

Contaminant		Fe ⁰		Scale	Duration	Fe ⁰ filter dimensions	Capacity	Remarks	Ref.
X	[X]	Nature	Amount						
As	0.5-10 mg/L	Carbon steel-wool	n.a	Laboratory	15 min	n.a	n.a	As removal attributed to electrochemical reactions	[105]
Chromate	0.5-.0 mg/L K ₂ CrO ₄	Powder carbon steel	1 g agitated with 50 ml of chromate solution	Laboratory batch experiment	15 min	batch	n.a	100% Cr(VI) removal observed at 0.5 - and 1.0 mg/L, and process is irreversible	[106]
<i>E. coli</i>	8.5 log CFU/100 ml	granular	1: 1 (23 kg Fe ⁰ : 23 kg sand)	Field columns and plots	0-15 days	Column: length: 0.77 m, diameter: 0.14 Plots: 0.9 m x 1.8 m	-	Fe ⁰ filters significantly reduced <i>E. coli</i> relative to control (sand)	[15]
As (III)	500 µg/L	Iron fillings	1: 2-3 (1.5 g Fe ⁰ : 3-4 g sand)	Laboratory column filter	Contact time: 5.3 s	Column: length 3-4 cm, diameter: 10 mm	1 L/hr	Removal attributed to As (III) oxidation to As(V), and its subsequent adsorption on hydrous ferric oxides	[107]
Viruses, bacteriophages	0.98 x 10 ⁶ -7.9 x 10 ⁶ plaque forming units (PFU)/ml	granular	1: 1 Fe ⁰ : sand	Laboratory column filter	Contact time: 9.3 min	Column: length: 10 cm, diameter: 3.8	0.73 ml/min	Fe ⁰ removed 4.5 to 6 logs of viruses while sand showed no removal	[108]

Viruses	10 ⁵ PFU/mL	granular		Laboratory batch experiment	Contact time: 20 min	batch	n.a	4-5 log removal via inactivation and biocidal effects of Fe	[109]
Inorganic, organic & bacteria	2 & 5 mg/L (Cu, Zn, Ni & Fe), 15,035 CFU/100 ml total coliforms & 1850 CFU/100 ml <i>E. coli</i>	Iron oxide coated gravel	n.a	Laboratory column	64 days	Column: length: 55 cm, diameter: 3.81	0.015 L/min	92.2 to 99.3% of metals, 99% <i>E. coli</i> and 95.3% total coliforms removed.	[208]

Table S1. Summary of some experimental conditions used for experiments in selected peer-reviewed articles using Fe⁰ materials for decentralized water treatment. X stands for the tested contaminant and [X] for its initial concentration. n.a data not available.