

Antifreeze recycling driven by committed network and modern technologies

There are more than 24 million motor vehicles registered in Canada. Each year, a portion of cars, trucks and vans on the road have their radiators drained and refilled with fresh antifreeze.

In the past, waste auto antifreeze from vehicles was not always properly treated. Today, AMS, with the support of its producers and service providers, ensures an increasing quantity of used automotive antifreeze is collected, processed, and appropriately recycled. Here's how it works:

Used auto antifreeze is collected and temporarily stored in drums and totes at thousands of auto service centres, quick-lube shops, auto dealerships and fleet maintenance sites across the province. An AMS-registered transporter* drives from site to site collecting used antifreeze from drums and totes.

The collected antifreeze is then consolidated and shipped via bulk truck to registered processors. These fully licensed processors then separate and purify the major antifreeze components.

AMS has a network of processors for the antifreeze collected by its transporters. The largest processor of used antifreeze in Canada is Napierville Refineries, located south of Montreal.

Renaud Bussieres, the Operations Director at Napierville, explains that automobile radiator coolant is a water solution that contains approximately 50% ethylene glycol. Glycol lowers the freeze point of water to keep radiators and engine blocks from freezing and cracking in the winter.

"Coolants also contain special additives to enhance the performance and extend the life of the cooling system. With extended use, impurities slowly form in the cooling system, and coolants eventually lose some effectiveness," Bussieres said.

A FLUID SOLUTION...

- **AMS antifreeze processor network includes facilities in Ontario, Quebec, Alberta, Michigan and Illinois**
- **1.5 million litres/year of distilled glycol are produced at Napierville Refineries, the largest processor in Canada**
- **Recochem examines samples for 40 impurity items before shipment**



At Napierville Refineries, more than a dozen transporters from Ontario and Quebec supply used antifreeze and each trailer delivery is inspected and analyzed before unloading. Used antifreeze at Napierville is processed using a multi-step vacuum distillation system to produce distilled glycol, purified distilled water, and residue containing other impurities. The distilled glycol is then further treated in another multi-step filtration system to remove trace impurities, such as organic acids and metals measured in parts per million.

Napierville Refineries is owned by Rechem Inc., Canada's largest producer of automotive coolants with production facilities in several provinces. More than 1.5 million litres of high-purity distilled glycol is produced at Napierville annually and most is shipped by bulk railcar to Rechem's Milton, Ontario, facility to create new antifreeze.

AMS supports the creation of circular economies. Producers wishing to use recovered glycol in their manufacturing processes are encouraged to source from our registered processors.

Samples from every glycol railcar are analyzed by both Napierville Refineries and Rechem's largest coolant laboratory, located in Nisku, Alberta. Railcar samples are analyzed for 40 items before shipment and use.

"Napierville's glycol recycling operations are based on best available technologies and proven methods," added Bussieres. "The proper and reliable way to recycle used antifreeze is likely a lot more complicated than most people would imagine."

* AMS acknowledges and thanks its haulers of waste antifreeze, including: Cool Running Antifreeze, Drain-All, Environmental 360 Solutions, GFL Environmental, Keith R. Thompson (KRT), Recycle West and Veolia, among others.