SUPPORTING INFORMATION

Quantifying the Efficiency and Selectivity of Organohalide Dechlorination by Zerovalent Iron

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Table S1. Summary of previously report values for electron efficiencies.

ID	Source	Iron	pH	S/Fe_{dosed} or Me/Fe_{dosed} (molar ratio)	ε_{Fe^0} (%)	ε_e (%)
AA	Gu et al.[1] (1.9 mM TCE, 0.2 g/L ZVI);	Ball milled S-mZVI	7	0.1	100	87
AB		Ball milled mZVI	7	\	100	8
AC	(76 μM TCE, 10 g/L ZVI)	Ball milled S-mZVI	7	0.1		9.8
AD		Ball milled mZVI	7	\		0.19
BA	Gu et al.[2] (76 μM TCE, 10 g/L ZVI)	Ball milled S-mZVI	6	0.1		3.2
BB		Ball milled S-mZVI	9	0.1		22.5
BC		Ball milled S-mZVI	10	0.1		19
BD		Ball milled mZVI	6	\		0.95
BE		Ball milled mZVI	9	\		5.3
CA	He et al.[3] (2.28 mM TCE, 0.25 g/L ZVI)	S-nZVIpost	8	0.2	100	72
CB		Pd/nZVI	8	0.0027	100	99.9
CC		Ni/nZVI	8	0.0027	100	69
CD		Cu/nZVI	8	0.0027	100	3.3
CE		Ag/ZVI	8	0.0027	100	2.3
CF		nZVI	8	\	100	2.4
DA	Bhattacharjee et al.[4] (45 mM of TCE, 1.6 g/L ZVI))	S-nZVIco	7	0.4	100	100
DB		S-nZVIpost	7	0.4	100	100
DC		Pd/nZVI	7	0.0053	100	99.9
EA	Qin et al.[5]（1.35 Mm NDMA; 10 g/L ZVI) in solution of NO_3^-	S-nZVIpost	7	0.00056		0.72
EB		nZVI	7	\		0.064
FA	Xu et al.[6] (70 μM TCE, 1 g/L ZVI)	S-nZVIco	6	0.14		72.1
FB		S-nZVIpost	6	0.14		56
FC		nZVI	6	\		2.9
GA	Xu et al.[7] (76 μM TCE, 1 g/L	nZVI	7.5	\		0.43

	ZVI)					
GB		CMC-nZVI	8	\		0.03
GC		S-nZVIco	7.8	0.05		6.3
GD		CMC-S-nZVIco	8.1	0.05		1.2
GE		S-nZVIpost	8.8	0.05		13
GF		S-nZVIpost	8.6	0.1		22
GG		S-nZVIpost	8.6	0.2		21
GH		S-nZVIpost	9.3	0.5		14
GI		CMC-S-nZVIpost	8.8	0.05		3.5
GJ		CMC-S-nZVIpost	8.4	0.1		2.5
GK		CMC-S-nZVIpost	8.7	0.2		4.4
GL		CMC-S-nZVIpost	9.4	0.5		13
HA	Vogel et al.[8] (200 μM PCE, 1.25g/L Carbon-iron)	Carbon-iron	8.5	\		60
HB		Sulfidated Carbon-iron	8.5	0.004		99
HC	200 μM PCE, 4g/L Carbon-iron	Carbon-iron	8.5	\		32
HD		Sulfidated Carbon-iron	8.5	0.004		98
HE	200 μM PCE, 5g/L Carbon-iron	Carbon-iron	8.5	\		27
HF		Sulfidated Carbon-iron	8.5	0.004		97
IA	Schoftner et al.[9] (266 μM TCE, 2.5g/L ZVI, 22℃)	nZVI	8.4	\	100	2.5
IB	In solution of ligninsulphonate	nZVI	8.4	\	100	2.8
IC	In solution of carboxymethyl cellulose	nZVI	8.4	\	100	2.3
ID	Oxic conditions	nZVI	8.4	\	90	4.3
IE	Millipore water	nZVI	8.4	\	43	3
IF	12 ^{o}C		8.4	\	67	3.1
JA	Tang et al.[10] (76 μM TCE, 50g/L ZVI, 12 ^{o}C)	mZVI	6.9	\		5.3
JB	5 mg/L HA	mZVI	6.5	\		5.3
JC	20 mg/L HA	mZVI	6.5	\		5.7
JD	0.4 mM Ca^{2+}+HCO_3^-	mZVI	7.6	\		7.0

JE	2 mM Ca^{2+}+HCO_3^-	mZVI	7.8	\		1.9
JF	0.4 mM Ca^{2+}+HCO_3^- + 20 mg/L HA	mZVI	7.0	\		7.4
JJ	2 mM Ca^{2+}-HCO_3^- + 20 mg/L HA	mZVI	7.3	\		4.3
KA	Xin et al.[11](22.8 μM TCE, milliQ-water)	mZVI	7	\		41-63
KB	fresh groundwater	mZVI	7	\		50-60
KC	saline groundwater	mZVI	7	\		25-40
LA	Zou et al.[12](76 μM TCE, 10g/L ZVI, 0 mg/L Cr(VI))	S-mZVI^{bm}	6	0.1	100	26.8
LB	10 mg/L Cr(VI)	S-mZVI^{bm}	6	0.1	100	15.2
LC	50 mg/L Cr(VI)	S-mZVI^{bm}	6	0.1	100	0
MA	Xu et al[13] (0.03 mM TCE, 2 g/L S-nZVI)	S-nZVI$_{post}$	6	> 0.1		50
MB	0.03 mM TCE, 2 g/L nZVI	nZVI	6	\		2.5
MC	2 mM TCE, 0.25 g/L S-nZVI	S-nZVI$_{post}$	6	> 0.1		98
MD	2 mM TCE, 0.25 g/L nZVI	nZVI	6	\		5

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