



**National Biodiesel Board**

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TO: All Interested Parties

SUBJECT: Uses for Methyl Esters, Glycerol

The primary use for methyl esters is as an intermediate step in making other products. Nearly half of the methyl esters prepared in the United States are used to manufacture fatty alcohols, which are used to make these end products:

- Plasticizers (chemicals that add stretch or flexibility to rubbers and resins);
- Lubricants;
- Agricultural chemicals;
- Detergents;
- Emulsifiers;
- Antioxidants;
- cosmetics; and
- Pharmaceutical products.

Other intermediates made from methyl esters are used to make:

- Soaps of all types;
- Shampoos;
- Germicides;
- Antifoaming agents;
- Non-caloric dietary fats (similar to Simplesse);
- Emollients (used in items like skin softeners); and
- An agent to reduce plasma cholesterol.

Besides use as a diesel fuel, methyl esters are used directly in:

- Aluminum rolling;
- As an asphalt release agent; and
- As a synthetic flavoring agent in foods.

### **Glycerol**

Glycerol literally has thousands of uses. However, those uses are in constant flux as new technologies are adapted. Here is an overview of the most common uses.

### **Foods and Beverages**

Glycerol is used to moisten, sweeten and preserve foods and drinks. Examples:

- Soft drinks;
- Candies;
- Cakes;
- Casings for meats and cheese; and
- Dry pet foods.

As an intermediate, glycerol also is used in margarine, salad dressings, frozen desserts and food coatings.

### **Drugs**

Glycerol is one of the most widely used ingredients in drugs and pharmaceuticals, Uses include:

- Capsules;
- Suppositories;
- Ear infection remedies;
- Anesthetics;
- Cough remedies;
- Lozenges;
- Gargles;
- As an emollient for skin medications; and
- As a vehicle for antibiotics and antiseptics.

### **Cosmetics and Toiletries**

Because glycerol is nontoxic, non-irritating and odorless, it is used as a moisturizing agent (or humectant) and emollient (softening agent) for cosmetics and toiletries, including:

- Toothpaste;
- Skin creams and lotions;
- Pre-shaving lotions;
- Deodorants;
- Make up;
- Lipstick; and
- Mascara.

### **Tobacco**

Glycerol keeps tobacco moist and soft to prevent breaking and crumbling during processing; it also adds flavor to chewing and pipe tobaccos. Glycerol also is used to manufacture cigarette filter tips.

### **Paper and Printing**

Glycerol is used to soften and reduce shrinkage during paper manufacturing.  
Related uses:

- Grease-proof paper;
- Food wrappers; and
- To manufacture printing ink.

### **Textiles**

Glycerol is used to size and soften yarn and fabric and to lubricate many kinds of fibers in spinning, knitting and weaving operations.

Other common uses:

- As a lubricant for food processing machinery;
- To manufacture resin coatings;
- To add flexibility to rubber and plastic;
- As a building block in manufacturing flexible foams;
- To manufacture dynamite; and
- To create a component used in radios and neon lights.

Glycerol is a highly versatile product that constantly is applied in new ways.  
Please do not hesitate to call us if you need further information.