Mines Branch Information Circular IC 135

BIBLIOGRAPHY OF HIGH-TEMPERATURE CONDENSED STATES RESEARCH IN CANADA, OCTOBER TO DECEMBER, 1961

by

Norman F.H. Bright*

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SYNOPSIS

This report contains bibliographic information concerning research work on high-temperature condensed states published in Canadian journals during the period October to December, 1961. Bibliographic data for France, Belgium, Austria, Germany, Great Britain, the Netherlands, Australia, Scandinavia, the U.S.A. and the U.S.S.R. for the same period are given in a document, prepared at the National Bureau of Standards, Washington, D.C., which is supplied with this report to regular recipients, and which can be obtained directly from Washington by other interested parties.

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Direction des mines

Circulaire d'information IC 135

BIBLIOGRAPHIE DES RECHERCHES EFFECTUÉES DANS LE DOMAINE DES ÉTATS CONDENSÉS AUX TEMPÉRATURES ÉLEVÉES, AU CANADA, D'OCTOBRE À DÉCEMBRE 1961

par

Norman F.H. Bright*

RÉSUMÉ

Le présent rapport contient des données bibliographiques sur les recherches effectuées dans le domaine des états condensés aux températures élevées, dont les résultats ont été publiés dans les revues techniques du Canada au cours de la période comprise entre octobre et décembre 1961. Les détails bibliographiques relatifs à la France, à la Belgique, à l'Autriche, à l'Allemagne, à la Grande-Bretagne, aux Pays-Bas, à l'Australie, à la Scandinavie, aux États-Unis et à l'URSS pour la même période sont présentés dans un document préparé par le National Bureau of Standards, de Washington (D.C.), qui est fourni aux abonnés réguliers en même temps que le présent rapport et que les autres personnes ou organismes intéressés peuvent obtenir en s'adressant directement à Washington.

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INTRODUCTION

This report is a further contribution to the quarterly series of bibliographic bulletins of information on high-temperature condensed states research which have been published as Mines Branch Information Circulars at intervals since March, 1960 on behalf of the Sub-commission on Condensed States of the Commission on High Temperatures and Refractories of the International Union of Pure and Applied Chemistry.

This present document contains a bibliography of work in this field published in Canadian scientific and technical journals during the period October to December, 1961.

Included with this bibliography, for the regular recipients thereof, is a copy of a bibliography published by the National Bureau of Standards, Washington, D.C., containing information on work in this field published during the same period of time in France, Belgium, Austria, Germany, Great Britain, the Netherlands, Australia, Scandinavia, the U.S.A. and the U.S.S.R. This information was supplied by scientists in the countries concerned to Dr. J.J. Diamond of the N.B.S., who has collated the information and translated all the titles into English. However, the information for the U.S.S.R. was collected by Dr. Marc Foëx from data supplied by the Centre National de la Recherche Scientifique, France, and forwarded by him to Dr. J.J. Diamond. Dr. Foëx supplied the

information for France and Belgium, Professor G. Hägg for all the Scandinavian countries, and Professor H. Nowotny for both Austria and Germany. For the other countries, the contributors are as listed on the cover page of the N.B.S. document.

Those who have received previous Information Circulars in this series, but not on a regular basis, may, if they wish, obtain copies of the N.B.S. bibliographies by communicating directly with Dr. J.J. Diamond in Washington.

Any further information concerning these bibliographies can be obtained from the writer of this report at the following address:-

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The writer is particularly anxious that anyone not currently receiving these reports, but who would wish to do so, should be added to the mailing list. Similarly, anyone currently on the mailing list, to whom these reports are no longer of interest, should advise the writer accordingly, so that the name may be removed from the mailing list.

BIBLIOGRAPHY OF WORK ON HIGH-TEMPERATURE CONDENSED STATES PUBLISHED IN CANADA IN OCTOBER-DECEMBER, 1961

International Union of Pure and Applied Chemistry
Commission on High Temperatures and Refractories
Sub-commission on Condensed States

Bibliography (October, November, December, 1961)

for Canada

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

A. Devices for achieving high temperatures

nil

B. Devices for measuring and controlling high temperatures

nil

C. Devices for physical measurements at high temperatures

nil

D. Properties of refractory phases and systems studied at lower temperatures

a. Metallic systems

1. The metallography of creep-rupture fracture in aluminum.
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2. Some new observations on the growing of cadmium single crystals.
D.K. de Grinberg.
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3. Rhodium.
   L. Sanderson.
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5. The influence of combined additions of tin, cadmium, antimony and copper on the structure and properties of galvanized coatings.
   J.J. Sebisty and R.H. Palmer.
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   C.M. Bartley.
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2. The nature and properties of some Western Canada clays.
   J.G. Brady.
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3. The measurement of the surface area of uranium dioxide.
   P.R. Gorla.
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   January, 1961. (Reprinted from Nuclear Science and Engineering, 11, 48-54, (1961).)

c. Mixed systems

1. The structure of manganese arsenide between 40°C and 120°C.
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2. The electrical resistivity of Mn_3ZnC between 42° and 630°K.
M.L. Swanson and S.A. Friedberg.
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E. Properties and uses of refractory phases and systems at high temperatures

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K. Winterton.
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Department of Mines and Technical Surveys, Ottawa.
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b. Non-metallic systems

nil

c. Mixed systems

1. An analysis of spray evaporation in a high-temperature environment. I: Radiant heat transfer to clouds of droplets and particles.
T.W. Hoffman and W.H. Gauvin.
Canad. Journ. Chem. Engg., 39 [5], 179-188, (1961).

F. Properties of non-refractory phases and systems at high temperatures

a. Metallic systems

nil

b. Non-metallic systems

1. Research on the application of Eastern Canadian coals to large stokers.
I. Coal properties, coal specification and combustion data.
II. Recommendations for selection, design and operation of large stokers.
III. Practical research in conventional stokers.
E.R. Mitchell, F.D. Friedrich and G.K. Lee.
Mines Branch Technical Bulletin TB 14, Department of Mines and Technical Surveys, Ottawa. April, 1961.

2. Volatility of cupric nitrate.
L.R. Pitwell.
Canad. Journ. Chem., 39 [12], 2608, (1961).

G. Phase equilibria

1. The aluminum reduction of magnesium oxide.
II: The vapour pressure of magnesium over the system Al-MgO-CaO.
K. Grjotheim, O. Herstad and J.M. Toguri.
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2. The separation of small amounts of the platinum metals.
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3. Thermal decomposition and vapour pressure measurements on arsenopyrite and an arsenical ore.
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