously feeding mineral oxychloride

and maintaining a control range of +100 mV to +300 mV, the system could achieve optimum H_2S removal while being cost effective.



Conclusion

Wet scrubbing can be a cost-effective treatment in a non-regenerative application using mineral oxychloride as a primary oxidant. mineral oxychloride is easy to feed and simple to monitor. It is a low technology solution for removing hydrogen sulfide and carbon dioxide. mineral oxychloride can be used to treat natural gas, crude oil, refined petroleum products, anaerobic digester gases, flue gases and others. It is safe to use – non-flammable and non-combustible. It is a part of the new green technology for a safer environment for all.

If you would like more information about mineral oxychloride and related technology, please contact

Odor Control Products and Equipment LLC (407) 547-9949