



TECHENOMICS INTERNATIONAL

30th April 2024
Press Release

There is no doubt – Liquid Tungsten works

Tests by Techenomics demonstrate effectiveness in lubricants

The use of Liquid Tungsten additives in oil and other lubricants really does work, says Techenomics International CEO Chris Adsett, with our ongoing independent tests demonstrating a marked improvement in the effectiveness of lubricant.

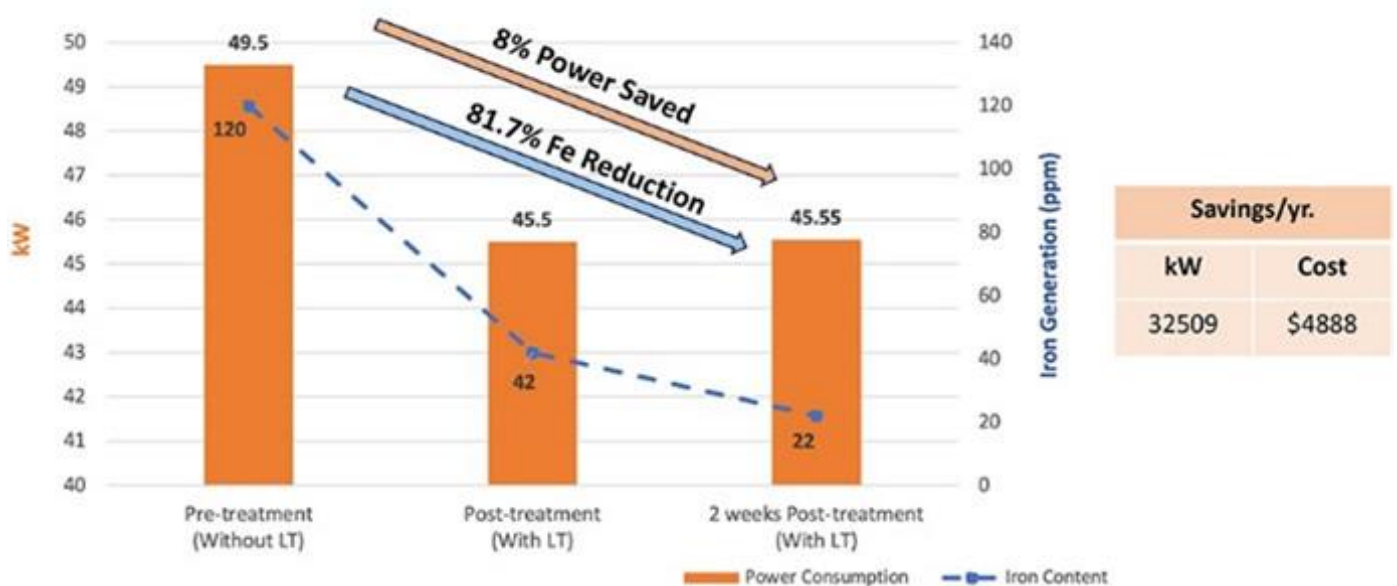
Techenomics has been distributing the unique nano-sized Tungsten Di-sulphide (Liquid Tungsten) product for the past five years, including exclusively to the mining industry.



CHRIS ADSETT
CEO OF TECHENOMICS

“We do so because Liquid Tungsten complements our total fluid management services and helps customers obtain more from their oil and lubricants, thereby reducing maintenance, improving productivity and providing value for money,” Adsett said.

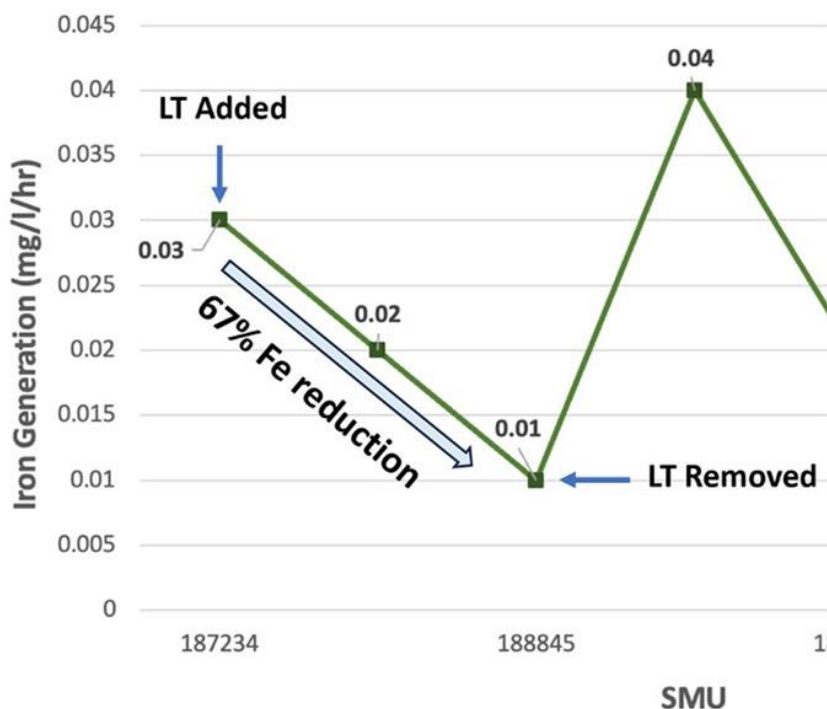
“We don’t just talk the talk with this, we have proved its worth with our ongoing independent testing including a new test that demonstrated a 36-times improvement in tribological performance compared to the base lubricant. “The test at our Gunnedah laboratory in NSW also reduced iron wear from 324 parts per million (ppm) per hour to just 2.16ppm while lead content was significantly decreased.”



This is the latest independent test in Techenomics’ comprehensive ongoing program in its laboratories as well as in the field with Liquid Tungsten added to 19 various industrial oils for engines and gearing at dosage rates of 2%, 3% and 5%.

The results have been overwhelmingly positive and range from a 3% increase in life to failure to 100% for some gear oils and 166% for some engine oils, with the better outcomes achieved with a 2% dosage in most tests. Field trials in Mongolia, Indonesia and Australia, generally using a 3% dosage, have produced some impressive results.

For example, in Mongolia, a 3% dose used in the final drives of a Komatsu dozer reduced iron wear by up to 60% per operating hour while engines in dump trucks in Indonesia achieved a 5% fuel reduction.



Fixed plant gear boxes in Australia achieved a power draw reduction of 10% and a temperature reduction of 10 degrees in another situation. A council in regional New South Wales trialed the use of Liquid Tungsten for gear oil in an aerator unit at a water treatment plant, achieving an 81.7% reduction in iron levels and an 8% saving in power use with an annual cost saving of \$4,888.

At an Indonesian mine site, a trial of Liquid Tungsten IC3100 was carried out on a Komatsu OHT dump truck on which higher levels of iron were being generated, reducing component and oil life. The trial saw the final drive compartment dosed with 4% by volume of the IC3100 and resulted in a 67% reduction in iron levels.

Explaining the science behind Liquid Tungsten, Techenomics' Tribologist and Senior Mechanical Engineer based in Newman, Western Australia, Dr Gopal Kumar, said the unique patented technology involved nano-spheres, or onion-like structures, with layers that exfoliated under pressure to form a super-strong protective tribofilm on the contacting surfaces.

"These nanoparticles roll between the surfaces acting as ball bearings, reducing friction, filling surface imperfections and preventing the propagation of cracks," he said.



SOLVE YOUR LUBRICATION PROBLEMS
 We will test your oil with an appropriate WS2 additive to provide you with the relevant information to reduce your fuel consumption and lower your engine wear! Click here for more...

For more information about Techenomics International contact Chris Adsett, c.adsett@techenomics.com; in Indonesia Freddy, freddy@techenomics.com; in South East Asia Siti, siti@techenomics.com, in Mongolia Tumees, tumees@techenomics.com, or Otgoo, otgoo@techenomics.com, in Australia Dr. Abu Bakkar Siddique, siddique@techenomics.com; in Western Australia Dr Gopal Kumar, gopal.kumar@techenomics.com, in Africa Sugraa, sugraa@techenomics.com; or for Liquid Tungsten globally Chris Adsett, c.adsett@techenomics.com.