



TRIBOLOGY and ancient Egypt 2400 B.C.

A concept of lubrication was already used by ancient Egyptians. A picture transporting an Egyptian statue to the grave of Tehuti-Hetep, El-Bersheh depicts slaves dragging a large statue along sand or ground. One man, standing on the sledge supporting the statue, pours a liquid (oil/water) as a lubricant to reduce friction between sledge and ground/sand

(Visit <http://www.tribonet.org/tribology-history/>)

ETT – Essential Tribology Terminology

Grasp tribology’s essential terminology

- ✓ **ATIEL** –. ATIEL represents the combined knowledge and experience of Europe’s leading engine oil manufacturers. Its expertise in engine lubricants technology has helped to establish industry best practices and quality standards for both vehicle manufacturers and consumers. By drawing on the technical know-how of its membership it promotes consensus on key technical issues, ensuring that engine oils continue to contribute to improved wear protection, deposit control, lower emissions and fuel economy.
- ✓ **Base Number** -. The amount of acid required to neutralize all or part of a lubricant’s basicity, expressed as potassium hydroxide (KOH) equivalents. (See also Total Base Number and Neutralization number)

SAIT TRAINING – Avoid the slippery slope of ignorance

“LUBRICATION ENGINEERING”

- Five-day course - 5 CPD credits

Course Objectives: This is designed to transfer a thorough understanding of tribology from a lubrication engineering perspective. Over 20 topics take participants through basic chemistry to the theory of rubbing contact and friction in all industrial applications including the application of management principles, safety and the environment in tribology.

16-20 October Johannesburg is fully booked.

**Please register for:
Lubrication Engineering 113, 19 – 23 February 2018**

For more information and to register for training please Ctrl + Click

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

**TRAVEL – visit India in December 2017!
9th International Conference on Industrial Tribology (ICIT 2017) at Kolkata (Calcutta), India.**

- ✓ The Theme Session will focus on “**Tribology – A Key Enabler for Industrial Growth**”. To enrich the content of this Conference, parallel technical sessions have also been planned covering 18 areas of tribology.
- ✓ A very detailed and interesting brochure (ICIT-kolkata-brochure.pdf) can be downloaded from <http://tribologyindia.org/pdf/ICIT-2017-kolkata-brochure.pdf>

31 Oct – 2 Nov 6th African Base Oils and Lubricants Conference - Ghana
Nov 15-16 4th ICIS & ELGI Industrial Lubricants Conference – Vienna Austria
Jan, 9-11, 2018 21st International Colloquium Tribology, Industrial and Automotive Lubrication Germany/Stuttgart, EU



6th WORLD TRIBOLOGY CONGRESS

WTC VI was held 17 -22 Sept in Beijing at the Beijing International Conference Centre. The Opening Ceremony on the Monday included general welcome speeches, highlights of the life of Professor Jost, and a short presentation on WTC VII which will be held in France in Lyons in 2021. Other member countries who bid for this event were India and Malaysia. Patrick Swan, SAIT Vice President, chaired a session on Automotive Tribology, and gave a paper on Financial Tribology. Professor de Vaal of Pretoria University, gave a poster presentation.

Well-attended and well-organised, this was certainly a most worthy effort of the Chinese Tribology Institute (CTI).

'Report Back from World Tribology Congress in Beijing in September'
by Patrick Swan Webinar
3 October 2017

UPCOMING LOCAL EVENTS

7 Nov 2017 at 16h00 Webinar
"Simplifying the Waste Act and Waste Regulatory Requirements"

by Belinda Berry

LISAM SOUTH AFRICA

To register, click here:
<https://register.gotowebinar.com/register/9011658159676394498>

DID YOU KNOW? – 'A tribological tip-trip'

Did you know that *TriboElectric charging* is more commonly known as static electricity? In a dry winter season, many people experience static electricity in a car or truck when sliding across a seat to get out of a

vehicle. The charging occurs as clothing fabric makes sliding contact with the vehicle seat material. What frequently follows is a shock when touching a door handle or metal frame – it's all about friction.

In a really interesting look at '**Triboelectric Charging of Common Objects**' please visit <http://www.ece.rochester.edu/~jones/demos/charging.html> – a paper from Thomas B. Jones, Professor of Electrical Engineering, University of Rochester.

USA ENERGY EFFICIENCY OPPORTUNITIES

Surfaces in interacting motion are at the foundation of the critical energy-efficiency properties of friction, lubrication and wear, and these are found throughout all energy systems with moving parts. Tribology, a branch of engineering, is relatively unmapped and uncharted for energy technologies in recent times; not since the 1980s has any comprehensive study been conducted in the United States (U.S.) to assess the impact of tribology and potential benefits of tribology research across energy technologies. Experts have estimated that over 30% of the approximately 26 quads of energy currently consumed in the U.S. by the transportation sector alone is spent to overcome losses due to friction and wear. Further, they estimate that tribological advances may save nearly 11% (or 10.7 quads) across the transportation, industrial and utilities sectors' combined energy use in the U.S. Yet tribological science and engineering approaches to modern energy efficiency issues remain underexplored, with few dedicated funding programs, an aging and shrinking workforce, and many open fundamental, applied and commercially-driven questions.

This 10MB 127-page document can be downloaded from the STLE website by SAIT / STLE members (please note that you will need to login)



SPEC UPDATE – INTERNATIONAL VIEW

A spec update from Joan Evans, Infineum Americas Industry Liaison Manager, is quite something! **The complexity of modern lubricant specifications can be examined in detail on this web address**

<http://www.infineuminsight.com/insight/sept-2017/north-american-specification-update>

PARTING SHOT – FROM SAIT PRESIDENT, DAVE GAMBLE

In the past month, 26 August to 26 September this year. the crude oil benchmark has risen, Brent from \$52 to \$59, WTI from \$47 to \$52, and the trend is expected to continue, The SA Rand has moved from 13.00 ZAR to 13.32, so the cost of fuels and of base oils will rise, plus additives plus manufacturing costs will also rise. This forthcoming increase in lubrication and maintenance costs will impact on general industry, and the public. We must publicise the Institute, what it stands for, and the valuable knowledge it can impart. Dissemination of the value of good Tribology practices in containing and reducing Total Cost of Ownership (TCO) is vital. It's all about implementing the concepts and past achievement successes,

What we preach and train to others will help alleviate the vicious upward cost spirals in our Countries.

So the message is: **TALK OUT, MEMBERS,
BROADCAST WHAT WE CAN ACHIEVE!**
