



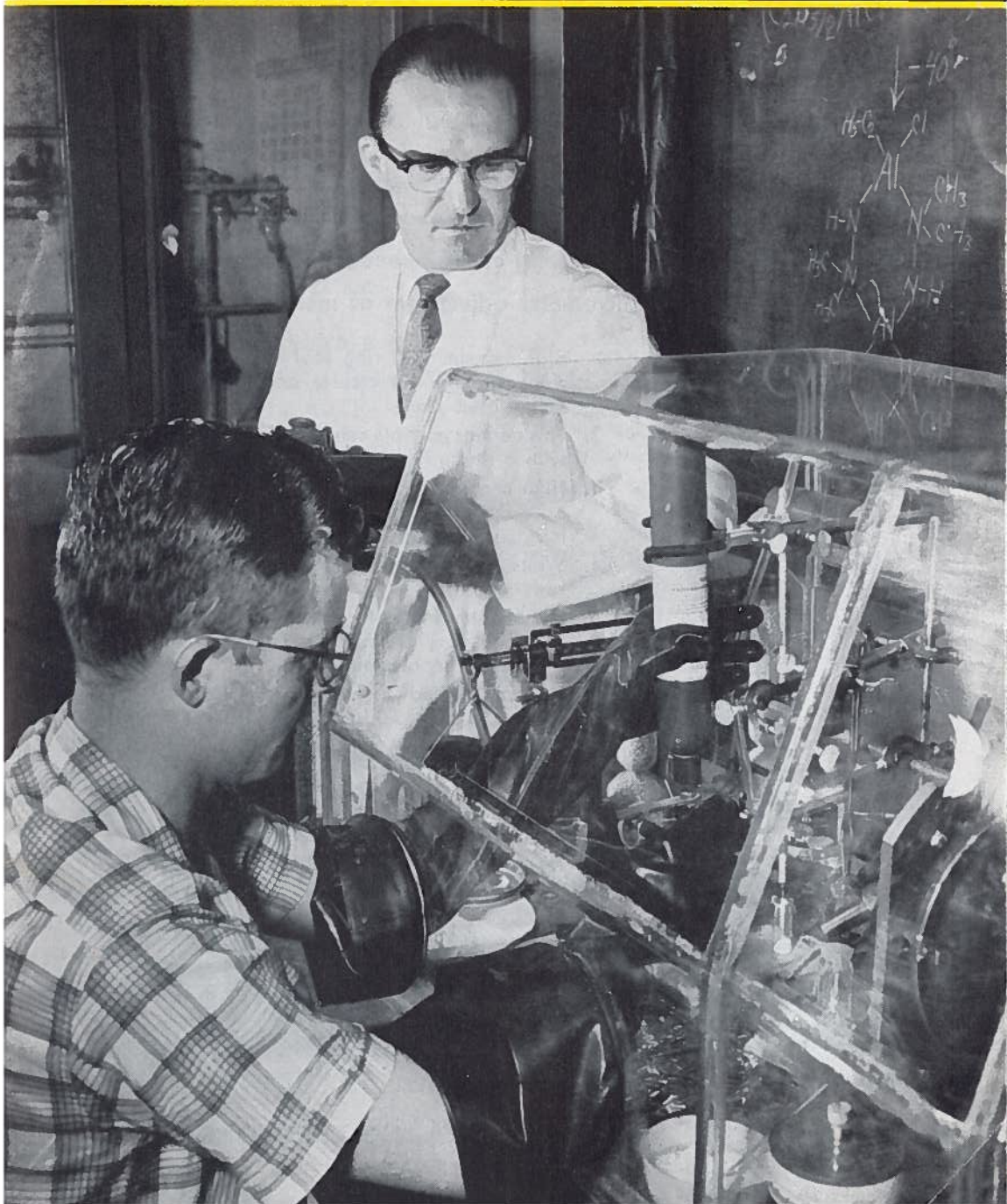
# THE CHESAPEAKE CHEMIST

MARYLAND SECTION  
AMERICAN CHEMICAL SOCIETY

VOL. XIX

FEBRUARY, 1963

NUMBER 2





# THE CHESAPEAKE CHEMIST

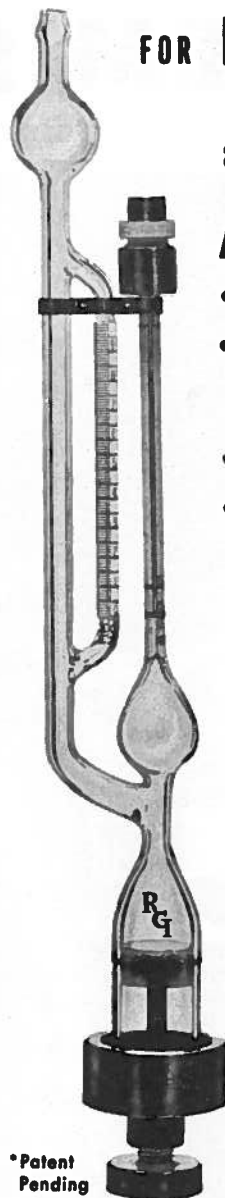
VOL. XIX

FEBRUARY, 1963

NUMBER 2

FOR **HIGH VACUUM** MEASUREMENT  
(.0001 — 1 mm. HG.)

## adjustable closed end **McLEOD GAGE\***



- High precision single linear scale 0-100 mm
- Multiple ranges achieved with adjustable closed end
 

}	0-1 mm in .01 mm
	0-0.1 mm in .001 mm
	0-0.01 mm in .0001 mm
- Closed end easily opened for cleaning
- Micrometer adjustment of meniscus

1. High vacuum "O" ring seal and precision ground rod creates an adjustable closed end.
2. This permits multiple selection of range with a single linear scale.
3. High precision obtained with precision bore capillaries and permanent ceramic scale.
4. White background for easy accurate readings.
5. Removable precision ground rod allows for easy cleaning and removal of mercury separations.
6. Vacuum sealed plunger allows for compact simple adjustment of mercury meniscus.
7. Compactness and simplicity makes this instrument unique.

**AC63647 GAGE McLEOD**  
complete as described  
above without mercury ... **\$45.00**

\*Patent Pending

**STANDARD SCIENTIFIC**  
*Supply Corp.* 808 BROADWAY  
NEW YORK 3, N. Y.

LABORATORY APPARATUS  
REAGENTS AND CHEMICALS

### EDITORIAL STAFF

- Melvin P. Miller  
Norbert M. Zaczek ..... Co-editors  
Loyola College  
Baltimore 10, Md.
- R. J. Allgeier ..... Asst. Editor  
Fort Detrick
- Alvin Bober ..... Asst. Editor  
U. S. Customs Lab.

### BUSINESS STAFF

- John A. Kerchner ..... Business Mgr.  
Borden Chemical Co. Ink Div.
- C. C. Legal ..... Advertising Mgr.  
W. R. Grace & Co.

### CONTRIBUTORS TO THIS ISSUE

- R. S. Alexander  
DuPont Company
- R. J. Allgeier  
Fort Detrick
- E. M. Glocker  
W. R. Grace & Co.
- J. J. Kaufman  
RIAS

### MEMBERSHIP CHAIRMAN

- Joseph Cogliano  
W. R. Grace & Co.  
Baltimore 26, Md.

### IN THIS ISSUE

- February Meeting ..... 5
- March Meeting ..... 6
- Scientific Journals Wanted ..... 6
- Maryland Section News ..... 9
- Executive Committee ..... 10
- Membership Changes ..... 15

### SECTION OFFICERS

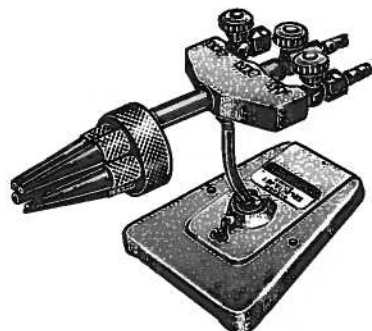
- Samuel L. Goldheim, *Chairman*  
American Biochemical Laboratories, Inc.  
Rolling Road and Balto. Nat'l Pike  
Baltimore 28, Maryland
- Arthur J. Emery, Jr., *Vice Chairman*  
School of Medicine  
University of Maryland  
Baltimore 1, Maryland
- Francis M. Miller, *Secretary*  
School of Pharmacy  
University of Maryland  
Baltimore 1, Maryland
- William H. Stahl, *Treasurer*  
McCormick & Company  
Baltimore 2, Maryland

### THE COVER

Synthesis of nitrogen-phosphorus compounds in a controlled atmosphere.

The Chesapeake Chemist is published monthly September through May by the Maryland Section of the American Chemical Society. Address editorial comments to M. P. Miller or N. M. Zaczek, Dept. of Chemistry, Loyola College, Baltimore 10, Maryland. Address advertising inquiries and plates to C. C. Legal, W. R. Grace & Co., Washington Research Center, Clarksville, Maryland.

Does the work  
of 5 burners



## Fisher Selecta-Jet\* Blast Burner

Fisher's new Selecta-Jet Burner speeds lab glassworking. Turn the turret; flame *automatically* transfers from tip to tip. Instant choice of 5 flames—no stopping to change tips. Burner uses either natural or manufactured gas, is a compact 7" high. Call or write your nearest Fisher branch. Catalog No. 4-174. Price: Only \$79.50.

S-281

\*Fisher Scientific Trademark



### FISHER SCIENTIFIC

World's Largest Manufacturer-Distributor of Laboratory Appliances & Reagent Chemicals  
7722 Woodbury Drive, Silver Spring, Maryland  
For immediate service call Saratoga 7-8754 in Baltimore, Md.

## FEBRUARY MEETING

### DATE & TIME:

WEDNESDAY, FEBRUARY 13,  
1963, AT 8:30 P.M.

### PLACE:

Holiday Inn, West, Baltimore National Pike and Rolling Road. This is on U. S. Highway 40, just west of Rolling Road. About ¼ mile west of Exit 15 on the Beltway.

Ample parking available. Meeting and dinner under same roof.

### SPEAKER:

DR. HARRY H. SISLER

### SUBJECT:

Monophosphoro-Analogues of Hydrazine and Hydrazine Derivatives, A New Synthesis of Phosphonitrilic Compounds.

### DINNER:

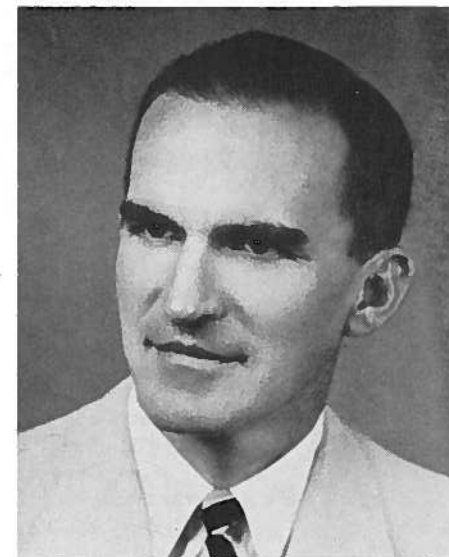
Drinks and dinner at 6:30 p.m. at Holiday Inn. Roast Beef dinner, complete—including tax and tips—\$3.50. Drinks extra. *Please call Sam Goldheim at RI 7-4928, not later than Monday, February 11, so that we can have tables arranged for prompt service.*

### SOCIAL HOUR:

There will be a social hour after the meeting.

The chloramination reaction as it is applied to nitrogen bases in the convenient synthesis of hydrazine, and of substituted hydrazines and hydrazinium salts is well known. The chloramination of phosphines, arsines, and stibines has led to the formation of analogous derivatives of the as yet unreported compounds  $\text{PH}_2\text{NH}_2$ ,  $\text{AsH}_2\text{NH}_2$ , and  $\text{SbH}_2\text{NH}_2$ . The derivatives of  $\text{PH}_2\text{NH}_2$  have proved to be particularly interesting and have themselves been further chloraminated to yield derivatives of the types  $[\text{R}_2\text{P}(\text{NH}_2)=\text{N}-\text{P}(\text{NH}_2)\text{R}_2]\text{Cl}$ ,  $[\text{R}_2\text{P}(\text{NH}_2)_2]\text{Cl}$ , and in some instances

(Continued on page 18)



DR. HARRY H. SISLER

Harry H. Sisler was born in the hill country of southern Ohio in 1917. He entered the Ohio State University in 1933 and graduated with a major in chemistry and mathematics in 1936. He received the B. Sc. degree with distinction. He began graduate work in organic chemistry at the University of Illinois in 1936, receiving the M. Sc. degree in 1937, and the Ph. D. degree in 1939.

In 1939, Dr. Sisler began teaching in the Department of Physical Science of the Chicago City Colleges. In 1941, he became instructor in chemistry at the University of Kansas, where he rose to the rank of Associate Professor by 1945. He moved to the Department of Chemistry of the Ohio State University in 1946 where in 1955 he became Professor of Inorganic Chemistry. In 1956, he accepted appointment as Head of the Department of Chemistry of the University of Florida. During the fall semester of 1962-63, he served as Sloan Visiting Professor of Chemistry at Harvard University.

During his professional career Dr. Sisler has published more than 100 papers.

(Continued on page 18)

## WANTED - DONATIONS OF BACK ISSUES OF SCIENTIFIC JOURNALS

The Centre for Quantum Chemistry of the Sorbonne University, Paris, France (where I spent the past 7 months as a visiting staff member) has a serious problem. The Centre has just moved from the area of the Sorbonne and the Sorbonne Libraries on the Left Bank to a larger laboratory on the Right Bank at the extreme other end of the city of Paris. The Centre is now faced with having to re-establish for itself a complete library at its new location. The Centre is in need of donations of back issues of scientific journals for this library. The interests of the Centre are wide and cover chemistry, physics, biochemistry, theoretical biology and cancer problems. Among the journals which would be most welcome are:

Journal of the American Chemical Society  
 Journal of Physical Chemistry  
 Journal of Organic Chemistry  
 Chemical Reviews  
 Journal of Chemical Physics  
 Physical Review  
 Reviews of Modern Physics  
 Journal of the Chemical Society (London)  
 Quarterly Reviews  
 Proceedings of the Physical Society (London)  
 Journal of Theoretical Biology  
 ETC. ETC. ETC. ETC. ETC. ETC.  
 (and of course) Chemical Abstracts

If you have any journals (even just a few issues) which you no longer need and which you would like to contribute to the Centre, please contact me

Dr. Joyce J. Kaufman  
 Research Institute for Advanced Study  
 7212 Bellona Avenue  
 Baltimore 12, Maryland  
 Telephone: 435-1100 Day  
 532-0267 Evenings

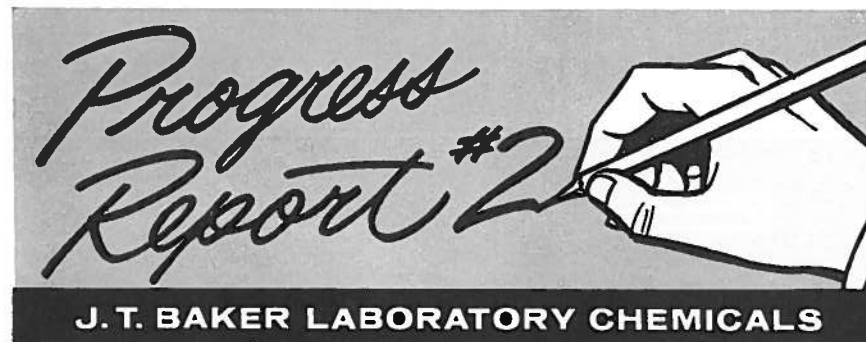
and I shall take care of all the arrangements for sending the journals to the Centre.

Thank you,  
 (Dr.) Joyce J. Kaufman

### MARCH MEETING

The March meeting of the Section will be jointly sponsored by Hood College and Fort Detrick in Frederick on Wednesday, March 13, 1963. Dinner at the College will be followed by a lecture by Dr. Robert C. Elderfeld, Professor of Chemistry at the University of Michigan at Ann Arbor. Dr. Elderfeld's subject will include new work now in progress in the field of chemotherapeutics for cancer.

Details of the time and place will be announced in the March issue of the Chesapeake Chemist.



The J. T. Baker Line of Progress continues to expand. In this Progress Report you will find 26 chemicals newly added by J. T. Baker. Check through them. You may find one or more that will help you in your analytical, research, and development work. J. T. Baker Chemical Co., Phillipsburg, N. J.

For extra fast shipment, telephone your nearby J. T. Baker distributor listed below!

### NEW ORGANIC LISTINGS

J. T. Baker's expanding group of key organic compounds now includes:

1-Amino-2-Naphthol-4-Sulfonic Acid, Purified Powder  
 Anisole, Purified  
 Benzonitrile, Purified  
 Biphenyl, Purified  
 1-Bromonaphthalene, Purified  
 n-Butyraldehyde, Purified  
 Cyclopentanone, Purified  
 Dibutyl Phthalate, Purified  
 Diethyl Malonate, Purified  
 m-Dinitrobenzene, Purified Crystal  
 1-5-Diphenylcarbohydrazide, Reagent Powder  
 Hexamethylenetetramine, Purified, Gran.  
 Mercaptoacetic Acid, Purified  
 p-Nitroaniline, Purified Crystal  
 Paraformaldehyde, Purified Powder  
 2, 4-Pentanedione, Purified  
 Phenyl Isothiocyanate, Purified  
 Phloroglucinol, Purified Crystal  
 Piperidine, Purified  
 Propylene Glycol, U.S.P.  
 Salicylaldehyde, Purified  
 1, 2, 3, 4-Tetrahydronaphthalene, Purified  
 Thiophene, Purified  
 Triethylamine, Purified

1, 5-DIPHENYLCARBOHYDRAZIDE, better known to the analytical chemist as "diphenylcarbazide," is now available with controlled sensitivity as a 'Baker Analyzed' Reagent in the 25-g. and 100-g. package size.

This important reagent is used for the detection and colorimetric determination of various metals including cadmium, chromium, magnesium, mercury and molybdenum, and as an indicator in certain titrimetric processes.

2, 4-PENTANEDIONE, also known as acetylacetone, is now available in the Purified grade in the 250-g. and 1-kg. size. This compound forms chelates with over 60 elements and is an important solvent extractant.

Extractions with 2, 4-pentanedione, with such added diluents as carbon tetrachloride, chloroform and benzene, are recommended for aluminum, beryllium, chromium(III), cobalt(III), gallium, indium, iron(III), molybdenum(VI), plutonium(IV), uranium(VI), vanadium(III), and zirconium. The use of masking agents, such as ethylenedinitriotetraacetate, affords greater selectivity in certain extractions.



**J. T. BAKER CHEMICAL CO.**

'BAKER ANALYZED' REAGENTS ARE SOLD IN YOUR AREA BY:

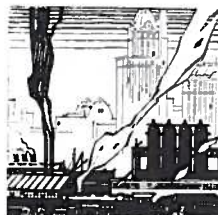
DISTRIBUTORS:

WILL Scientific, Inc. (Md.) Baltimore 24, Md.  
 Dickens 2-4850

HENRY B. GILPIN CO., BALTIMORE, MD.



## MARYLAND SECTION NEWS



### INDUSTRIAL

#### W. R. GRACE & CO.

Francis J. Sergeys, executive head of central research laboratories, was appointed executive vice-president of the research division. Named to the posts of vice-president were Dr. Donald L. Fuller, director of research at the Washington Research Center, and Robert H. Lafferty, chief engineer for the division.

Mr. Sergeys joined the Grace organization in New York in 1957 as vice-president in charge of engineering for the research division.

Dr. Fuller has directed the central research effort since joining the company in 1955, being responsible for the research carried out by the eight departments of the Washington Research Center.

Mr. Lafferty is in charge of the process and project engineering departments located at Grace headquarters in New York and Baltimore. He joined the company in 1955.

Dr. C. Vance McDaniel will work in the area of synthetic zeolite structures and their applications for the New Product Development Department. Dr. McDaniel received his bachelor's degree in chemistry at the University of Pittsburgh and earned his doctorate at Massachusetts Institute of Technology. He was formerly employed by Texas Instruments, Inc., and U. S. Steel.

Mr. Edward T. Woodruff has been appointed to the Process Development Department in the Hilltop Laboratories located at Curtis Bay. Mr. Woodruff

received his master's degree in chemical engineering this year from The Ohio State University, and his previous industrial experience was with Basic Refractories, Inc., in Bettsville, Ohio.

#### DU PONT COMPANY

The Baltimore Pigment plant of the E. I. du Pont de Nemours & Co., Inc. recently completed ten years without a lost-time accident. This represented 8,632,000 exposure hours.

The average in all industry is 5.99 injuries per 1,000,000 exposure hours. On this basis it might be said that the Du Pont safety program has prevented 52 injuries in the past ten years.

Since completing the ten-year record the local Du Pont plant has also become eligible for the Board of Directors prize. Each employee is given his choice of a large selection of useful gifts.



### ACADEMIC

#### ESSEX COMMUNITY COLLEGE

Dr. Giles B. Cooke, member of the faculty of Essex Community College, has been appointed to the Committee on Chemical Education of the ACS. His term will run for two years.

Dr. Cooke is a retired industrial chemist, an expert on the chemistry of cork and a former teacher at the University of Maryland and Goucher College. He is also a past Chairman of the Maryland Section and is presently one of the Councilors of the Section.

(Continued on page 13)

## TYGON TUBING

- CLEAR FOR VISUAL FLUID CONTROL
- FLEXIBLE FOR EASY HANDLING
- SAFE FOR SENSITIVE SOLUTIONS

\*in a full range of sizes at your laboratory supply house.

### U. S. STONWARE

AKRON 9, OHIO

380F

# MARYLAND SECTION - AMERICAN CHEMICAL SOCIETY

## EXECUTIVE COMMITTEE

**CHAIRMAN:** Samuel L. Goldheim  
American Bio-Chemical Laboratory, Inc.  
1113 North Rolling Road  
Baltimore 28, Maryland Ridgeway 7-4928

**VICE-CHAIRMAN:** Arthur J. Emory, Jr.  
Dept. of Biol. Chem.  
Univ. of Md. Medical School  
Baltimore 1, Maryland Plaza 2-1100, Ext. 201

**SECRETARY:** F. Marion Miller  
School of Pharmacy  
Univ. of Maryland  
636 W. Lombard St.  
Baltimore 1, Maryland Plaza 2-1100, Ext. 329

**TREASURER:** William H. Stahl  
McCormick and Co., Inc.  
Baltimore 2, Maryland Lexington 9-6460

**COUNCILORS:**

Giles B. Cooke 502 Yarmouth Rd. Towson 4, Md. Valley 3-7488	Belle Otto Goucher College Towson 4, Md. Valley 5-3300	Raymond M. Burgison Univ. of Md. Medical School 29 S. Greene St. Plaza 2-1100, Ext. 363
--	---	---

### ALTERNATE COUNCILORS:

Lloyd C. Felton Hynson, Westcott and Dunning Charles and Chase Sts Baltimore 1, Md. Vernon 7-0890	Betty Lou Raskin Radiation Laboratory Johns Hopkins Univ. Baltimore 18, Md. HO 7-3300	Edwin M. Glocker W. R. Grace and Co. Research Division Clarksville, Md. (301) 531-5711
--	---	--

### MEMBERS-AT-LARGE:

George M. Steinberg USA CRDL Edgewood Arsenal, Md. Edgewood 1000, Ext. 26136	Emanuel Kaplan Baltimore City Health Department Municipal Office Building Holiday and Lexington Sts. Plaza 2-2000, Ext. 614
---	---

James L. Webb Goucher College Towson 4, Md. Valley 5-3300	F. Timothy Parr 42 Dunvegan Rd. Baltimore 28, Md. Ridgeway 7-4195	Stanley P. Kramer Sinai Hospital Baltimore 15, Md. 367-7800
--	--	--

### PAST CHAIRMEN (Not otherwise listed):

Donald H. Andrews	Wilton C. Harden	Duncan MacRae
George L. Braude	Richard L. Hall	S. T. Powell
Alsoph H. Corwin	Leslie Hellerman	E. Emmet Reid
W. Mansfield Clark	John A. Herculson	William F. Reindollar
Fitzgerald Dunning	John C. Krantz, Jr.	William Summerson
Paul H. Emmett	Edward Metcalf	

## CHAIRMEN OF STANDING COMMITTEES:

### Awards and National Nominations

Fr. William J.  
Ruppenthal, S.J.  
Loyola High School  
Towson 4, Md.  
Valley 3-0601

**By-Laws**  
Belle Otto

### Chemical Education

Richard J. Kokes  
Johns Hopkins Univ.  
Dept. of Chemistry  
Hopkins 7-3300

### Program

Arthur J. Emery, Jr.

### Hospitality (co-chairmen)

Joyce J. Kaufman  
RIAS  
7212 Bellona Ave.  
435-1100

John J. O'Neill  
Univ. of Md. Med. School  
Baltimore 1, Md.  
Plaza 2-1100, Ext. 350

### Committee on Guidance for Md. (E.C.P.D.)

Channing W. Wilson  
4122 Westview Rd.  
Baltimore 18, Md.  
Belmont 5-4141

### Membership

Joseph A. Cogliano  
W. R. Grace and Co.  
P.O. Box 3461  
Baltimore 26, Md.  
Elgin 5-8700

### Remsen Memorial Lecture

Walter S. Koski  
Department of Chemistry  
Johns Hopkins University  
Baltimore 18, Md.  
Hopkins 7-3300

### Section History

Edward M. Hoshall  
U. S. Food and Drug Adm.  
103 S. Gay St.  
Plaza 2-8460, Ext. 507

### Public Relations—Radio and TV

Ann Morgan  
Univ. of Md. Med. School  
29 S. Greene St.  
Baltimore 1, Md.  
Plaza 2-1100, Ext. 282

### Publications Board

Henry C. Freimuth  
109 Arbutus Ave.  
Catonsville 28, Md.  
Ridgeway 7-4513  
Plaza 2-2000, Ext. 2471

### Co-Editors—The Chesapeake Chemist

Melvin Miller      Norbert Zaczek  
Loyola College, Idlewood 5-2500

## Posters Available

Any group wishing to receive attractive posters announcing future meetings of The Maryland Section of the ACS may be put on the mailing list by contacting the Chairman of the Public Relations Committee:

Miss Ann M. Morgan  
Department of Pharmacology  
School of Medicine  
University of Maryland  
29 S. Greene Street  
Baltimore 1, Maryland

Elderly wolf: A fellow who's not going to last much longer.

Word to the Wisecracking: Keep your words soft, sweet and warm; you never know when you might have to eat them.

"Clothes always give a lot of confidence."

"Yes, you can go to a number of places with them that you could not go without them."



ONE  
DEPENDABLE  
SOURCE

Chemicals  
Glassware  
Laboratory Supplies  
Scientific Instruments

We carry a complete line of  
Mallinckrodt Analytical Reagents.

HENRY B. GILPIN CO.  
901 Southern Ave.  
Washington, D. C.  
LI 4-2432  
7401 Pulaski Hwy.  
Baltimore, Maryland  
MU 6-8400

## ABSTRACTORS NEEDED

The volume of chemical literature doubles every eight years. This is reflected in the increase in size of *Chemical Abstracts*. In order to keep up with this growth, *CA* needs more abstractors to speed the flow of information from journals to the working chemist.

*CA* needs chemists who can prepare abstracts in good idiomatic English from chemical papers published in one of the following languages: Polish, German, French, Bulgarian, Belorussian, Romanian, Azerbaijani, Czech, Portuguese, Spanish, Italian, Flemish, Russian, and English.

Those chemists with training or experience in spectroscopy, NMR, ESR, and PMR are especially needed. Polymers, steroids, and dyes are the organic areas with the most critical needs.

There is a need for patent abstractors with experience or training in the graphic arts. *CA* is also looking for patent abstractors who can handle French and Flemish in all applied fields.

Abstracting can be rewarding work. Abstractors say that they enjoy the challenge of extracting all essential information from papers or patents for inclusion in the permanent, indexed record. This work also gives them an opportunity to keep up with new developments in their fields.

There is no formal training program for abstractors; they learn by preparing actual copy for *CA*. Assignments are always flexible enough to fit the interests and the time of abstractors, who may request changes in numbers and kinds of papers at any time. Papers and patent specifications for abstracting are supplied by *CA*.

An honorarium is given for this work. Starting in 1963, this will be \$14.40 per printed page of *CA* (8 cents a line).

Additional information about abstracting will be sent upon request. There is no obligation. Please write to Fred A. Tate, Acting Editor, Chemical Abstracts Service, 2041 North College Road, Columbus 10, Ohio.

## MARYLAND SECTION NEWS

(Continued from page 9)



### GOVERNMENT

#### FORT DETRICK

The General Services Administration recently announced that a contract has been negotiated for preliminary architectural and engineering designs for a two million dollar Bureau of Mines Research Laboratory to be located at Fort Detrick. This laboratory will primarily house facilities for the development of new analytical instruments using advanced concepts of mineral analysis.

John E. Thompson, Civilian Personnel Officer, has announced the establishment of a postdoctoral resident research program at Fort Detrick for 1963-1964. The program, sponsored by the National Academy of Science-National Research Council, will be supported by the U. S. Army Biological Laboratories, where the research associateships are tenable. The Biological Laboratories will provide the necessary supervision, facilities, and equipment for the program and will administer the associateships.

The purpose of the Research Associateships is to provide to young investigators of unusual ability and promise an opportunity for advanced training in basic research in the various branches of the biophysical and biological sciences.

William L. Jacobs has been appointed Assistant Scientific Director at the U. S. Army Biological Laboratories, Fort Detrick. As assistant to Dr. Riley D. Honsenright, Scientific Director, Jacobs will be primarily concerned with development.

Mr. Jacobs came to Fort Detrick in 1955 from three and one-half years experience as Division Chief, Directorate of Biological Operations, Pine Bluff Arsenal, Arkansas. During his first year with the Biological Laboratories here he

served as Biological Warfare Engineer. He was Assistant Chief, Program Coordination Office, for the past four years and was acting in that capacity at the time of his new assignment.

#### DR. HARRY H. SISLER

(Continued from page 5)

He has contributed to several volumes of *Inorganic Syntheses* and is co-author of eight reference or textbooks in the fields of general, analytical, and inorganic chemistry.

His principal researches have been in the fields of inorganic nitrogen compounds, oxides of nitrogen, chloramine and hydrazine, liquid ammonia chemistry, molecular addition compounds, boron hydrides and their derivatives, nitrogen-phosphorus compounds, as well as the study of reactions at high temperatures in metal carbide systems. He is a co-patenter of a new process for the synthesis of hydrazine and of a process for the synthesis of chloramine, and has a number of related patent applications.

Dr. Sisler has been active in the affairs of the Divisions of Chemical Education and of Physical and Inorganic Chemistry of the American Chemical Society, over a period of years. He was national chairman of the Division of Chemical Education in 1957-58 and was chairman of the Florida Section of the American Chemical Society in 1962. He is a member of Alpha Chi Sigma, Phi Lambda Upsilon, Sigma Xi, Phi Delta Kappa, Kappa Delta Pi, Phi Kappa Phi, and International Torch Club. He was a member of the Chemistry Advisory Panel of the National Science Foundation from 1959 through 1962.

In 1960 Dr. Sisler received the Outstanding Southeastern Chemist Award of the Florida Section of the American Chemical Society.

#### NOTE!!!

This month's meeting will be held at the Holiday Inn, West, not at Bennett Hall, as was announced earlier. See page 5 for the address of the Holiday Inn.

# What! Will stocks 3,595 Eastman organic chemicals?



That's right! For off-the-shelf service as soon as your order is received. You just can't get faster service, or more dependable.

# But what about the other 405?



Yes, Eastman does make close to 4,000 organic chemicals. How come Will stocks "only" 3,595? What about the other 405?

Well, some of them you might want once in twenty years. These Eastman can stock. Others deteriorate quickly. These Eastman can cook up fresh, as needed . . . and we'll get them to you as quickly as anyone. All that need concern you is that you can order any of the 3,595 stock chemicals from us . . . and we'll have it on its way to you within 24 hours!

Take advantage of this fast and convenient service. Write now for the complete Will Stock List of Eastman organic chemicals.



**Scientific, Inc. (Md.)**

5-31 North Haven St., Baltimore 24, Md.  
Telephone: Dickens 2-4850, area code 301

## MEMBERSHIP CHANGES

### New Members

- Alexander, Thomas B., 2 Love Ave., RFD 1, Box 107, Edgewood, Md.  
Ball, Lawrence E., Asst. Ex. Officer, C.R.D.L., Edgewood Arsenal, Md.  
Beard, Elsie S., 7913 35th St., Baltimore 6, Md.  
Bewer, Harry C., American Bitumuls & Asphalt Company, P.O. Box 1955, Baltimore 3, Md.  
Bontoyan, Warren R., 3209 Tyndale Ave., Baltimore 14, Md.  
Brewer, C. Glenn, 714 Rappola St., Baltimore 24, Md.  
Daffin, Ralph F., 3113 Willoughby Road, Baltimore 34, Md.  
DeMarco, Richard E., 7 River Drive, Severna Park, Md.  
Downing, Donald, 1303 Glendale Road, Baltimore 12, Md.  
Ellis, Barbara, Johns Hopkins University, Chemistry Dept., Baltimore 18, Md.  
Finlay, Thomas H., D.C.S. Food Industries, Ellicott City, Md.  
Fletcher, Michael J., 1215 N. Calvert St., Baltimore 2, Md.  
Fox, Robert L., 1309 Westellen Road, Baltimore 4, Md.  
Friedman, Edward, Biochemical Research Division, Army Chemical Center, Md.  
Duda, George D., 12 Albeth Road, Marriottsville, Md.  
Gordon, David L., 2603 N. Calvert St., Baltimore 18, Md.  
Halfpenny, Melvin L., 3124 Rheims Road, Baltimore 7, Md.  
Hansrote, Charles J., 809 Mount Royal Ave., Cumberland, Md.  
Henderson, Donald S., 704 Hunting Place, Baltimore 29, Md.  
Hull, Larry A., Hq. Co. CRDL, Army Chemical Center, Md.

### Transferred in

- Aplington, James, Med. Residence Hall No. 922, 1620 McElderry St., Baltimore 5, Md.  
Babbitt, B. R., 19 St. Ives Drive, Severna Park, Md.  
Baker, Charles A., Jr., 1390 Limit Ave., Baltimore 12, Md.  
Brooks, Thomas W., P. O. Box 1072, Edgewood, Md.  
Broomfield, Clarence A., 1307 Saratoga Drive, Bel Air, Md.  
Brown, William S., Nuclear Safeguards, Inc., 509 Crain Highway, S. E., Glen Burnie, Md.  
Caspersen, John S., 1010 Cameron Road, Baltimore 12, Md.  
Chalfant, David, 2400 Birch Ave., Baltimore 7, Md.  
Comfort, J. R., 2 C Westway South, Baltimore 21, Md.  
Cote, James A., W. R. Grace Company, Clarksville, Md.  
Crabtree, Eleanor, 506 Alleghany Ave., Towson 4, Md.  
Crabtree, Royale R., 506 Alleghany Ave., Towson 4, Md.  
Dal Pan, Florindo, 1625 Eastern Ave., Apt. F, Essex, Baltimore 21, Md.  
Daniels, Margaret P., 202 E. 34th St., Baltimore 18, Md.  
DeButts, Edward H., 835 Windsor Road, Cumberland, Md.  
Dudnikov, Mitchell, 902 Scotts Hill Drive, Baltimore 8, Md.  
French, Richard C., Biological Labs., Fort Detrick, Frederick, Md.  
Fritz, Wayne E., 5813 Loch Raven Blvd., Baltimore 12, Md.  
Furmanski, E. R., Hq. Co. USA Gar., Fort Detrick, Frederick, Md.  
Ganis, Frank M., University of Maryland Med. Dept., School of Med., Baltimore 1, Md.

(Continued on page 16)

(Continued on page 17)



## TRANSFERRED MEMBERS

(Continued from page 15)

Giachino, Marcello T., 18 Amherst Ave., Ellicott City, Md.  
Gimarc, B. M., Chemistry Dept., Johns Hopkins University, Baltimore 18, Md.  
Ging, Chasen, Route 2, Kennedy Point, Annapolis, Md.  
Goodman, Marvin L., General Delivery, New Windsor, Md.  
Granito, Charles, 308 Franklin Ave., Bel Air, Md.  
Hattman, James B., 101 N. Charles St., Baltimore 1, Md.  
Hauk, Peter, Johns Hopkins University, Chemistry Dept., Baltimore 18, Md.  
Hobbs, Estel M., 26 Warren St., Apt. 2B, Aberdeen, Md.  
Huang, Ching-Hsien, Johns Hopkins School of Md., 1620 McElderry St., Baltimore 5, Md.  
Hydro, William R., 1309 Saratoga Drive, Bel Air, Md.  
Kattan, Abraham, Bradford Apts., 3301 St. Paul St., Baltimore 18, Md.  
Kaufman, Joyce J., RIAS, 7212 Bellona Ave., Baltimore 12, Md.  
Kulier, Charles P., Chemistry Dept., Remsen Hall, Johns Hopkins University, Baltimore 18, Md.  
Lee, Emma C., 5307 York Road, Baltimore 12, Md.  
Leslie, James, Dept. of Chemistry, Washington College, Chestertown, Md.  
Little, Glenn A., 38 Broadway, Bel Air, Md.  
McBeth, Charles H., Hospital for Women of Maryland, Lafayette Ave. and John St., Baltimore 17, Md.  
McDonald, Lloyd A., 7920 Liberty Road, Baltimore 7, Md.  
Mednick, Morton L., 34 Greenmeadow Drive, Timonium, Md.  
Morse, Fred A., Ballistics Res. Labs., I. B. L., Aberdeen Proving Ground, Md.  
Murr, Brown, Chemistry Dept., Johns Hopkins University, Baltimore 18, Md.  
Pier, H. W., 3416 Garrison Blvd., Baltimore 15, Md.

Proper, Reuben, 3402 Lynne Haven Drive, Baltimore 7, Md.  
Pultinas, Edmund P., Jr., Box 471, Student Off. Det., Aberdeen Proving Ground, Md.  
Rice, Rip G., W. R. Grace Company, Washington Res. Ctr., Clarksville, Md.  
Ruedenberg, Klaus, Dept. of Chemistry, Johns Hopkins University, Baltimore 18, Md.  
Sanders, Charles I., 1928 E. Reece Road, Fort George G. Meade, Md.  
Santoro, Alex, 420 S. Philadelphia Blvd., Aberdeen, Md.  
Scheibel, Leonard W., Med. Residence Hall, Rm. 412, 1620 McElderry St., Baltimore 5, Md.  
Sinnott, Kenneth M., 41 Evergreen Ave., All View Estates, RFD 4, Ellicott City, Md.  
Sklar, George, 4002 Essex Road, Baltimore 7, Md.  
Story, Robert A., RFD 2, Elkton, Md.  
Strow, Theodore F., 715 Silver Creek Road, Baltimore 8, Md.  
Summerson, William H., 24 Lake Drive, Bel Air, Md.  
Taylor, Dean, Jr., Weapons Dept., U. S. Naval Academy, Annapolis, Md.  
Tucker, L. A., Chemistry Corps CBR Agency Oper., Res. Group Army Chem. Center, Edgewood, Md.  
Warth, Albin H., 29 York Court, Baltimore 18, Md.  
Waters, Oscar B., Jr., W. R. Grace, Washington Res. Ctr., Clarksville, Md.  
Zannucci, Joseph S., 103 East Second St., Frederick, Md.  
Zeltmann, Eugene, 307 E. 29th St., Baltimore 18, Md.

A Texas lady whose husband had just struck it rich had a mansion built that staggered even jaded Dallasites.

"How many bathrooms did you say your new residence had?" prompted Bookseller Bliss Albright.

The lady answered loftily, "I can seat 14."

## NEW MEMBERS

(Continued from page 15)

Jackson, Thomas D., 101 Hammarlee Road, Glen Burnie, Md.  
Jackson, William M., 4919 Herring Run Drive, Baltimore 14, Md.  
Jandorf, Bernard J., Direct Weapons System, U. S. Army Chemical Res.-Dev. Lab., Edgewood Arsenal, Md.  
Love, Solomon, Detection Div. Chem. Res. Div., Labs.-Bldg. 330, Army Chemical Center, Md.  
Marseglia, Elizabeth M., 3120 St. Paul St., Apt. 410E, Baltimore 18, Md.  
Modan, Michael, 4300 Hayward Ave., Baltimore 15, Md.  
Murray, Thomas J., 79 Stewart Manor, Frederick, Md.  
Neims, Allen, 524-A N. Bond St., Baltimore 5, Md.  
Piechock, Joseph T., 1103 Harwell Road, Baltimore 7, Md.  
Schindler, Lionel P., 4111 N. Rogers Ave., Baltimore 7, Md.  
Shavit, Morton D., 1207 Brixton Road, Baltimore 12, Md.  
Strow, Lawrence E., 6401 Lawyers Hill Road, Baltimore 27, Md.  
Tucker, Lamonte A., U. S. Army Chem. Res. & Devel. Lab., Edgewood Arsenal, Md.

### NEW TITRATOR BULLETIN FROM SARGENT

The new Sargent Bulletin ST-1 describes in detail the Sargent Spectrophotometric and Potentiometric Automatic Titrators and their applications. These laboratory instruments are equipped for those titrations which provide potentiometric end points from the four general classes reactions: acid-base, precipitation, oxidation-reduction, and complex-formation. In addition, the Spectrophotometric Titrator includes an optical system for use in detecting end points by means of a color change in the solution.

For your free copy write: E. H. Sargent & Co., 4647 West Foster Avenue, Chicago 30, Illinois, Dept. ST.

FEBRUARY 1963

**FOR  
ALL YOUR  
NEEDS**

One  
dependable source  
for

- GLASSWARE
- LABORATORY SUPPLIES
- SCIENTIFIC INSTRUMENTS

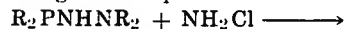
We carry a complete line  
of Mallinckrodt  
Analytical  
Reagents

PHIPPS & BIRD, INC.  
303 South Sixth St.  
Richmond, Va.  
MI 4-5401

## FEBRUARY MEETING

(Continued from page 5)

phosphonitrilic compounds of the general formula  $(R_2PN)_n$ . It has further been shown that in some instances, at least, phosphines bearing a hydrazino-group can be chloraminated in accordance with the general equation



without the hydrazino group undergoing any oxidation.

Reactions of these types will be discussed and their possible application to important synthetic problems, particularly with reference to the synthesis of phosphorous-nitrogen polymers will be considered.

The reaction of diphenylchlorophosphine with hydrazinium halides to yield diphenyl phosphonitrile trimers and tetramers has likewise been observed.

---

---

### American BioChemical Laboratory, Inc.

Dr. S. L. Goldheim, Director

Research - Development - Analysis  
Plant Surveys - Tests - Quality Control

1113 North Rolling Road  
Baltimore 28, Md.  
RIDgeway 7-4928

---

---

#### BULLETIN AVAILABLE FROM THOMAS

ARTHUR H. THOMAS COMPANY, Philadelphia, Pa., is now distributing Vol. 1, No. 2 of their bulletin "Scientific Apparatus". The 16-page bulletin illustrates and describes important new Thomas developments, current offerings of principal manufacturers for whom they are distributors, and general laboratory items of interest to the chemist and biologist. Copy available upon request.

## BIBLIOGRAPHY AVAILABLE

Recent work in Countercurrent Fractionation is compiled in a 45-page bibliography by E-C Apparatus Corporation, Swarthmore, Pa. The index includes Aliphatics, Amino Compounds, Antibiotics, Apparatus, Aromatics, Barbiturates, Calculations, Homologues, Inorganics, Lipids, Natural Products, Nucleic Acids, Polymers, Polypeptides, Reviews, Solvents and Steroids. Published as an aid to users of the company's Countercurrent Fractionators, it is available to others interested in the field at no charge. Write E-C Apparatus Corp., 538 Walnut Lane, Swarthmore, Pa.

In a Sunday School class discussion of temperance, one mother related that she learned how well she had taught her children the evils of liquor when her youngest, a TV cowboy fan, brought her a picture he had drawn of a cowboy in a saloon.

"But don't worry, Mother," he quickly assured her. "He isn't going to drink anything. He just went in there to shoot a man."

"How did you like Venice?"

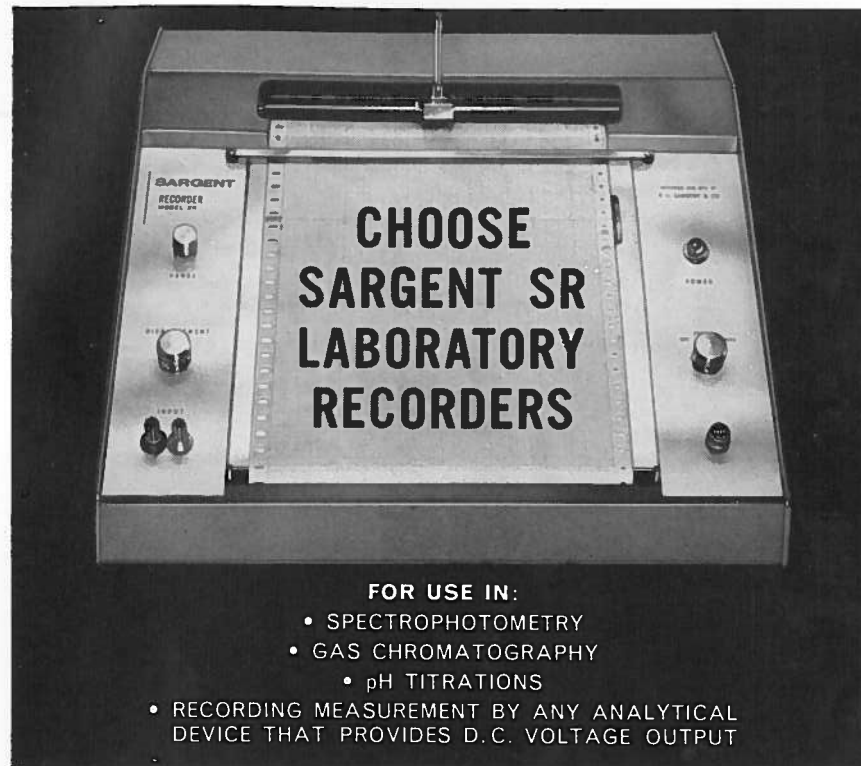
"Oh, we only stayed a few hours. The place was flooded."

"Who told you," shouted the angry boss "that just because I've kissed you a couple of times you can loaf around the office and neglect your work?"

"My lawyer," cooed the secretary.

"When I get well, doctor," the concerned woman telephoned her physician, "will I actually be able to play the piano?" "But, of course," he assured her. "How wonderful," she enthused. "I've never played it before!"

Complaining to a visitor about the cost of some minor surgery, the hospital patient remarked: "What this country needs is a good \$50 scar."



**CHOOSE  
SARGENT SR  
LABORATORY  
RECORDERS**

**FOR USE IN:**

- SPECTROPHOTOMETRY
- GAS CHROMATOGRAPHY
- pH TITRATIONS
- RECORDING MEASUREMENT BY ANY ANALYTICAL DEVICE THAT PROVIDES D.C. VOLTAGE OUTPUT

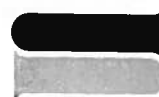
### SELECT THE SR RECORDER FOR YOUR PARTICULAR NEED

**MODEL SR**—An automatic, self-balancing potentiometric recorder providing—at minimum cost—high sensitivity and high speed response, full size 250 mm chart, 10,000 ohm input resistance tolerance at the highest sensitivity, and a ¼% accuracy. Write for *Bulletin SR-B*.

**MODEL SRL**—Provides a choice of direct or logarithmic response for continuous, precise recording of an electrical variable or its logarithm with respect to time. Use it with spectrophotometers, densitometers and similar instruments to record either transmittance or absorbance. Write for *Bulletin SRL-I*.

**MODEL SR-20 or SR-30**—For use in gas chromatography with all leading chromatographs. In addition, the SR-30 provides continuous integration to compute the area under the recorded curve. Write for *Bulletin SR-GC*.

For a recorder demonstration or for further information, contact your Sargent representative.



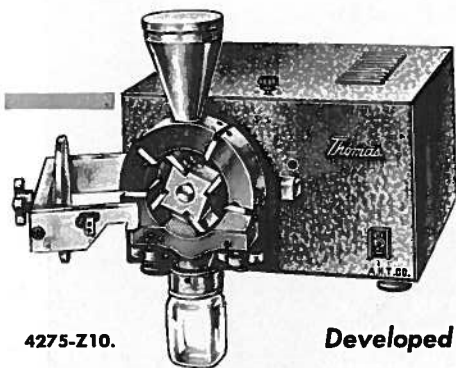
**SARGENT** SCIENTIFIC LABORATORY INSTRUMENTS • APPARATUS • CHEMICALS  
E. H. SARGENT & CO., 35 STERN AVE., SPRINGFIELD, NEW JERSEY  
CHICAGO 30, ILLINOIS • DETROIT 4, MICHIGAN • BIRMINGHAM 4, ALABAMA  
DALLAS 35, TEXAS • ANAHEIM, CALIFORNIA

The Chesapeake Chemist  
University of Maryland  
636 W. Lombard Street  
Baltimore 1, Maryland

Nonprofit Org.  
U.S. Postage  
PAID  
Baltimore, Md.  
Permit No. 2917

*New...* Model ED-5

*Thomas-Wiley*  
**LABORATORY  
MILL**



- 5-inch chamber diameter
- 3-speed enclosed drive
- simplified sieve construction

4275-Z10.

*Developed to meet the demand for a size  
between Intermediate and Model 3*

For laboratory or semi-pilot plant milling of a large variety of materials. A modification of the original Standard Model 3 Wiley Mill developed in response to requests for a mill offering the advantages of the basic Wiley Mill shearing principle but of smaller chamber capacity, i.e., approximately half that of the Standard Model. Modifications include a simplified sieve construction and other features for safe, convenient bench operation.

Retains the shearing action of the Standard Model which minimizes changes in the sample such as temperature rise, loss of moisture, or liquefaction.

**Grinding Chamber.** Cast iron and steel, 5 inches i.d.  $\times$  2 inches deep. Four rotating knives, bolted to removable rotor, are precisely adjusted for shearing clearance with four individually adjustable knives mounted in the frame. Fan action of the blades increases throughput and quick clearing of the chamber.

**Knives.** Tool steel, hardened and tempered for toughness and retention of cutting edge. Stainless steel knives are available.

**Drive Unit.** Provides unloaded rotor speeds of approximately 500, 800 or 1200 r.p.m. Louvered steel cabinet encloses  $\frac{1}{8}$  h.p. motor, two 3-step pulleys, drive belt, rotor shaft ball bearing assembly, and storage compartment for tools and sieves. Ball bearings are permanently lubricated and sealed.

**Door.** Clamping screw seals heavy steel plate door against the face of the mill. When released, door pivots for full diameter access to the chamber. *Safety electrical interlock disconnects motor when door is open.*

**Sieves.** Curved, round hole screens of stainless steel, inexpensive and easily interchangeable.

**Receivers.** Threaded collar at lower end of chute takes a standard Mason jar. Collar is removable for attachment of a bag or smaller neck vessel for collection of sample.

4275-Z10. Laboratory Mill, Wiley Model ED-5, as described, with  $\frac{1}{2}$ , 1 and 2 mm sieves, three shim plates, three Allen keys, open-end wrench for knife adjustment, and three 1-pint Mason type jars. With 3-wire cord, 3-prong plug and adapter. Shipping weight 185 lbs. For 115 volts, 60 cycles, a.c. . . 690.00

*For detailed description of Standard, Intermediate and Micro Models  
of the Wiley Mill, see pp 346-350 of our 1961 general catalog*



**ARTHUR H. THOMAS COMPANY**

*Scientific Apparatus and Reagents*

VINE STREET AT 3RD • P. O. BOX 779 • PHILADELPHIA 5, PA., U. S. A.