A new acceleration additive for making 'ice that burns'

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Japanese scientists are reporting discovery of an additive that can speed up the formation of methane hydrates. Those strange substances have sparked excitement about their potential as a new energy resource and a deep freeze to store greenhouse gases like carbon dioxide.

Methane hydrates are literally ice that burns -- frozen methane (the main component of natural gas) found in vast natural deposits beneath the seafloor in coastal areas of the United States and certain other parts of the world. When brought to the surface, hydrates pop and sizzle as they release gas and burst into flame if ignited. Known hydrate deposits hold enough natural gas to supply the world for centuries.

One barrier to exploiting this treasure has been difficulty in making gas hydrates in the laboratory that could be used for research on ways to utilize these substances as a fuel. Akihiro Yamasaki and colleagues have found that addition of an additive made from beta-cyclodextrin accelerates methane hydrate formation 5-fold. Their report is scheduled for the Nov. 15 issue of the ACS bimonthly journal *Energy & Fuels*.

Cyclodextrins are a family of polymers produced from starch. Their wide range of uses includes the food, pharmaceutical and chemical industries. Cyclodextrin is the active ingredient in a popular home deodorizing product.

Source: American Chemical Society