Recycled Antifreeze and Engine Coolant Recycling

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Introduction:

Since the first coolant recycling technologies were introduced in 1988, extensive invention, evolution and studies of coolant and coolant recycling have taken place. It is appropriate to offer an update of the state-of-art of antifreeze or engine coolant recycling at this time.

Recycled Antifreeze:

In some areas recycled antifreeze (concentrated ethylene glycol) is available. Most of these products are produced in well-engineered distillation plants. Generally, samples of recycled antifreeze analyzed by Penray compare very favorably with antifreeze blended from virgin stock. In fact, Penray has been presented with samples of virgin antifreezes that are blended with poor quality glycol, recovered from "glycol bottoms" or other sources, which are potentially very harmful. Therefore, Penray supports and encourages the use of properly processed recycled antifreeze that is manufactured and documented to meet ASTM D-6210 antifreeze specifications.

Engine coolant recycling:

Engine coolant recycling is the process of either attaching a machine to a vehicle's cooling system for filtration and reinhibition or the collection and processing of the used engine coolant outside of the vehicle. Such collection and processing may be conducted at the site of the waste generation, or the coolant might be transported to a recycling plant for large batch operations. Regardless, the technologies involved include various types of filtration, ion exchange, reverse osmosis, and vacuum distillation. Several companies have reviewed the available technologies, including General Motors®, Ford®, Daimler-Chrysler®, Cummins® Engine Company, and Detroit Diesel® Corporation. In addition, a large number of SAE and ASTM papers have been published on the subject. Therefore, the justification for the following recommendation is quite extensive, and well founded in the literature.

Penray strongly recommends that customers not accept filtration recycling for any vehicle. The more sophisticated technologies have proven capable of producing coolant with extended service capabilities and problems associated with filtration recycling have been eliminated by newer systems. Specifically, reverse osmosis engine coolant recycling is preferred by Penray because of its cost-effectiveness. Most ion exchange and distillation systems are also capable of producing excellent quality, but a much higher cost. Some plants exist that combine these technologies to optimize quality and recovery. Coolant processed by these state-of-the-art technologies can be reinhibited to meet ASTM D-6210 (TMC RP-329) coolant specifications, and there is no performance compromise when compared to high quality, virgin stock antifreeze or coolant whatsoever.

Penray's list of approved coolant recyclers can be found on our website at:

www.penray.com/inhibitors/recyclers.htm