





CLEANTECH ADVOCATES

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BiosyntheticTM

T E C H N O L O G I E S

www.biosynthetic.com

~~TIME~~
~~FOR AN~~
~~ OIL ~~

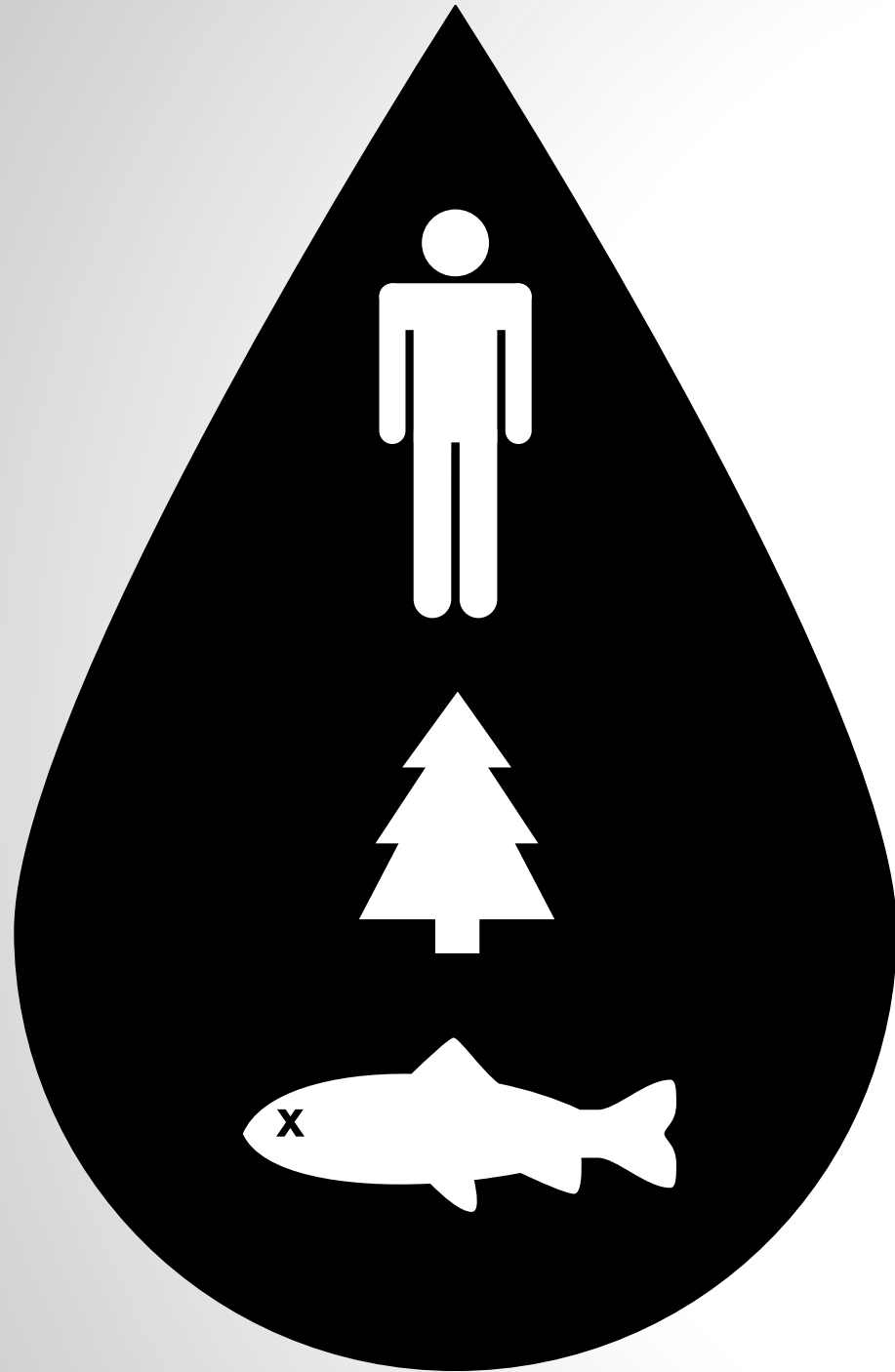
C · H · A · N · G · E

www.timeforanoilchange.org



LINES





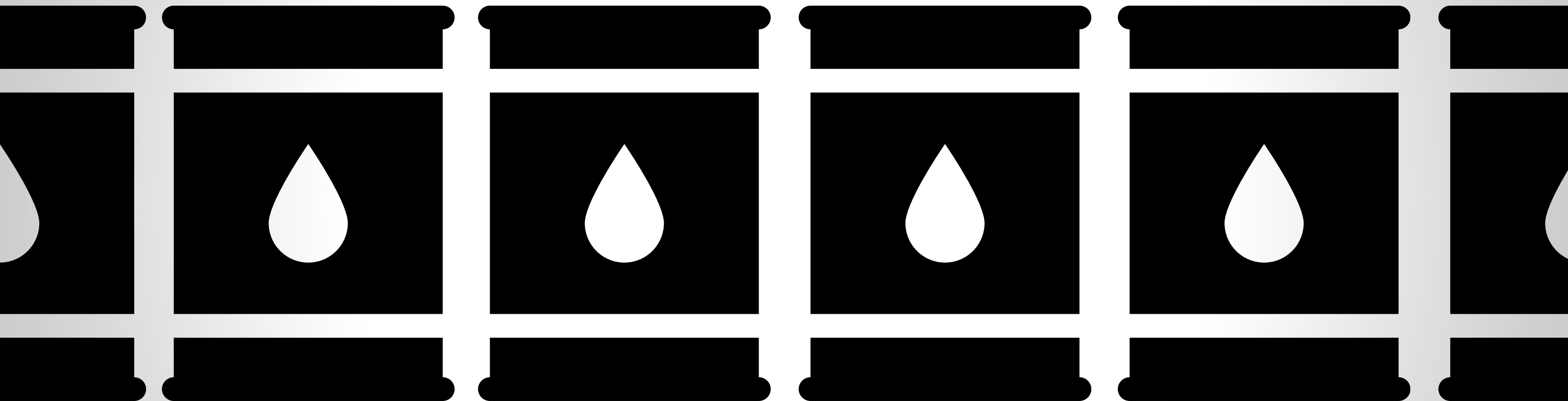
*“Used motor oil is the largest-
single waste stream generated in
California.”*

*“The Legislature finds...
significant quantities of used oil are
wastefully disposed of or
improperly used by means
which
pollute the water, land, and air
and endanger the public
health and welfare.”*





WHERE
DOES IT
COME
FROM?



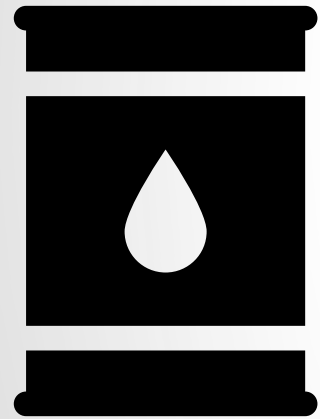
NEW. RENEWABLE. GREEN?





WHY
BIO?

HOW MUCH DO WE USE?



WHERE DOES IT GO?



11.73 billion
gallons of lubricants sold worldwide



7.51 billion
gallons of used oil



*“Californians purchase more than 150 million gallons of **motor oil** each year, and generate more than 90 million gallons of **used motor oil**”*

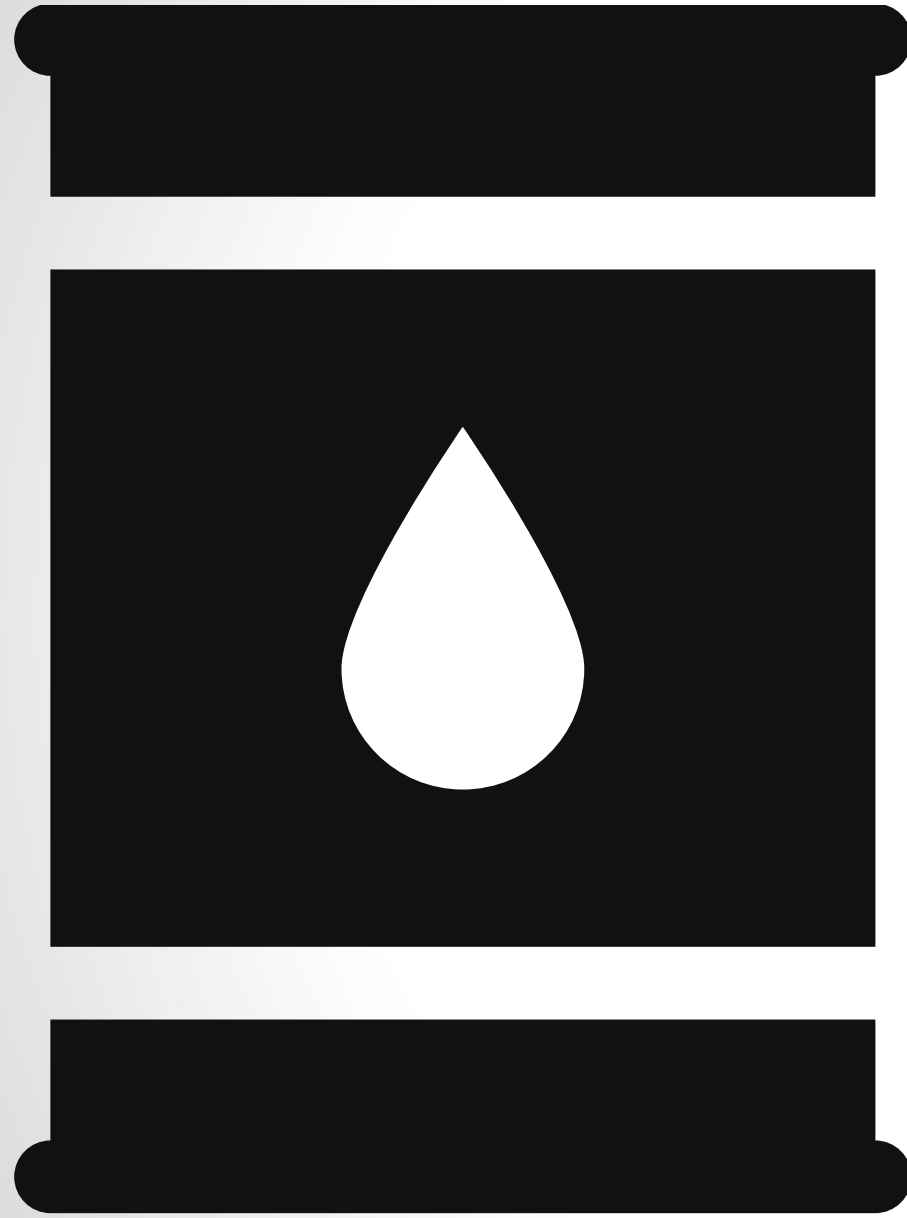
150 Million - 90 Million

gallons of motor oil sold in California

gallons of use motor oil generated

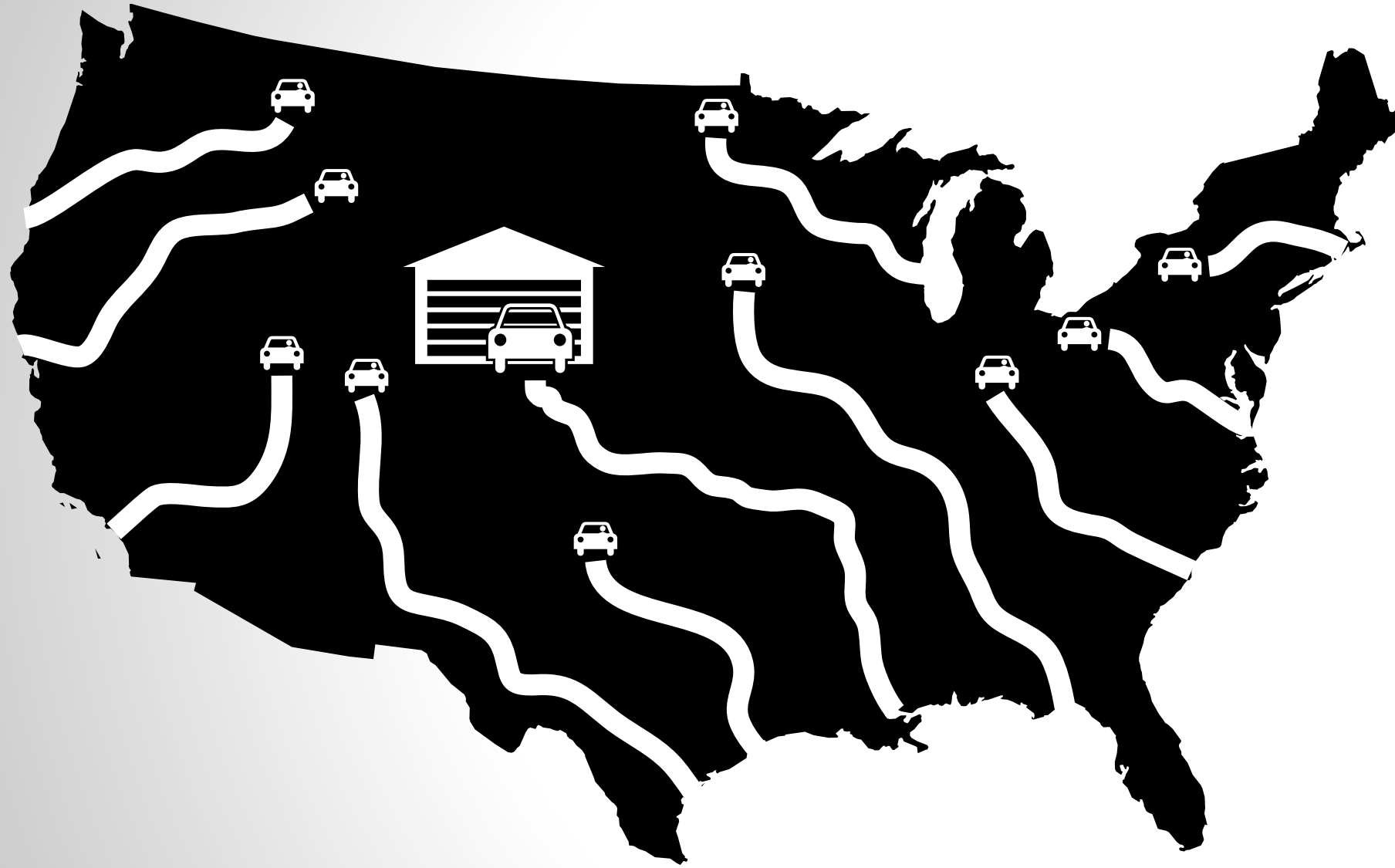
60 Million
“LOST IN USE”

60 MILLION



*WHERE
DOES IT
GO?*

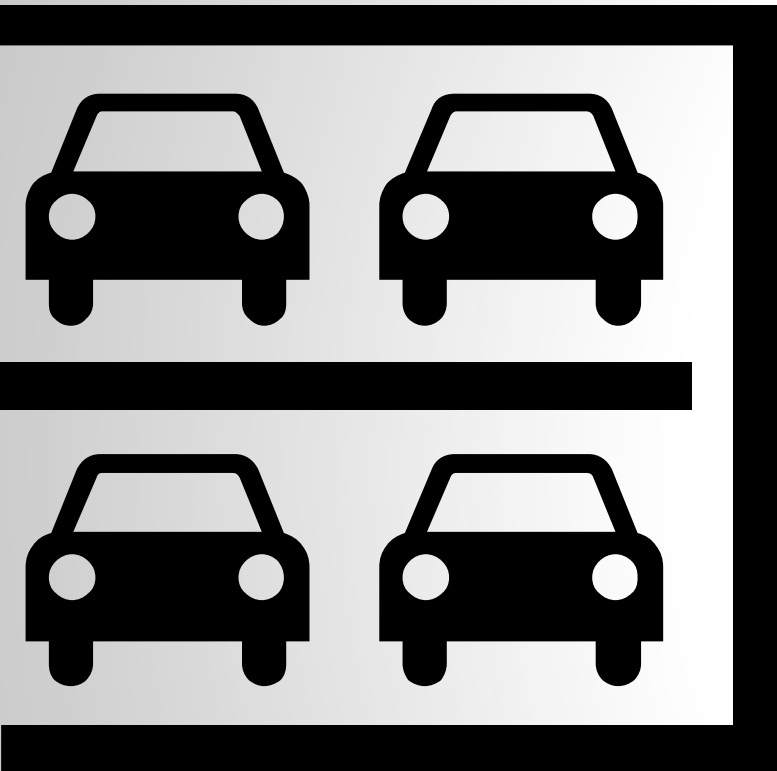
WE CALL
THESE
SILENT
oil spills



40% of Pollution

*in America's waterways
is from used motor oil*

* State of California, Department of Health Services, Toxic Substances Control Program. The No Waste Anthology. Department of Health Services, Office of Public Government Liaison – Education and Information Unit, 400 P Street, P.O. Box 942732, Sacramento, CA 94234-7320

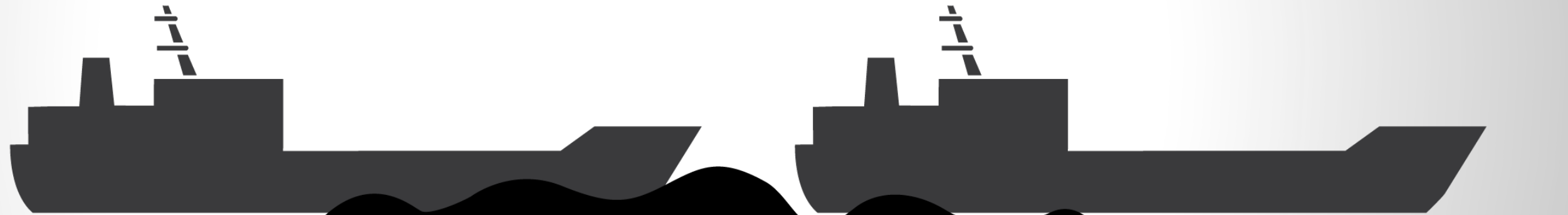


“NRDC reports that the stormwater discharge from one square mile of roads and parking lots can yield approximately 20,000 gallons of residual oil per year.”

-Stormwater Strategies Community Responses to Runoff Pollution, May 1999

EVERY YEAR

LA =



22 million gallons

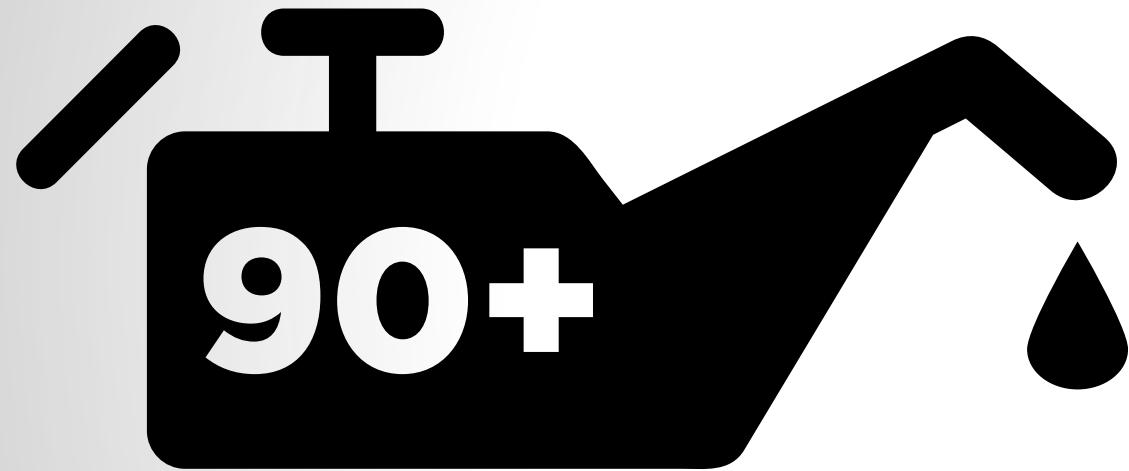


Why do the laws and regulations seem to ignore the
60 million gallons?



Until now, there has been no good alternative to the petroleum used in motor oil.





*Where does the “used”
or “collectable” oil go?*

16 million gallons of motor oil is
“improperly disposed”



*1.94 billion
gallons worldwide*



*This is like the big Gulf Coast spill
10x every year*

The
**STORY OF
FLOYD**





Will it hurt anything if motor oil gets dumped into the sewer drains?

[Norm Hayess](#) asked 3 years ago

Since the economy has been going rough for me I've been changing my own oil to save money in areas that I can. I know how to change my own oil so I do it myself. To help my friend out I went to his apartment complex to help him change his oil as well. Unfortunately I forgot to bring my oil catching container with me and all he had was a 5 gallon bucket. I found an old Burger King cup under my car seat so I decided to use it. We started changing the oil and I would catch the old oil in the cup and when it would fill he would empty it into the bucket. We had to repeat this process numerous times. Luckily for us he was parked over a sewer drain so we didn't get oil all over the ground while emptying the cup. Since we did get a fair amount of oil in the drain will it hurt anything? We found a water hose and sprayed it all over the drain to get rid of the remaining oil but I wasn't sure if we needed to put more water in the drain to help flush the oil further. Has anyone had any experience with this sort of issue?



Best Answer

Voter's Choice

David answered 3 years ago

if i saw you do this, i would say something to you. if you got cranky, i,d call the cops on you. waste oil pollution of groundwater is irreversible. can,t get the oil out once it,s in the water.



1



Comment





? answered 3 years ago

There is really no problem with doing this. People have been generally misinformed on topics such as this. Oil is a natural product of the earth. Therefore, returning it back into the earth through rain gutters, sewer drains, etc. is fine. It is easily cleaned out of any sewage or rain water at water treatment plants.

To the other liberals that answered, where is the proof that it is so bad for the environment. I get that its bad in seawater but not down a DRAIN!



 Comment





WHAT ABOUT THE OIL THAT IS
ACTUALLY COLLECTED?



California ships

64 million gallons

*of collected oil out of state to be
burned in power plants and
similar applications*



*“Climate change caused by greenhouse gas pollutants
emitted in another state or country
has the same potential to
damage our public health and the environment
as does climate change due to pollutants
emitted within California”*

*“The potential
zinc, cadmium, copper and lead emissions
from used oil-derived fuels from California are on
the order of emissions from
all of California’s
major stationary sources combined.”*

*Extending oil change intervals from 4,500 to
9,000 miles would halve the total emissions.*



10 million gallons

is re-refined in California

890 million gallons

is re-refined World Wide



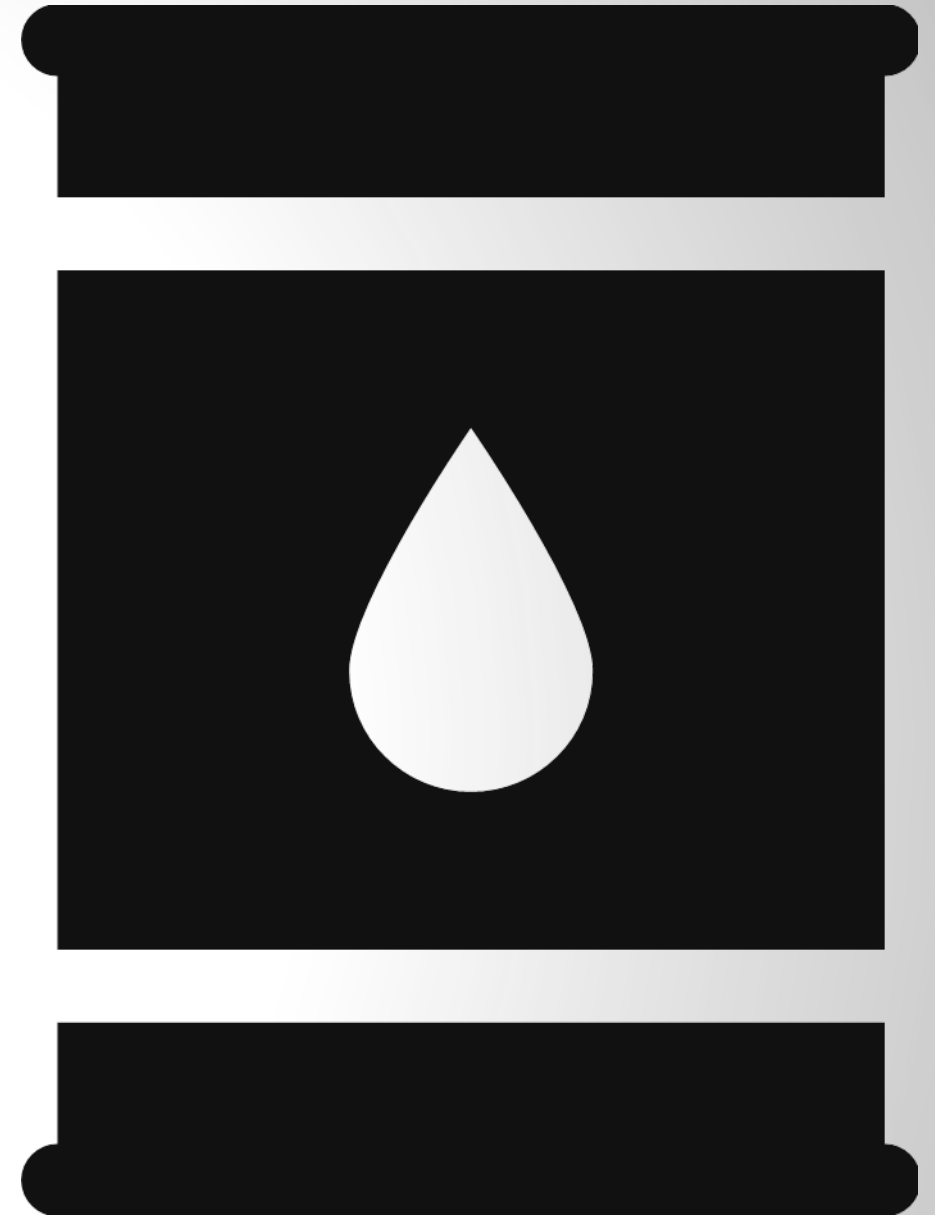
The State Petroleum Reduction Plan identifies the use of

re-refined or synthetic

AND

extending the intervals

between oil changes as part of the plan to reduce petroleum consumption.



“Large volumes of used oil

are still not being collected. Every gallon that is collected now has value, but much of the rest does not.”

- Scott Parker, executive director of NORA

*“Valvoline uses just
50% re-refined base oils in NextGen because of
concerns about sufficient supply, and also because
top-tier engine oils need some API Group III
base oil, which is not yet available from any refinery*

- Thom Smith, Valvoline

RE-REFINED < **SYNTHETIC**

All Avenues In Which Used Oil Enters the Environment

	<i>Typical Year California Motor Oil Market (gallons)</i>	<i>2011 Global Lubricant Market (gallons)</i> <small>Kline & Company Global Used Oil Material Balance 2011</small>
Total Market	150,000,000	11,729,466,000
Re-refined and other	10,000,000	1,446,942,000
Lost in Use (Unrecoverable)	60,000,000	4,217,682,000
Illegally dumped	16,000,000	1,939,518,000
Burned as Fuel	<u>64,000,000</u>	<u>4,125,324,000</u>
INTO THE ENVIRONMENT	140,000,000	10,282,524,000



10 BILLION GALLONS
stretches to the moon

24 TIMES

1 big spill



Largest oil spill in world history:

LAKEVIEW GUSHER

*in Kern County, California over
100 years ago*

We lose more motor oil in California

EVERY 2.7 YEARS

*Total oil spills worldwide
since 1901 estimated*

**2.7 BILLION
GALLONS**



But that number excludes

“SILENT OIL SPILLS”

*What used to take
100 Years*



*Now only takes
100 Days*

2.7 BILLION GALLONS
lost worldwide every 100 Days

*“Studies completed in the last 20 years confirm that
no spill is entirely benign
Further, there is no correlation between the size of the
release and its impact. Instead, as in the real estate
maxim, it’s all about “location, location, location.”*





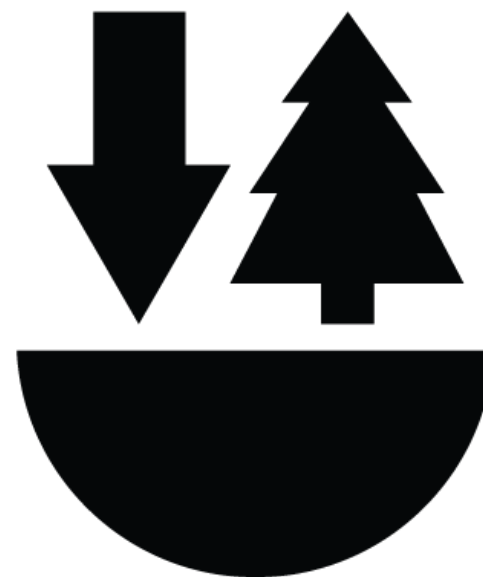
*Your car won't even
know the difference!*



Renewable



Non-toxic



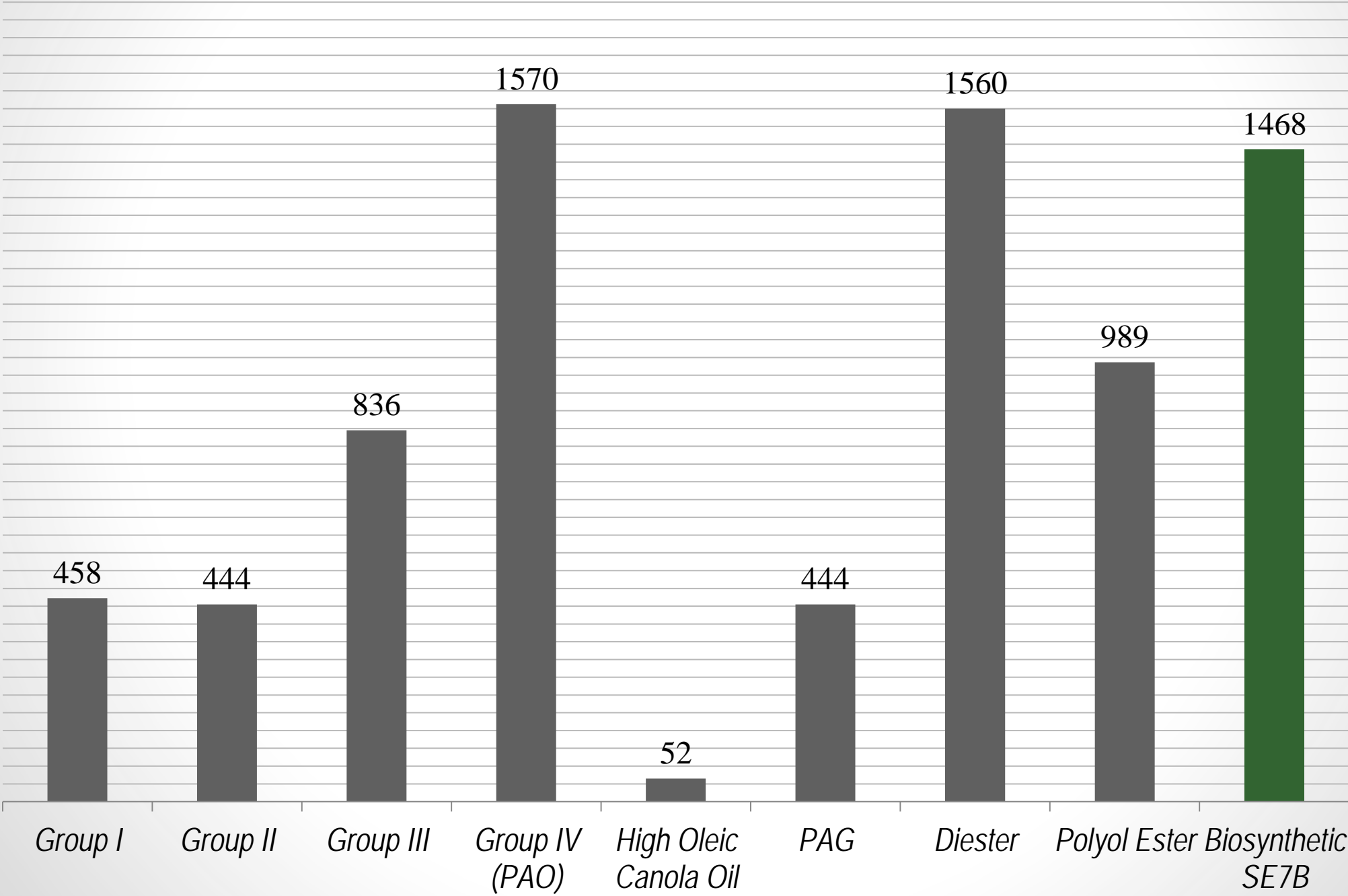
Biodegradable



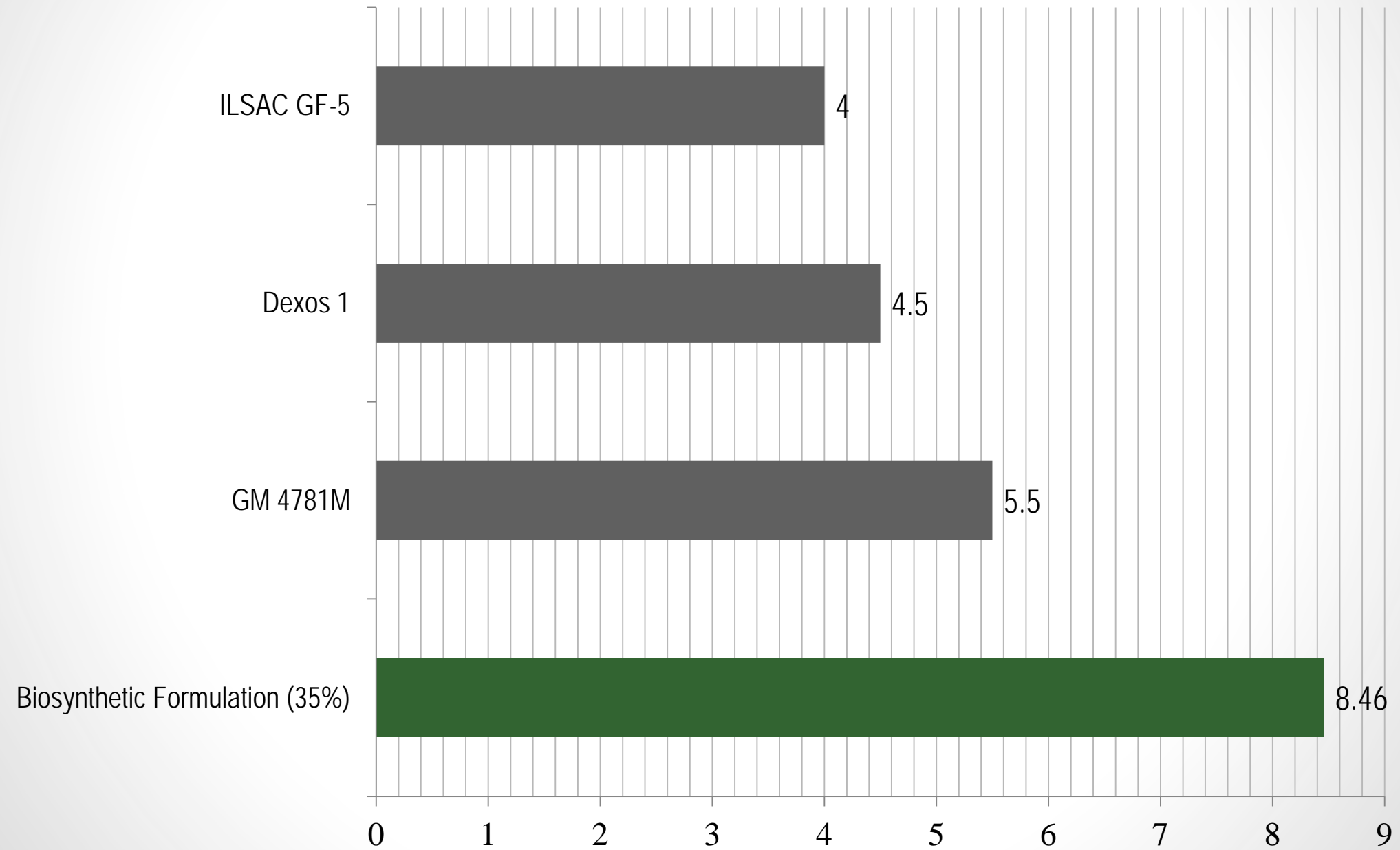
Recyclable

*It's not often that the product that is best
for the environment is also the
Best performing*

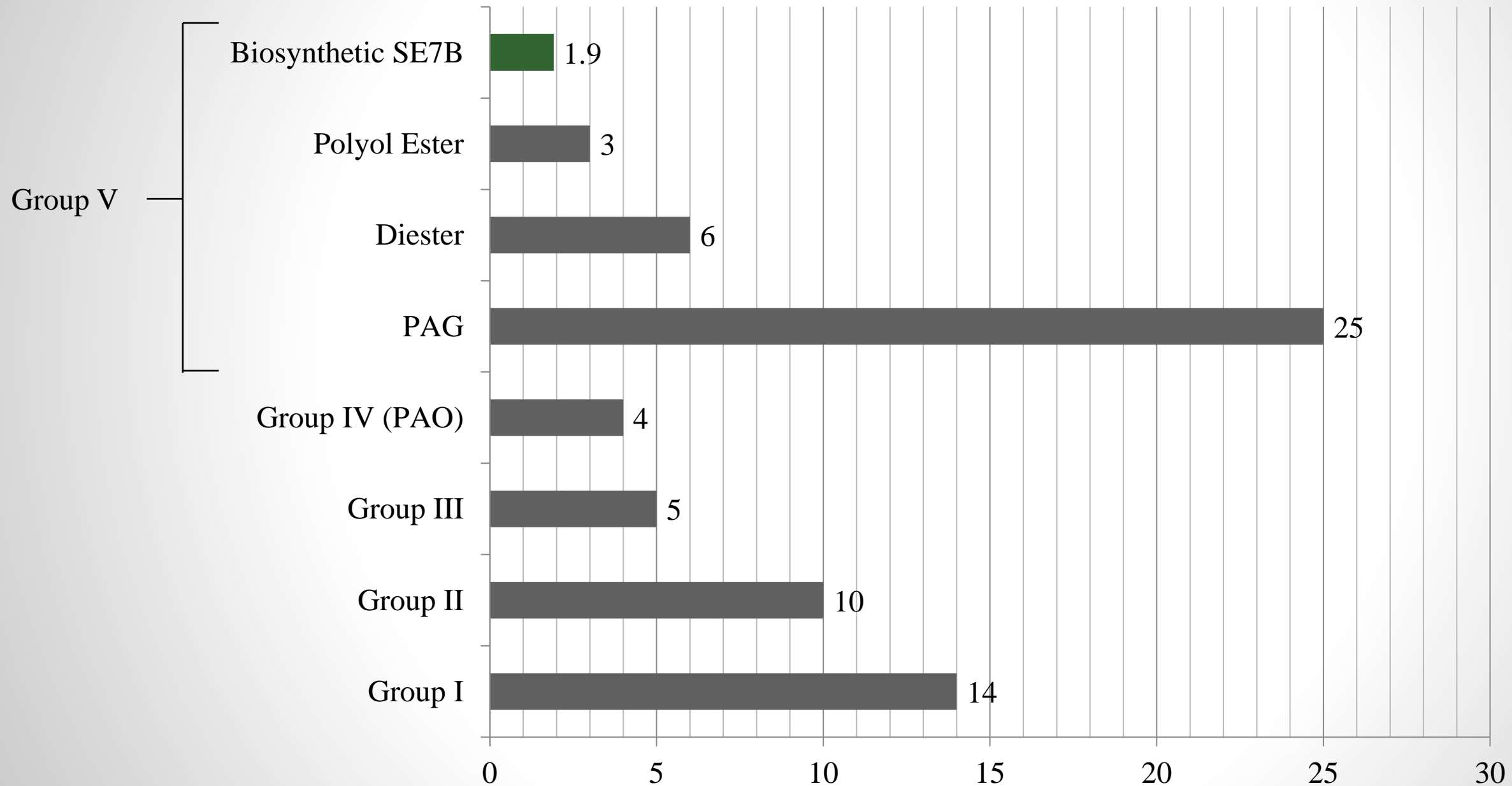
Oxidative Stability of Biosynthetic SE7B Compared to Common Low Viscosity Base Oil



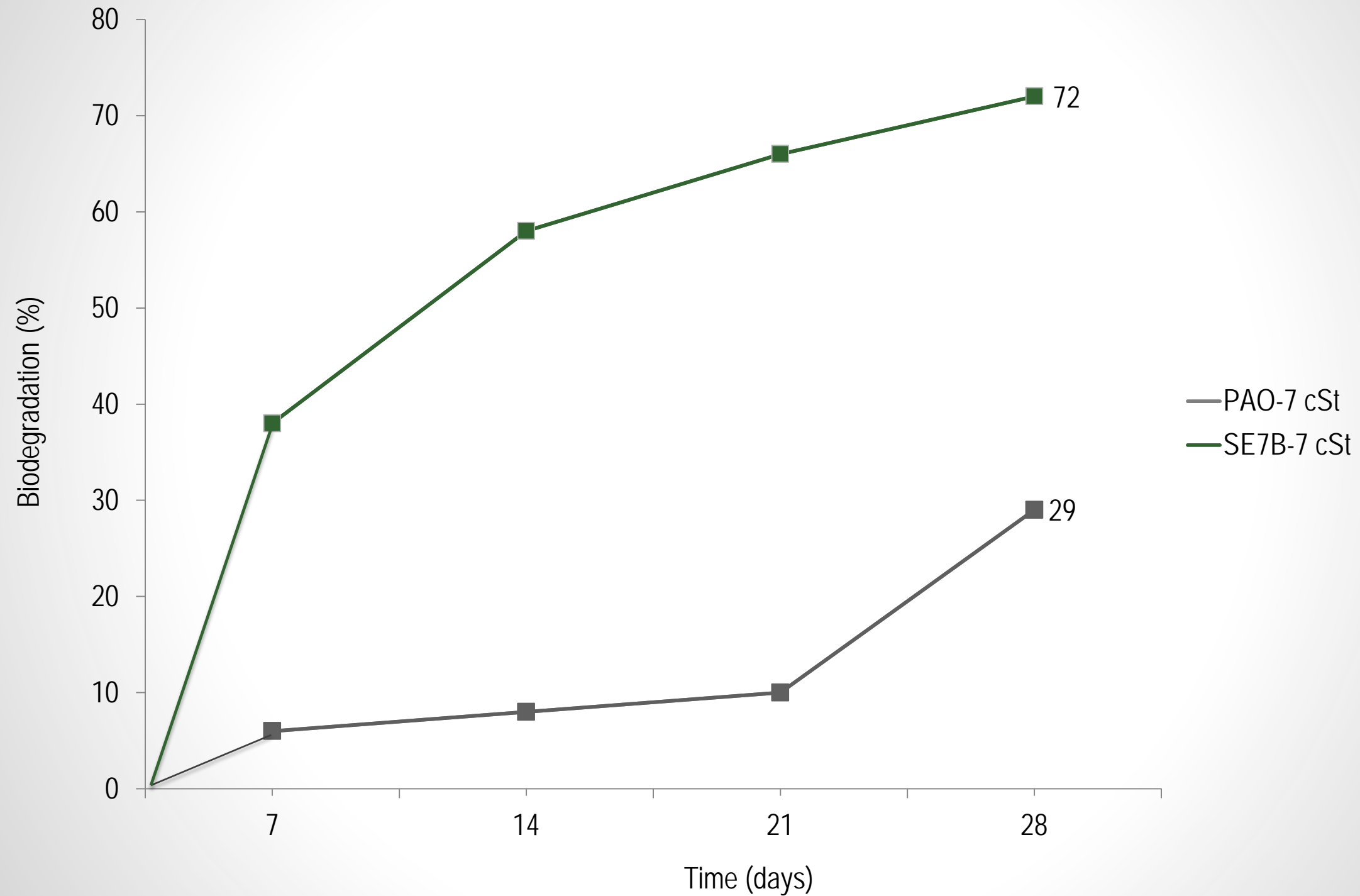
Weighted Piston Deposit Rating of Biosynthetic Formulations Compared to Industry Standards



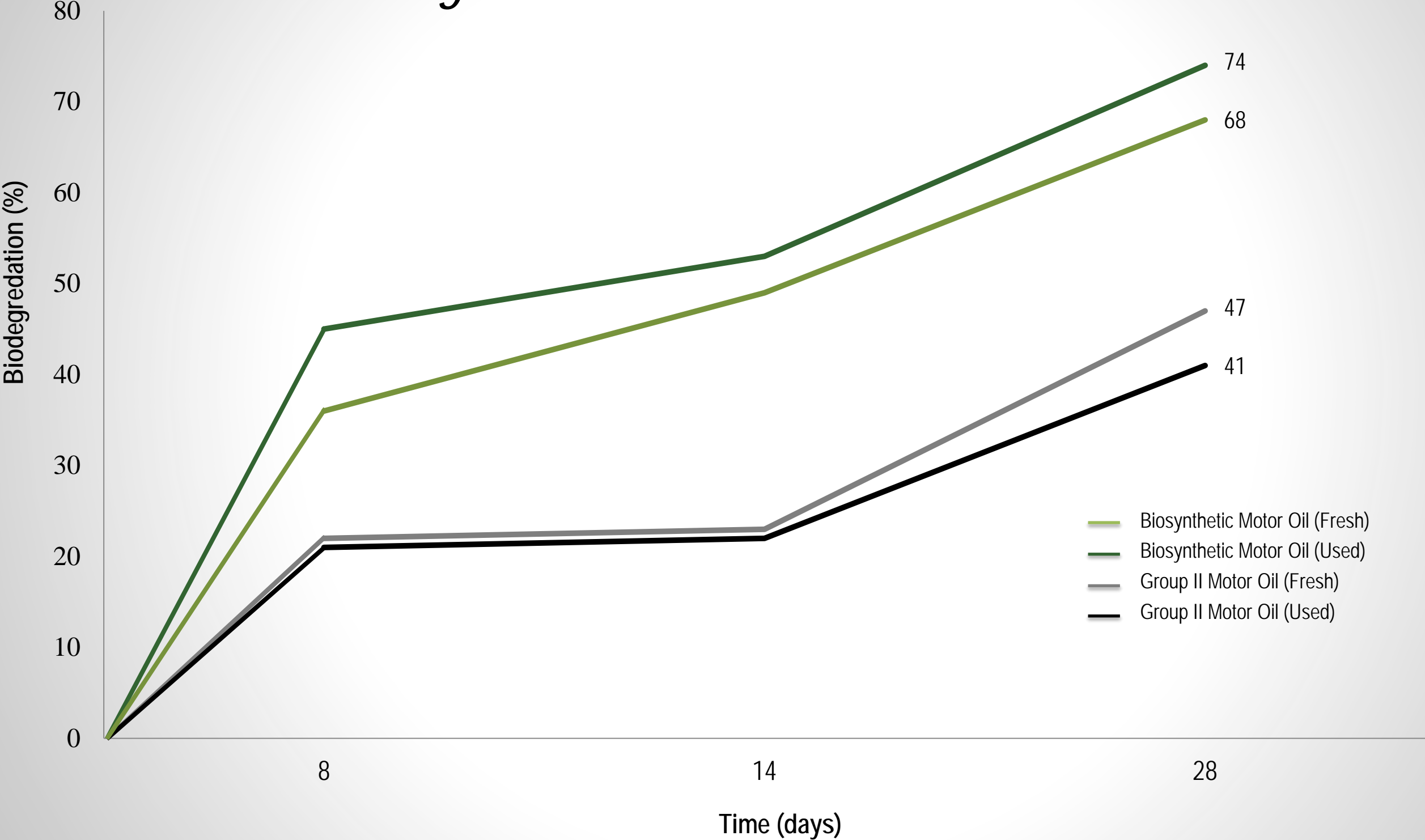
Evaporative Loss (NOACK) of Low Viscosity Base Oils (6-8cSt)



Biodegradability of Biosynthetic SE7B Compared to PAO



Biodegradation of Motor Oil Formulations

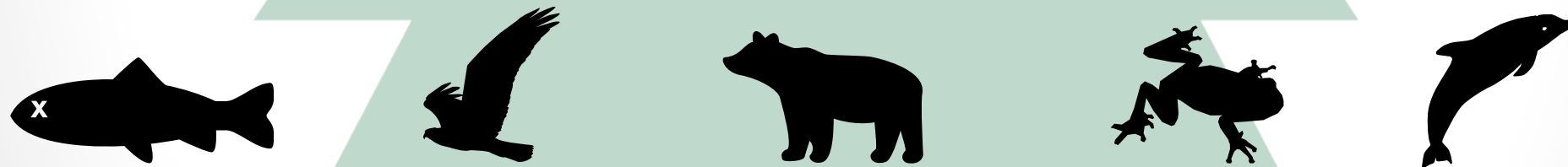


Aquatic Toxicity Classification Scale – LC50 (mg/L or ppm)

<i>Motor Oil</i>	<i>New Oil</i>	<i>Used Oil</i>
Estolide Based Motor Oil	>10,000 mg/L	9,375 mg/L
Group II Based Motor Oil	>10,000 mg/L	7,500 mg/L

<i>Classification</i>	<i>US Fish and Wildlife</i>	<i>US EPA</i>
Super Toxic	>0.01	-
Extremely Toxic	>0.01 – 0.1	<0.1
Highly Toxic	>0.1-1.0	0.1-1.0
Moderately Toxic	>1.0-10.0	>1.0-10.0
Slightly Toxic	>10-100	>10-100
Practically Nontoxic	>100-1000	>100
Relatively Harmless	>1000	-

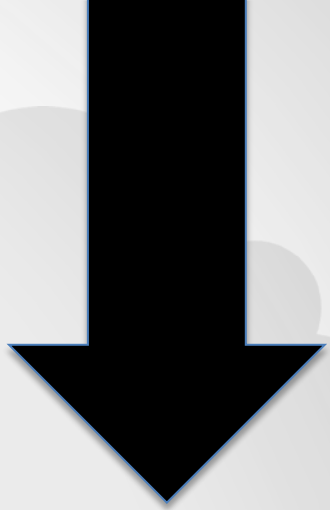
*Per the EPA, a material with a
log Pow <3 or >7 is
Not BIOACCUMULATIVE*



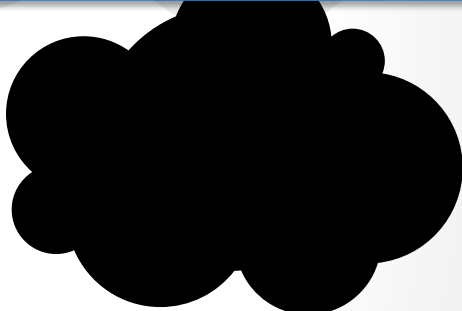
Percent Renewable Carbon (PRC) of common base oils:

<i>Base Oil</i>	<i>Percent Renewable Carbon Low Viscosity (5-9 cSt. 100C)</i>
Group I	0
Group II	0
Group III	0
Group IV, PAO	0
PAG	0
Diester	0-30
POE	0-75*
Biosynthetic	82

* Typically <50%



Estolides
83- 88.4% lower



*Fully
Re-refineable*

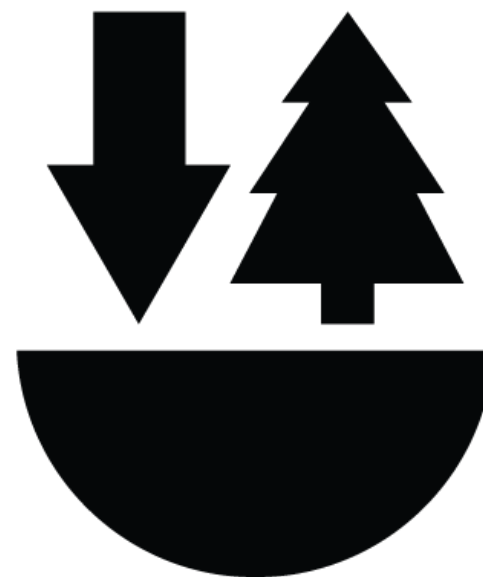




Renewable



Non-toxic



Biodegradable



Recyclable



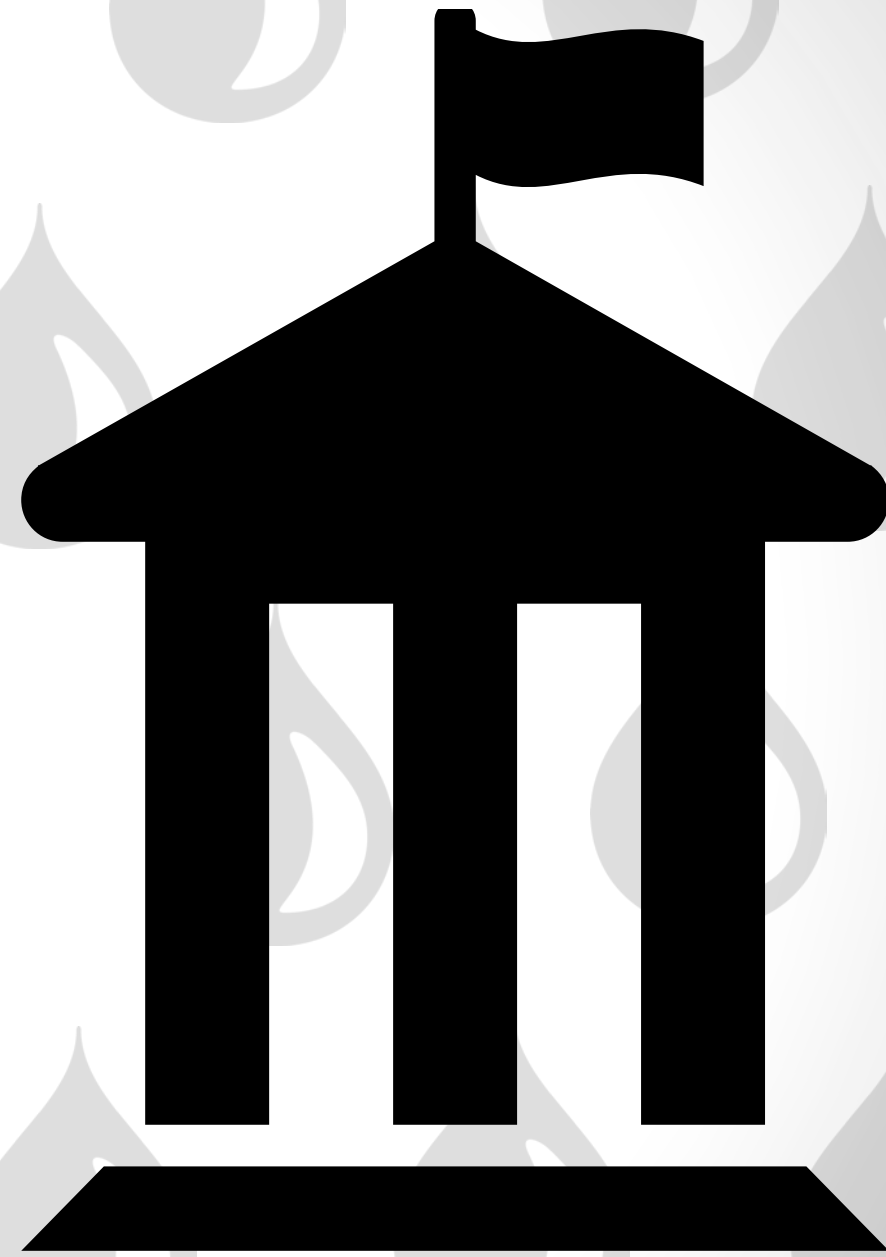
WHY ISN'T EVERYBODY USING IT?

Renewable

Non-toxic

Biodegradable

Recyclable





Environmental Leadership