THE-

REVIEW OF PHYSICAL CHEMISTRY

OF JAPAN

Founded in 1926

CONTENTS

Masakatsu Ueno: Electrical Conductivities of Alkylammonium Chlorides in Water at 25°C up to 3000 kg/cm²	61
Masaru Nakahara and Jiro Osugi: Ion-Ion and Ion-Water	
Interactions at High Pressure	69
Toshihiro Nakayama and Jiro Osugi: Pressure Effect on the	
EDA-Complexes Formed between Benzene, Toluene and	
Tetracyanoethylene in Carbon Tetrachloride	79
Shozo Kishimoto: Catalytic Properties of Cold-Worked Noble	
Metals for the Oxidation of Carbon Monoxide	88
Yoshiyuki Tanaka and Tadashi Makita: Evaluation and Correlation	
of Viscosity Data, The Most Probable Values of the	
Viscosity of Gaseous Propane and Propylene	93

THE REVIEW OF PHYSICAL CHEMISTRY OF JAPAN

(Butsuri-Kagaku no Shinpo)

Found in 1926

President: Wasaburo Jono Members of Council:

Michio Okamoto (Chief)

Jiro Osugi

Ryozo Goto

Renpei Goto

Eiji Suito

Hiroyuki Hatano

Board of Editors:

J. Osugi (Chief)

Kyoto University

R. Goto (Associate) Kyoto Sangyo University

E. Suito (

) Osaka Institute of Technology

S. Shida

Yokohama University

H. Teranishi

Kyoto Technical University

K. Suzuki

Ritsumeikan University

K. Kuwata

University of Osaka

S. Seki

University of Osaka

R. Fujishiro

Osaka City University

T. Hayakawa

Prefectural University of Osaka

Y. Kubokawa

Prefectural University of Osaka

S. Tsuchihashi

Kobe University

T. Makita

Kobe University

S. Hasegawa

Okayama University

K. Shimizu

Doshisha University

H. Togawa

Doshisha University

Secretary:

M. Sasaki

K. Hara

M. Nakahara

N. Tsuda

, **)**;

February 29, 1976

Communications to the Editor should be addressed to Board of Editors, The Physico-Chemical Society of Japan, Faculty of Science, Kyoto University, Kyoto, Japan.

Business Correspondences should be addressed to: Secretary, The Physico-Chemical Society of Japan.

Faculty of Science, Kyoto University, Kyoto, Japan.

Purchase Order should be addressed to: Maruzen Co., Ltd., Nihonbashi, Chuo-ku, Tokyo, Japan.

Published by

THE PHYSICO-CHEMICAL SOCIETY OF JAPAN

(Nippon Butsuri-Kagaku Kenkyu Kai)
Faculty of Science, Kyoto University, Kyoto, Japan

Printed by KAWAKITA PRINTING CO., LTD., Kyoto, Japan

HORIBA, Ltd. offers special application of

Recommendation for application is also a part of our service.

Ge(Li) ? Ray Detector



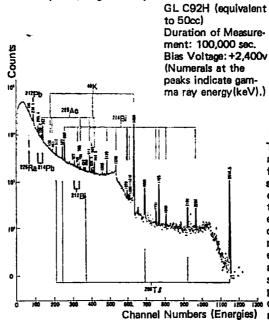
A coaxial type semiconductor detector made from a lithium-drifted Germanium single crystal. Ideally suitable for precision analysis of γ ray spectrum for its superb energy resolution.

- Energy Resolution: 1.9~1.6 keV
- Ambient radioactivity monitoring.
- · Radiochemistry analy-
- γ ray measurements in nuclear medicine.

Silicone Detector Unit for Radiation

Semi-conductor detector units having surface barrier type silicone (semi-conductor) as elements ideally suitable for the measurements of alpha particles, fission fragments or heavy ions. Their measurable energy ranges are, approx. 9.5 MeV with an effective thickness of 60µ for alpha particles and approx. 15 MeV with 120µ, having resolutions ranging from 30 keV to 90 keV.

A spectrum of natural radioactivity in indoor atmosphere measured by Ge (Li) gamma ray detector.



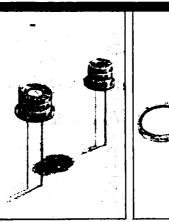
Si(Li)XRay Detector

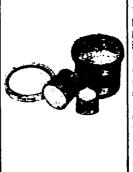


This is a semi-conductor radiation detector made from lithium-drifted silicone single crystal, and because of its highest grade resolution expectable from an energy dispersion X ray detector, a simultaneous measurements of multiple elements is possible. It has a wide range of applications such as element analysis of pollutants like suspending illo im im dust in atmosphere, X ray micro-analysis or X ray diffraction.

Nal(TI) Scintillators for Radiation Measurement

These are the radiation detectors resorting to the phenomenon of a transparent single crystal to scintillate by the incident radiation. They are used for a general counting of gamma ravs or soft X ravs or for scintiliation spectrometer. For meeting different applications, they are made to a variety of types such as standard type, well type, soft X ray type, union type, differential type, side-hole type or scinti-camera type.





HORIBA, Ltd. HORIBA

Miyanohigashi, Kisshoin, Minami-ku, Kyoto, Japan

Tel: 075-313-8121 Cable: HORIBA KYOTO Telex: 5422130

The Review of Physical Chemistry of Japan

Vol. 45, 1975

CONTENTS

No. 1

Masaru Nakahara and Jiro Osugi: 10nic Solutions under High Pressures VI,
Mobilities and Hydration of Monocarboxylate Ions
Masakatsu Ueno, Masaru Nakahara and Jiro Osugi: The Electrical Conductivities
of NH ₄ Cl and Me _n NH _{4-n} Cl (n=1, 2, 3) in Water
Masakatsu Ueno, Masaru Nakahara and Jiro Osugi: The Electrical
Conductivities of Et _n NH _{4-n} Cl (n=1, 2, 3) in Water
Jiro Osugi, Masaru Nakahara, Yasuhiko Matsubara and Kiyoshi Shimizu:
The Transference Numbers of KBr and KI in Aqueous Solution at 15,
25 and 40°C up to 1,500 kg/cm ² 23
Jiro Osugi, Masaru Nakahara and Makoto Horiguchi: The Benzidine
Rearrangement at High Pressure and High Temperature2
Masatake Katayama, Kimihiko Hara and Jiro Osugi: Kinetic Study of the
Solid State Reaction of Zinc and Arsenic at High Temperature and High Pressure3.
Muneo Sasaki: Kinetic Study of the Intermediate in the Reaction between
Picryl Chloride and Sodium Sulphite in Aqueous Solution4
Masahiko Uematsu, Shogo Saegusa, Koichi Watanabe and Ichimatsu Tanishita:
Thermodynamic Properties of Gaseous Ethane and Ethene5.
No. 2
Masakatsu Ueno: Electrical Conductivities of Alkylammonium
Chlorides in Water at 25°C up to 3000 kg/cm ² 6
Masaru Nakahara and Jiro Osugi: Ion-Ion and Ion-Water
Interactions at High Pressure6
Toshihiro Nakayama and Jiro Osugi: Pressure Effect on the
EDA-Complexes Formed between Benzene, Toluene and
Tetracyanoethylene in Carbon Tetrachloride7
Shozo Kishimoto: Catalytic Properties of Cold-Worked Noble
Metals for the Oxidation of Carbon Monoxide8
Yoshiyuki Tanaka and Tadashi Makita: Evaluation and Correlation
of Viscosity Data, The Most Probable Values of the
Viscosity of Gaseous Propane and Propylene9

Published by

THE PHYSICO-CHEMICAL SOCIETY OF JAPAN

Faculty of Science, Kyoto University, Kyoto, Japan