Oil Spill Response by Containment With Solidifiers Based on Naturally Occurring Materials

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ABSTRACT (maximum 300 words)

Transportation of crude oil via pipelines and tankers poses the risk of oil spills that may affect inland and offshore aquatic environments. In the event of an on spill occurring at water's surface, several response options are possible, the choice of which depends on specific circumstances. Oil spill response options include: mechanical containment and recovery via booming and skimming, *in-situ* burning, natural attenuation, and the use of spill-treating agents, such as chemical dispersants. In Canadian inland waters, where dispersants or *in-situ* burning cannot be used to treat surface slicks, oil spill containment and recovery is the preferred response option. As an alternative to mechanical oil spill containment by booming, spill-treating agents, called "solidifiers" have also been developed, which when added to spilled oil, change its physical state from a liquid to a cohesive mass that can be more easily contained and removed from a spill site. CanmetENERGY Devon has recently developed and tested a suite of new solidifiers, which are based on naturally occurring materials. Examples of such solidifiers include amylopectin-based copolymers, and amino acid-based, low-molecular-weight organo-gelators, which have been tested for their ability to solidify both light and heavy crude oils.

Keywords: *oil spill, containment, solidifiers, spill treating agents, alternative response measures*