



SAIT Newsletter, February 2018

TRIBOLOGY is defined as 'The study of the phenomena and mechanisms of friction, lubrication, and wear of surfaces in relative motion'. The complexity of the task renders a synergistic approach essential. The disciplines involved include materials science, physics, chemistry and mechanical engineering.

Ref Bosch SAE Automotive Handbook 7th Edition – page 304

ETT – Essential Tribology Terminology

Simple definitions of three of tribology's essential terms

- ✓ **Cloud Point** - The temperature at which a cloud of wax appears when a lubricant sample is cooled under prescribed conditions.
- ✓ **Complex Grease** - A grease in which the thickener is a combination of a conventional metallic soap and a complexing agent which may be either organic or inorganic.
- ✓ **Compounded Oil** - A mineral oil to which vegetable and animal oils or similar chemical substances have been added to impart special properties.

SAIT Training – Avoid the slippery slope of ignorance

“LUBRICATION ENGINEERING”

There are still a few spaces available for LE 113 – book now!

LE 113: 19-23 February 2018, Johannesburg:

LE 114: 7 - 11 May 2018, Johannesburg

LE 115: 21 - 25 May 2018, Durban

LE 116: 23 - 27 July 2018, Johannesburg

LE 117: 27 - 31 August 2018, Cape Town

LE 118: 8 - 12 October 2018, Johannesburg

To book for any of these courses, find the form online at: <http://www.sait.org.za/events/training>

2018 SAIT Webinars

Tuesday 6 March 2018 at 16:00:



“Adventures in Wear: From Underground Gold Mines to Desert Railways to Ocean Floors”, by Dr Jean-Patrick Leger CEO of the manufacturer of Vesconite.

To Register, go to
https://zoom.us/webinar/register/WN_7pfNqRVCTLq0IDk-8PNvYw.

You will then receive an email with the login details and instructions on how to join.

Jean-Patrick Leger (photo thanks to <https://www.vesconite.com/vesco/prototype.htm>)

International Events:

September 4-7, 2018: 45th Leeds-Lyon Symposium - Smart Tribology Systems: Trinity University, Leeds, UK. *Please take the time to explore the symposium website [Leeds-Lyon 2018](#)*

September 17-20: Malaysia ASIATRIB 2018: the mega event in the series of International Tribology Conferences under the auspices of the Asian Tribology Council (ATC), the apex body of national tribology society of Asia Pacific countries. prospectus at http://asiatrib2018.mytribos.org/PDF/ASIATRIB2018_prospectus.pdf

October 8-12, 2018: The 5th International Conference on Competitive Materials and Technology Processes, to be held in the **Hunguest Hotel Palota Lillafüred** at Miskolc-Lillafüred, in the mountain Bükk in Hungary. For full information click on the link: <http://www.ic-cmp5.eu/>

Did You Know?

'A tribological tip-trip'

Did you know it is estimated that between **70 to 90 percent of hydraulic system failures happen due to fluid contamination.**

If businesses want to get the most out of hydraulic system(s) they should develop a fluid cleanliness plan that monitors microscopic particles in their hydraulic fluid. The goal of a fluid cleanliness plan within a hydraulic system is to maximize productivity and enhance equipment reliability.

Visit

<http://www.machinerylubrication.com/Whitepaper/RequestPaper/422?eid=219694677&bid=1948127>

Tribology &The Environment:

'Wear particles from underground railways are dangerous for your health':

It's all about friction on steel tracks.

Even though the electric-powered trains have lower levels of polycyclic aromatic hydrocarbons compared to freeways, and operate with mandatory closed windows and a mechanical ventilation system, researchers found that the maximum Excess Lifetime Cancer Risk for the Los Angeles Red Line was 10 times higher than the acceptable threshold of one-in-a-million, set by government and health organizations like the World Health Organization and the EPA. This was the result of high levels of airborne hexavalent chromium measured within the train cars, likely due to a build-up of dust resulting from friction on the steel tracks, as well as the lack of ventilation on the underground line. It is noted that the Red Line is the most used of the six L.A. Metro lines, with approximately 40 percent of the system's total annual ridership

Visit the article by Ashleen Knutsen at <http://www.tribonet.org/category/bio-tribology/> or paste the link into your browser.

Parting-Shot:

Do Lube Blenders Dream of Electric Cars?

Article by Mark Townsend pages 20-26 Lubes 'n Greases EMEA magazine

'A spate of announcements by governments and original equipment manufacturers suggest the electric vehicle revolution may be close to a tipping point. In the crosshairs is the future of the global finished lubricants industry, which according to one industry observer may be faced with a 1 million to 2 million metric ton per year reduction in demand in the next few years. Automotive lubricants account for roughly half of all global finished lubricant demand and refiners and lubricant marketers increasingly acknowledge electric vehicles are no longer a peripheral threat to their business. The impact of EVs on lubricant volumes over the next 15 to 20 years could be even greater, at 20 to 30 percent, said Christine Fuchs, the head of global research and development at Fuchs.'

For the balance of this thought -provoking article go to:

<http://viewer.zmags.com/publication/394a2226#/394a2226/20>, or paste the link into your browser.