

SafeGuard™ H2O

Small Batch On-site Ferrate Generation System

SafeGuard™ H2O is a breakthrough technology that addresses the inherent challenges of industrial-scale ferrate solution supply—instability, yield, and concentration—by enabling the safe, sustainable, on-demand production of a high-purity ferrate solution.

It produces a fresh, potent ferrate reagent (Fe^{+6}) onsite through a simple, cost-effective electrolytic process that requires only three widely available consumables: a certified precursor (sacrificial iron anode), caustic soda, and electricity.

In addition to full-scale units, SafeGuard H2O is available in a compact, easy-to-use small-batch system. The small batch system is a cost-effective and efficient solution for researchers, municipal, and industrial users interested in exploring ferrate applications. With a small-batch system, owners can offer a frozen ferrate solution.

Ferrate Applications

- Antibiofilm, antimicrobial reagent for produced water
- Biofouling control for membranes
- Corrosion inhibitor in distribution networks and cooling systems
- Disinfection in a broad range of water and wastewater
- Inorganic removal, including hydrogen sulfide, metals, phosphate, and more
- Organic removal (TOC, BOD, COD)

Value of the Small Batch SafeGuard™ H2O System

- Compact, easy-to-use electrolytic ferrate generator suitable for laboratory and field installation
- Certified precursor ensures the quality of the ferrate reagent generated
- Safe to operate and economical (low generic consumables)
- Versatile, transportable and suitable for laboratory demonstration
- Energy efficient with low power consumption

Contact ferrate@ams-h2o.com to learn more.



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Small Batch On-site Ferrate Generation System Specification

CAPACITY

Generation Capacity (Iron per Day)	lbs	0.079
	kgs	0.036
Ferrate Concentration	ppm	25,000
Ferrate Production Rate	mL/m	2.5

CONFIGURATION

Generator Current (included)	amps	5.0
Generator Voltage	volts	2.8 – 3.5
Physical Dimensions (H*W*D)	in	18 x 13 x 14
	cm	45.8 x 33 x 35.6

OPERATING CONSUMABLES

Caustic Solution 20%	lbs per lb iron	120
	kgs per kg iron	120
Power Consumption	kWh (AC) per lb iron	11
	kWh (AC) per kg iron	22
Caustic Feed Flowrate	mL/m	2.5

ENVIRONMENTAL CONDITIONS

Ambient Air Temperature Rating	°F	68 +/- 2
	°C	20 +/- 2

* Subject to change without prior notice. Note, the information provided contains general descriptions or characteristics of performance which in actual case of use do not always apply as described.