



## SAIT Technical Newsletter, June 2021

### Bringing the SAIT Executive Committee Closer to SAIT Members and the Wider Tribological Community.

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## Tribology

**T**ribology can easily become the victim of corrosion.

When machines operate, the lubricant is circulated and 'splashes' around the inside of the machine. This provides some level of corrosion protection. When a machine stands, the machine elements above the lubricant level are exposed to water vapour, and not protected after a period of time. This can cause corrosion and result in machine failure after start-up. As there is always 'headspace' above the lubricant, measures need to be taken to prevent corrosion in these areas, by sealing the machines and possibly with the use of vapour phase corrosion inhibitors.

**The last thing that you want is that a standby machine fails on start-up when you need it most.**

Please visit: <https://www.chemtool.com/>



## Training

Please review <http://www.sait.org.za/events/training/>

**NB: The SAIT will no longer further present online courses. LE 132 will be held in Cape Town from 30 August to 3 September 2021.**



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## SAIT Events

**SAIT Membership Fees:** A reminder that SAIT Membership Fees for 2020/21 were due in March; invoices were sent to all members. **Thank you to those who have already paid.**

We understand that the lockdown has caused financial difficulties but will appreciate it if those Members who can do so pay their membership fees as soon as they are able and let us have Proof Payment by email at [admin@sait.org.za](mailto:admin@sait.org.za).

If you are unable to pay at this time or need a copy of your Membership invoice, please contact the secretary at [secretary@sait.org.za](mailto:secretary@sait.org.za) to arrange for continuation of your membership. Thank you.

### Afternoon Seminar:

**‘What Can Tribology do to Improve Your Return on Investment?’**

***on Wednesday Afternoon, 30<sup>th</sup> June 2021***

The SAIT will present an afternoon seminar on the importance of Tribology to industry, at Science Park, Northway, Kelvin on **Wednesday 30 June 2021**. **Times and speakers have not yet been finalized.**

Please go to our Website page at <http://www.sait.org.za/events/seminars/> to follow our progress.

**Note:** We have extended the date for Synopses of presentations to **Wednesday 23 June**.

To attend this seminar, please email us at [secretary@sait.org.za](mailto:secretary@sait.org.za) and we will register you.

***We are still calling for interested individuals and companies to submit papers for this event. The seminar is intended to bring together all parties interested in this important and topical subject.***

Friction consumes energy, and wear consumes machinery. As the science of friction and wear, Tribology can be used to reduce energy consumption, increase machinery life, and significantly improve the return on investment in industry.

#### **Guidelines for Speakers:**

Authors are invited to submit presentations and case study material on topics that are informative and current. The following subjects are a guideline only for the day's programme. Any other suggestions, ideas or topics that could be associated with the subject, will be most welcome:

#### ***Reliability and Cost Reduction:***

- ‘Energy Reduction’
- ‘Friction Reduction’
- ‘Maintenance Optimization’,
- ‘Wear Control’
- Wear Monitoring
- Filtration

We would like to see presentations from End-users, Lubricant Marketers and Manufacturers, OEM's, Additive Companies and related industries.

Please send a brief synopsis and short title of your proposed presentation or case study for approval; maximum 500 words, to the SAIT, email [secretary@sait.org.za](mailto:secretary@sait.org.za), or [admin@sait.org.za](mailto:admin@sait.org.za) as soon as possible. We would like to circulate the programme to a large target market to ensure a good attendance. Please include title, authors and affiliation and your contact details. **Please let us have your synopsis by Wednesday 23 June at [secretary@sait.org.za](mailto:secretary@sait.org.za).**

**NB:** The seminar is **not** a selling platform. Product promotional material or sales-orientated videos should be limited and used to provide only technical aspects. /...

For any enquiries regarding the seminar please contact Faiz Regal, cellphone number 0834559675, and for general enquiries phone Isabel or Berice at 011 804-3710.

## SAIT Annual Awards

These awards have been 'on hold' throughout the Covid-19 Pandemic. As soon as this ongoing crisis is past, we would like to be able to present Awards to those individuals and companies in the Tribological Field who are doing outstanding work and creating wonderful innovations. Please email us at either [secretary@sait.org.za](mailto:secretary@sait.org.za) or [admin@sait.org.za](mailto:admin@sait.org.za) with names and details. Thank you.

## International Events

For a full list of upcoming international events please visit [Tribonet Conferences](#) where links take you to each event in full detail. For news on the Plenary Speakers and important dates, please read on.



Society of Tribologists and Lubrication Engineers

**Every Wednesday**, a new recorded webinar is available, free, to all STLE Members. We also provide links to TLT articles related to the webinar topic. *For more information, please go to:*

[https://www.stle.org/WebinarWednesdays?utm\\_source=Real%20Magnet&utm\\_medium=email&utm\\_campaign=156033357](https://www.stle.org/WebinarWednesdays?utm_source=Real%20Magnet&utm_medium=email&utm_campaign=156033357)

### Please note this international fuel event

13<sup>th</sup> International Colloquium Fuels

15-16 **September 2021 Ostfildern Stuttgart Germany**

In person and online – a hybrid event.

## Contamination Corner

**Contamination starts with attitude, policy, and standards** – it is much more than housekeeping, hygiene and particles. If an entrenched culture of 'oil is just oil' exists, then even a spotless maintenance area could be hiding the fact that lubricants of differing qualities and grades are being mixed into the wrong applications.

Just applying the wrong grade of lubricant because it is 'cheaper' is a contamination with long-term impact – it is not visible now but will be disastrous in the future. The massive COVID economic downturn has resulted in corners being cut. For example, a truck engine designed to run on part-synthetic multigrade diesel engine oil gets being treated to cheap monograde oil during topping up in between major service intervals. The correct multigrade lube additives are being polluted which also has a negative outcome on service intervals.

The same problem applies to engine coolant. Firstly, the correct coolant ratios (50:50) should be respected. And then coolant is not just coolant – all OEMs are very specific about the coolant type to be applied. Mixing differing types of coolant has a damaging outcome on engine life... **contamination, yechhhh!**

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Contamination control is a partner of RCFA – Root Cause Failure Analysis – it's not just what is visible, and it is worth digging deeper.

## FAQS – Did You Know?

A couple of frequently asked lubricant questions that impact on friction:

- **When I change the oil, I notice that the colour of the old oil is black. Does this mean that the oil has failed?**

No. Black oil is a good sign that the oil is cleaning away the black deposits and contaminants that can form during the combustion process and get down into the engine oil. If the oil is still relatively light in colour when you change it, this means that it has little detergency and is not doing its job.

- **Can one oil cater for all the different engines manufactured?**

No, engine manufacturers in Europe, Japan, and the USA design engines for specific purposes. They are all high-powered and they all need different types of lubricants.

<https://www.wearcheck.co.za/info/faq/faq-oils.html>

## Rheo-stick – viscosity plain & simple (for Africa)

**Rheology is an essential component of tribology** - it is a branch of physics that deals with the study of the deformation and specifically the flow of matter, like lubricating oils. And on a gigantic scale the lava flow from a volcano would also qualify.

Enter the Rheo-stick, a name adopted for a small plastic tool in the pictures below. Inspiration comes from the word rheology. The Rheo-stick is a user-friendly visual viscosity comparator intended for on-site use to monitor changes in the viscosity of lubricating oils. It does not measure the physical viscosity of the oil, but it does give a quick visual when you compare how new oil flows next to a used oil sample. - you can see if the used oil is thicker or thinner than it should be based on how it flows down the channels.

You can order something similar from the USA but it costs over R2000..... per stick (with exchange rate and courier etc). You can find out about the locally made kit at: <https://www.wearcheck.co.za/blog/item/321-measuring-viscosity-is-now-as-easy-as-1-2-3.html>





## Parting Shot!

Multi-awarded tribologist Ashlie Martini, a professor of mechanical engineering at University of California, Merced, discusses the future of tribology and why a tribologist will always have a job.

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Tribology is an enabling or supporting technology, says Martini, who traces back tribology to ancient Egypt, although the term was coined only in the 1960s by Professor Peter Jost. Quantitative studies of friction can be traced as far back as 1493 though, when Leonardo da Vinci first noted the two fundamental 'laws' of friction.

As tribology is a supporting technology, its future will depend on the future of other technologies, Martini says. "Tribology will evolve with them." Although she says the field of tribology is "competing with sexy science."

Please visit: <https://www.fuelsandlubes.com/podcasts/episode-11-a-conversation-with-multi-awarded-tribologist-ashlie-martini/>.

## We Want to Hear from YOU



1. Please send us your Synopses for our Seminar on 30 June – they should reach [secretary@sait.org.za](mailto:secretary@sait.org.za) by 23 June.
2. Please let us know what topics are of interest to you: submit interesting paragraphs or articles that we can share with the SAIT community, by sending them to [admin@sait.org.za](mailto:admin@sait.org.za), for forwarding to The Editor. This will assist in disseminating information to all involved in Tribology.
3. Please let us know what would interest you for technical sessions or webinars
4. Please let us know of interesting presenters from whom you would like to hear.

We look forward to hearing from you!

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## SAIT Office Hours and Telephone

The SAIT Offices are usually open from Monday to Thursday, from 09:00 - 15:00, and are closed on Fridays.



**Isabel Bradley, SAIT Secretary**, is usually in the office on **Tuesdays and Thursdays**.

**Berice Fayard, Bookkeeper and Administrator**, is usually in the office on **Mondays and Wednesdays**.

**During Loadshedding**, our **telephone, router and computers don't work**, so we then work from home.

**If you can't reach us by telephone**, please send an **email to either [secretary@sait.org.za](mailto:secretary@sait.org.za) or [admin@sait.org.za](mailto:admin@sait.org.za)**, as we currently have no way of accessing voice messages.



**Isabel Bradley**  
SAIT Secretary



**Berice Fayard,**  
Bookkeeper and  
Administrator

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