

## Pennakem LLC And Chemetall GmbH Announce Marketing Agreement on Green 2-MeTHF at Informex 2010 in San Francisco

Pennakem LLC (Memphis, USA) and Chemetall GmbH (Frankfurt, Germany) have joined forces in a strategic marketing agreement for the green solvent 2-MeTHF (2-methyltetrahydrofuran) and 2-MeTHF based organometallic reagents, organic and inorganic salts, hydrides and alcoxides.

Each company is a leading player in its own specialized business.

Pennakem LLC, formerly Penn Specialty Chemicals, Inc. is the dominant global producer of green solvents from renewable resources. Chemetall is the leader in metal-based chemical applications and produces a variety of lithium-based products.

The main purpose of the present agreement is to increase the awareness and acceptance of 2-MeTHF and 2-MeTHF based reagents in industry and academia. To this end, Pennakem and Chemetall will jointly sponsor scientific events catered around green chemistry and organometallic applications. In addition, both companies will finance fundamental research for a select group of universities and research centres around the world.

Pennakem has developed 2-MeTHF as a green alternative to THF since 2005. Independent sources suggested recently that green 2-MeTHF is now poised to become a top 10 solvent in the next decade<sup>1</sup> (Figure 1).

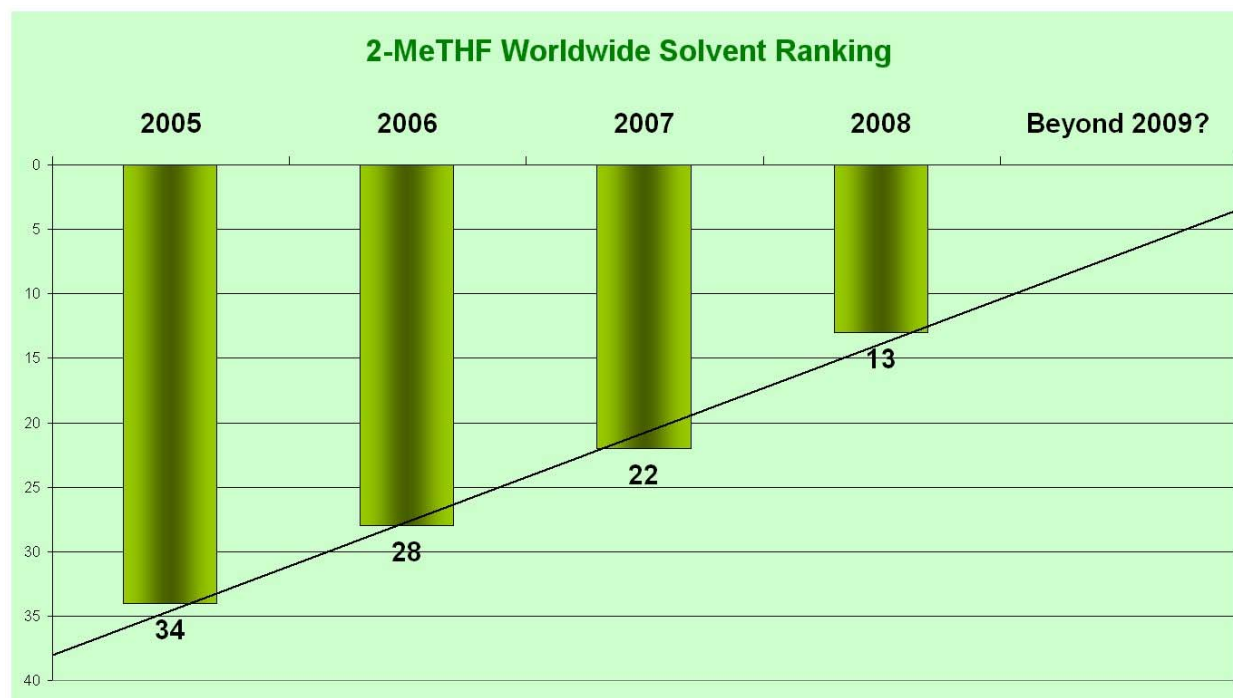


Figure 1: Worldwide 2-MeTHF ranking in number of pilot plant campaigns in pharmaceutical industry (GCIPR members only)

Unlike THF, 2-MeTHF is obtained from renewable resources such as corncoobs and other agricultural non-edible sources. Moreover, 2-MeTHF is not soluble in effluent waters while THF is water miscible therefore hard to separate from effluents.

<sup>1</sup>adapted from Green Chemistry Institute Pharmaceutical Roundtable Report, October 21, 2009, Summit, NJ  
[http://acs.confex.com/recording/acs/green09/pdf/free/4db77adf5df9fff0d3caf5cafe28f496/paper70091\\_5.pdf](http://acs.confex.com/recording/acs/green09/pdf/free/4db77adf5df9fff0d3caf5cafe28f496/paper70091_5.pdf)

Chemetall has shown that 2-MeTHF is better than THF in terms of its chemical properties and resembles toluene in terms of its physical properties. This has in-process advantages such as higher reaction yields, higher organometallic reagent solubility, improved extraction yields and better crystallization properties.

Ultimately, all these advantages are factored in cost savings. This explains the leap of 2-MeTHF in the global solvent ranking from an academic curiosity in 2004 to #13 at the end of 2008.

Both companies recognize the need to allocate further resources to the development and communication of open knowledge in existing and new applications in 2-MeTHF.

This marketing agreement will consolidate the foundation of the 2-MeTHF based chemistry and markets.

Details about the applications of 2-MeTHF will be offered at the booth (# 1136 for Pennakem and booth #2215 for Chemetall).