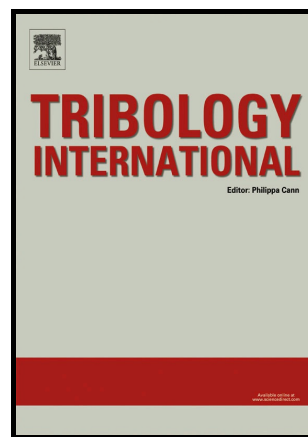


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Triazine-based covalent-organic frameworks: a novel lubricant additive with excellent tribological performances

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Abstract:

Triazine-based covalent-organic frameworks (TriCF) has been prepared successfully through a facile solvothermal reaction and applied to evaluate the tribological performances as lubricant additive. TriCF exhibited the lamellar structure feature and high thermo-stability, and pictured the excellent dispersity in poly-alpha-olefin-10 oil. The tribological tests demonstrated that adding 0.6 wt % TriCF into PAO-10 oil can great reduce coefficient of friction and volume of wear for steel-steel system, while 0.2 wt % TriCF was perfectly competent for steel-copper system. The analysis of worn surface revealed that the lamellar structure was crux to ensure the TriCF easy slide during the sliding process, reducing the coefficient of

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