

YOU'RE NEVER IN DOUBT WHEN IT'S "Alconox- Clean!"

In the laboratory or hospital, just "clean" isn't good enough. Make sure your glassware and equipment are "Alconox-Clean."

Proven best by test* for over 20 years!

* for wetting power!

* for sequestering power!

* for emulsifying effect!

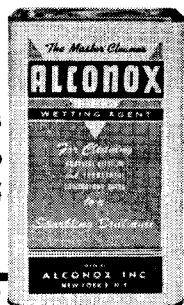
Use **ALCONOX**
For all equipment
washed by hand

Box of 3 lbs. \$1.95

Case of 12 boxes —
3 lb. ea. \$18.00

Available in drums of 25,
50, 100 and 300 lbs. at
additional savings!

(Prices slightly higher
West of the Rockies)



SAVE TIME

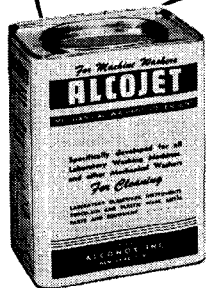
AND MONEY!

with

ALCONOX

The World's Most Thorough Cleaner —
Yet it costs up to 75% less!

Eliminates tedious scrubbing —
Penetrates irregular and inaccessible
surfaces — Removes dirt,
grease, grit, blood, tissue, etc.
with amazing ease — Completely
soluble and rinsable — Gentle to
the skin —



Use **ALCOJET**
For all equipment
washed by machine

Box 5 lbs. \$3.00

Case of 6 boxes —
5 lbs. ea. \$15.00

Available in drums of
25, 50, 100 and 300
lbs. at additional
savings!

(Prices slightly higher
West of the Rockies)

Clean Pipettes in one
easy operation with
ALCOTABS — for all pi-
pette washers. Box of
100 Tablets. \$5.00

Order from your Supplier
or ask him for samples.

ALCONOX Inc.

853 Broadway, New York 3, N. Y.

Circle No. 12 on Readers' Service Card

NEWS

concludes that the passive layer formed on stainless steel by the atmosphere is a crystalline oxide of chromium, iron, and nickel, depending on the alloy involved. Anodic passivation destroys this layer. The new passive layer, he believes, is something beyond a material barrier, such as an energy barrier.

Professional Activities. The electron microscope has several limitations, said F. A. Hamm, Minnesota Mining and Manufacturing Co. The microscopist must, therefore, educate management as to the limitations and deficiencies of this tool. This is particularly true with respect to particle size distribution in photosensitive systems. Some limitations, however, are those resulting from lack of ingenuity on the part of the electron microscopist.

The microscopist in the chemical laboratory who works with transparent hard materials often overlooks techniques used in other fields, said R. E. Wright, Shell Chemical Corp. In the case of materials not adapted to microtomy, petrographic grinding techniques may be used. Sources of information for such techniques are often found in the literature of the petrographer and ceramicist rather than the chemical journals.

To learn about living cells, it is necessary to study living cells and not static ones, said George O. Gey, Johns Hopkins University. He has developed original instrumentation and techniques which permit him to observe growing cells and photograph them on motion picture film. With such photomicrographs, he has been able to observe mutations of living cells.

Microscopy can be very helpful in solving diverse problems encountered in industrial applied research, said Charles M. Schwartz, Battelle Memorial Institute. To be fully effective, however, conventional microscopy must often be supplemented by specialized microscopical techniques. Lack of such equipment and skills can hamper the solution of some product improvement or development projects.

The chemical microscopist in government is apt to encounter a wide variety of problems, reported Charles P. Saylor, National Bureau of Standards. NBS, in addition to establishing standards of particle size, shape, and distribution, is called on to do such specialized jobs as examining works of art for fraud or alteration, examining evidence in criminal cases, and the like.

Education. There are many advantages to getting students used to working with microscopes by having them use them in courses in qualitative and quantitative analysis and physical

chemistry. This is a particularly useful way to teach the use of microscopes to undergraduates, said Warren W. Brandt, Purdue University.

Even if a chemical engineer never uses a microscope after he graduates, training in its use sharpens his powers of observation and interpretation, said C. W. Mason, Cornell University. In solving chemical engineering problems, very often a careful microscopical examination of the materials involved will give many clues as to solution to the problem at hand, particularly where physical structure may be as important as chemical properties.

A pioneer in teaching chemical microscopy, Mary L. Willard, Pennsylvania State University, has developed several courses in the field for both beginners and advanced students. She raised questions as to whether such courses should concentrate on a few fundamental areas or develop skills in many specific areas.

Requirements for an electron microscopist, said Cecil E. Hall, Massachusetts Institute of Technology, include a background in physics and mathematics and generally advanced training in such fields as biology, metallurgy, or medicine. With such a background, a one-term lecture and laboratory course, followed by a year's experience, should qualify one to be an electron microscopist. The principles and uses of the electron microscope could be included in many science courses to give students enough knowledge of this tool to collaborate intelligently with specialists.

In many cases, skill in the use of a polarizing microscope would save a research chemist much time, reported E. G. Rochow, Harvard University. In some inorganic preparations, for example, the product may appear in two or more phases whose physical properties differ sufficiently to cast doubt on the identity of the product. A few simple observations under a microscope would indicate such conditions.

Management. The electron microscopist at the management level must be able to handle both administrative and technical aspects of the work, said Max Teague, Chrysler Corp.

Electron microscopy is still less of a science than an art, said J. H. L. Watson, Ford Institute for Medical Research. Based on a survey, he feels that more trained men are needed in this field, that management should specify more clearly the nature of the duties and responsibilities of those connected with this work, and that a distinction should be made in responsibilities of technicians, research men, and managers.