

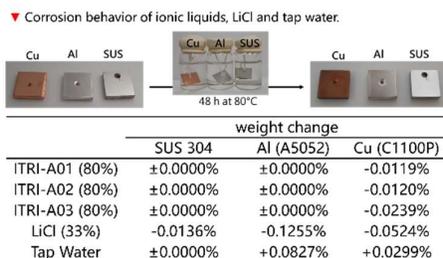
Development of Novel Ionic Liquids for Dehumidification

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Traditional air conditioning systems struggle with dehumidification in hot and humid climates, leading to increased energy consumption. Liquid desiccant air-conditioning (LDAC) technology offers a more energy-efficient solution by enabling independent control of temperature and humidity. Ionic liquids (ILs) have emerged as promising alternatives to conventional halide salt desiccants, offering superior performance while eliminating the issue of metal corrosion. This study presents the development of novel ILs ITRI-A01~A03. The corrosion resistance of copper and aluminum in these IL solutions was evaluated through electrochemical analysis. The results demonstrate that these ILs exhibit high hygroscopicity and antimicrobial properties while significantly reducing corrosion risks and preventing crystallization.



References

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