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Water-reactive, Peroxide Forming Materials

Peroxide formers such as tetrahydrofuran or ethyl ether are often used as solvents for organometallic materials like n-butyllithium, or methylmagnesium bromide, etc.

Due to their reactive nature and peroxide formation potential, these materials pose a special challenge when it comes to waste disposal. Once expired, they become very costly to dispose. Our waste vendor requires that we test any expired, peroxide forming chemicals with test strips. However, peroxide test strips require the use of water. Therefore, a test cannot be performed on expired, water-reactive materials to verify the absence of peroxides. This means that, from a waste disposal perspective, these expired materials are considered a “high-hazard” waste.

A high hazard chemical costs between \$800 and \$1,000 per container to dispose. This reinforces how imperative it is that you date your peroxide forming chemicals at time of receipt and time of opening, and to dispose any unused reagent through EHS before the chemical is expired. Bear in mind that if a chemical does not have an expiration date printed on the bottle, it is considered expired anywhere between 3 and 12 months past the time it was first opened. For more information on the storage and handling of peroxide forming chemicals, please refer to the following link below <http://ehs.iupui.edu/enviromental.asp?content=information-list-of-peroxide-formers>.



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