

THE

Journal

OF THE AMERICAN
LEATHER CHEMISTS ASSOCIATION

July 2023

Vol. CXVIII, No.7

JALCA 118(6), 269–312, 2023



118th Annual Convention

TO BE
ANNOUNCED

For more information go to:
[leatherchemists.org/
annual_convention.asp](http://leatherchemists.org/annual_convention.asp)

Contents

Study on Interaction Mechanism between Neutral Salts and Collagen by Combining Experiments with Molecular Dynamics Simulation by Min Gu, Xiaoxia Zhang, Yuanzhi Zhang, Songcheng Xu and Guoying Li.....	271
Region Wise Surface Level Defect Detection and Ranking of Crust Leather Images Based on Image Processing Techniques by S. Nithiyanantha Vasagam and M. Sornam	282
Isolation and Identification of Moderately Halophilic Bacteria from Soak Liquor Samples Collected of Leather Tanneries by P. Caglayan	293
Tanning with Pomegranate Peel Tannin by Cigdem Kilicarislan Ozkan	300
Industry News	308
Lifelines	311
Letter to the Editor	312

Distributed by


University of
CINCINNATI
LIBRARY PUBLISHING
SERVICES

An imprint of the University of Cincinnati Press

ISSN: 0002-9726

Communications for Journal Publication

Manuscripts, Technical Notes and Trade News Releases should contact:

MR. STEVEN D. LANGE, Journal Editor, c/o University of Cincinnati, 5997 Center Hill Ave.,
Bldg. C, Cincinnati, OH 45224, USA

E-mail: jalcaeditor@gmail.com

Mobile phone: (814) 414-5689

Contributors should consult the Journal Publication Policy at:
http://www.leatherchemists.org/journal_publication_policy.asp

Beamhouse efficiency takes perfect balance.

Making leather on time, on spec and within budget requires a careful balance of chemistry and process. Buckman enables tanneries to master that balance with our comprehensive Beamhouse & Tanyard Systems. They include advanced chemistries that not only protect the hide but also maximize the effectiveness of each process, level out the differences in raw materials and reduce variations in batch processing. The result is cleaner, flatter pelts. More uniform characteristics. And improved area yield.

In addition, we offer unsurpassed expertise and technical support to help solve processing problems and reduce environmental impact with chemistries that penetrate faster, save processing time, improve effluent and enhance safety.

With Buckman Beamhouse & Tanyard Systems, tanneries can get more consistent quality and more consistent savings. Maintain the perfect balance. Connect with a Buckman representative or visit us at Buckman.com.

1945
2020 **Buckman75**

JOURNAL OF THE AMERICAN LEATHER CHEMISTS ASSOCIATION

*Proceedings, Reports, Notices, and News
of the*
AMERICAN LEATHER CHEMISTS ASSOCIATION

OFFICERS

JOSEPH HOEFLER, *President*
3213 Rockhill Rd.
Perkiomenville, PA 18074

John Rodden, *Vice-President*
Union Specialties, Inc.
3 Malcolm Hoyt Dr.
Newburyport, MA 01950

COUNCILORS

Goetz Hagen
Tannin Corporation
65 Walnut Street
Peabody, MA 01960

LeRoy Lehman
TFL USA/Canada Inc.
636 Fisher Field Rd.
Blairsville, GA 30512

Todd Salzman
Hermann Oak Leather Co.
4050 North First Street
St. Louis, MO 63147

Myron Hooks
The Dow Chemical Company
400 Arcola Rd.
Collegeville, PA 19426

Roger A. Pinto
Pangea Made, Inc.
2920 Waterview Dr.
Rochester Hills, MI 48309

Marcelo Fraga de Sousa
Buckman North America
1256 N. McLean Blvd.
Memphis, TN 38108

EDITORIAL BOARD

Dr. Meral Birbir
Biology Department
Faculty of Arts and Sciences
Marmara University
Istanbul, Turkey

Chris Black
Consultant
St. Joseph, Missouri

Dr. Eleanor M. Brown
Eastern Regional
Research Center
U.S. Department of Agriculture
Wyndmoor, Pennsylvania

Cietta Fambrough
Leather Research Laboratory
University of Cincinnati
Cincinnati, Ohio

Mainul Haque
ALCA Education
Committee Chairman
Rochester Hills, Michigan

Joseph Hoefler
Dow Chemical Company
Collegeville, Pennsylvania

Elton Hurlow
Retired
Memphis, Tennessee

Prasad V. Inaganti
Wickett and Craig of America
Curwensville, Pennsylvania

Dr. Song Jiang
Principal Biomedical Scientist
Huzhou Institute of Biological
Products Co., Ltd.
Zhejiang, China

Dr. Tariq M. Khan
Research Fellow, Machine Learning
Faculty of Sci Eng & Built Env
School of Info Technology
Geelong Waurn Ponds Campus
Victoria, Australia

Nick Latona
Eastern Regional Research Center
U.S. Department of Agriculture
Wyndmoor, Pennsylvania

Dr. Xue-pin Liao
National Engineering Centre for Clean
Technology of Leather Manufacture
Sichuan University
Chengdu, China

Dr. Cheng-Kung Liu
Research Leader (Ret.)
Eastern Regional Research Center
U.S. Department of Agriculture
Wyndmoor, Pennsylvania

Dr. Rafea Naffa
Innovation Services, CS&I
Fonterra Research and
Development Centre
Palmerston North, New Zealand

Edwin Nungesser
Dow Chemical Company
Collegeville, Pennsylvania

Dr. Benson Ongarora
Department of Chemistry
Dedan Kimathi University of Technology
Nyeri, Kenya

Lucas Paddock
Chemtan Company, Inc.
Exeter, New Hampshire

Dr. J. Raghava Rao
Central Leather
Research Institute
Chennai, India

Andreas W. Rhein
Tyson Foods, Inc.
Dakota Dunes, South Dakota

Dr. Majher Sarker
Eastern Regional
Research Center
U.S. Department of Agriculture
Wyndmoor, Pennsylvania

Dr. Bi Shi
National Engineering Laboratory
Sichuan University
Chengdu, China

Dr. Palanisamy Thanikaivelan
Central Leather
Research Institute
Chennai, India

Dr. Xiang Zhang
Genomics, Epigenomics and
Sequencing Core
University of Cincinnati
Cincinnati, Ohio

Dr. Luis A. Zugno
Buckman International
Memphis, Tennessee

PAST PRESIDENTS

G. A. KERR, W. H. TEAS, H. C. REED, J. H. YOCUM, F. H. SMALL, H. T. WILSON, J. H. RUSSELL, F. P. VEITCH, W. K. ALSOP, L. E. LEVI, C. R. OBERFELL, R. W. GRIFFITH, C. C. SMOOT, III, J. S. ROGERS, LLOYD BALDERSON, J. A. WILSON, R. W. FREY, G. D. McLAUGHLIN, FRED O'FLAHERTY, A. C. ORTHMANN, H. B. MERRILL, V. J. MLEJNEK, J. H. HIGHBERGER, DEAN WILLIAMS, T. F. OBERLANDER, A. H. WINHEIM, R. M. KOPPENHOEFER, H. G. TURLEY, E. S. FLINN, E. B. THORSTENSEN, M. MAESER, R. G. HENRICH, R. STUBBINGS, D. MEO, JR., R. M. LOLLAR, B. A. GROTA, M. H. BATTLES, J. NAGHSKI, T. C. THORSTENSEN, J. J. TANCOS, W. E. DOOLEY, J. M. CONSTANTIN, L. K. BARBER, J. J. TANCOS, W. C. PRENTISS, S. H. FAIRHELLER, M. SIEGLER, F. H. RUTLAND, D.G. BAILEY, R. A. LAUNDER, B. D. MILLER, G. W. HANSON, D. G. MORRISON, R. F. WHITE, E. L. HURLOW, M. M. TAYLOR, J. F. LEVY, D. T. DIDATO, R. HAMMOND, D. G. MORRISON, W. N. MULLINIX, D. C. SHELLY, W. N. MARMER, S. S. YANEK, D. LEBLANC, C.G. KEYSER, A.W. RHEIN, S. GILBERG, S. LANGE, S. DRAYNA, D. PETERS, M. BLEY

THE JOURNAL OF THE AMERICAN LEATHER CHEMISTS ASSOCIATION (USPS #019-334) is published monthly by The American Leather Chemists Association, c/o University of Cincinnati, 5997 Center Hill Ave., Bldg. C, Cincinnati, Ohio 45224. Telephone (513)290-2507. Single copy price: \$10.00 members, \$20.00 non-member plus shipping and handling. Subscriptions: \$185 for hard copy plus postage and handling of \$60 for domestic subscribers and \$70 for foreign subscribers; \$220 for ezine only; and \$240 for hard copy and ezine plus postage and handling of \$60 for domestic subscribers and \$70 for foreign subscribers.

Periodical Postage paid at Cincinnati, Ohio and additional mailing offices. Postmaster send change of addresses to The American Leather Chemists Association, c/o University of Cincinnati, 5997 Center Hill Ave., Bldg. C, Cincinnati, Ohio 45224.



C O L D M i l l i n g



Smooth Leather
Milling



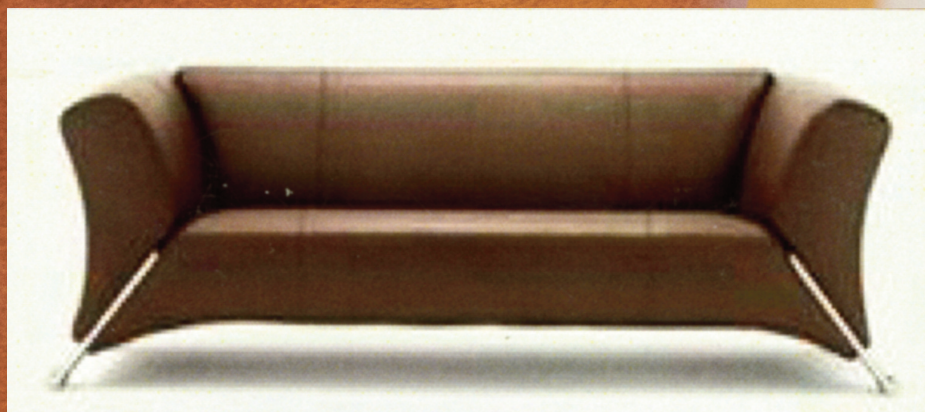
Erretre s.p.a. | Via Ferraretta, 1 | Arzignano (VI) 36071 | tel. +39 0444 478312 | info@erretre.com

LEATHER

AVELLISYNCO



Selected Dyestuffs



 **CHEMTAN**

17 Noble Farm Drive • Lee, NH 03861 (Office)
57 Hampton Road • Exeter, NH 03833 (Manufacturing)
Tel: (603) 772-3741 • Fax: (603) 772-0796
www.CHEMTAN.com

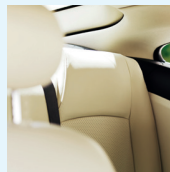


Stahl's innovations driven by sustainability

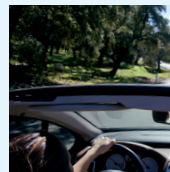
With the rise of both electric and self-driving, cars are becoming quieter and anti-squeak and rattle materials are becoming increasingly important. At the same time, improved anti-stain performance is required, because of the current trend for pale-colored car seats. Therefore, we have developed Stay Clean. This low-VOC coating technology protects pale-colored leather and vinyl surfaces against common stains, such as dye from jeans, spilled coffee and dirt. Our solution also makes surfaces low-squeak, which is a great asset as global research has shown that a squeaking car interior is one of the biggest annoyances among car owners. Another trend in car interior is the popularity of matt surfaces. Therefore, we have developed PolyMatte®. This non-squeaking solution provides a luxurious feel to the finished article in combination with flexibility and scratch and abrasion resistance. Our portfolio contains many products, varying from beamhouse products, tanning systems to finishes,

duller concentrates, crosslinkers and thickeners to leveling agents, defoamers, colorants and hand modifiers. Our most sustainable option is Green PolyMatte®, which is based on rapeseed oil (20%) instead of crude oil-derived intermediates. If you would like to know what our Stahl solutions for automotive can do for your business, please visit www.stahl.com or contact us at: alexander.campbell@us.stahl.com.

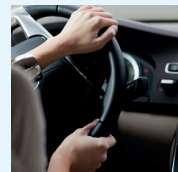
If it can be imagined, it can be created



Stay Clean



Low-VOC



PolyMatte®

Celebrating
75 Years
1941-2016

UNION
Specialties, Inc.

**The power of water-based
polyurethane technology**

3 Malcolm Hoyt Dr. Newburyport, MA 01950, USA. Certified ISO 9001:2015
Tel: +1 978-465-1717 Fax: +1 978 465-4194 E-mail: union@unionspecialtiesinc.com

www.unionspecialtiesinc.com

**REAL
LEATHER.
STAY
DIFFERENT.**

WARDROBE MALFUNCTION

LEATHER. IF WE DON'T USE IT, WE DO MORE THAN JUST LOSE IT.

From food to fashion, a burger and shake is just the start of the story of waste and recklessness. We live in a world where the cheap and easy option is to throw away the byproducts of our society. Instead we crop new land, drill or frack for short lived replacements. Isn't it time to shake things up, to think slow instead of fast. To think of our future and that of the planet?

300M HIDES COME FROM THE MEAT & DAIRY INDUSTRIES EVERY YEAR

60% IS USED FOR LEATHER. THE REST IS JUST TROWN AWAY

120M THAT IS 3M TONNES OF LANDFILL & 2.7M TONNES OF GREENHOUSE GASES. EVERY YEAR.

THE FASHION INDUSTRY PRODUCES **144 BILLION** ITEMS OF CLOTHING EVERY YEAR

WE NEED 3.5M ACRES OF FOREST, JUST TO RE-CAPTURE THE CARBON CREATED BY THIS WASTE.

65% OF ALL OUR CLOTHES ARE PLASTIC, SOURCED THROUGH DRILLING & FRACKING

EACH HIDE COVERS **4 SQM** WE WASTE NEARLY **480 MILLION SQM** OF MATERIAL EACH YEAR, ENOUGH TO COVER **78,000 FOOTBALL PITCHES**

OR TO PUT SHOES ON THE FEET OF **EVERY MAN, WOMAN & CHILD** IN AFRICA

AND ONE LEATHER ITEM CAN **LAST A LIFETIME**

TO JOIN THE DISCUSSION FIND US AT: CHOOSELEATHER.COM



www.CHEMTAN.com

Made with
**WATERPROOF
TECHNOLOGY**

 **CHEMTAN**

Tel: (603) 772-3741 • Fax: (603) 772-0796 • www.CHEMTAN.com