

Antifreeze



Used antifreeze is toxic to humans and animals and should be managed carefully. Disposing used antifreeze into a river or stream can cause serious water quality problems. Dumping antifreeze on the ground may contaminate groundwater and can also result in significant warming and/or melting of permafrost. Some of the contaminants that may be present in used antifreeze are benzene and heavy metals such as lead, mercury, cadmium, chromium, copper and zinc.



Tips

- **Don't change your antifreeze until it's necessary.**
- **Never mix your antifreeze with solvents, oils, or other wastes.** If your used antifreeze is mixed with other wastes, it can't be recycled.
- **Use propylene glycol instead of ethylene glycol.** Antifreeze/coolant is generally made from either ethylene glycol or propylene glycol. **Propylene glycol is far less toxic than ethylene glycol.** Propylene glycol is used in other products besides antifreeze such as food, cosmetics, and certain medicines. New propylene glycol has a lower toxicity to plants and animals. However, used propylene glycol may still contain some hazardous contaminants (gas and heavy metals). Propylene glycol appears to have a similar performance to ethylene glycol for freeze protection and some research has shown that propylene glycol may be less corrosive to cast iron. If projects or specific equipment in your village require antifreeze, talk to the project manager or the manufacturer about using propylene glycol instead of ethylene glycol.

What you can do with your used antifreeze

Purchase an antifreeze recycling machine
(see next pages)



Ship it out of your community (see shipping hazardous waste on
CCTHITA's SWAN website coming soon!)



Antifreeze Recycling Machines



[Why get one?](#)

[How do they work?](#)

[How much do they cost?](#)

[What about operation and maintenance?](#)

[Pre-filtering your used antifreeze](#)

[Replacing the internal unit filters](#)

[Tips on adding the coolant additives to your new antifreeze](#)

[Where can I purchase an antifreeze recycling machine?](#)

[Other communities currently use antifreeze recycling machines](#)

Why get one?



Using an antifreeze recycling machine can save your community money by:

- Reducing the amount of new antifreeze that needs to be purchased
- Avoiding disposal costs
- Avoiding cleanup and liability costs

How do they work?

There are different types of antifreeze recycling machines, but in a typical machine, here are the steps:

1. Used antifreeze is poured into the machine tank.
2. Antifreeze is pumped through the machine and special filters "clean" the antifreeze.
3. Once the antifreeze is cleaned, you add anti-corrosion chemicals.

You then have antifreeze which can be used as you need it!



Examples of antifreeze recycling machines

How much do they cost?

The cost varies with different models. It is generally about **\$1,200-\$3,400**.

Coolant additives are necessary to use the recycled antifreeze. The price of coolant additives also varies with the brand of the antifreeze recycler. A good average cost to use is about **\$240 for every 80 gallons** of filtered antifreeze. Usually, coolant additives can be purchased from the same place where you order the antifreeze unit.

The filters in the antifreeze recycling unit will need to be replaced from time to time. Like the coolant additives, prices of filters vary with different brands of antifreeze recycling units. A good average cost to use is **\$60 for every 80 gallons** of antifreeze put through the unit

Remember- Although you have to buy the machine and coolant additives up front, **recycling antifreeze can save you money** in the long run. Your antifreeze expenses will end up lower.



You can even sell your recycled antifreeze to Projects! You can pass an ordinance that says that contractors must use recycled antifreeze when available. You can also charge them to leave their used antifreeze with you! That money can pay for the coolant additives and you will have free antifreeze.

What about operation and maintenance?

All antifreeze recycling units will come with operation, maintenance, and set-up guides for you to read. One of the most important rules to follow is to make sure the antifreeze you're putting into your machine is **free of dirt, grit, and debris and that your used antifreeze is never mixed with solvents, oils, or other wastes**. If your used antifreeze is mixed with other wastes, it can't be recycled and it may need to be disposed of as hazardous waste. If your used antifreeze is full of grit and debris, breakdowns can occur and the internal filters will have to be replaced more frequently.

Pre-filtering your used antifreeze

It is a good idea to filter your antifreeze before it goes into your recycling unit. You can do this by pouring the used antifreeze through a piece of cheesecloth (the cloth will catch any debris etc.). You can also pour your used antifreeze through an inexpensive plastic or metal filter/strainer. Pre-filters/strainers can be purchased for under \$20 from Arctic Industrial Supply in Anchorage. Give Les Roe a call. He can help you find the size and type of strainer you need.

Les Roe
Arctic Industrial and Automotive Supply
360 E. International Airport Rd #10
Anchorage, AK 99518
Phone: 800 770 7075
Email: arcticindustrial@yahoo.com



Also, you can check out this website to view different types of strainers and filters www.flowezy.com

Do you have drums of used antifreeze that have been sitting around for some time? Definitely filter this antifreeze because the drums can collect dirt and grit over time. This grit usually settles to the bottom of the drum. So it is especially important to filter the used antifreeze in the bottom half of the drum. If it is still gritty, filter it again.



Replacing the internal unit filters

As mentioned above, the filters in the antifreeze recycling unit will need to be replaced from time to time. How often you need to replace the filters also depends on how dirty the used antifreeze is. Like most things, the dirtier the used antifreeze, the more often the filters will need to be replaced. Filters can usually be bought at the same place where you order the antifreeze unit.

Tips on adding the coolant additives to your new antifreeze

As we mentioned before, you need to add some anti-corrosion chemicals, called "coolant additives" to the clean antifreeze that comes out of your machine. You can buy the coolant additives from the same company that you buy your recycling machine from. The amount of coolant additives you need to add depends on the

amount of antifreeze you have. A measurement guide comes with the additives when you buy them.

If you can, it is helpful to purchase a new transparent drum to put your cleaned antifreeze into. This way you can see exactly how much antifreeze you have and how much of the coolant additives will need to be added. Whether you use a see-through drum or not, **make sure you use a new or clean drum.** You don't want to re-contaminate your newly cleaned antifreeze by using a dirty drum!



Transparent drums can be ordered through:

Lab Safety Supply
 PO Box 1368
 Janesville WI USA 53547
 Phone: 1-800-356-0783

Where can I purchase an antifreeze recycling machine?

Call or visit the website of any of the distributors or vendors listed below. Ask them about the types of antifreeze recycling units they sell and their prices. Also ask how much the coolant additives and filters cost for the specific brand they sell. It never hurts to shop around!

Alaska Distributors	Phone	Brand they sell
Alaska Automotive Equipment	349 7750	Kleen-tec/Kleer-flo
Far North Supply	278 1553	Kleen-tec/Kleer-flo
Napa Auto Parts, Anchorage	563 3637	Solar
B&C Carquest, Anchorage	272 3444	Robinair
Hutchins Chevrolet, Soldotna	262 5891	Wynn's

Vendors:

Kleentec/Kleer-flo www.kleentec.com

P.O. Box 91, 1212 Sykes Street, Albert Lea, MN 56007

Phone: 800-435-5336

Robinair www.robinair.com

655 Eisenhower Drive, Owatonna, MN 55060

800-628-6496

Solar www.solaronline.com

1-800-328-2921

This vendor list is provided for your information and is not an endorsement by CCTHITA. It is also not intended as a complete list of manufacturers of antifreeze recycling equipment. If you are a vendor and wish to be included on this list, please contact Ray Paddock at CCTHITA at 1-800-344-1432 ext 7184.

Would you like to talk to people that currently use antifreeze recycling machines?

When you call the antifreeze recycling distributors or vendors, you can ask who else they've sold units to. They can give you references to call. Then you ask people first-hand what they like or don't like about their recycling unit. You might get some good advice that the vendor doesn't know.

A few people that we know have purchased antifreeze recycling units are:

Ugashik

The Native Village of Ugashik uses a Kleentec Antifreeze/Coolant Recycler. It was purchased for about \$1,500 a few years ago.

Contact Details: Hattie Albeker, Phone: 797 2331

Selawik

The Native Village of Selawik purchased a Kleentec Antifreeze/Coolant Recycler in 2003.

Contact Details: Raven Sheldon, Phone: 464 2006

TKD Auto, Anchorage

Contact Details: Randy, Phone: 522 5112