



National Marine Manufacturers Association

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March 7, 2019

Climate Change Programs Branch  
Ministry of the Environment, Conservation and Parks  
Ferguson Block, 10th Floor, 77 Wellesley Street West  
Toronto, ON  
M7A 2T5

**Re: Increasing Renewable Content in Fuels– Comments from NMMA Canada**

By way of introduction, the National Marine Manufacturers Association (NMMA) Canada is the national association representing the recreational boating industry in Canada. NMMA member companies produce more than 80 percent of the boats, engines, trailers, accessories and gear used by North American boaters. There are nearly 5000 businesses in the core of the industry from manufacturers, dealers, marinas and service providers (1,853 business in Ontario), with the industry generating \$10 billion in revenues (\$4 billion in Ontario) and a GDP of \$5.6 billion (\$2.3 billion in Ontario). In Canada, the industry employs over 75,000 people across the country, 30,591 of these jobs are in Ontario. It is estimated that approximately 12.4 million adult Canadians go boating every year.

The Canadian boating industry is supportive of sound conservation policies to protect Canada and Ontario's precious lands and waterways. In this respect, NMMA Canada has actively been engaged in, and supportive of the federal government's consultations on the development of a regulatory framework on a Clean Fuel Standard. As the Ontario government continues its own consultations on increasing renewable content in fuels, NMMA Canada strongly encourages that they consider the drawbacks to the expansion of ethanol blends in gasoline and its potential negative impacts on boat engines and off-road vehicles.

In the United States, one of the greatest concerns facing the recreational boating industry today relates to the Renewable Fuel Standard and the introduction of E15 (15% ethanol, 85% gasoline) into the marketplace. The Environmental Protection Agency (EPA) introduced E15 as an energy-saving initiative and an alternative to petroleum-based fuels. However, given ethanol actually has lower energy content than gasoline, approximately one-third more ethanol is required to travel the same distance as it would on gasoline.

Fuel with a percentage of ethanol above 10 percent in boat engines is harmful to the engines. There are serious and well-documented human safety, environmental, and technology concerns associated with ethanol blends over 10 percent in recreational boat fuel tanks and engines. NMMA has conducted a number of tests which have shown the destruction of the tank and engine. Marine engines are designed, calibrated, and certified by EPA to operate on blends of gasoline up to 10 percent ethanol by volume; while being federally prohibited from operating on E15. NMMA members through the United States Department of Energy's Renewable Energy Laboratory have extensively studied the effects of E15 on marine engines. The results unequivocally illustrate safety problems caused by significant engine damage, poor engine performance and difficulty starting. A recent survey by the publication Boating Industry in the United States also indicated that 92 percent of respondents have seen damage to boat engines caused by higher blends of ethanol.

A new study was recently conducted by the Outdoor Power Equipment Institute in the United States. The study shows that more than 3 in 5 Americans, or 61 percent, assume that any gasoline sold at gas stations is safe for their cars and also for boats and other small-engine products. The addition of E15 will only add to the confusion among consumers, especially boaters and owners of power equipment, at the fuel pump. Higher ethanol blends like E15 are illegal to use in most outdoor power equipment and can damage and destroy them which will nullify manufacturer's warranties.

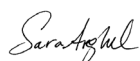
NMMA Canada wishes to offer the following as an alternative. In June 2018, the EPA approved the registration of bio-isobutanol as a fuel additive in the United States. Bio-isobutanol is a safe, efficient and environmentally friendly alternative to E15 that is highly compatible with marine products. Ethanol and bio-isobutanol are alcohol fuels derived from fermenting corn, but bio-isobutanol is not corrosive like ethanol and behaves more like conventional gasoline. That means cars, boats and other machines that require gasoline can use it at high levels without experiencing problems.

Bio-isobutanol is significantly more resistant to phase separation than ethanol. It is also less corrosive to fuel system component materials such as fuel tanks, fuel hoses, primer bulbs, gaskets and o-rings compared to ethanol. Lack of phase separation and low solvency means that bio-isobutanol could be transported in the existing pipeline distribution infrastructure, minimizing the need for truck and rail transportation, which is required for ethanol. When added to gasoline, bio-isobutanol lowers the Reid Vapor Pressure (RVP) of the finished gasoline blend which results in lower evaporative emissions and allows for a less costly gasoline blend stock.

Over the last eight years, the marine industry has conducted extensive tests and published peer reviewed technical papers on bio-isobutanol. NMMA and the entire marine industry has approved bio-isobutanol for use in marine engines at up to 16.1 volume percent in gasoline. Bio-isobutanol produced no more emissions than E10 or pure EPA-approved certification test fuel and did not result in any boat fuel system, engine, or emissions failures throughout the years-long evaluation period. The Department of Energy has designated bio-isobutanol as a "drop-in fuel", meaning it can be used to displace petroleum under the Energy Independence and Security Act of 2007, and increasing its use could help reduce greenhouse-gas emissions. In June of 2015, engine manufacturers from across the recreational boating industry announced their endorsement of bio-isobutanol as a suitable and safe alternative biofuel. Furthermore, the marine industry approval for bio-isobutanol fuel blends has helped lead to multiple bio-isobutanol fueling stations across the United States, providing an immediately accessible biofuel choice for consumers.

As the Ontario government continues its development of a regulatory framework for increasing renewable content in fuels, NMMA Canada asks that blends above E10 not be considered. In the event that in some instances it proceeds, labelling and separate lines at the pump (similar to Diesel) need to be implemented to ensure boat engines and other off-road vehicles do not fill up with E15. Education is extremely important We also recommend the use of bio-isobutanol as a safe alternative to E15.

Sincerely,



Sara Anghel

President, National Marine Manufacturers Association Canada