



ALLPI 2019 1st QUARTER NEWSLETTER

Leather for Health, Wealth and Luxury!

January - March 2019 (Issue No. 17)

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ALLPI facilitated Malawi Satellite Design Studio and Incubation Centre Business Plan Validation and CAD Training completed



Partial View of the ALLPI CAD Training in Malawi

ALLPI Expert Team composed of Prof. Mekonnen Hailemariam and Mrs Birkinesh Gonfa with one Expert Trainer in Computer Assisted Designing (CAD) were on mission to Malawi to conduct Validation workshop of the Satellite Leather Design Studio and Business incubation Center in Blantyre and conduct CAD Training to selected SMEs from 6th to 17th March 2019. The validation workshop was conducted from 6th to 7th march 2019 and the training was from 8th to 17th march 2019 in Blantyre City.

ALLPI to Host IULTCS 2021 Congress



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**NEXT ISSUE
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Malawi Satellite leather design studio and Business incubation centre was established to assist SMEs and start-up enterprises in leather products manufacturing to successfully develop through attaining enhanced products quality, competitiveness and market access to local, regional and global markets. The Ministry of Industry,



Partial View of the Malawi Business Plan Validation Workshop

Continued on Page 3....



Prof. (Dr⁵) M. Mwinyihija, ED of ALLPI

Dear Esteemed Readers,

Welcome to the first Quarter 2019 Newsletter

With the first quarter 2019 now over, let me share with you some of the milestones already accomplished during the quarter under review whilst highlighting some of the major activities planned and accomplished.

I feel proud to announce that, the year 2019 started well by signing of Memorandum of Understanding (MoU) with Olympia Eco Solutions Private Limited, of India. Under the MOU, ALLPI and OLYMPIA will collaborate, over the next three years in the areas of Capacity Building, Technology Transfer, Effluent Treatment Systems, Accreditation of SMEs and Testing Laboratories, Joint resource mobilization efforts, Environmental Protection and in all matters of common interest that arise in the fields of leather and leather products.

During the same period under review, the Institute registered a great stride in organizing and conducting training in Computer Aided Designing (CAD) and Business Plan Validation Workshop (earlier developed by ALLPI through a participatory process). The two activities were conducted at Malawi Satellite Leather Design

Studio and Business Incubation Centre and Blantyre city respectively. 11 SMEs were trained in CAD while 20 Stakeholders participated in Validation workshop.

It is also my sincere pleasure to announce that, the Pan-African Leather Fair for the first time will be held on African soil in Cairo, Egypt in July 2020 which is a milestone for the African Continent. This is because their focus will encompass the Middle East and increase the scope of our SME's doing business widely.

In another development, the International Union of Leather Technologists and Chemists Societies (IULTCS) Congress meeting in Hong Kong in March 2019, the former IULTCS President requested leather manufacturers across the Globe to sponsor Scientists (leather technologists and chemists) to Germany in June 2019 for the XXXV IULTCS Congress. This will definitely benefit the young African scientists to strive in their careers if successful.

As the Executive Director of ALLPI and Vice President of the International Council of Tanners (ICT), I participated in the Council's meeting which was held in March 2019 in Hong Kong. During the meeting, I raised the flag of the Africa Leather Sector in various sessions which

included but not limited to: the sustenance of FAO Hides and Skins Statistical Compendium, Area of leather, Industry Certification, carbon footprint of livestock, restrictions of commodities imports in Africa, World Leather Congress, and Global Leather Coordination Committee (GLCC). I also met different partner organizations that may support the Africa leather sector.

We continued to heighten our activities as you may witness from the contents of this Newsletter covering the first quarter as we strive to attain both continental and global centre of excellence status.

Once again, ALLPI appreciates the support, feedback and information provided by those of you who participated in our activities, and kindly accept our appreciation for your collaboration with continued hard work and dedication. We value the insights you shared with us to reach where we are.

Last but not the least, ALLPI appreciates and value all our partners and stakeholders for their invaluable support and collaboration for all the successes registered during the Quarter under review. We hope this Newsletter will continue keeping us connected with respect to information sharing in the continent's leather sector development and other activities in the sector within and outside the continent. Kindly accept our sincere appreciation for taking time to read and providing us with your valuable thoughts.

May the Almighty LORD Bless you all.

Mwinyikione Mwinyihija Prof. (Dr5).
Executive Director.

ALLPI facilitated Malawi ...Continued from Page 1

Trade and Tourism (MoITT), the Small and Medium Enterprises Development Institute (SMEDI) and the Leather Industries Association of Malawi (LIAMA) are the promoters of the center.

The Centre is also part of the implementation of the National Leather Value Chain Strategy which was developed in collaboration with Africa Leather and Leather Products Institute. To implement the centre's objective in a sustainable way, ALLPI facilitated the development of the Business Plan through a participatory process. The draft Business Plan was earlier submitted to the Ministry of Industry, Trade and Tourism for comment and revised based on feed backs received. The validation workshop that was attended by 20 participants from different institutions and SMEs validated the Business Plan with few minor amendments and recommended for implementation.

The Training of CAD was conducted by Mr. Hailemariam Gizaw Leather Product Technologists at leather Industry Development Institute of Ethiopia (LIDI) and coordinated by ALLPI Investment, Trade and Marketing expert, Mrs. Birkinesh Gonfa. The main Topic of the training encompassed:

- » The fundamentals of CAD based grading system training Introduction
- » Explanation and demonstration of Preparation of last standard /copy, Digitization
- » Explanation and demonstration of the method of generating style lines

- » Explanation and demonstration of Addition of allowances
- » Extraction of upper, lining and bottom pattern from the standard
- » Principals of pattern grading and application of grading with the support of CAD
- » Perform nesting & calculate consumption of the model
- » Adjustment of the CAM machine according to the work requirement and Card board insertion
- » Extraction and checking of the cut pattern from the sheet

This training was the continuation of the previous training on Footwear Designing and Finishing held during August, 2018, with the objective of enhancing the quality of Footwear and Leather Products produced by SME's by using the newly established state of art machines in Leather Design Studio in Blantyre. The machines were bought with the collaboration of EU with the aim of producing high quality footwear for Local and international markets.

Eleven SME's from leather and leather product Associations and private players attended and successfully completed the CAD training. At the end of the training, trainees produced models of shoes using CAD machine were displayed. Trainees were also made to evaluate the whole training program. The closing ceremony of the training was graced by the presence of MEPE Project Manager Mr Jussa who handed of certificates.

ALLPI signs MoU with Olympia Eco Solutions Private Limited, of India



Prof. Mwinyihija and Mr. Syed Signing the MoU

Africa Leather and Leather Products Institute (ALLPI) is proud to announce its latest Memorandum of Understanding, between ALLPI and Olympia Eco Solutions Private Limited, India (Olympia)

The MOU was signed on February 7, 2018 by Prof. Mwinyikione Mwinyihija, Executive Director of ALLPI, and Mr. Syed Kassali. A, Director of Olympia.

Olympia, with its office at No. 19/12, Bansali Chemical Avenue, SIDCO Industrial Estate, Ambattur, Chennai – 600 098, Tamilnadu, India, is one of the pioneers in the detail design & engineering of Water Treatment Plants, Environmental projects and Allied Infrastructure works. The company has a multi-disciplinary team of professionals, specialized for design, engineering, supply, erection & commissioning of Reverse Osmosis / Ultra Filtration / Demineralization / Sewage Treatment Plant / Effluent Treatment Plant and Recycling plants.

Under the MOU, ALLPI and Olympia will collaborate, over the next three years, in the areas of Capacity Building, Technology Transfer, Effluent Treatment Systems, Accreditation of SMEs and Testing Laboratories, Joint resource mobilization efforts, Environmental Protection and in all matters of common interest that arise in the fields of leather and leather products.

ALLPI during the International Council of Tanners (ICT) Meeting in Honk Kong



As the Executive Director of ALLPI and Vice President of the International Council of Tanners (ICT), Prof. Mwinyikione Mwinyihija attended the ICT Meeting that was held in March 2019 in Honk Kong.

During the meeting, he raised the flag of the Africa Leather Sector in various sessions which included but not limited to: the sustenance of FAO Hides and Skins Statistical

Compendium, measurement of area of leather pieces, Industry Certification, carbon footprint of livestock, restrictions of commodities imports in Africa, World Leather Congress, and Global Leather Coordination Committee (GLCC). He also met different partner organizations that may support the Africa leather sector.

Buyer – Seller Business Breakfast - Blantyre, Malawi



Dr. Ken Ndala, Principal Secretary for the Ministry of Industry, Trade and Tourism, visiting Products of SMEs

On Tuesday, 26th February, 2019 The Ministry of Industry, Trade and Tourism through the Malawi Enterprise Productivity Enhancement (MEPE) project hosted a business breakfast with potential buyers of leather goods and Textiles to encourage them to buy goods produced by the SMEs and Cooperatives in the Country. Over 50 guests from Ministries, Government Agencies and the Private sector participated in the event. In his opening remarks, the moderator of the event, Mr. Mayeso Msokera said: “the event presents a unique opportunity for influential Government and Private Sector Leaders to appreciate the quality of footwear and leather goods that SMEs in Malawi are able to produce through the state-of-the-art Leather Design Studio (LDS) and consider buying their products.

Dr. Ken Ndala, Principal Secretary for the Ministry of Industry, Trade and Tourism, was the Guest of honour at the event. In his address, he reaffirmed Government’s commitment to continue supporting the leather sector with policies and strategies aimed at promoting the development of leather products value chains; promoting access to market, finance and improved technologies. He cited the recently passed Malawi Public Procurement Law (2017) which requires public procuring entities to buy at least 60% of their needs from local SMEs or indigenous Malawians as one of the ways in which Government is promoting SMEs participation in public procurement.

Speaking on behalf of the SMEs, the Vice Chairperson for Leather Industry Association of Malawi (LIAMA) thanked the Ministry for hosting the event and the business community that had come to establish business linkages with the SMEs. During the event, the invited guests from Government and the Private Sector pledged their commitment to collaborate with the SMEs by sourcing most of their footwear needs from the LDS.

ALLPI Staff Upgraded his Academic Status



Mr. Nicholas Mudungwe, Programs Coordinator of ALLPI

Mr. Nicholas Mudungwe, who is currently serving ALLPI as Programs Coordinator, has upgraded his academic status by completing Master of Science Degree in Project Management. Mr. Nicholas was pursuing his study for the last three year by his own commitment and dedication.

The ALLPI Community congratulated him for his outstanding performance and dedication and would recognize the value that he will be adding to objectives that the institute is to realize.



<http://iultcsafrica2021.allpi.int/>

GLCC calls for international protection of the word “leather”

The Global Leather Coordination Committee (GLCC) has reviewed the issues regarding the protection of “leather” against fraudulent use of the term, and calls upon national Governments around the world to counter the spread of false and misleading descriptions that deceive and confuse consumers.

During a meeting held in Shanghai in late August, the three International Leather Industry organisations that form the Global Leather Coordination Committee (GLCC) reviewed, among other topics, the issues regarding the protection of “leather” against fraudulent use of the term in the various global markets. They note with concern the proliferation of oxymoron, applying the term “leather” to materials that are either synthetic substitutes made of fossil fuel derivatives, or developed from a variety of natural substrates which can include residues from vineyards, the pineapple industry, or mushrooms, to name just a few.

“With such practices the good reputation of leather is increasingly diminished by unscrupulous traders; affecting public perception of leather and causing significant damage in the market, both to legitimate producers and consumers of leather products around the world. The latter have the right to transparent and truthful information on the goods sold or bought to facilitate informed purchasing decisions in the market and avoiding unfair competition”, says the GLCC.

The GLCC reaffirmed its position in defending the term “leather” that exclusively reserves the right to its use for the hide or skin of an animal that has been tanned in order to become imputrescible, and where the natural fibrous collagen structure can be clearly identified. It also said it extends its support to the efforts of the United Nations Industrial Development Organisation’s (UNIDO) Leather Unit in the pursuit of measures that aim to eradicate environmental misbehaviour in the sector in certain countries.

The GLCC Committee calls on the EU to lead the way with an exemplary regulation on leather authenticity and says it encourages the U.S. Government to seek regulatory cooperation with the EU in its review of the Leather Guides.

Source : leatherbiz.com

Good news abounds at Corium Club meeting in Hong Kong

The Corium Club, a group made of the alumni of leading UK leather schools both past and present, held their annual meeting at the recent APLF exhibition in Hong Kong.

Among the topics on the agenda of this year’s meeting was the University of Northampton’s new Waterside campus, which will include the new Institute for Creative Leather Technologies (ICLT).

The campus opened in September after seven years of planning and a budget of £330 million. It is located close to Northampton city centre and has capacity for around 10,000 students. There is also on-site accommodation for up to 1,000 students.

Welcoming the guests to this invitation-only event, Professor Nick Petford, vice chancellor of the university, called for ideas on how it can best serve the needs of the leather industry. There was also debate on what the new leather teaching site should be called.

Rachel Garwood (pictured), director of ICLT, then gave an update on the ongoing work to build the pilot tannery on the new site. Machinery is now ready to be installed, with the wet laboratory and microscopy laboratory expected to be completed in time for students returning from their summer break in September. The overall space reserved for the tannery is comparable to its previous version, but there is now more space dedicated to finishing.

“The new campus has a ‘wow’ factor and we’re absolutely delighted to be part of that. For the first time we are all on one campus which will help the leather students integrate with the university and also work closely with the fashion students,” Ms Garwood said.

The final part of the meeting was dedicated to the Amanda Michel Fund, set up two years ago in honour of a well loved figure from the UK leather industry who lost her brave battle against cancer. Its target was to raise £100,000 to provide ICLT with a scanning electron microscope. Ms Garwood was delighted to announce that the target had been reached thanks to donations from individuals and companies within the leather industry. The Worshipful Company of Leather sellers also matched the funding that had been raised.

“With this equipment, microscopy skills will now be embedded into the curriculum which will in turn be used by the students in their research and dissertation projects,” Ms Garwood explained.

Source : <https://leatherbiz.com/fullitem.aspx?id=150879>

Egypt to host new Pan-African Leather Fair

Egypt is to host a new leather event. The Pan-African Leather Fair will take place in Cairo for the first time in July 2020.

Informa, the parent company of the organiser of the APLF event in Hong Kong will work with local partner, Cairo for Investment and Development (CID), to put the Cairo event on. CID is the company that manages the Roubiki Leather City cluster outside the capital.

CID chairman, Yasser El Maghraby, said recently that 240 Egyptian tanners have already set up production at Roubiki and have the combined capacity to produce 220 million square-feet of leather per year.

He said the investment in phase one of the Roubiki project reached \$340 million and explained that phases two (for leather chemical manufacturers) and three (finished product manufacturers and a leather outlet village) of the project will follow.

Source : leatherbiz.com

UNIDO pledges support for Ethiopia's livestock sector

The United Nations Industrial Development Organization (UNIDO) and the General Administration of Customs of the People's Republic of China (GACC) recently held a workshop focusing on how the two organisations can improve collaboration on a project to upgrade Ethiopia's livestock sector.

Other entities involved in this project are the Ethiopian Ministry of Agriculture and Chinese construction company, the CGCOC Group.

Topics on the agenda included initiatives to improve the quality and safety of the country's livestock products, such as the establishment of a pilot export zone and a meat-processing park.

"With the objective to improve the productivity and quality of livestock sector in Ethiopia, a project on upgrading the livestock value chain has been developed within the framework of Programme for Country Partnership Ethiopia," said Dejene Tezera, director of UNIDO's department of agri-Business. "Sustainable industrialisation and scaling-up of interventions for greater impact require strong partnership between private and public sectors."

Beyond the workshop, representatives from the CGCOC Group Ethiopia also offered an update on a proposed plan for the overall transformation of Ethiopia's livestock sector, which includes the establishment of a disease-free zone.

Source : <https://leatherbiz.com/fullitem.aspx?id=150889>

Tannery of the Future and the Leather Working Group announce collaboration

The Leather Working Group (LWG) and the Tannery of the Future foundation will start an intensive collaboration that will lead to full integration of the Tannery of the Future Sustainability checklist into the Leather Working Group website and programme.

Deborah Taylor, manager at the Leather Working Group and Tannery of the Future chair, Antoinette Gast, have expressed their intent of working together to help the leather industry to become more sustainable and environmentally responsible. The collaboration will lead to the further development of the current Tannery of the Future sustainability checklist that can support tanneries worldwide to fully understand what is necessary to produce leather in an environmentally preferred and sustainable way.

A prelude to an LWG audit

"Collaboration with the LWG is a logical step for the TotF", says Antoinette Gast. "From the beginning, the LWG has been an inspiration for us and some sections of our sustainability checklist are very similar to sections contained in the LWG Environmental Audit Protocol. Several tanneries have used the Tannery of the Future sustainability checklist as a prelude to an LWG audit."

Deborah Taylor: "The LWG has been a front runner in supporting the leather industry by recognising good environmental practices through the Environmental Audit Protocol since 2005. 450+ tanneries are currently certified with a medal award that acknowledges environmental stewardship in leather manufacturing. Through the collaboration with Tannery of the Future Foundation we intend to augment that support for tanneries worldwide with a simple checklist that stimulates awareness creation for sustainable and responsible leather manufacturing from a wider perspective and prepares them for an LWG audit."

Scaling up

Antoinette Gast: "the Tannery of the Future foundation is very proud to collaborate with the LWG and all the industry and sustainability experts that are connected to it. With LWG's support we can immensely scale up our efforts to raise awareness about sustainability in the international leather supply chain."

About the Leather Working Group

The Leather Working Group (LWG), established in 2005, is made up of member brands, retailers, product manufacturers, leather manufacturers, chemical suppliers and technical experts that have worked together to develop environmental stewardship protocols specifically for the leather manufacturing

industry. The objective of this multi-stakeholder group is to develop and maintain protocols that assess the environmental compliance and performance capabilities of leather manufacturers and to promote sustainable and appropriate environmental business practices within the leather industry.

The group seeks to improve the leather manufacturing industry by working transparently, creating alignment on environmental priorities, bringing visibility to best practices and providing suggested guidelines for continual improvement.

Best wishes,

The Tannery of the Future team:

Antoinette, Egbert, Frans, Hans

IULTCS urges tanners to 'sponsor a scientist' for Dresden

Leather manufacturers across the world have been asked to 'sponsor a scientist' to allow leather technologists and chemists to travel to Germany in June for the XXXV IULTCS Congress. The International Union of Leather Technologists and Chemists Societies will run the event in Dresden from June 25-28.

Former IULTCS president and vice-president for industry relations at leather chemicals manufacturer Lanxess, Dr Dietrich Tegtmeier, said during an update in Hong Kong on March 13 on preparations for the event that the organisers have been successful in raising all the necessary funding for the event and have received 250 abstracts from prospective speakers so far.

But he said some potential delegates have been in touch to express keen interest in attending the event in Dresden, but making it clear that they cannot afford to do so. "We are, therefore, asking tanners to sponsor flights, hotel fees or the delegate fees for these attendees," Dr Tegtmeier said. "It's not so much money for many of our companies but it is too much for people in some parts of the world to pay. That's why we are asking companies to 'sponsor a scientist', to let leather scientists in the developing world to attend the event."

Hong Kong hosts ICT council meeting

The International Council of Tanners (ICT) held its 2019 council meeting in Hong Kong in the immediate build-up to the APLF exhibition.

In the first session, for ICT delegates only, the organisation's current president, Lisa Howlett, gave a review of its activities over the previous 12 months. Detailed discussion of ICT efforts in various fields,

including on statistics, certification schemes and the promotion of leather, followed.

As usual, the second session of the meeting was open to media and other interested parties. Here, there were presentations on hide supply, the situation in China, traceability and state-of-the-trade country reports from various ICT member countries.

Source: <https://leatherbiz.com/fullitem.aspx?id=150869>

Kenya Yet to Impose Duty on Shoe Imports

Almost a year after Kenya imposed a 35 per cent duty on leather imports, the Treasury is yet to collect the tax, thanks to a tussle between importers and local manufacturers.

The duty was contained in the 2018/19 budget and forms part of the East African Community common external tariff.

Kenya increased import duty on footwear from 25 per cent to 35 per cent or \$10 per unit (whichever is higher) in an effort to grow the local leather industry and protect it from unfair competition from cheap imports. But the enforcement did not take effect after large importers lobbied for a one-year stay of application.

The duty was approved under EAC Gazette Vol. AT1-No. 008 of June 30 2018, legal notice EAC/57/2018, but was revised under EAC Gazette Vol. AT 1-No 16 of December 6 2018, legal notice EAC/170/2018, leaving Kenya Revenue Authority's hands tied.

Large importers want to lobby for further stay of application in the 2019/2020 budget.

Source: <https://allafrica.com>

Leather Naturally builds momentum as funding is almost secured

The leather industry promotional association, Leather Naturally hosted a breakfast meeting during the APLF Leather fair in Hong Kong on March 14 and announced that several new members signed up during the fair.

Founded ten years ago, the growing importance of Leather Naturally (LN) has increased in the past few years. The leather industry is looking to inform and educate more consumers, especially the younger generations, about the inherent qualities and sustainable attributes of a by-product from another industry after facing sustained attacks by anti-leather/meat organisations and growing competition from other materials, especially plastics, that are eroding its market share. Egbert Dikkers, Chairman, Leather Naturally steering committee, speaking at the breakfast seminar in Hong Kong said that LN had been a



Leather Naturally update in Hong Kong

formal not-for-profit legal entity since October 2018 and that it had almost raised US\$1.5 million from the industry to kick-start a new promotional campaign which will begin later in 2019.

The campaign will be focussed on reaching out to generation-Z and millennial consumers especially in Europe, Asia and North America and re-connecting them with the qualities and values of leather. "The internet is full of negative images and lots of fake news surrounding leather especially on social media", said Dikkers. "We want to talk to young people in a way they understand that leather is a cool, sexy and inspiring material."

Fernando Bellese from the LN steering committee outlined where and how the first phase of the campaign should be targeted and said that they were going to engage a PR agency to begin the first phase in the spring of this year, once the initial funding had been secured. The campaign will focus on all the main leather market segments, especially in the fashion arena.

Dikkers also encouraged stakeholders to use all the promotional marketing means at its disposal to promote the positive image of leather and engage actively with designers and stylists from brands and retailers as well as the consumer. A number of new stakeholders joined LN during the APLF, March 13-15, in addition to the 73 existing companies and organisations.

Dikkers also encouraged all leather industry members to explore ways of finding a long-term financing model to ensure that the campaign has longevity and is not reliant on larger donations from a few stakeholders. A challenge that he has put to the Global Leather Coordinating Committee (GLCC) to consider.

Egbert Dikkers, Chairman Leather Naturally steering committee

Source: http://internationaleathermaker.com/news/fullstory.php/aid/6651/Leather_Naturally_builds_momentum_as_funding_is_almost_secured.html

How to Deal with Deadly Hydrogen Sulphide Gas in Tanneries and Effluent Treatment Plants

Introduction

One of the biggest safety risks in tanneries and effluent treatment plants is the evolution of hydrogen sulphide (H_2S). A colourless gas, heavier than air that is invisible and has a strong unpleasant odour in low concentration.

Hydrogen Sulphide gas has a strong, pungent and unpleasant odour. It is generally felt in and around poorly managed/maintained tanneries and effluent treatment plants.

The sulphide content in tannery effluent results from the use of sodium sulphide and sodium hydrosulphide and from the breakdown of hair in the unhairing process. When the pH of the effluent drops below 9.5, hydrogen sulphide evolves from the effluent: the lower the pH, the higher the rate of evolution. Characterized by a smell of rotten eggs, a severe odour problem occurs.

Hydrogen sulphide is a flammable gas which burns with a blue flame, giving rise to sulphur dioxide, a highly irritating gas with a characteristic odour. Mixtures of hydrogen sulphide and air in the explosive range may explode violently; since the vapours are heavier than air,

they may accumulate in depressions or spread over the ground.

Even a low level of exposure to the gas induces headaches and nausea, as well as possible damage to the eye. At higher levels, death can rapidly set in and countless deaths attributable to the build-up of sulphide in sewage systems have been recorded. This is why strict segregation of beamhouse and tanyard streams is a must as well as early removal of sulphide in effluent, usually by catalytic oxidation.

Characteristic of Hydrogen Sulphide Gas:

- » Hydrogen Sulphide is colourless, flammable, extremely hazardous gas.
- » Highly corrosive effect, particularly on concrete and metal structures as well as electrical cabling and installations. Tanners and managers of effluent treatment plants are very familiar with the phenomenon, since substantial maintenance work is required every year to deal with the effects of the gas.
- » Heavier than air and thus can be concentrated in pools of sewage sludge, pits, paddles, man holes of the collection conveyance system in tanneries and

effluent treatment plants,

- » Flammable and may form an explosive mixture with air. Open fire or smoking could be a source of ignition,
- » Poisonous when inhaled.

Poisoning effects of Hydrogen Sulphide Gas

- » Extremely toxic and irritating gas. Can cause instant death.

Who is at risk?

- » Any worker engaged in cleaning of pits or maintenance of collection and conveyance system, receiving sumps, screen chambers etc. falls in the high risk group for exposure to H₂S gas.
- » Any other person in a tannery or effluent treatment plant in the risk locations may be exposed to a higher concentration of H₂S gas.
- » Unaware and unprotected rescuers of persons who may have accidentally fallen into a tank or pit in an effluent treatment plant.

The effect on the human beings who absorb the gas through accidental inhalation ranges from drowsiness, nerval problems, loss of consciousness to death in case the concentration exceeds the prescribed threshold exposure limits,

The characteristics of the gas enable one to smell it so long as it is in very low concentration, without having an adverse effect on health of a human being. Poisoning occurs at higher concentrations only. At these levels the person loses the ability to smell it, often leading to the wrong assumption that no H₂S gas is present.

Table 1 show the symptoms and effects at specific concentrations (in part per million) in the air and time of exposure. The symptoms may vary depending on concentration of the gas in atmosphere, duration of exposure, health condition of the person exposed, smoking habits and other factors. Generally, the symptoms of exposure to gas manifest themselves strongly in newly recruited workers.

Table 1. Human health effects of hydrogen sulphide at various concentrations – exposure via inhalation

Exposure in ppm	Time	Effect on unprotected person
0.03	No limit	No effect
0.03-2		Odour threshold
10	Up to 8 hours	No effect
10-20		Threshold for eye irritation
20-200		Headache, nausea, general weakness, pain in legs
200-500	1 min.	Irritation of nose & throat, vertigo, blurring of vision, loss of consciousness lasting a few minutes

500-900	1 min.	Profound coma, muscular spasm-twitching convulsions, disorientation after recovery
900 and above	1 min.	Instant coma and death

HYDROGEN SULPHIDE FORMATION AND RISKS LOCATIONS

The liberation and presence of hydrogen sulphide gas is likely in the following locations in tanneries and effluent treatment plants:

Tanneries:

- » Drainage and sewage pits where effluent from liming, deliming and pickling stage may be mixed (e.g. tannery internal pretreatment system).
- » In drums, paddles or pits during pickling, when acid is added to inadequately delimed pelts still containing sulphide from the liming stage.
- » In drums, paddles or pits which are used for liming, deliming as well as pickling,
- » In chemical stores due to intermixing of incompatible chemicals, mainly acids with sodium sulphide flakes (due to poor handling and storage practices, chemical accident e.g. acid spills, etc.).
- » Reaction of liming liquors, or other liquors containing sulphide, with acidic liquors (e.g. acids, pickle, tanning) can cause a hazardous release of hydrogen sulphide.

Effluent Treatment Plants

- » Any manhole and opening of the collection and conveyance system,
- » Receiving sumps and screen chambers,
- » Anaerobic tanks and lagoons,
- » Valve chambers and any other pit,
- » Any tank containing some sludge, even if nearly empty,
- » Any other locations in the tanneries or effluent treatment plants, where H₂S gas concentration is usually in the non dangerous range.

HYDROGEN SULPHIDE GAS AT ONE LOOK

Important Data	
Chemical name Formula	Hydrogen sulphide (H ₂ S),
Physical state	Colourless gas, with characteristic odour of rotten eggs in low concentrations,

Physical danger	The gas is heavier than air and may travel along the ground; distant ignition possible
Chemical danger	Heating may cause violent combustion or explosions. The gas decomposes on burning producing toxic gas including sulphur dioxide. Reacts violently with strong oxidants, causing fire and explosion hazard. Attacks many metals and some plastics
Routes of exposure	The substance can be absorbed into the body by inhalation
Inhalation risk	A harmful concentration of this gas in the air will be reached very quickly on loss of containment
Occupational exposure limits	10 ppm over eight hours (as TWA) 15 ppm over 15 min (as STEL)
Effects of short term exposure	The gas irritates the eyes and the respiratory tract. Inhalation of the gas may cause lung oedema and affect the central nervous system. Exposure may result in coma and death. Some effects may be delayed,
Physical properties	Boiling point: -60°C Melting point: -85°C Relative vapour density (air=1): 1.19 Flash point: Flammable gas Auto-ignition temp.: 260°C Explosive limits (vol% in air): 4.3-46.

Environmental data	The substance is very toxic to aquatic organisms.	
Hazard	Symptoms	Prevention/ First Aid
Fire	Highly flammable	Avoid open fire flame
Explosion	Gas/air mixture are explosive	Use explosion proof electrical equipment and lighting
Exposure	Symptoms	Prevention/ first aid
Inhalation	Cough, dizziness, headache, sore throat, lung oedema unconsciousness.	Ventilation, local exhaust or breathing protection; fresh air; rest; artificial respiration; medical attention
Eyes	Redness. Pain.	Safety goggles, or eye protection in combination with breathing protection
Ingestion		Do not eat, drink or smoke during work

Note:

- » Use of alcoholic beverages enhances the harmful effect.
- » The symptoms of lung oedema often do not manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential.
- » Specific treatment is necessary in case of poisoning with this substance: the appropriate means with instructions must be available.
- » The substance blocks the sense of smell.
- » The odour warning when the exposure limit is exceeded is insufficient

TIP:

To quickly diagnose degree of poisoning check for the following,

Light poisoning:

- » Acute eye problems,
- » Redness in the conjunctiva. blurring of vision,
- » Swelling of eye lids,
- » Vesicle formation on corneal surface,

- » Convulsion.

Severe poisoning:

- » black discolouration of skin,
- » slate blue cyanosis.

Poisoning symptoms from exposure to hydrogen sulphide gas over a longer period are:

- » headache,
- » vertigo,
- » dry mouth,
- » stomach distress,
- » general weakness,
- » disorientation,
- » high blood pressures.

A WORD OF PRECAUTION

NEVER EVER attempt a rescue in an area that may contain hydrogen sulphide without using appropriate respiratory protection gadget and without being trained to perform such an activity.



Leather for Health, Wealth and Luxury!

ABOUT ALLPI

Africa Leather and Leather Products Institute (ALLPI) was chartered in 1990, with the endorsement of 17 COMESA Heads of State. ALLPI's main Mandate is to support the development of the leather sector in the Region. Over the years the Institute has created strong strategic linkages with Public and Private Sector Institutions in member countries. In addition to this, ALLPI has signed several Memoranda of Understanding (MoUs) with global institutions, in its pursuit to improve competitiveness of the leather sector in Africa in line with global dynamics.

ALLPI is headquartered in Addis Ababa, Ethiopia; and currently its membership encompasses ten countries, namely Burundi, Eritrea, Ethiopia, Kenya, Malawi, Rwanda, Uganda, Sudan, Zambia and Zimbabwe. The Institute has short term plans to expand its operations to Swaziland, Egypt, the Democratic Republic of Congo (DRC) and Madagascar.

The location of its office is strategic, as Addis Ababa is the capital city of Africa, where the African Union and other International Development Partners are located. Furthermore, Addis Ababa is the African gateway to any global destination, which makes ALLPI highly accessible and convenient for our regional and international partners and clients.

ALLPI Vision:

To be Africa's premier centre of excellence for a competitive leather sector in the global arena.

ALLPI Mission:

To facilitate Member States and link partners, enterprises and institutions for value addition, sustainability and competitiveness in the leather sector through Sharing of Knowledge.

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