



City of Portland Green Purchasing Case Study

Extended-Life Antifreeze

Purchasing Green

Since 1997, CityFleet has used extended-life antifreeze (ethylene glycol) in both gasoline and heavy-duty diesel vehicles. Extended-life antifreeze designed for gasoline vehicles lasts five years or 150,000 miles (compared to two to three years for conventional antifreeze) while extended-life antifreeze designed for diesel vehicles lasts three years or 600,000 miles (compared to one year for conventional antifreeze). CityFleet also sends its used antifreeze to a recycler to be reformulated, and buys back recycled extended-life antifreeze. The City recycles about 1,500 gallons of antifreeze every year.

Benefits

Because extended-life antifreeze lasts longer and doesn't need to be replaced as often, it generates less waste than conventional antifreeze. By recycling antifreeze rather than disposing of it, CityFleet prevents even more waste. Extended-life antifreeze can be recycled an unlimited number of times.

Antifreeze is toxic to humans and animals. Used antifreeze, which is contaminated with heavy metals such as lead, cadmium, and chromium, is even more toxic. Reducing the amount of antifreeze that needs disposal lessens the risk of harming human health and the environment.

Cost

Although extended-life antifreeze costs slightly more than regular antifreeze, CityFleet saves money because it doesn't have to purchase new antifreeze as often. Additionally, labor and disposal costs are reduced because vehicles require fewer antifreeze changes.

Performance

CityFleet reports that recycled extended-life antifreeze performs just as well as conventional antifreeze. Silicates and phosphates, common in regular antifreeze, can be abrasive to water pump seals. Extended-life antifreeze does not contain these substances. Plus, it retains over 95 percent of its corrosion inhibitors after five years or 150,000 miles. The quality of extended-life antifreeze is so well-established that many manufacturers fill their new vehicles with this product.

Tests conducted by the American Society for Testing Materials (ASTM) and the Society of Automotive Engineers have shown that recycled antifreeze meets or exceeds the ASTM's nationally recognized performance criteria. In fact, the U.S. Environmental Protection Agency maintains that recycled antifreeze might be purer than virgin antifreeze because the recycling process reduces the amount of chloride in the product.



CityFleet uses extended-life antifreeze in its vehicles, which lasts about three times as long as conventional antifreeze.

At a glance –

Who –

- CityFleet

Product –

- Extended-life antifreeze

Cost –

- Reduces amount of product that needs to be purchased
- Reduces labor and disposal costs

Benefits –

- Long product life
- Prevents waste
- Can be recycled an unlimited number of times

“Extended-life antifreeze allows the City to use antifreeze longer with the benefit of saving money. When the extended-life antifreeze is changed, we dispose of it through a recycler who in turn has it reformulated and reused.”

Don DePiero,
Vehicle Maintenance Superintendent,
CityFleet

Lessons Learned

Although mixing conventional and extended-life antifreeze won't harm vehicles, it is not advisable. Mixing the two negates the extended-life abilities of extended-life antifreeze. Before replacing conventional antifreeze with extended-life antifreeze, CityFleet recommends flushing the coolant system to maximize performance.

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About CityFleet

CityFleet's seven repair facilities maintain Portland's 2,950 vehicles and equipment. This includes parking patrol vehicles, sedans, pick-ups, vans, police sedans, dump trucks, back hoes, and heavy construction equipment. They perform oil, lube, and filter changes; DEQ emission inspections; and engine, transmission, drive train, electrical, suspension, heating, cooling, and air conditioning diagnoses and repairs. CityFleet garages are also certified Eco-Biz Automotive Shops, a designation that recognizes their commitment to minimizing their environmental impacts. CityFleet was also named as one of the Top Elite Fleets by Government Fleet Magazine in 2011 and 2012, after being named #1 Fleet in 2010.

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