## 70 YEARS OF SERVING THE LEATHER INDUSTRY

Chemtan, headquartered in New Hampshire, USA, is an international leader in developing, producing and marketing chemicals for the leather tanning industry.

Chemtan supplies tanning customers throughout North America, the Caribbean Basin, Central & South Americas, Asia and Europe. Our products are used in all steps of wet-end leather manufacture: curing, unhairing, tanning, retanning, colouring, fatliquoring, oiling-off, and surface treatments for oil and water resistance. Particular strengths are American style leathers requiring waterproof and high MVTR.



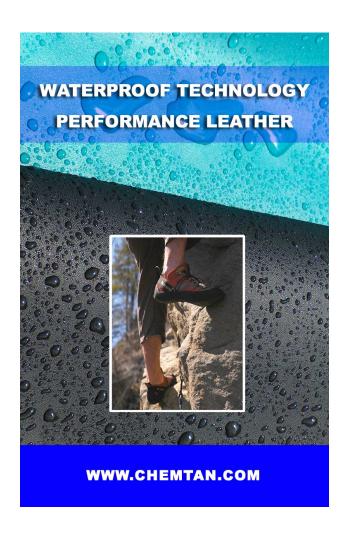




CHEMTAN COMPANY, INC.

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## 70 YEARS OF SERVING THE LEATHER INDUSTRY

Since 1948, Chemtan Company Inc. has been a manufacturer and supplier of chemicals used for producing leather. Chemtan offers a large line of specialty and commodity chemicals to the leather industry, and in recent year's food grade extracts for wine clarification. Chemtan is built upon a complimentary staff of qualified technicians, who have been trained in practical tannery backgrounds, and or the formal disciplines Biology, Chemistry, and Chemical Engineering.

Chemtan has remained focused over the years towards changing market conditions and needs by developing and improving our specialty chemicals which add increasing value to our customers and the ultimate buyer of leather made products. Our Exeter New Hampshire applications and development laboratory facility is always available for customers to receive customized training in basic leather chemistry, and new leather developments.

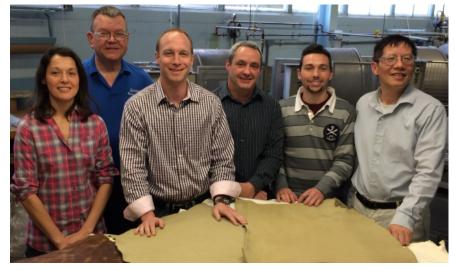
The Chemtan technical staff is uniquely capable of understanding and working in a variety of environments transferring the skills, knowledge and working experience interchangeably between laboratory and production settings. Throughout our 70 years, our attention to staffing to provide research, development, production, and marketing relevant to changing markets is the reason for the continued success of Chemtan. More importantly, it is our customers, their loyalty, and constant challenge to lead us in our efforts to be the best supplier today and in the future .





Chemtan Partners

Left to right: Dan Uribe, Don Pine & Dave Powell







Warehouse in Lee, NH, USA

## CORE PRODUCTS FOR TAN, RETANNING & FINISHING

| <u>Product</u>     | Type Compound/Application   | Form/Charge              | <u>pH</u>  | <u>Active</u> |
|--------------------|---|--------------------------|------------|---------------|
| CHEMTAN® FR-62     | ALIPHATIC AMINE. It improves solubility of lime, resulting in more uniform swelling. Produces cleaner grain by reducing scud and fine hair. Minimizes fat wrinkles and drawn grain. Application 1-1.5% is used during unhairing in two feeds.   | Liquid<br>Cationic       | 9.5        | 30%           |
| CHEMTAN® A-58      | CYCLIC AMINE COMPOUND. Act as an aldehyde donor Used in combination with chrome tannages, and can be used for all types of leathers especially for perspiration and water resistant leathers. Used for high performance leathers to improve uniformity. It is a highly concentrated product and typically $1\sim3\%$ is added during the last neutralization step.  | Liquid<br>Mildly Anionic | 11.0~12.0  | 55%           |
| CHEMTAN® E-68      | SYNTAN, ACID PHENOLIC. With extremely low free formaldehyde. Filling, softening, and bleaching. Excellent light fastness. Improved dye levelness and penetration. Due to the low free formaldehyde content, it can be used in the production of automotive and sport shoe leather that have free formaldehyde specifications.   | Liquid<br>Anionic        | 3.5<br>10% | 50%           |
| CHEMTAN® T-13      | SYNTAN, NEUTRAL NAPHTHALENE. Used as a dispersant in chrome tanning or pre-tanning and bleaching agent for vegetable tanned leathers. This product is also used as a dye auxiliary to aid dye penetration, and dye levelness for chrome tanned leathers in amounts of 1-3%. This product is especially suitable for waterproof leathers because of its low salt content and is added in dry form without dilution.  | Powder<br>Anionic        | 9.0<br>10% | 95%           |
| CHEMTAN® Filler GL | ORGANIC FILLER. For tight grain break, uniform surface, and improved buffing characteristics. Selective filling of the flanks and belly. Suitable for lightfast leathers. Application 2-4% add dry before fatliquors, or for sole leather 5-10% with extracts, or ahead of the fatliquor. Suitable for waterproof leathers.   | Powder                   | _          | 100%          |
| CHEMTAN® M-51      | BLEND, NATURAL/SYNTHETIC. Can be used to replace common wood extracts like Mimosa and Quebracho for improved filling and to produce softer tempered milled leathers. Color value and dye fixation improvements can be observed. This product requires no chelating agents like EDTA to protect from iron oxidation stains. Adding dye auxiliaries is not necessary as dyes typically penetrate with relative ease.  | Powder<br>Anionic        | 2.7<br>10% | 94%           |
| CHEMTAN® R-1       | RESIN, COPOLYMER. A new resin based polymer which improves grain break, and is a dispersant for retanning materials and fat liquors to improve surface color uniformity for nubucks and full grain leathers especially waterproof. As a dispersant, $2\sim5\%$ should be offered in neutralization. As a wet drum grain impregnation agent, $2\sim6\%$ should be added after the main fatliquor addition.   | Liquid<br>Anionic        | 9.0<br>10% | 25%           |
| CHEMTAN® R-74      | RESIN, ACRYLIC. Organic retannage for leather, tightening the grain and filling particularly in the more open areas. 3-5% can be used in conjunction with CHEMTAN E-33 to achieve filling and softness, or can be used alone for tight firm shoe and boot leathers added in the retan, or applied with fatliquor. Suitable for waterproof.  | Liquid<br>Anionic        | 6.2<br>10% | 30%           |
| CHEMTAN® R-106     | RESIN, MODIFIED ACRYLIC. Used for producing a full range of waterproof leathers in thickness and temper. CHEMTAN R-106 fills the leather considerably necessary for full, round handled leathers ideal for shoe, boot, and handlag leathers when used in moderate levels of 6-8%. The dilution ratio of water to chemical required is 5:1 with hot water @60-65C, and added to a bath temperature equally warm. The optimum condition of the mill liquor and substrate requires a pH range of 5.0-5.6 and a running time of 60 to 90 minutes. | Liquid<br>Anionic        | 5.4<br>10% | 70%           |

## CORE PRODUCTS FOR TAN & RETANNING

| <u>Product</u>  | Type Compound/Application   | Form/Charge         | <u>pH</u>  | <b>Active</b> |
|-----------------|---|---------------------|------------|---------------|
| CHEMTAN R-129   | RESIN, VINYL COPOLYMER. Used to make firmer tempered leathers. Improves buffing properties on split suede when requiring a shorter nap, and on reverse suede when applied like a cationic topping oil @ 1-2% level with a dilution ratio of 5:1 using warm water @50-55C. Secondly, exceptional grain tightening and filling properties produced when applied immediately after a mineral retan @ 2-6% level. 5:1 dilution rate with cool water @ 30C when applied after a mineral re-tan.  | Liquid<br>Nonionic  | 4.5<br>10% | 55%           |
| CHEMTAN S-35    | SILICONE EMULSION. Used in conjunction with CHEMTAN R-106 to produce waterproof leathers requiring high maser flexes. CHEMTAN S-35 can be used in smaller amounts initially with the main waterproofing step for improved dispersion and penetration of CHEMTAN R-106 @0.25-0.50%. The two products should be premixed and diluted with hot water @60-65C and added to the drum at a 5:1 dilution ratio with water. The main portion of CHEMTAN S-35 should be added separately in a fresh bath with a pH condition of 3.6-4.2. To achieve sufficient penetration and exhaust CHEMTAN S-35 should be run for 20-30 minutes before acidifying for maximum maser flex results. A dilution ratio of 5:1 and a water temperature of 50-55C is recommended. A mineral cap is required to complete the process. | Liquid<br>Anionic   | 5.0        | 32%           |
| CHEMTAN S-40    | FUNCTIONAL SILICONE POLYMER. Used for finish treatment applied without heat on a roll coater for improving flexes and static water absorption. Application amount used ranges from 4-8 grams/ sq. foot on the grain side, or 12 grams from the flesh side. To insure penetration IPA is sometimes required by diluting S-40 1:1 especially when a fluorocarbon is present in the leather. S-40 is reactive to moisture and thus rendered ineffective when in contact prior to, or during application to the leather. Humidity for curing is not required during air-off prior to testing.   | Liquid              | _          | 100%          |
| CHEMTAN S-43NEW | FUNCTIONAL SILICONE POLYMER. Used for water repellant post treatment in finishing for waterproof leathers. It does not negatively affect the water vapor permeability properties of the base crust. Compatible to use with other oiling off compounds Can be applied with a curtain coater, or spray application as is on nubuck, or 1:1 dilution with mineral spirits on full grain. Has a minimal influence on surface color.   | Liquid              | _          | 50%           |
| CHEMTAN 1345-1  | OIL, OILING-OFF, WATERPROOF. Used for oiling off waterproof leathers, and is a swelling oil. This product improves maser flexes when used at optimum levels of 8-12 grams /sq. foot. Applied typically on the roll coater with, or with out heat on the grain, and or the flesh side.   | Liquid<br>Non Polar | _          | 100%          |
| CHEMOL 199S     | OIL, OILING-OFF, WATER RESISTANT. Used for oiling off waterproof and non waterproof leathers to achieve a level color, and a natural feeling surface with low water absorption. This product can be applied without solvent, and with, or without heat on the roll coater. Compatible with silicones to improve maser flexes. Leather surface appearance remains longer than most other oils used in finishing.   | Liquid<br>Non Polar | _          | 100%          |
| CHEMOL 216      | OIL, OILING-OFF, WATER RESISTANT. Used for oiling off waterproof leathers which require a richer surface feel with drag. CHEMOL 216 can be applied on the roll coater with, or without solvent, cold or hot. Also compatible with silicone to increase maser flexes. Used for low water absorption leathers.  | Liquid<br>Non Polar | _          | 100%          |
| CHEMOL 588      | PROCESS FINISH OIL Low cost, universal finish oil for oiling off of all types of leathers both waterproof and non-waterproof. Produces permanent rich feel, with some darkening effect and clean pull-up.   | Liquid<br>Non Polar | _          | 100%          |
| CHEMOL 586      | SYNTHETIC OIL & WAX BASED COMPOUND, WATER RESISTANT. Used as an oiling compound for all types of leathers to include waterproof leathers. Dry surface feel and vibrant pull-up effect and maintains water resistance.   | Solid<br>Non Polar  | _          | 100%          |