

Article

Monosodium Glutamate as Selective Lixiviant for Alkaline Leaching of Zinc and Copper from Electric Arc Furnace Dust

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Received: 27 April 2020; Accepted: 12 May 2020; Published: 15 May 2020

Supplementary Materials

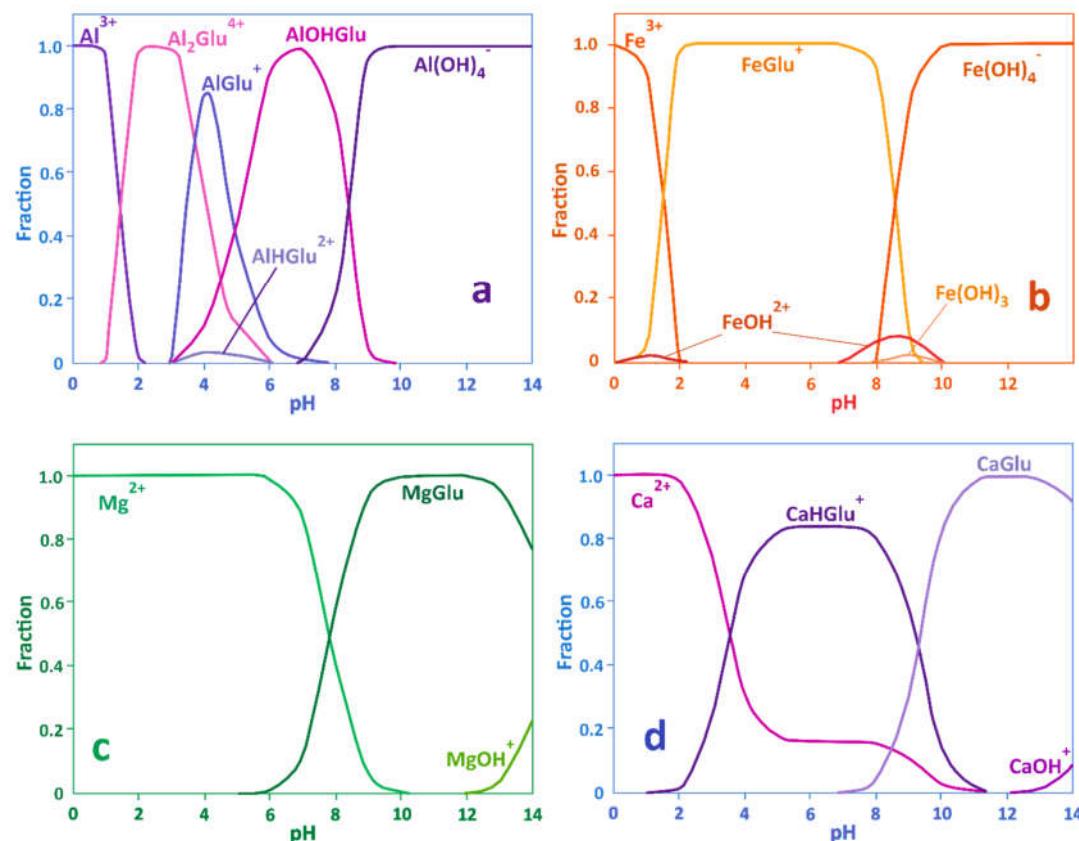


Figure S1. Species distribution of (a) Al, (b) Fe, (c) Mg and (d) Ca in glutamate-H₂O system as function of pH. Glutamate concentration 1 M, Al³⁺ 350 mM, Fe³⁺ 10 mM, Mg²⁺ 10 mM and Ca²⁺ 20 mM.

Table S1. AMICS Mineralogy for Zinc EAF Dust Sample.

Mineral	Chemistry	Percentage
Anorthite	$\text{CaAl}_2\text{Si}_2\text{O}_8$	0.81
Corundum	Al_2O_3	8.57
Gahnite	ZnAl_2O_4	33.71
Hauyne	$(\text{Na,Ca})\text{Al}_6\text{Si}_6(\text{O,S})_{24}\text{SO}_4\text{Cl}$	0.72
Orthoclase	KAlSi_3O_8	0.42
Wollastonite	CaSiO_3	0.15
ZnO	ZnO	42.21
ZnCl ₂	ZnCl ₂	6.36
ZnFeAlO	ZnFeAlO	0.65
ZnFeAlSiO	ZnFeAlSiO	0.21
ZnFeO	ZnFeO	5.30
ZnMn ₃ O	ZnMn ₃ O	0.89

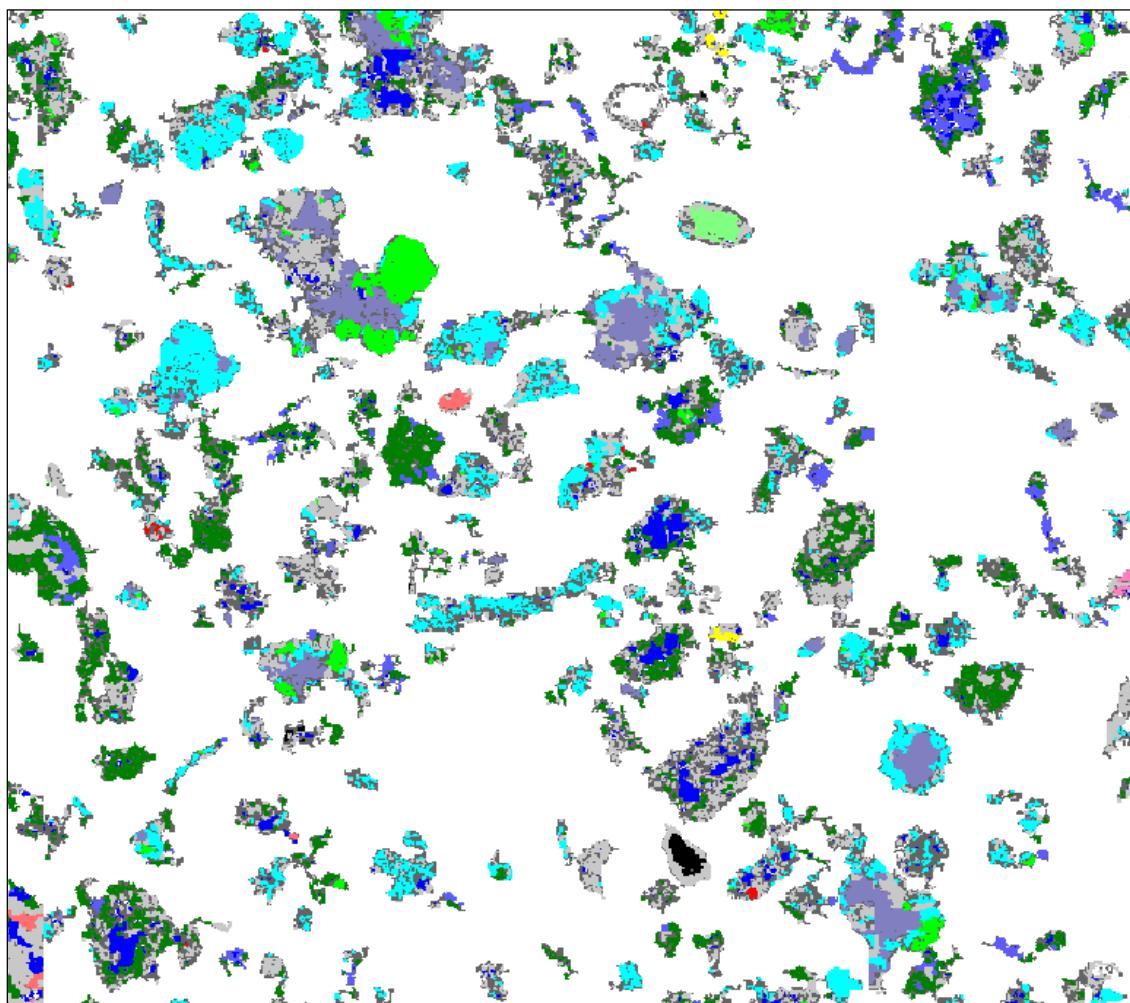
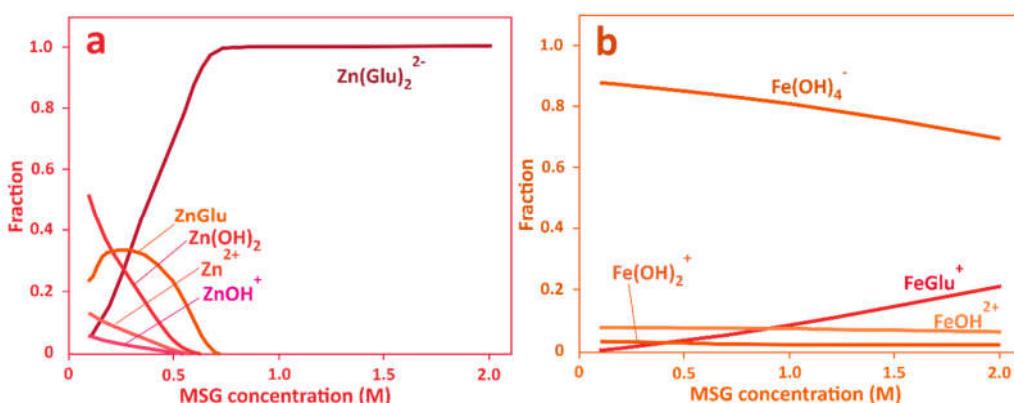
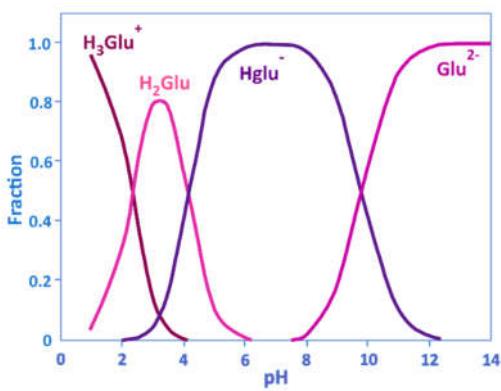
**Figure S2.** Identified AMICS Minerals for Zinc EAF Dust Sample.

Table S2. AMICS Color Scheme.

Mineral	Color
Anorthite	Pink
Corundum	Teal
Gahnite	Green
Hauyne	Dark Blue
Orthoclase	Light Pink
Wollastonite	Light Green
ZnO	Cyan
ZnCl ₂	Blue
ZnFeAlO	Red
ZnFeAlSiO	Dark Teal
ZnFeO	Green
ZnMn ₃ O	Black

**Figure S3.** Species distribution of (a) Zn and (b) Fe in glutamate-H₂O system as function of glutamate concentration at pH 9. Zn²⁺ 300 mM and Fe³⁺ 10 mM.**Figure S4.** Species distribution of glutamate in glutamate-H₂O system as function of pH. Glutamate concentration 1 M.