Mines Branch Information Circular IC 199

BIBLIOGRAPHY OF HIGH-TEMPERATURE CONDENSED STATES RESEARCH PUBLISHED IN CANADA,

JULY-SEPTEMBER, 1967

by

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SYNOPSIS

This report contains bibliographic information

concerning research work on high-temperature condensed states published in Canadian journals from July 1 to September 30, 1967.

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BIBLIOGRAPHIE DES RECHERCHES EFFECTUÉES DANS LE DOMAINE DES ÉTATS CONDENSÉS AUX TEMPÉRATURES ÉLEVÉES,

AU CANADA, DE JUILLET À SEPTEMBRE, 1967

par

Norman F.H. Bright*

RÉSUMÉ

Le présent rapport contient des renseignements bibliographiques sur les recherches effectuées sur les états condensés aux températures élevées, publiées dans les revues scientifiques canadiennes au cours de la période de juillet 1 à septembre 30, 1967.

 Chef, Section de la chimie physique,
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INTRODUCTION

This report is a further contribution to the series of bibliographic bulletins of information on high-temperature condensed states research that have been published as Mines Branch Information Circulars since March 1960 on behalf of the Commission on High Temperatures and Refractories of the International Union of Pure and Applied Chemistry. The present document covers the three-month period from July 1 to September 30, 1967, and gives details of work published in Canadian scientific and technical journals during that period.

Anyone not now receiving these reports who wishes to do so, anyone who would like to receive the analogous documents relating to research on the gaseous state and on plasma phenomena, or anyone who currently receives either of these bibliographies but to whom they are no longer of interest, is requested to advise the compiler accordingly so that the appropriate changes may be made in the relevant mailing lists.

The compiler would very much appreciate being advised of any work published in Canadian journals, and lying within the scope of these bibliographies, that has escaped his notice in order that such work may be mentioned in a subsequent issue of this series of Information Circulars.

Any further information concerning these bibliographies or any of the other relevant IUPAC activities can be obtained from the compiler of this report at the following address:

> Dr. Norman F.H. Bright, Mineral Sciences Division, Mines Branch, Department of Energy, Mines and Resources, 555 Booth Street, Ottawa 4, Ontario, Canada.

Anyone interested to receive the High-Temperature Gaseous State Bibliographies that are prepared on a quarterly basis by Professor Leo Brewer of the University of California should notify the compiler of the present document and arrangements will be made to have these Gaseous State Bibliographies sent gratis to such people.

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The biennial meetings of the International Union of Pure and Applied Chemistry were held in Prague, Czechoslovakia, in late August/early September, 1967. The compiler of these bibliographies attended meetings of the Commission on High Temperatures and Refractories of the Inorganic Chemistry Division of the Union as the Canadian representative. These meetings were held as part of the Conference (or business sessions) of the Union. The work of the Commission during the past two years was reviewed and a report thereon drawn up for presentation to the Council of the Union. This report gave details of the activities of the Commission such as these bibliographies, the sponsorship of symposia on high-temperature topics, and the development of standards and fixed points for high-temperature calibration measurements.

The present chairman of the Commission is Professor Hans Nowotny of Vienna, Austria. Representatives from the United States, Belgium, Holland, Italy, France, Czechoslovakia and Canada attended the meetings.

The next biennial Congress (or technical sessions) of IUPAC will be held in 1969 in Sydney, Australia, but it is at present somewhat in doubt as to whether the Conference (or business sessions) will be held at such a remote location. It is, however, of interest to note that the technical meetings themselves will be of considerable significance to those concerned with hightemperature studies, in that they involve sections dealing with high-temperature solid-state chemistry, with thermodynamic properties at elevated temperatures, with kinetics, and with similar topics.

BIBLIOGRAPHY OF WORK ON HIGH-TEMPERATURE

CONDENSED STATES PUBLISHED IN CANADA,

JULY-SEPTEMBER, 1967

International Union of Pure and Applied Chemistry Commission on High Temperatures and Refractories Bibliography (July 1 to September 30, 1967)

for Canada

collected by Dr. Norman F.H. Bright, Mines Branch, Ottawa.

A. Devices for achieving temperatures above 1500°C

Recent Developments in Electric Arc Furnace Technology.
 E.R. Landry (Union Carbide Canada Limited, Toronto, Ontario).
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Nil

C. Devices for physical measurements at temperatures above 1000°C

 The Construction and Operation of a Micro-Cone-Softening Equipment.
 A. Jongejan (Mines Branch, Department of Energy, Mines and Resources, Ottawa, Ontario).

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D. Properties, at temperatures below 1000°C, of materials that melt above 1500°C

a. Metallic materials

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 R. J. Berry (Division of Applied Physics, National Research Council of Canada, Ottawa, Ontario).
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 Effects of Various Alloying Additions on the Corrosion of AISI Type 430 Ferritic Stainless Steel.
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 Mines Branch Technical Bulletin TB 87, March, 1967 (Department of Energy, Mines and Resources, Ottawa, Ontario).

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- Laminated Martensitic White Irons.
 P.C. Kempe (Canada Iron Foundries Ltd., Toronto, Ontario).
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b. Non-metallic materials

- Composition et Propriétés des Argiles et des Schistes Argileux à Céramique du Québec.
 J. G. Brady and R. S. Dean (Mines Branch, Department of Energy, Mines and Resources, Ottawa, Ontario).
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- Density/Grain-Diameter Relation in a Manganese-Zinc Ferrite.
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- 5. The Temperature Dependence of the Half-Widths of Internal Absorption Lines in Boron-Doped Silicon.
 R.R. Parsons and J.W. Bichard (Department of Physics, University of British Columbia, Vancouver, British Columbia).
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 T. B. Weston, A. H. Webster and V. M. McNamara (Mines Branch, Department of Energy, Mines and Resources, Ottawa, Ontario).
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- 13. Absorption-Line Broadening in Boron-Doped Silicon.
 J. J. White (Department of Physics, University of British Columbia, Vancouver, British Columbia).
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- c. Mixed materials

Nil

E. <u>Properties</u>, at temperatures above 1000°C, of materials that melt above 1500°C

- a. Metallic materials
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- b. Non-metallic materials
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c. Mixed materials

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- F. <u>Properties</u>, at temperatures above 1000°C, of materials that melt below 1500°C

a. Metallic materials

 Some Problems in the Melting and Casting of Uranium and its Alloys.
 F.H. Hueston and R.S. Barclay (Eldorado Mining and Refining Limited, Port Hope, Ontario).

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b. Non-metallic materials

Nil

c. Mixed materials

Nil

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