

Biosynthetic Technologies



Our Vision

To deliver Innovative Solutions for a Sustainable Future

Our Mission

To be the Premier Synthetic Base Fluid Supplier Across a Variety of Specialty Markets

Biosynthetic Technologies



Company Overview

- Biosynthetic Technologies is an innovative US based company
- Biosynthetic Technologies' primary technology is a chemistry called Estolides
- Estolides can be used as the primary base oil of a formulation, a component of a base oil coblend, or even as an additive
- Estolides are renewable, biodegradable, nonbioaccumulative and nontoxic
- Biosynthetic Technologies now uses these oils to formulate and produce performance products



Our Newly Developed Engine Oil

- Approved by the American Petroleum Institute (API)
 - API SN-RC certification on a 5W-20 and 5W-30 motor oil
 - 5W-20 and 5W-30 grades represent 79% of all motor oil sold in the U.S.







BioPreferred Certified



Motor Oil Benefits

Cleaner Engine

> Far less engine varnish

Longer Engine Life

- > Biosynthetic base oils have good oxidative stability
- Reduced wear in engine testing

Environmentally Acceptable

- ➤ BioPreferred Certified 26% renewable content
- > 35% of the formulation is made with biodegradable ingredients
- Good phosphorus retention



Biosynthetic Motor Oil Formulations

Biosynthetic Technologies has two API approved formulations

Biosynthetic Motor Oil Formulations

Formulation	Biosynthetic 5W-30	Biosynthetic 5W-20
	mass %	mass %
Viscosity Modifier	3.500	2.000
Cobase Additive (Estolide Base	ed) 48.350	48.350
4 cSt Group III	22.950	48.150
6 cSt Group III	25.200	1.500

Estolides have a high VI and reduce varnish so the use of estolides in a formulation allows for reduced treat rates of some additives that may serve the same function

Cc Oil





And Yes, We Tested it! - Field Trial Details

- 150,000 mile (241,402 km) taxi cab field trial under severe stop and go conditions in Las Vegas Nevada, USA.
- Reference Oil Minimum Quality GF-5 oil.
- Typical drain interval 2 to 3 times recommended mileage.
- Vehicle Taxi Cab, Chevy Impala, 3.5 liter V6.
- Conclusion: Engines running on Estolide-based formulations had far less varnish.



Engine Cleanliness



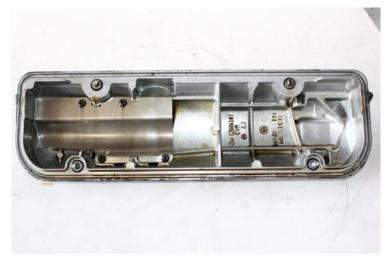




Commercially Available Mineral Oil Based Motor Oil







Biosynthetic Based Motor Oil

Engine Cleanliness



Commercially Available Mineral Oil Based Motor Oil



Biosynthetic Based Motor Oil

Please check things out for yourself. The engine block will be on display during this event.

Please feel free to reach out to me with questions.

Motor Oil



NSN# **9150-01-678-3243** 5W-20, Case of 12 - 1-quart bottles



NSN# **9150-01-678-3223** 5W-30, Case of 12 - 1-quart bottles

Let us Help you Green your Fleet!

USDA BioPreffered, High Performance Synthetic Engine Oil

For Cleaner Engines & Longer Service Intervals

Let us Help you Green your Fleet!

For orders contact:

- mwoodfall@biosynthetic.com
- Mike Woodfall (281) 419-8924
- www.biosynthetic.com/motoroil

National Stock Numbers (NSN):

- **5W-20** NSN# **9150-01-678-3243** (1 Case of 12 1-quart bottles)
- **5W-30** NSN# **9150-01-678-3223** (1 Case of 12 1-quart bottles)



