

Biobased Product Evaluation (Task N.0432/N.0476/N.0540)

Statement of Need

The Farm Security and Rural Investment Act (FSRIA) of 2002 established the BioPreferred Program, which requires all federal agencies to establish a preferred procurement program for biobased products. Biobased products are derived from renewable plant resources and may be more environmentally friendly than their petroleum-based and synthetic counterparts. The Defense Logistics Agency (DLA), through its Defense Supply Center Richmond (DSCR), purchases items for the Department of Defense (DoD) based on government performance requirements. Potential biobased alternatives must meet or exceed the current government requirements before they are procured by the DoD.

The DoD, through the DLA and the NDCEE, performed an initial assessment of biobased hydraulic fluids for use in both military tactical and nontactical equipment under NDCEE Task N.0326. Work was continued under Tasks N.0432, 0476, and 0540, evaluating additional biobased product categories.

Identified Alternatives

The NDCEE identified commercially available biobased products BioPreferred Program designated item categories that are managed by DSCR. The NDCEE contacted product manufacturers and collected technical product information to compare against existing government requirements. Participating manufacturers and products for each product category are provided in Table 1.

NDCEE Task	Biobased Product Category	Number of Participating Manufacturers	Number of Products
N.0326	Hydraulic Fluids	19	80
N.0432	Penetrating Lubricants	10	16
	Diesel Fuel Additives	7	11
N.0476	Metalworking Fluids	8	62
	Sorbents	17	72
	Adhesive and Mastic Removers	19	25
	Greases	5	18
	Firearm Lubricants	2	8
	Glass Cleaners	11	11
	N.0540	Chain and Cable and Gear Lubricants	13
Corrosion Preventatives		10	19
Industrial and Multipurpose Cleaners		40	114
Parts Wash Solutions		9	22

Table 1: Identified Biobased Products

A Biobased Products Database was developed for the storage, compilation, and evaluation of collected product data. This highly-functional, web-based database is capable of generating a variety of reports and was designed with the flexibility to expand for the evaluation of green products and processes in future green projects.

Government POC
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Status
Complete

Demonstration and Justification

The NDCEE also compared performance and environment, safety, and occupational health (ESOH) data on the commercially available biobased products to existing government specifications. Gap analyses of product technical performance characteristics and government requirements were developed to identify potential alternatives for each product category.

Product performance reports were generated for each product based on the results of the gap analyses. These reports were shared with each company for its own products.

Implementation

The NDCEE will continue working with the DLA, DSCR, USDA, and other government agencies to promote the implementation of biobased and green products that meet DoD performance requirements.

Follow-Up

The use of acceptable biobased and green products in lieu of traditional petroleum-based products could reduce the dependency on foreign oil and the amount of hazardous waste that is generated.



Domestically produced agricultural-based stocks are used for biobased products

