

# ATLAS

## Surface Active Agents

*...Their Characteristics  
...The HLB System of Selection*



# ATLAS SURFACE ACTIVE AGENTS

... their characteristics  
... the HLB system of  
selection

*Industrial Chemicals Department*

ATLAS POWDER COMPANY, WILMINGTON, DELAWARE

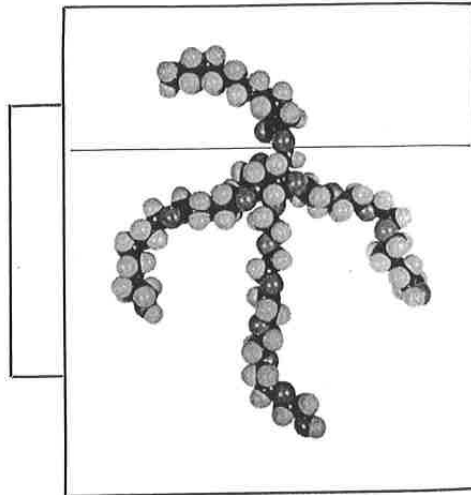
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ATLAS POWDER COMPANY, CANADA, LIMITED • BRANTFORD, CANADA

HYDRITE EXHIBIT 1027

Hydrite v. Solenis



### THE COVER

Illustrated on the cover is a molecular model of Tween 20 surface active agent. The color division symbolizes the affinity of part of the molecule for water and part for oil.

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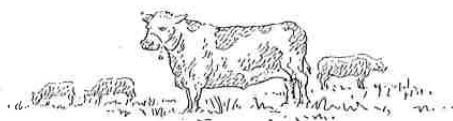
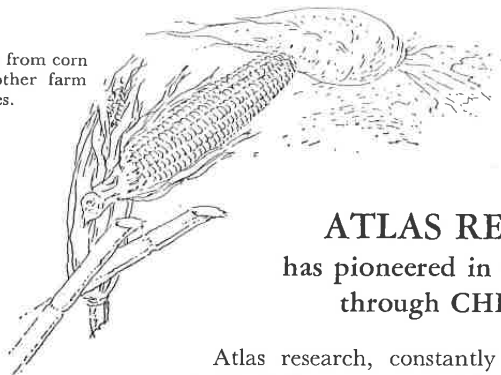
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ii

HYDRITE EXHIBIT 1027  
Hydrite v. Solenis



Sugar from corn  
and other farm  
sources.



Beef Fats

## ATLAS RESEARCH has pioneered in new chemicals through CHEMURGY

Atlas research, constantly seeking more and more products for consumers at lower costs, has pioneered in the science of *Chemurgy*—finding new uses for agricultural products through chemistry. One of the new uses is the field of surface active agents described in this booklet.

Traditionally, a major part of Atlas business is the manufacture of industrial explosives, made largely from raw materials having their origin on the farm. The experience of Atlas research chemists over the years pointed the way to limitless possibilities for farm materials in wholly different industrial uses.

In the early 1930's, Atlas began turning corn sugar into "sugar alcohols", known as mannitol and sorbitol. Used nutritionally and medicinally for centuries, they had been available only by extraction from fruits and berries, and their cost was too high for wide commercial adaptation. Through development of low-cost, large-scale production, Atlas opened fresh channels of usefulness for mannitol and sorbitol.

Most of the emulsifiers, detergents and other types of surface active agents described in these pages are derived from these "sugar alcohols" through combination with various fatty acids of farm, animal or vegetable origin. Still others are derived from fatty acid combinations with other chemicals. For all its products, Atlas has consistently followed a policy of thorough testing—both in its own and in independent laboratories—to meet exacting standards of dependability.

The booklet "Chemicals From Farm Products" describes the many uses for farm raw materials through Atlas Chemurgy. A copy will be sent upon request to Atlas.



Cottonseed Oil



Tall Oil



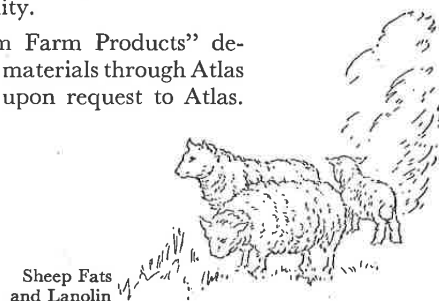
Beeswax



Soybean Oil



Pork Fats



Sheep Fats  
and Lanolin

iii

TE3  
636

HYDRITE EXHIBIT 1027  
Hydrite v. Solenis

## HOW TO USE THIS BOOK

### A Key to Other Atlas Literature on Surface Active Agents

The pages that follow describe the theory of surface activity, show the characteristics of the most commonly used Atlas surface active agents, and give a method of selecting the proper agents for certain applications.

To give the industrial user more specific details of practical application in certain industries, Atlas publishes supplementary literature on its surface active agents, directed specifically to various industrial fields and containing numerous general formulas for compounding of Atlas materials into industrial emulsions, cleaners, and other products.

The following is a general list of Atlas publications for users of surface active agents. Any or all of these will gladly be sent in answer to a request on your company stationery.

FOR COSMETICS, DRUGS,  
PHARMACEUTICALS, ETC.

—“A Guide to Drug and Cosmetic Emulsion Formulation with Atlas Emulsifiers and Humectants.”

FOR DETERGENTS,  
CLEANING COMPOUNDS

—“Non-Ionic Detergents . . . for Textile and Fiber Scouring . . . for Compounding . . . for Laundering.”

FOR AGRICULTURAL SPRAYS

—“Atlas Surface Active Agents for Insecticides and Herbicides.”

FOR TEXTILE PROCESSING

—“Textile Chemicals for Lubricating, Softening, Static Control, Sizing, Scouring and Finishing. (Sold and Serviced in U. S. by American Viscose Corp.)”

FOR FOODS, PHARMACEUTICALS

—“How Atlas Serves the Food and Pharmaceutical Industries with Sorbitol, Mannitol and Emulsifiers.”

Atlas Research and Technical Service Departments will be pleased to cooperate with manufacturers who have specific problems not covered in the publications mentioned above.



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