

Re-Refined Oil



Fact Sheet

Today's problem of depleting our non-renewable resources can be addressed by *conserving* our resources, finding renewable *alternatives*, and *reusing* our current resources.

Used oil is among the most widely recycled products. If we begin the widespread use of recycled oil (re-refined) in our vehicles, we can slow down the reduction of all remaining oil reserves.

Annually the United States generates over a billion gallons of waste lubrication oil. Millions of gallons of this used oil is collected and transported to refineries. It is then re-refined into clean, clear, reusable premium base oil.

? **WHAT IS RE-REFINED OIL?**

Re-refined base oil is the end product of used oil that is first cleansed of its contaminants, such as dirt, water, fuel, and used additives through vacuum distillation. The oil is also hydrotreated to remove any remaining chemicals. This process is very similar to what traditional oil refineries do to remove base oil from crude. Finally, the re-refined oil is combined with a fresh additive package by the blender to bring it up to industry performance levels. Because oil does not wear out, laboratory tests on the re-refined lubricant cannot determine any difference between the highly re-refined base oil and virgin crude base oil.

? **WHY USE RE-REFINED OIL?**

Users enjoy the same quality and performance as virgin oil products while reducing America's dependence on foreign oil. Users also help the environment by eliminating waste material and lessening the amount of nonrenewable resources taken from the environment.

In addition, buying re-refined oil helps to "close the loop" for used oil products. Closing the loop creates increased demand for used oil and encourages consumers and businesses alike to properly store and recycle their waste oil. Recycling oil is not only preferable to dumping it down the drain, but it is also a much better choice than the most common use for used oil – burning it for fuel.

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June 2000 • #9826



AUTHORITY: PA 451 OF 1994 TOTAL COPIES: 3000
TOTAL COST: \$314.40 COST PER COPY: \$.10
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY



? IS RE-REFINED OIL AS GOOD AS VIRGIN OIL?

YES! Re-refined oil is equivalent in every respect to oil produced directly from crude oil. It must undergo the same comprehensive testing and meet the same quality standards as virgin lubricants in order to receive certification by the American Petroleum Institute (API). API-licensed re-refined oils must pass the same cold-start and pumpability, rust corrosion, engine wear, high temperature viscosity, deposit, and phosphorus tests that virgin oils do. The API certification mark ensures that the re-refined oil has met auto manufacturers' specifications for optimum engine performance. The API and the former American Automobile Manufacturers Association (AAMA) have developed the Engine Oil Licensing Certification System (EOLCS) to ensure that all engine oils consistently meet performance specifications.



? WHY IS OIL QUALITY IMPORTANT?

Motor oil is the lifeblood of your car's engine, protecting it from premature wear and keeping it clean. The quality of the oil you use is critical to your car's performance. Regardless of what brand of oil you use, look for the API certification mark on the front of the next bottle of motor oil you buy. You can then be sure that oil meets auto manufacturers' standards for car and light truck gasoline and most gasoline/ethanol 85 engines.

? WILL RE-REFINED OIL VOID MY WARRANTY OR HURT MY ENGINE?

NO! Vehicle and engine manufacturers such as Ford, GM, DaimlerChrysler, and Mercedes Benz have all gone on record to state that using API-certified re-refined oil does not affect warranty coverage. The Magnusson-Moss Warranty Act also states that manufacturers cannot void warranties if the re-refined oil meets the manufacturer recommendations. Mercedes Benz

has been using re-refined oil to fill new cars at their factories for years.

API-certified re-refined oil is not only good enough for your car, it's even recommended.

? WHO USES RE-REFINED OIL?

Thousands of cars, trucks, and fleets are running on re-refined oil including Coca-Cola, UPS, US Postal Service, Frito-Lay, Cal Trans, federal government departmental fleets, Southern California Gas, the City of San Francisco, and every Mercedes Benz new passenger vehicle. Re-refined oil is even being used on the NASCAR circuit, and those people know their engines.

? DOES RE-REFINED OIL COST MORE THAN VIRGIN OIL?

NO! The perception that re-refined oil is more expensive is generally unfounded. Most re-refined oil is actually comparably priced or a little cheaper than virgin oil.

? ISN'T THIS A RELATIVELY NEW PRODUCT?

It's not new. It has been widely used throughout North America for years.

- *The U.S. Post Office has been using re-refined oil in their fleet of 73,000 vehicles for nearly a decade.*
- *The state of Vermont has been successfully using it for approximately seven years.*
- *Snohomish County in Washington State has used re-refined oil since 1991 in all of its 1,242 vehicles.*
- *The City of Chicago has purchased re-refined oil exclusively since 1992, using it for all vehicles including police and fire vehicles.*

- *The Toronto Transit Commission has purchased only re-refined oil since 1989. 800,000 gallons of re-refined oil are used in all its buses each year. The Commission found that re-refined oil was priced significantly lower than virgin oil.*

? HOW MANY TIMES CAN OIL BE RE-REFINED?

It can be re-refined countless times without compromising the quality of the lubricant because, according to industry experts and manufacturers, oil doesn't wear out. It just gets dirty, additives get used up, and chemicals break down. Re-refining cleans up the oil and puts the additives back in.

The Two-Stage Process From Used Oil to Re-refined Oil

Stage one: Used oil collection

Used oil is collected from your local oil recycling centers, quick lubes, and auto maintenance shops.

Stage two: Remanufacturing

The oil is taken to a re-refinery where the contaminants and motor oil additives are removed in a multi-step process.

- **Step 1**

Water, gasoline, and other light-boiling components are "flashed out" in a dehydration unit.

- **Step 2**

Diesel fuels and gas oils are stripped away from the oil by vacuum distillation.

- **Step 3**

A thin-film evaporator extracts dirt, polymers, heavy metals, and other contaminants from the base lube stock.

- **Step 4**

Hydrofinishing, using hydrogen to remove sulfur and chlorine compounds, purifies the base stock.

- **Step 5**

The purified base lube stock is blended with a performance-improving additive package to produce high-quality re-refined motor oil that meets or exceeds auto engine warranty requirements and the American Petroleum Institute's motor oil specifications.

ENVIRONMENTAL FACTORS

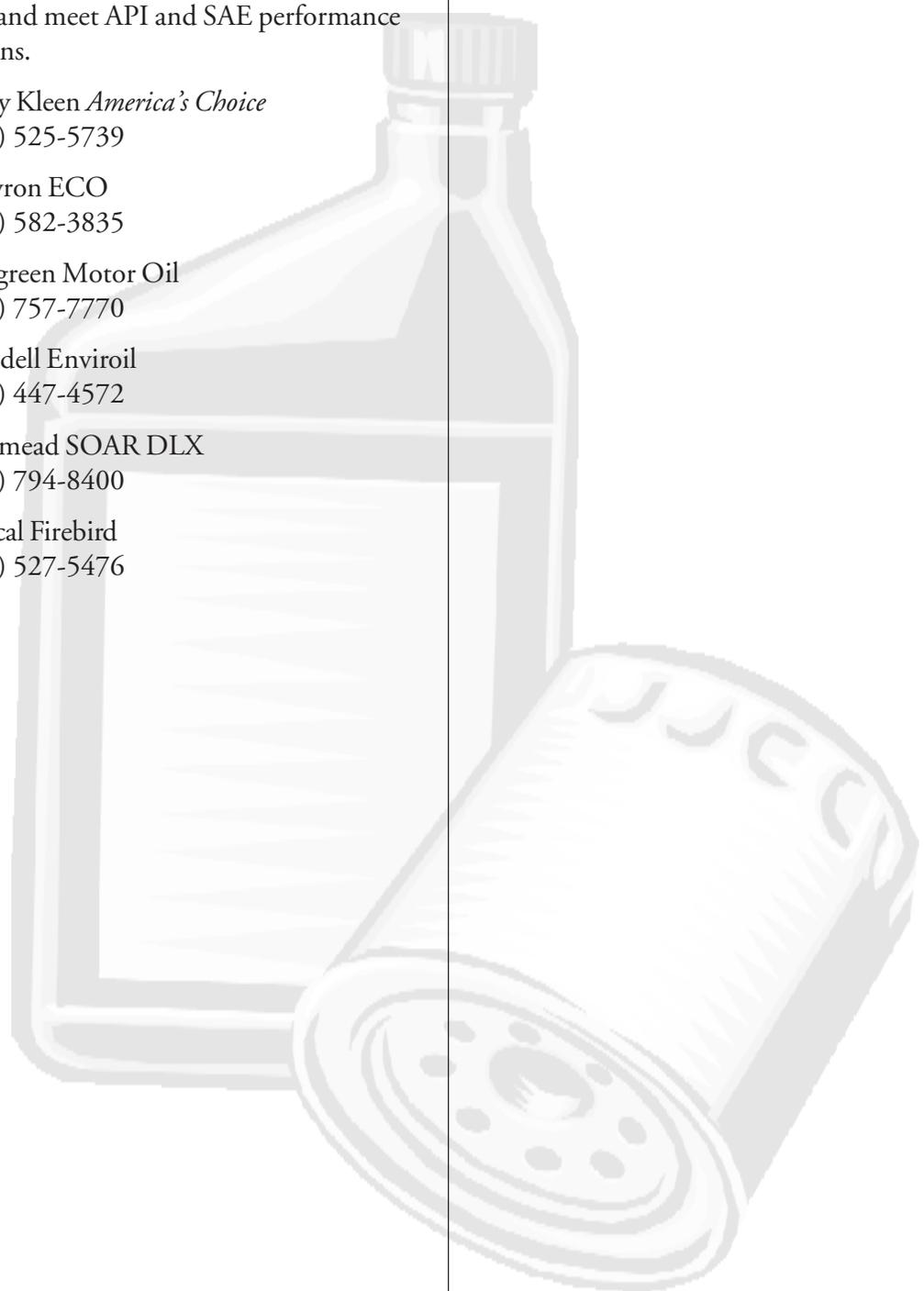
Used motor oil is, at times, contaminated with lead, arsenic, cadmium, chromium, PCB's, and halogenated solvents. Dumping or spilling one gallon of used oil can pollute more than one million gallons of drinking water. Re-refining used oil into a reusable product can prevent damage to land, air, water, and health.

Over 1.3 billion gallons of used oil are generated each year in the United States, and 85 percent of that oil is burned for energy recovery. Once burned, used oil is destroyed and cannot be used again. Rather than using the oil once, re-refining extends the life of a non-renewable resource. Even though 150 million gallons are re-refined each year, this capacity could easily be expanded as demand increases. The U.S. and many local governments, businesses, and universities have begun adopting a closed-loop approach whereby they buy a re-refined product and arrange for their used oil to be re-refined back into lubrication oil.

LOCATING SOURCES OF RE-REFINED OIL

These oils contain 100% re-refined oil in the base stock and meet API and SAE performance specifications.

- Safety Kleen *America's Choice*
(800) 525-5739
- Chevron ECO
(800) 582-3835
- Evergreen Motor Oil
(714) 757-7770
- Lyondell Enviroil
(800) 447-4572
- Rosemead SOAR DLX
(800) 794-8400
- Unocal Firebird
(800) 527-5476



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