

# TARDEC



## Technical Report

No. 13801

# Biodiesel Suppliers Survey

July 2001

Emilio S. Alfaro

DISTRIBUTION STATEMENT A:  
APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED



**U.S. Army Tank-Automotive  
Research, Development, and  
Engineering Center  
Warren, MI 48397-5000**

20020313 072

(AR 530-1, Operations Security)

I am aware that there is foreign intelligence interest in open source publications. I have sufficient technical expertise in the subject matter of this paper to make a determination that the net benefit of this public release outweighs any potential damage.

Reviewer: Luis A. Villalobos GS-14 Team Leader  
Name Grade Title

Luis A. Villalobos 1/07/2002  
Signature Date

Description of Information Reviewed:

Title: Biodiesel Suppliers Survey

Author/Originator(s): Emilio S. Alfaro

Publication/Presentation/Release Date: Dec. 2001

Purpose of Release: Report on effort

An abstract, summary, or copy of the information reviewed is available for review.

Reviewer's Determination (circle one):

- ☒ 1. Unclassified Unlimited.
- ☐ 2. Unclassified Limited, Dissemination Restrictions IAW \_\_\_\_\_.
- ☐ 3. Classified. Cannot be released, and requires classification and control at the level of \_\_\_\_\_.

Security Office (AMSTA-CS-S):

☒ Concur ☐ Nonconcur

[Signature]  
Signature

11 Feb 02  
Date

Public Affairs Office (AMSTA-CS-CT):

☒ Concur ☐ Nonconcur

A. Jankowski  
Signature

26 Feb 02  
Date

## Table of Contents

EXECUTIVE SUMMARY.....	3
SECTION 1: INTRODUCTION .....	4
SCOPE.....	4
SECTION 2: BACKGROUND .....	4
SECTION 3: SURVEY APPROACH .....	5
SECTION 4: RESULTS OF SURVEY QUESTIONNAIRE.....	6
1. AG ENVIRONMENTAL PRODUCTS, LLC.....	6
2. COLUMBUS FOODS.....	6
3. NOPEC CORPORATION .....	6
4. WORLD ENERGY ALTERNATIVES, LLC .....	7
5. PACIFIC BIODIESEL, INC. ....	7
6. BIODIESEL INDUSTRIES, INC. ....	8
7. GRIFFIN INDUSTRIES.....	8
8. CHEMOL COMPANY .....	9
9. WEST CENTRAL COOPERATIVE .....	9
10. CYTOCULTURE ENVIRONMENTAL BIOTECHNOLOGY.....	9
SECTION 5: TABLE 1: TABLE OF SURVEY RESULTS .....	11
SECTION 6: SUMMARY AND CONCLUSIONS .....	12
APPENDIX A - .....	13
APPENDIX B - .....	16
APPENDIX C - .....	19
APPENDIX D - .....	21
APPENDIX E - .....	27

## **Executive Summary**

Biodiesel fuel is manufactured by the transesterification of oils obtained from a variety of virgin and renewable sources and alcohols. Typical feedstocks include rapeseed, soybean, canola, and used cooking oils. Although animal fats (also known as tallow oils) can be used as a feedstock, there were no manufacturers/suppliers available at the time of this survey. A popular version of this biodiesel fuel is found in the form of B20, which is 20% biodiesel and 80% regular diesel. Vehicles using B20 require no modifications to existing diesel fuel systems, hence the popularity of B20.

Biodiesel in general has gained in popularity since the passage of the Energy Conservation and Reauthorization Act of 1998 (ECRA). The ECRA was an amendment to Energy Policy Act (EPAct) of 1992, which mandated the use of alternative fueled vehicles (AFVs) in all heavy-duty fleets. Development of an ASTM provisional specification (i.e. ASTM PS 121) for biodiesel to be used as a blend stock has helped define biodiesel.

The ECRA allowed that one energy credit will be counted for each vehicle that consumed at least 450 gallons of neat biodiesel (B100). Using B20 will require that 2250 gallons be used to get the credit. Installations and commercial fleets can meet up to 50 percent of the AFV requirements mandated by EPAct when using biodiesel fuel.

This report documents the results of a survey conducted on known manufacturers/suppliers of neat biodiesel (B100) and the feedstock used in the manufacture of biodiesel. This survey was conducted by a collaboration between the National Automotive Center (NAC) and the Fuels and Lubricants Technology Team (FLTT) at U.S. Army Tank Automotive Research Development and Engineering Center (TARDEC) in Warren MI.

Ten commercial manufacturers/suppliers of biodiesel were surveyed. Eighty percent of the respondents were manufacturers and 20% suppliers. The interview process also identified that 60% supply biodiesel made from recycled sources and 40% supply only biodiesel made from virgin feedstocks.

TARDEC procured biodiesel samples from the manufacturers/suppliers identified in this report for analytical testing. The results of which will be reported under a separate cover.

## **Section 1: Introduction**

The objective of this Biodiesel Suppliers Survey was to contact known commercial biodiesel manufacturers in the U.S. and investigate which types of biodiesels (based on type of feedstocks) are available. Since this can be a very transitional market area we also wanted to verify which listed supplier/manufacturer of biodiesel were still available. At the writing of this report we understand that the number of suppliers have increased but the number of manufacturers is about the same.

The survey gathered information on the company itself like capacity and number of different biodiesel products supplied. Two of the most important questions were the biodiesel feedstocks used in the manufacture of biodiesel supplied and whether they would provide B20 (i.e., the 20 volume percent biodiesel and 80 volume percent petroleum diesel, or petrodiesel, fuel blend) to users in addition to B100.

### **Scope**

This survey was intended to document the available suppliers/manufacturers of biodiesel, identify whether they supply B100 or B20, and identify the type of feedstocks used in the biodiesel products offered by the suppliers/manufactures.

## **Section 2: Background**

As a result of the passage of the Energy Policy Act (EPA) in 1992, Executive Orders 13031 and 13149 (Executive Order 13149 replaced Executive Order 13031 in 21 April 2001) were enacted endorsing EPA and mandating the use of alternative fueled vehicles (AFVs) in Federal fleet. The Energy Conservation and Reauthorization Act of 1998 (ECRA), which amended EPA, allowed vehicles using biodiesel to count as AFVs when such vehicle uses a minimum of 450 gallons of biodiesel (or 2250 gallons of B20). However, using biodiesel can only be used to meet up to 50 percent of the AFV requirements required by EPA.

In December 1999, Sherri W. Goodman, Deputy Under Secretary of Defense (Environmental Security), issued a memorandum entitled Using Biodiesel to Meet Alternative Fueled Vehicle Requirements for the Assistant Secretaries of the Army, Navy, and Air Force and Directors of the Defense Agencies. In the memo Ms. Goodman outlined the requirements for the use of biodiesel fuels by the Department of Defense (DoD).

"Biodiesel is not approved for use in tactical vehicles because of concerns regarding its long-term stability. However, it may be suitable for use in administrative (commercial) vehicles where long-term storage is not an issue. Before deciding to use biodiesel, DoD fleet managers should ensure that:

- Separate tankage (not used by tactical vehicles) is available for biodiesel.
- The biodiesel being used meets the ASTM Provisional Specification 121 for Biodiesel Fuel (B100).

- The impact of biodiesel use on warranty coverage, which varies by vehicle/engine manufacturers, has been checked. (Major engine manufacturers have all issued statements regarding the use of biodiesel as it pertains to their warranty coverage. To obtain a copy of any of these statements, call the National Biodiesel Board).
- The higher cloud and pour points of biodiesel, which affect cold weather performance, are taken into account. (Cold flow properties of B20 are generally 1° to 3° higher than the base diesel fuel)."

Ms. Goodman's memorandum is included in this report as Appendix A.

As a result of the Army work done on biodiesel, a Commercial Item Description A-A-59693 has been published that outlines the properties that B20 fuel must meet. This was accomplished with work that started with the survey published in this report.

As the U.S. Army is required to meet these AFV requirements, TARDEC has conducted laboratory evaluations and developed data on all possible sources/feedstocks of biodiesel in order to effectively address questions and ensure successful operation at military installations. The Biodiesel Suppliers Survey was the first part of this evaluation. Laboratory characterization of biodiesel products that were procured from sources identified in the survey constitute the second part of this program which will be reported under separate cover.

### **Section 3: Survey Approach**

All commercial biodiesel suppliers in the United States, at the time of this survey, were contacted and interviewed regarding the manufacture/supply of biodiesel. The list of commercial biodiesel suppliers was obtained from the National Biodiesel Board website (see list in Appendix B) and the Western Regional Biomass Energy Program (see list in Appendix C). In addition, information was obtained from the "Alternative Fuels Data Center (AFDC) Biodiesel Resource Guide" available in Appendix D. The links for the websites of these organizations and the manufacturers/suppliers interviewed are available in Appendix E.

The following questions were asked from all companies interviewed:

1. What are your biodiesel product lines?
2. How much volume per year is produced of each product line?
3. Are you the biodiesel manufacturer of record? If not, who is the manufacturer of record?
4. Do you supply biodiesel fuel blends (i.e., for example, B20)?

Responses provided are documented in Section 4. Results of Survey Questionnaire.

## Section 4: Results of Survey Questionnaire

### 1. AG Environmental Products, LLC

Lenexa, KS 66215

Phone: (913) 599-6911

Fax: (913) 599-2121

URL: <http://www.soygold.com>

1.1. Biodiesel product lines: AG Environmental Products, LLC, has three biodiesel (B100) product lines: Biodiesel, SoyGold Marine, and Diesel Additive. Biodiesel and Diesel Additive are identical products. The difference between Biodiesel and SoyGold Marine is that SoyGold Marine has an antioxidant. AG Environmental Products, LLC, manufactures and supplies only virgin soybean feedstock biodiesel.

1.2. Volume/year produced: Their capacity is 7½ million gallons/year or 50 million pounds/year.

1.3. Biodiesel manufacturer of record: AG Environmental Products, LLC, is the manufacturer of record.

1.4. Supply B20: Yes (see section 6).

### 2. Columbus Foods

Chicago, IL 60622

Phone: (800) 322-6457 or (773) 265-6500

Fax: (773) 265-6985

URL: <http://www.columbusfoods.com/>

2.1. Biodiesel product lines: Columbus Foods sells exclusively virgin soybean biodiesel under the brand name of Eagle biodiesel. They can sell recycled biodiesel if requested.

2.2. Volume/year produced: Their capacity is up to 10 million pounds/year or 1.4 million gallons/year.

2.3. Biodiesel manufacturer of record: Columbus Foods is the manufacturer of record.

2.4 Supply B20: Yes (see section 6).

### 3. NOPEC Corporation

Lakeland, FL 33806-2868

Phone: (941) 683-7199

Fax: (941) 682-0895

URL: <http://www.geocities.com/oa11/homepage.htm>  
<http://www.oceanairenvironmental.com/>

3.1. Biodiesel product lines: Nopec Corporation sells exclusively B100 made from used cooking oils as feedstock. B20 can be obtained from their distributors. Nopec sells at a minimum 4-each 55-gallon drums of B100 (they do not sell smaller quantities such as 1-gallon or 5-gallon pails)

NOTE: This information has changed since they were contacted in June 2000 as they were acquired by World Energy Alternatives in Fall 2000. Their new name is OceanAir Environmental Fuels and Glycerine, LLC. They produce currently biodiesel produced from a large variety of feedstocks (including virgin vegetable, recycled cooking oils, and animal fat feedstocks).

3.2. Volume/year produced: Their current capacity is in the 10+ million gallons/year (they can go higher, but not as high as the 30 million gallons/year reported in the Biodiesel Resource Guide (April 1998)).

3.3. Biodiesel manufacturer of record: Nopec Corporation is the manufacturer of record.

3.4 Supply B20: Yes (see section 6).

**4. World Energy Alternatives, LLC**

Chelsea, MA 02150

**Phone:** (617) 889-7300

**Fax:** (617) 887-2411

**URL:** <http://www.worldenergy.net/>

4.1. Biodiesel product lines: World Energy Alternatives, LLC, sells both recycled and non-recycled products (as specified by the buyer). They sell primarily virgin soybean biodiesel (SOME) since that is the biodiesel product requested by many of the engine manufacturers. The brand name of their virgin soybean biodiesel is Envirodiesel Soy B100.

4.2. Volume/year produced: Not applicable since World Energy Alternatives, LLC, does not manufacture biodiesel.

4.3. Biodiesel manufacturer of record: Proctor and Gamble, Cincinnati OH, is the manufacturer of record for virgin soybean biodiesel. Peter Cremer North America, L.P., at Cincinnati stores and ships products for World Energy Alternatives, LLC.

4.4 Supply B20: Yes (see section 6).

**5. Pacific Biodiesel, Inc.**

Kahului, HI 96732

**Phone:** (808) 877-3144

**Fax:** (808) 871-5631

**URL:** <http://www.biodiesel.com/>



5.1. Biodiesel product lines: Pacific Biodiesel, Inc., manufactures biodiesel from recycled cooking oil feedstock. Although most of their clients are in the Hawaii Islands, they had a customer last year in the mainland and the fuel was shipped by tanker.

5.2. Volume/year produced: Their operation can produce up to 250,000 gallons/year.

5.3. Biodiesel manufacturer of record: Pacific Biodiesel, Inc., is the manufacturer of record.

5.4 Supply B20: No.

**6. Biodiesel Industries, Inc.**

**Phone:** (877) BIO-FUEL -- (877) 246-3835

**URL:** <http://www.pipeline.to/biodiesel/>

6.1. Biodiesel product lines: Biodiesel Industries, Inc., manufactures biodiesel from a large selection of feedstocks whether virgin or recycled.

6.3 Biodiesel manufacturer of record: Biodiesel Industries, Inc., is the manufacturer of record.

6.4 Supply B20: Yes (see section 6).

**7. Griffin Industries**

Cold Spring, KY 41076

**Phone:** (800) 743-7413 or (859) 781-2010

**Fax:** (859) 572-2575

**URL:** <http://www.griffinind.com>

7.1. Biodiesel product lines: Griffin Industries' principal product is Bio G-3000 TM, a yellow grease feedstock biodiesel. Griffin Industries sells either B100 or B20 biodiesel fuel blends (directly or through a fuel distributor). Per truckload quantities, B100 is sold in the \$1.50 to \$1.60/gallon range. Griffin Industries claim Bio G-3000 TM is a NOx neutral product. They are currently working on NOx reducing and on cloud point reducing additives.

7.2. Volume/year produced: They currently have a 2 million gallon/year plant at Butler KY.

7.3. Biodiesel manufacturer of record: Griffin Industries is the manufacturer of record.

7.4 Supply B20: Yes (see section 6).

**8. Chemol Company**

Greensboro, NC

Phone: 336-333-3071

8.1. Biodiesel product lines: Chemol Company produces virgin methyl soy biodiesel.

8.2. Volume/year produced: Their capacity is three million pounds/year but can produce in excess of 5 million pounds/year.

8.3. Biodiesel manufacturer of record: Chemol Company is the manufacturer of record.

8.4. Supply B20: Yes (see section 6).

**9. West Central Cooperative**

Ralston, IA 51459

Phone: (800) 843-4769

Fax: (712) 667-3215

URL: <http://www.griffinind.com/>

9.1. Biodiesel product lines: West Central Cooperative sells virgin soybean biodiesel under two products lines, SoyPower Biodiesel and SoyPower Diesel Fuel Additive. Both have the same chemistry but the SoyPower Diesel Fuel Additive is sold to work primarily as a diesel fuel lubricity enhancer. The rate recommended for biodiesel to be used as a lubricity enhancer is 1 quart biodiesel to 100 gallons diesel fuel (either grade 2 or grade 1) or a 0.25% biodiesel fuel blend or by adding 1 gallon biodiesel to 1000 gallons premium diesel (a 0.1% biodiesel fuel blend).

9.2. Volume/year produced: Their current production capacity is 1 million gallons/year. They currently have a biodiesel production capacity of 3 million gallons/year but it can go up to 10 million gallons/year within 4 months if the need arose to do so.

9.3. Biodiesel manufacturer of record: West Central Cooperative is the manufacturer of record.

9.4. Supply B20: Yes (see section 6).

**10. CytoCulture Environmental Biotechnology**

Point Richmond, CA 94801

Phone: (510) 233-0102

URL: <http://www.cytoculture.com/>

10.1 Biodiesel product lines: As CytoCulture Environmental Biotechnology is primarily an environmental biotechnology firm, they do not produce biodiesel. They do, however, distribute (not produce) biodiesel from soybean-based recycled cooking oil feedstock.

10.3. Biodiesel manufacturer of record: Griffin Industries is the manufacturer of record.

10.4 Supply B20: Yes (see section 6).

## Section 5: Table 1: Table of Survey Results

**Table 1: Survey Results Summary**

<b>Company</b>	<b>Biodiesel Manufacturer</b>	<b>Feedstock</b>
AG Environmental Products, LLC	Yes	Virgin soybean
Columbus Foods	Yes	Virgin soybean
NOPEC Corporation	Yes	Used cooking oils
World Energy Alternatives, LLC	No	Virgin soybean, recycled cooking oil
Pacific Biodiesel, Inc.	Yes	Recycled cooking oil
Biodiesel Industries	Yes	Any feedstock
Griffin Industries	Yes	Yellow grease
Chemol Company	Yes	Virgin soybean
West Central Cooperative	Yes	Virgin soybean
CytoCulture Environmental Biotechnology	No	Soybean-based recycled cooking oil

Table 1 contains a summary on whether the company is a supplier or manufacturer of biodiesel and the feedstock used in the biodiesel being manufactured/supplied. There were three basic answers provided regarding the source/feedstock of the biodiesel: "Recycled", "Virgin" and "Any Feedstock". "Any Feedstock" refers to the ability of the company to manufacture/supply biodiesel made not only from virgin material but from recycled material as well. Although we are reflecting the answers provided by the companies, for the basis of this survey the terms "Yellow Grease" and "Recycled Cooking Oil" are considered the synonymous.

The table shows that 20% of the respondents were suppliers of biodiesel while 80% were considered manufacturers. It is also interesting to note that 60% of the companies indicated they provide biodiesel made from recycled material. Only 40% indicated that they provide only biodiesel made from virgin feedstocks.

## **Section 6: Summary and Conclusions**

This survey indicated there are a variety of biodiesel suppliers and manufacturers that installations and users can get biodiesel from. The number manufacturers supplying recycled biodiesel was also found to be relatively large at 60% of the companies interviewed.

All suppliers contacted in this survey indicated they could provide B20 or, more likely, ship the B100 biodiesel to the region where the fuel is needed and contract with a local fuel blender in order to minimize fuel shipping costs.

Although a larger number of suppliers/manufactures provide recycled products, the biodiesel product that has been looked at mostly by laboratories and in field test is virgin soybean biodiesel. Therefore, as a result of this survey samples from all the suppliers will be acquired and data developed to supplement existing data, particularly on recycled biodiesel.

The survey also found that there are a lot of organizations that are interested in advertising and promoting biodiesel. A popular organization today is the National Biodiesel Board (NBB). This organization keeps a continuously updated information on biodiesel producers and suppliers.

While commercial and military specifications exist for diesel fuel (ASTM D 975 and A-A-52557 respectively) and there was an interim biodiesel specification (ASTM PS 121 - to expire in 27 July 2001), no specifications exist for B20. The fuel B20 is the type of biodiesel most delivered and requested by organizations wanting to meet the EPA's AFVs requirements since no vehicle modifications are required to use B20. Therefore, a B20 specification was deemed necessary to define the parameters that B20 suppliers/manufactures must strive to meet and for B20 users to look for in order to ensure a successful operation.

U.S. Army TARDEC has published a B20 Commercial Item Description (CID) intended to fill the gap presently available in the system. The B20 CID, A-A-59693, was published on 7 September 2001.

## **APPENDIX A –**



ACQUISITION AND  
TECHNOLOGY

OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON  
WASHINGTON DC 20301-3000

DEC. 14 1999

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY  
(INSTALLATIONS & ENVIRONMENT)  
ASSISTANT SECRETARY OF THE NAVY  
(INSTALLATIONS & ENVIRONMENT)  
ASSISTANT SECRETARY OF THE AIR FORCE (MANPOWER,  
RESERVE AFFAIRS, INSTALLATIONS & ENVIRONMENT)  
DIRECTORS OF THE DEFENSE AGENCIES

SUBJECT: Using Biodiesel to Meet Alternative Fueled Vehicle Requirements

A recent amendment to the Energy Policy Act of 1992 (EPACT) permits federal agencies to use biodiesel to meet a portion of their alternative fueled vehicle (AFV) acquisition requirements. Title XII of Section 101(a) of the Omnibus Consolidated and Emergency Supplemental Appropriations Act of FY 1999 (P.L. 105-277)(attachment) permits federal agencies to meet up to 50% of their AFV acquisition requirements by using biodiesel fuel. For the first time, fleet managers can comply with EPACT requirements by using an alternative fuel rather than acquiring additional alternative fuel vehicles. Under the new provisions, each 450 gallons of pure biodiesel (B100) used in a vehicle weighing over 8500 pounds counts as one full AFV credit. Since biodiesel, a cleaner burning alternative fuel produced from domestic renewable feedstock such as vegetable oils, is typically used as B20, (a blend of 20% biodiesel and 80% petroleum diesel) using 2250 gallons of B20 equates to one AFV credit under EPACT.

Biodiesel is not approved for use in tactical vehicles because of concerns regarding its long-term stability. However, it may be suitable for use in administrative (commercial) vehicles where long-term storage is not an issue. Before deciding to use biodiesel, DoD fleet managers should ensure that:

- Separate tankage (not used by tactical vehicles) is available for biodiesel.
- The biodiesel being used meets the ASTM Provisional Specification 121 for Biodiesel Fuel (B100)
- The impact of biodiesel use on warranty coverage, which varies by vehicle/engine manufacturers, has been checked. (Major engine manufacturers have all issued statements regarding the use of biodiesel as it pertains to their warranty coverage. To obtain a copy of any of these statements, call the National Biodiesel Board)
- The higher cloud and pour points of biodiesel, which affect cold weather performance, are taken into account. (Cold flow properties of B20 are generally 1° to 3° higher than conventional diesel)

Environmental Security



Defending Our Future

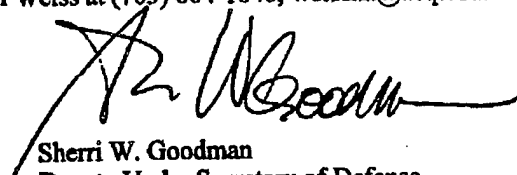
Although biodiesel costs more than petroleum diesel, it can be used in unmodified diesel engines. Therefore, it represents an opportunity to meet a portion of DoD's AFV acquisition requirements at lower overall cost. The Department of Energy has issued guidance "Biodiesel Fuel Use Credit Interim Final Rule" that provides details regarding how to use biodiesel to meet AFV acquisition requirements. This document can be found at [http://www.ott.doe.gov/documents/federal\\_register.shtml](http://www.ott.doe.gov/documents/federal_register.shtml). I urge you to evaluate the use of biodiesel as an option for meeting a portion of your AFV requirements. Additional information on biodiesel is available from:

- National Biodiesel Board at (800) 841-5846 or [www.biodiesel.org](http://www.biodiesel.org)
- U.S. Department of Agriculture, Ms. Sharon Holcombe at (202) 720-3820
- U.S. Army Tank-Automotive Command, Mr. Luis Villahermosa at (810) 574-4207
- U.S. Department of Energy at <http://www.afdc.nrel.gov/>.

The Defense Energy Support Center (DESC) will support DoD biodiesel requirements. In accordance with DFARS 208-7003-1, fuel requirements must be submitted to DESC for centralized procurement when the estimated annual requirement by line item exceeds \$100,000. DESC may also provide contracting services for requirements below this threshold. DoD activities with biodiesel requirements should forward them through regular channels to DESC. The DESC technical POC for questions is Ms. Pamela Serino at (703) 767-8415, [psertino@desc.dla.mil](mailto:psertino@desc.dla.mil).

EPACT originally focused totally on acquisition of light-duty AFVs. Since passage of EPACT in 1992, federal agencies have been provided several options to give them flexibility in meeting the statutory requirements. For example, Section 5 of Executive Order 13031 allows federal agencies to gain extra AFV credits through acquisition of medium- and heavy-duty AFVs, as well as zero emission vehicles (ZEV). In addition, over the last two years automobile manufacturers have made a substantial number of new light-duty AFVs available. With the addition of these new models, plus the options of medium- and heavy-duty AFVs, ZEVs, and biodiesel, many opportunities are now available for meeting EPACT AFV requirements. I urge you to evaluate all of these options when deciding how to meet EPACT AFV requirements.

My POC for AFV issues is Mr. Karl Weiss at (703) 604-1846, [weisska@acq.osd.mil](mailto:weisska@acq.osd.mil).



Sherri W. Goodman  
Deputy Under Secretary of Defense  
(Environmental Security)

Attachment:  
As stated

cc: DUSD(L)  
DESC



## **APPENDIX B –**



# **BIODIESEL**

## National Biodiesel Board

### **NBB-Member Fuel Producers/Marketers**

#### **Ag Environmental Products; Lenexa, KS**

Phone: (800) 599-9209

Contact: Doug Pickering

e-mail: [Dpickering@agp.com](mailto:Dpickering@agp.com)

<http://www.soygold.com>

#### **Biodiesel Development Corporation; Marathon, FL**

Phone: (877) BIO-FUEL -- (877) 246-3835

Contact: Russ Teall

e-mail: [Rteall@aol.com](mailto:Rteall@aol.com)

<http://www.pipeline.to/biodiesel/>

#### **Columbus Foods; Chicago, IL**

Phone: (773) 265-6500

Contact: Joe Loveshe

e-mail: [jloveshe@columbusfoods.com](mailto:jloveshe@columbusfoods.com)

#### **Griffin Industries; Cold Spring, KY**

Phone: (606) 572-2558

Contact: Rick Geise

e-mail: [Rgeise@griffind.com](mailto:Rgeise@griffind.com)

<http://www.griffinind.com>

#### **Peter Cremer North America, L.P.; Cincinnati, OH**

Phone: (513) 471-7200

Contact: H.M. Findley

e-mail: [Hfindley3d@aol.com](mailto:Hfindley3d@aol.com)

#### **West Central Cooperative; Ralston, IA**

Phone: (712) 667-3200

Contact: Bev Tierney

e-mail: [bevt@westcentral.net](mailto:bevt@westcentral.net)

Gary Haer (913) 884-8521

e-mail: [haer@qni.com](mailto:haer@qni.com)

**World Energy Alternatives; Cambridge, MA**

Phone: (617) 621-1522

Contact: Gene Gebolys

e-mail: [Geneg@worldenergy.net](mailto:Geneg@worldenergy.net)

<http://www.worldenergy.net>



[Return to NBB Home Page](#)

## **APPENDIX C –**

# Biodiesel Sources

There are now nine sources in the nation for biodiesel:

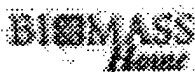
- Ag Environmental Products, Lenexa, KS  
800-599-9209
- Chemol Company, Greensboro, NC  
336-333-3071
- Columbus Foods, Chicago, IL  
773-265-6500
- CytoCulture, Point Richmond, CA  
510-233-0102
- Griffin Industries, Butler, KY  
703-256-4497
- High Performance Fuels and Additives, Houston, TX  
713-467-7084
- NOPEC Corporation, Lakeland, FL  
888-296-6732
- Pacific Biodiesel, Kahului, HI  
808-877-3144
- World Energy Alternatives, Cambridge, MA  
617-868-1988



[Back](#)

---

About Us	News Releases	Reports and Studies	Resources for Producers	Western Biomass Quarterly
<a href="#">About Western</a>	<a href="#">1999</a>	<a href="#">View Available Publications Online</a>	<a href="#">Current</a>	<a href="#">Current Issue</a>
<a href="#">Goals and Objectives</a>	<a href="#">1998</a>		<a href="#">1999</a>	<a href="#">Past Issues</a>
<a href="#">Program Structure</a>				



---

P.O. Box 95085  
Lincoln, NE 68509-5085  
Phone: (402) 471-3218  
Fax: (402) 471-3064  
Email: [jgraef@mail.state.ne.us](mailto:jgraef@mail.state.ne.us)

---

[Regions](#) | [Links](#) | [Order Form](#)  
[Contacts](#) | [Webmaster](#)

## **APPENDIX D –**

**U.S. DEPARTMENT OF ENERGY**

**OFFICE OF TRANSPORTATION  
TECHNOLOGIES**

**NATIONAL ALTERNATIVE  
FUELS HOTLINE**

**BIODIESEL RESOURCE  
GUIDE**

**FOR ADDITIONAL INFORMATION CONTACT THE  
NATIONAL ALTERNATIVE FUELS HOTLINE**

**UPDATED: MARCH 30, 1998**

**PHONE: 800-423-1363**

**LOCAL/INTERNATIONAL: 703-934-3069**

**FAX: 703-934-3183**

**E-MAIL: [hotline@afdc.nrel.gov](mailto:hotline@afdc.nrel.gov)**

---

**ASSOCIATIONS**

**American Soybean Association**

Box 81A

Tripp, SD 57376

**Contact:** Mark Berg, Vice President

**Phone:** 605-935-7005

**Fax:** 605-935-6106

**Web Site:** [www.oilseeds.org](http://www.oilseeds.org)

**Clean Fuels Development Coalition**

1925 N. Lynn Street

Suite 725

Arlington, VA 22209

**Contact:** Douglas Durante,  
Executive Director

**Phone:** 703-276-2332

**Fax:** 703-276-8447

**Fats & Proteins Research Foundation**

PO Box 298

Bloomington, IL 61704

**Contact:** Gary Pearl, President

**Phone:** 309-829-7744

**Fax:** 309-829-5147

The Fats and Proteins Research Foundation is actively involved in research initiatives utilizing methyl and ethyl esters of animal fats as biodiesel feedstock. Major fat renderers and processors support this research initiative.

**National Biodiesel Board (NBB)**

P.O. Box 104898

Jefferson City, MO 65110-4898

**Contact:** Jeff Horvath, Chief  
Executive Officer

**Contact:** Deborah Boldt,  
Communications Director

**Phone:** 573-635-3893

**Toll-Free:** 800-841-5849

**Fax:** 573-635-7913

**Email:** [biodiesel@sockets.net](mailto:biodiesel@sockets.net)

**Web Site:** [www.nbb.org](http://www.nbb.org)

**NBB Washington Office**

1000 Connecticut Ave NW, Suite 1106

Washington, DC 20036

**Contact:** Mark Sagrans,  
Federal Regulatory Analyst

**Phone:** 202-331-7373

**Fax:** 202-331-7036

**Email:** [msagrans@clark.net](mailto:msagrans@clark.net)

The National Biodiesel Board (NBB) is a trade association dedicated to creating a market for biodiesel. NBB has established itself as the creator of the biodiesel market in the United States. It cannot and will not to sell fuel, but will continue to be an integral part of the overall exchange of information for the biodiesel commercialization effort, which includes feedstock providers, government agencies, customers, engine manufacturers, fuel providers, and other interested parties.

**State Soybean Organizations**

**Ohio Soybean Council**

**Phone:** 614-249-2422

**Fax:** 614-249-2200

**South Dakota Soybean Council**

**Phone:** 605-330-9942

**Fax:** 605-330-9956

**Michigan Soybean Promotion  
Committee**

**Phone:** 517-652-3294

**Fax:** 517-652-3296

**Minnesota Soybean Research &  
Promotion Council**

**Phone:** 507-388-1635

**Fax:** 507-388-6751



## BIODIESEL RESOURCE GUIDE

South Carolina Soybean Board  
**Phone:** 803-734-1767  
**Fax:** 803-734-2192

Tennessee Soybean Promotion Board  
**Phone:** 901-668-2850  
**Fax:** 901-668-2777

Wisconsin Soybean Promotion Board  
**Phone:** 608-274-7522  
**Fax:** 608-274-2006

Iowa Soybean Promotion Board  
**Phone:** 515-251-8640  
**Fax:** 515-251-8657

Indiana Soybean Promotion Board  
**Phone:** 515-223-1423  
**Fax:** 515-223-4331

Illinois Soybean Checkoff Board  
**Phone:** 309-663-7692  
**Fax:** 309-663-6981

Missouri Soybean Merchandising Council  
**Phone:** 573-635-6701  
**Fax:** 573-635-5122

Nebraska Soybean Board  
**Phone:** 402-441-3240  
**Fax:** 402-441-3238

### GOVERNMENT CONTACTS

**U.S. Department of Agriculture  
Office of Energy**  
1800 M Street, NW Room 2129  
Washington, DC 20036-5831  
**Contact:** Roger Conway, Director  
**Phone:** 202-694-5020  
**Fax:** 202-694-5665  
**Email:** RKconway@econ.ag.gov

**U.S. Department of Energy  
Office of Fuels Development**  
1000 Independence Ave., SW  
Washington, DC 20585  
**Contact:** John Ferrell, Director  
**Phone:** 202-586-8072  
**Email:** john.ferrell@hq.doe.gov  
**Contact:** Michael Voorhies,  
Regional Programs  
**Phone:** 202-586-1480  
**Email:** Michael.voorhies@hq.doe.gov  
**Fax:** 202-586-9815

### MARKETERS/PRODUCERS

**Agricultural Environmental Products**  
9804 Pflumm Road  
Lenexa, KS 66215  
Production Capacity: 6 million gallons/yr  
**Contact:** Doug Pickering  
Product Marketer  
**Phone:** 913-599-6911  
**Fax:** 913-599-2121

**Columbus Foods (methyl ester)**  
800 North Albany, Chicago, IL 60622  
Production Capacity: 1.5 million  
gallons/yr  
**Contact:** Michael Gagliardo,  
President  
**Phone:** 773-265-6500, Ext. 22  
**Contact:** Paul Cochrane, Inventory  
Control Manager  
**Phone:** 773-265-6500, Ext. 27  
**Fax:** 773-265-6985

**NOPEC Corporation**  
P.O. Drawer 2868, 13 N. George Jenkins  
Blvd., Lakeland, FL 33806-2868  
Production Capacity: 30 million gallons/yr  
**Contact:** Karl Rehberg, President  
**Contact:** Karen Miller, VP Marketing  
**Phone:** 941-683-7199, Ext. 142  
**Fax:** 941-682-0895  
**Email:** nopec1@aol.com

## BIODIESEL RESOURCE GUIDE

### **Twin Rivers Technologies**

780 Washington Street  
Quincy, MA 02169  
Production Capacity: 30 million gallons/yr  
**Contact:** Gene Gebolys  
**Phone:** 617-472-9200  
**Fax:** 617-472-5460  
**Email:** Biodiesel@mv.mv.com

### **Pacific Biodiesel**

285 Hukilike Street, B103  
Kahului, Maui, Hawaii 96732  
Production Capacity: 150,000 gallons/yr  
**Contact:** Larry Zolezzi, Treasurer  
**Phone:** 808-877-3144  
**Fax:** 808-871-5631  
**Email:** bking@maui.net

### **PERIODICALS**

#### **Biodiesel Report**

National Biodiesel Board  
PO Box 20421  
Kansas City, MO 64195-0421  
**Phone:** 800-841-5849  
**Fax:** 573-635-7913  
**Email:** biodiesel@sockets.net

#### **Biofuels News**

National Alternative Fuels Hotline  
9300 Lee Highway, Fairfax VA 22031  
**Phone:** 800-423-1363  
**Fax:** 703-934-3183  
**Email:** hotline@afdc.nrel.gov  
**Web Site:** www.afdc.doe.gov

#### **The Clean Fuels Report**

J.E. Sinor Consultants, Inc.  
P.O. Box 649  
Niwot, CO 80544  
**Contact:** Jerry Sinor, President  
**Phone:** 303-652-2632  
**Fax:** 303-652-2772

### **New Fuels and Vehicles Report**

PO Box 7167  
Suite 1400  
Ben Franklin Station  
Washington, DC 20044  
**Contact:** Heather Skale, Editor  
**Toll-Free:** 800-424-9068  
**Phone:** 703-892-8500  
**Fax:** 703-416-8543

### **PRIVATE CONSULTANTS**

#### **Advanced Fuel Solutions Inc.**

PO Box 291  
Lynnfield, MA 01940  
**Contact:** Paul Nazzaro, President  
**Phone:** 508-664-5923  
**Fax:** 508-664-4020  
**Email:** pnazz75147@aol.com

#### **Information Resources Inc.**

1925 N. Lynn Street Suite 1000  
Arlington, VA 22209  
**Contact:** Fred Potter, President  
Biofuels and blends  
**Phone:** 703-528-2500  
**Fax:** 703-538-1603

#### **MARC-IV LLC**

16200 North Ridge Drive  
Kearney, MO 64060  
**Contact:** Steve Howell,  
Research Development  
**Phone:** 816-635-5772  
**Fax:** 816-635-4836  
**Email:** aweber@marciv.com  
**Contact:** Alan Weber,  
Market Analysis  
402 Oak Street  
Ashland, MO 65010  
**Phone:** 573-657-5537  
**Fax:** 573-657-1058  
**Email:** jweber@trib.net

## BIODIESEL RESOURCE GUIDE

### RESEARCH

#### **National Biodiesel Foundation, Inc.**

1907 Williams Street

Suite B

P.O. Box 104624

Jefferson City, MO 65110-4624

**Contact:** Jrshad Ahmed, President

**Phone:** 314-761-0526

**Toll-Free:** 800-841-5849

**Fax:** 573-635-791

**Email:** biodiesel@sockets.net

#### **National Renewable Energy Laboratory**

1617 Cole Blvd.

Golden, CO 80401-3393

**Contact:** Shaine Tyson, Ph.D.  
Biodiesel Program Manager

**Phone:** 303-275-4616

**Fax:** 303-275-4675

**Email:** tysonk@tcplink.nrel.gov

**Contact:** Sally Neufeld, Biofuels  
Communications Manager

**Phone:** 303-275-3803

**Fax:** 303-275-4151

**Email:** neufelds@tcplink.nrel.gov

#### **Oak Ridge National Laboratory**

P.O. Box 2008

Oak Ridge, TN 37831-6422

**Contact:** Janet Cushman, Biofuels  
Feedstock Development  
Program Manager

**Phone:** 423-574-7818

**Fax:** 423-576-8143

**Contact:** Ann Ehrenshaft,  
Information Management

**Phone:** 423-576-5132

**Fax:** 423-576-8143

#### **Southwest Research Institute**

6220 Culebra Rd

P.O. Drawer 28510,

San Antonio, TX 78288-5166

**Contact:** Tom Ryan

**Phone:** 210-522-3192

**Fax:** 210-522-2019

#### **Texas Technical University**

Box 43121

Lubbock, TX 79409

**Contact:** Harry W. Parker, Professor  
of Chemical Engineering

**Phone:** 806-742-3553

**Fax:** 806-742-3552

**Email:** Parker@COE1.coe.ttu.edu

**Web Site:** www.coe.ttu.edu

Texas Tech University offers a wide variety of research and consulting skills in the areas of alternate fuel production and utilization.

#### **University of Idaho**

Department of Agricultural Engineering

Moscow, ID 85843-7906

**Contact:** Charles L. Peterson

**Phone:** 208-885-7906

**Fax:** 208-885-8923

#### **University of Missouri - Columbia**

PAVTE-Agricultural Engineering

235 Agricultural Engineering Bldg.

Columbia, Missouri 65211

**Contact:** Leon Schumacher, Ph.D.

**Phone:** 573-882-2126

Dept. of Agricultural Economics

**Contact:** Don Van Dyne

**Phone:** 573-882-0141

**Fax:** 573-882-3958

**Email:** ssvandyn@muccmail.missouri.edu

## **APPENDIX E –**

**Biodiesel Suppliers Internet Address:**

<b>Company</b>	<b>Internet Address (URL)</b>
AG Environmental Products, LLC	<a href="http://www.soygold.com">http://www.soygold.com</a>
Columbus Foods	<a href="http://www.columbusfoods.com/">http://www.columbusfoods.com/</a>
NOPEC Corporation (OceanAir Environmental Fuels and Glycerine, LLC)	<a href="http://www.geocities.com/oacl1/homepage.htm">http://www.geocities.com/oacl1/homepage.htm</a> <a href="http://www.oceanairenvironmental.com/">http://www.oceanairenvironmental.com/</a>
World Energy Alternatives, LLC	<a href="http://www.worldenergy.net/">http://www.worldenergy.net/</a>
Pacific Biodiesel, Inc.	<a href="http://www.biodiesel.com/">http://www.biodiesel.com/</a>
Biodiesel Industries	<a href="http://www.pipeline.to/biodiesel/">http://www.pipeline.to/biodiesel/</a>
Griffin Industries	<a href="http://www.griffinind.com">http://www.griffinind.com</a>
Chemol Company	None
West Central Cooperative	<a href="http://www.soypower.net/">http://www.soypower.net/</a>
CytoCulture Environmental Biotechnology	<a href="http://www.cytoculture.com/">http://www.cytoculture.com/</a>
National Biodiesel Board	<a href="http://www.biodiesel.org/">http://www.biodiesel.org/</a>
Western Regional Biomass Energy Program	<a href="http://www.westbioenergy.org/">http://www.westbioenergy.org/</a>
Alternative Fuels Data Center	<a href="http://www.afdc.doe.gov/">http://www.afdc.doe.gov/</a>