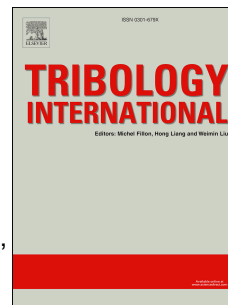


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Graphic abstract

The ecotoxicity and tribological properties of choline amino acid ionic liquid lubricants

Shuai Zhang ^a, Lin Ma ^a, Ping Wen ^a, Xiangyuan Ye ^a, Rui Dong ^a, Wenjing Sun ^a, Mingjin Fan ^{a,*}, Desuo Yang ^a, Feng Zhou ^b, Weimin Liu ^b

Comparing with traditional IL 1-butyl-3-methyl imidazolium tetrafluoroborate (L-B104), choline amino acid ILs ([Ch][AA] ILs) not only have good tribological properties, but also have a remarkable low toxicity against three kinds of aquatic organisms.

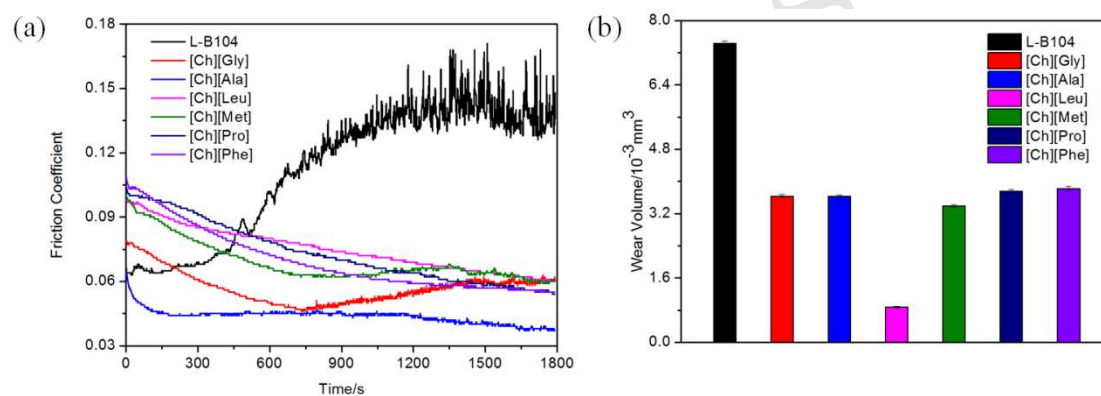


Fig. 1 The friction coefficient (a) evolves over time and wear volume losses (b) of sliding copper disks for samples.

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