

	<i>SBGx</i>	<i>Iron Oxide</i>	<i>Iron Oxide-Hydroxide</i>	<i>Iron Chloride</i>	<i>Air Injection</i>
<i>Investment into</i>					
Storage and Handling	outside, low	covered, low	covered, low	covered, high	not applicable
Dosing Equipment	none / low	none / low	medium	medium	high
<i>Risk of / to</i>					
Exposure / Personnel	low	low	low	high	n. a.
Explosion	low	low	low	low	high
Corrosion	low	low	low	high, HCl <sup>A</sup>	high, H <sub>2</sub> SO <sub>4</sub> <sup>B</sup>
Gas Impurities	low	low	low	low	high
Reaction Products	none	none	none	HCl	H <sub>2</sub> SO <sub>4</sub>
<i>Other Characteristics</i>					
Chemical Composition	FeO and Fe <sub>2</sub> O <sub>3</sub> <sup>C</sup>	Fe <sub>2</sub> O <sub>3</sub>	FeO(OH)	FeCl <sub>2</sub> or FeCl <sub>3</sub>	n. a.
Reactive Iron Ion Content	> 60% <sup>D</sup>	30% - 60%	10% - 15%	10% - 14%	n. a.
Reaction Speed	high	low	low	high	low
Deposit / Buffer Effect	high	high	medium	none	none
Effect on Bacterial Health	positive	normal	normal	negative	negative
Effect on Gas Yield	positive	normal	normal	0 to minus 32% <sup>E</sup>	negative
Trace Element Addition	recommended	required	required	required	required
Shelf Life	> 12 months	> 12 months	< 12 months	< 12 months	n. a.
Price per chem. Reaction	medium	high	medium	high	n. a.

<sup>A</sup> IUPAC: Hydrogen chloride, other name: Hydrochloric acid gas

<sup>B</sup> IUPAC: Sulfuric acid

<sup>C</sup> See [www.swissbiogas.com/Resources - Download Area/Effects of Different States of Fe on Anaerobic Digestion: A Review](http://www.swissbiogas.com/Resources - Download Area/Effects of Different States of Fe on Anaerobic Digestion: A Review)

<sup>D</sup> Analysis Nov. 2021

<sup>E</sup> See [www.swissbiogas.com/Resources - Download Area/The effect of iron salt on anaerobic digestion and phosphate release to sludge liquor](http://www.swissbiogas.com/Resources - Download Area/The effect of iron salt on anaerobic digestion and phosphate release to sludge liquor)