

					WEST COAST COLLABORATIVE Public-private partnership to reduce diesel emissions
Bridging the Biodiesel Gap					Procedure #
Environmental & Safety Information					

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Acute Oral Toxicity/Rates—Biodiesel is nontoxic. The acute oral LD 50 (lethal dose) is greater than 17.4 g/Kg body weight. By comparison table salt (NaCl) is nearly 10 times more toxic.

Skin Irritation–Humans—A 24-hour-human-patch test indicated that undiluted biodiesel produced very mild irritation. The irritation was less than the result produced by a 4% soap and water solution.

Aquatic Toxicity—A 96-hour lethal concentration for bluegill of biodiesel grade methyl esters was greater than 1000 mg/L. Lethal concentrations at these levels are generally deemed *insignificant* according to NIOSH (National Institute for Occupational Safety and Health) guidelines in its *Registry of the Toxic Effects of Chemical Substances*.

Biodegradability—Biodiesel degrades about four times faster than petroleum diesel. Within 28 days, pure biodiesel degrades 85 to 88 percent in water. Dextrose, a test sugar used as the positive control when testing biodegradability, degraded at the same rate. Blending biodiesel with diesel fuel accelerates its biodegradability. For example, blends of 20 percent biodiesel and 80 percent diesel fuel degrade twice as fast as Number 2 diesel alone.

Flash Point—The flash point of a fuel is defined as the lowest temperature at which the vapor above a combustible liquid can be made to ignite in air. 100% Biodiesel’s flash point is over 260° Fahrenheit / 127° C, well above petroleum based diesel fuel’s flash point of around 125° Fahrenheit. / 52° C Testing has shown the flash point of biodiesel blends increases as the percentage of biodiesel increases. Therefore, biodiesel blends of biodiesel with petroleum diesel are safer to store, handle, and use than conventional diesel fuel.