

## Ferric Nitrate for Hydrogen Sulfide Control in Municipal Wastewater

### Overview:

Ferric nitrate ( $\text{Fe}(\text{NO}_3)_3$ ) effectively manages hydrogen sulfide odors in wastewater systems, offering adaptable curative and preventative solutions.

### Applications:

**Curative:** Requires a 2-3 hour retention time for water column oxidation. It facilitates the reaction:  
 $5 \text{H}_2\text{S} + 8 \text{NO}_3 \rightarrow 5 \text{SO}_4^{2-} + 4 \text{N}_2 + 4 \text{H}_2\text{O} + 2 \text{H}^+$

**Preventative:** Conditions biofilm for anoxic processes, reducing sulfate to hydrogen sulfide conversion. Requires at least 3 hours.

### Properties and Dosing:

Available in 2,000 - 4,000 gallon bulk shipments.

Contains 43.31% anhydrous Ferric nitrate, specific gravity 1.455 (3.13 lbs Nitrate Oxygen/gallon).

A 10% Fe solution is 43.31% Ferric nitrate.

Specific Gravity and Nitrate Oxygen:  $1.455 \times 8.34 \text{ lbs/gal} = 12.13 \text{ lbs/gal}$ ; Nitrate Oxygen =  $12.13 \text{ lbs} \times 0.5965 \times 0.4331 = 3.13 \text{ lbs/gal}$ .

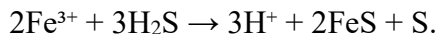
### Dosage:

Preventative: 2.6 lbs  $\text{NO}_3$  per lb  $\text{H}_2\text{S}$ , practical rates 2-8 gallons per lb  $\text{H}_2\text{S}$ .

Curative: 0.7 lbs  $\text{NO}_3$  per lb  $\text{H}_2\text{S}$ , practical rates 1-2 gallons per lb  $\text{H}_2\text{S}$ .

### Chemical Reactions:

$\text{Fe}^{3+}$  ions react with  $\text{H}_2\text{S}$  to form  $\text{FeS}$ , aiding in odor and corrosion control:



### Conclusion:

Ferric nitrate is an effective, adaptable solution for hydrogen sulfide control in wastewater, with tailored applications and dosages.

Please see the Safety Data Sheet for specific health & safety information.

Shipping Location: 1216 Old Hopewell Road  
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