

Discuss Ultra-Low-Sulfur Fuel at December Meeting

ASTM SUBCOMMITTEE D02.H0 ON LIQUEFIED PETROLEUM GAS (LPG) seeks input at a December meeting in Phoenix, Ariz., to initiate discussion of a proposed new specification for an ultra low sulfur fuel (without odorant(s)). According to ASTM member Alex Spataru, president of The ADEPT Group, Inc., Los Angeles, Calif., the low-sulfur fuel specification will allow the LPG industry better access to several markets including:

- ▶ Fuel cells;
- ▶ Microturbines; and
- ▶ Modern internal combustion (IC) engines for LPG dedicated vehicles or for hybrid electric vehicles (HEVs) where LPG (commercial propane and butane gas) is the fuel of choice.

“It is known that sulfur in mercaptans negatively impacts catalytic surfaces in post-treatment devices found downstream of IC engines (including turbines),” says Spataru. “Such post-treatment devices are critical to the global push to reduce emissions from a broad-range of IC devices. In fuel cells, it is known that sulfur poisons the fuel cell stack membranes, dramatically reducing their lifespan. Furthermore, high sulfur content fuel negatively impacts microturbine and IC engine emissions.

“There is a clear and established precedent for such a standard. Liquefied natural gas (LNG) has already received special dispensation from U.S. and state of California regulatory entities to exclude odorant/s from automotive grade fuel (there are no mercaptans injected),” he continues. “To justify the absence of odorant/s, electronic hydrocarbon (HC) sensing devices are mandated as a means to detect natural gas leaks. According to section 935 of Title 13 of the California Code of Regulations, “every motor vehicle equipped with an LNG fuel system shall be equipped with a methane gas detection system which shall warn of the presence of methane in the engine compartment, driver’s compartment, and any passenger compartments.” A variety of manufacturers make such HC (high current)-alarm devices. These devices have proven safe and effective in this and other similar end-use applications.

“It is therefore proposed by the ADEPT Group that the ASTM D.02.H0 consider lowering the current HD-5 sulfur 123 parts per million weight limit to a level that excludes the injection of mercaptans (and/or other sulfur based odorant/s),” he concludes.

The subcommittee is part of Committee D02 on Petroleum Products and Lubricants. Direct comments to Spataru (phone: 310/441-4404; aspataru@adeptgroup.net) or Mike Mamakos, The ADEPT Group, Inc., Los Angeles, Calif. (phone: 310/441-4404; mmamakos@adeptgroup.net)

Committee D02 meets Dec. 7-11 at the Hyatt Regency Phoenix. For meeting or membership details, contact Dave Bradley, manager, ASTM Technical Committee Operations (phone: 610/832-8681; dbradley@astm.org). To learn more about Committee D02, visit www.astm.org/COMMIT/D02.htm.