11th April 2019
Press Release

Keeping diesel clean vital, says Techenomics

Contamination increased with reduction of sulphur and addition of biofuels

Keeping diesel clean is key to maximising productivity and prolonging engine life, according to fluid management specialists Techenomics. Contamination has become even more crucial in the past 15 years due to the reduction of sulphur levels in diesel and the addition of biofuels, both of which increase corrosion.

Chris Adsett, CEO of Techenomics International

Techenomics CEO Chris Adsett says that a combination of factors related to sulphur and biofuels as well as the elimination of lead, contributes to potentially dangerous concerns with diesel.

"Without sulphur and lead, fuel is left virtually unprotected from microbial infection as both were excellent biocides with sulphur having the ability to protect fuels for years."

He says that before 2004 it was not uncommon for diesel to have a shelf life of five or six years but recent research has shown that diesel begins deteriorating before it reaches the end user.

"In fact, if water is present diesel can degrade by as much as 95% within just 30 days of refining."
He also refers to studies showing that fuel coming out of terminals has minimal biocide, leaving it vulnerable to microbial contamination. If fuel is also exposed to other contaminants and/or water, he says this exacerbates a serious issue.

Contamination of fuel by water can occur during transportation and storage. Exposure to water is a problem during barging and shipping while transport by truck also provides the opportunity for this to occur.

Drivers often leave tanker access ports open allowing water and contaminants to enter while another opportunity occurs when fuel is dropped off as standing water can enter the tank when a delivery is made.

Water also enters through the natural condensation process.

Temperature variations change the humidity levels in the fuel system, thus creating condensation. Over time this settles and becomes measurable but while suspended in the fuel, it is virtually undetectable. Water can also enter through leaks and weaknesses in the fuel system itself.

When water enters diesel it eventually settles and drops out of the fuel at a rate of around 33cm per hour. In a tank with 3.3 metres of fuel, this process will require 10 hours for water to settle.

Today's regulations allow for up to 5% of biodiesel to be mixed with conventional diesel without any labelling or notification and biodiesel is much more water soluble than diesel sold 10 years ago.
This can create more issues as biodiesel is a microbial food source and most microbes that affect fuel require a water interface to multiply.

Chris Adsett says the combination of a food source and interface make diesel quality difficult to maintain and corrosion problems associated with microbial growth are serious.

This has been backed up by research that confirms ethanol contamination in diesel is the primary cause of corrosion in fuel systems and engines. This was not a problem until ethanol was introduced.

"These issues, mean it is vital for those who use diesel fuel, to have their fuel and lubricants checked regularly by experts in fluid management in order to reduce or even eliminate the issues," Chris Adsett says.

For more information about Techenomics International visit www.techenomics.net or contact Chris Adsett, c.adsett@techenomics.com; in Indonesia Freddy, freddy@techenomics.com; in South East Asia Siti, siti@techenomics.com, in Mongolia Tumee, tumee@techenomics.com, in Australia Michael Noncic, michael@techenomics.com, or in Africa Chris Adsett, c.adsett@techenomics.com.