Chemical Effects in the Corrosion of Aluminum and Aluminum Alloys

Technical Report No. 4

By
B.W. Samuels, C.M. Dacres and R.T. Foley
October 1976

Department of Chemistry
The American University
Washington, D.C. 20016

To:

Office of Naval Research
Contract N00014-75-C-0799
NR 036-106

This work was sponsored by the Metallurgy Branch
of the Office of Naval Research

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE	READ INSTRUCTIONS BEFORE COMPLETING FORM
1 REPORT NUMBER: Technical Report No.4 / 2 GOVT ACCESSION NO.	3 RECIPIENT'S CATALOG NUMBER
4 TITLE (and Subtitle): Chemical Effects in the Corrosion of Aluminum and Aluminum Alloys	5 TYPE OF REPORT & PERIOD COVERED: Technical Progress Report
	6 PERFORMING ORG. REPORT NUMBER
7 AUTHOR(s): B.W. Samuels, C.M. Dacres and R.T. Foley	8. CONTRACT OR GRANT NUMBER(s): N00014-75-C-0799 NR 036-106
9. PERFORMING ORGANIZATION NAME AND ADDRESS: Chemistry Department The American University Washington, D.C. 20016	10 PROGRAM ELEMENT PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS: Metallurgy Branch Office of Naval Research Arlington, Virginia 22217	12. REPORT DATE: October 1976
	13. NUMBER OF PAGES: 38
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)	15 SECURITY CLASS. (of this report): Unclassified
	15a DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Distribution of this document is unlimited

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18 SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Corrosion, aluminum, anions, inhibitors

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

A bibliography of the literature on aluminum corrosion for the years 1968-1975 is reported. Special attention is given to chemical effects in corrosion and inhibitors for aluminum corrosion.

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE
S/N 0102-014-6601

UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

"CHEMICAL EFFECTS IN THE CORROSION OF ALUMINUM AND ALUMINUM ALLOYS"

A Bibliography

by

B. W. Samuels

C. M. Dacres

R. T. Foley

Chemistry Department
The American University
Washington, D.C.

October 1976

Sponsored by the Office of Naval Research under Contract

N00014-75-C-0799

Bibliography of Literature on Chemical Effects in the Corrosion of Aluminum and Aluminum Alloys

Introduction

In 1969 a bibliography of the literature on chemical effects in the corrosion of aluminum and aluminum alloys was issued by this Laboratory. In that first survey the literature from the year 1913 and through the year 1968 was critically examined, specifically with reference to information on the influence of anions and other chemical species on the corrosion of aluminum. This first search served the basis for experimental investigations that have been conducted in our Laboratory from that year up to the present.

With this bibliography the literature is covered from 1968 through 1975. Thus the present search overlaps the first.

In the present bibliographic review, considerable attention is given to corrosion inhibitors, again to support experimental work being conducted in the Laboratory. An effort has been made to do some evaluation, that is, not all of the available references were included, only those, in the Author's opinion that offer pertinent information or would lead to sources that would be of value to the corrosion program.

1968-1 W.H. Ailor, Jr.
Amer. Soc. Test. Mater., Spec. Tech. Publ., 435, 285-307, (1968)
"Performance Of Aluminum Alloys At Other Test Sites"
Data covering a 7-year period are presented on the corrosion behavior of 11 Al test alloys at 4 test sites.

1968-2 David B. Boies and Barbara J. Northam
Mater. Prot., 7, 27-30, (1968)
"Aluminum Corrosion: Possible Mechanisms of Inhibition"
The corrosion of Al in a closed ethylene glycol/water system.

1968-3 William B. Brooks
Corrosion, 24, 335-6, (1968)
"Hazard Of Mercury To Metals And Alloys In The Process Industries And Some Little Known Sources Of Mercury Contamination"
Hazards of traces of Hg on the corrosion of metal and alloys in the process industries.

1968-4 Dora M. Brasher
Centre Belge Etude Doc. Eaux, 300, 523-31, (1968)
"Mechanism Of The Inhibition Of Corrosion"
Development of a corrositivity scale based on the theoretical treatment of anions in solution.

1968-5 V.E. Carter
Amer. Soc. Test. Mater., Spec. Tech. Publ., 435, 39-42, (1968)
"Effect Of Initial Weather Conditions On The Atmospheric Corrosion Of Aluminum And Its Alloys"
Effects of moderately-severe industrial and marine atmosphere on four Al alloys.

1968-6 V.E. Carter
Amer. Soc. Test. Mater., Spec. Tech. Publ., 435, 257-70, (1968)
"Atmospheric Corrosion Of Aluminum And Its Alloys: Results Of Six-Year Exposure Tests"
Results of six-year atmosphere exposure tests of four Al alloys at five sites in England.

1968-7 John J. De Luccia and Irv S. Shaffer
U.S. Clearinghouse Fed. Sci. Tech. Inform., 68, 88-9, (1968)
"Evaluation And Comparision Of The Corrosion Susceptibilities Of 7178 Aluminum Plate Material Of Various Tempers"
Evaluation of the resistance of plate material of 7178 Al alloy in T651 and T7651 tempers to exfoliation and stress-corrosion cracking.

1968-8 D.P. Doyle and H.P. Godard
Tr. Mezhdunar. Kongr. Korroz. Metal, 4, 439-48, (1968)
"Determination Of The Corrosion Activity Of The Atmosphere In Relation To Aluminum"
Compilation of data relating to the atmospheric corrosion of Al from 39 regions of 10 countries of America, Europe, Africa and Asia.

1968-9 A. Fiegna, G. Gilli, G. Trabanelli and G. Zucchinni
Trib. CEBEDEAU, 300, 553-9, (1968)
"Atmospheric Corrosion And Its Inhibition"
Use of N, N-dimethylcyclohexylamine as a corrosion inhibitor of Al.

1968-10 W.D. France, Jr.
Corrosion, 24, 247-51, (1968)
"Passivation Of Crevices During Anodic Protection"
Use of Folkin-Timonin equation to predict passive-zone length in partially protected narrow crevices.

1968-11 Gerhard Heinicke and Heinz Harenz
Schmierstoffe Schmierungstech, 30, 4-18, (1968)
"Tribochemical Reactions Of Water On Mechanically Stressed Metal Surfaces"
Protective action of water on the surfaces of metals in friction-lubrication, and wear processes.

1968-12 Yoshihiro Misamatsu
Keikinzoku, 18, 173-7, (1968)
"Corrosion Of Aluminum By Water. An Approach From The Theory Of Thermodynamic Equilibrium"
The corrosion-immunity-passivation diagram, the metal-potential of aq. system-pH diagram, and the Al-potential of aq. system-pH diagram are discussed.

1968-13 Kinya Horibe
Keikinzoku, 18, 579-85, (1968)
"Pit Formation Of Aluminum Immersed In Artificial Waters"
The corrosion behavior of Al in pure water and in many kinds of artificial waters.

1968-14 G. Ito, S. Ishida, M. Kato and T. Nakayama
Keikinzoku, 18, 530-6, (1968)
"Effect Of Minor Impurities In Water On The Corrosion Of Aluminum"
Corrosion characteristics of commercial-pure Al immersed in water containing a few ppm impurities.

1968-15 B.J. Jung
Hwahak Kwa Kongop Ui Chinbo, 8, 123-6, (1968)
"Corrosion By Water Used For Cooling Systems And Corrosion Control"
Review of inhibitors for corrosion prevention and microbial interference with corrosion prevention in cooling systems.

1968-16 N.D. Karamatskikh
Tr. Altai Politekh Inst., 2, 101-4, (1968)
"Effects Of Impurities Contained In Aluminum On The Protective Effect Of Corrosion Inhibitors In Acid Solutions"
Effects of corrosion inhibitors of aluminum on high-purity aluminum and aluminum alloys in 1 N H_2SO_4 and 1 N HCl solutions.

1968-17 Ferdinand Koch and Hans J. Schluessler
S. African, 68, (1968)
"Prevention Of Corrosion Of Aluminum And Its Alloys"
Use of aminopolyalkylene polyphosphonic acids as corrosion inhibitors of Al and its alloys in the presence of H_2SO_4 or H_3PO_4

1968-18 Hiroko Mihara and Yasumasa Hayakawa
Denki Kagaku, 36, 61-4, (1968)
"Corrosion Inhibitors For Aluminum In Alkaline Media. VIII. Naphthalene Derivatives As Corrosion Inhibitors For Aluminum In Alkaline Media"

1968-19 Hiroko Mihara and Yasumasa Hayakawa
Denki Kagaku, 36, 657-9, (1968)
"Corrosion Inhibitors For Aluminum In Alkaline Media. IX. Effects Of α-Amino Acids As Corrosion Inhibitors For Aluminum In Alkaline Media"
Use of α-amino acids as corrosion inhibitors of Al in caustic soda solutions of pH 9-12.

1968-20 V.F. Negreev, I.A. Mamedov and D.M. Abramov
Tr. Mezhunar. Kongr. Korroz. Metal., 3rd 1966, 2, 82-89, (1968)
"Corrosion Inhibitors In A Liquid Hydrocarbon-Aqueous Solution Systems"
Action of corrosion inhibitors on various metals in mixtures of water and liquid hydrocarbons systems.

1968-21 R.W. Tapper
Brit. Corros. J., 3, 285-87, (1968)
"Corrosion Of Aluminum"
Summary of the literature of Al corrosion which includes stress-corrosion cracking, microbiol. corrosion and cathodic protection.

1968-22 O. Tegun
Keikinzoku, 18, 127-38, (1968)
"Formation Of Pits In Aluminum And Its Alloys In Pure Water"
Corrosion of Al and its alloys when immersed in aerated pure water.

1968-23 I.E. Titova and V.A. Guseva
Zashch. Metal., 4, 588-90, (1968)
"Action Of Certain Inhibitors Of The Dissolution Of Metals In Hydrochloric Acid"
The inhibiting action of α-picoline (I) and thiourea (II) on the dissoln. of Zn, Al, Fe, Sn, Pb, and Cd was studied.

1968-24 E. Volrabova
Tr. Mezhdunar. Kongr. Korroz. Metal., 3rd 1966, 2, 140-9, (1968)
"New Methods For Studying Volatile Inhibitors"
Use of optical ellipsometric methods to study volatile inhibitors.

1968-25 L. Vanossi
Ind. Aliment., 7, 90-1, (1968)
"Systems To Fight Corrosion"
Electrochemical properties of systems that inhibit corrosion

1969-1 W.H. Ailor, Jr.
Amer. Soc. Test. Mater., Spec. Tech. Publ., 445, 115-30, (1969)
"Aluminum Alloys After Five Years In Sea Water"
Results of the five year exposure of Al and its alloys to sea water at Harbor Island, North Carolina.

1969-2 G. Butler, P.E. Francis and A.S. McKie
Corros. Sci., 9, 715-38, (1969)
"Corrosion Potential Of Some Common Metals In Oxygenated Solutions At 20° and 150°."

1969-3 M. Boehni and H.H. Uhlig
J. Electrochem. Soc., 116, 906-10, (1969)
"Environmental Factors Affecting The Critical Pitting Potential Of Aluminum"
The crit. pitting potential detd. potentiostatically of pure Al in 0.1N NaCl is -0.40 v. (standard H electrode).

1969-4 H. Boswinkel
Constructiematerialen, 3, 24-5, (1969)
"Stress-Corrosion Dangers In Aluminum-Magnesium Alloys"
Effects of temperature on the stress corrosion of Al/Mg alloys.

1969-5 L. Clebois
Bull. Soc. Chim. Belg., 78, 629-38, (1969)
"Behavior Of Aluminum In Concentrated H_2O_2"
The electrochemical behavior of commercial aluminum (99.6%) in conc H_2O_2 containing a stabilizer (stannate), a corrosion inhibitor (nitrate) and a buffer (phosphate).

1969-6 Howard L. Craig, Jr. and J.R. Scott
J. Mater., 4, 540-55, (1969)
"Importance Of Mass Transfer In Determining The Corrosion Rate Of Aluminum Using Polarization Measurements"
Use of the Stern polarization resistance method to determine the dissolution of Al.

1969-7 M.N. Desai and Y.B. Desai
Labdev, Part A, 7, 174-7, (1969)
"Meta-Substituted Anilines As Corrosion Inhibitors For Aluminum-2S In HCl"
Use of m-chloroaniline and m-toluidine as corrosion inhibitors of Al-2S in 1-4N HCl.

1969-8 M.N. Desai and Y.B. Desai
J. Electrochem. Soc., India, 18, 131-40, (1969)
"Nitrogen-Substituted Anilines As Corrosion Inhibitors For Aluminum 2S in HCl"
Investigation of the retardation of N-substituted aniline on the inhibition of corrosion of Al-2S in HCl.

1969-9 M.N. Desai and Y.B. Desai
Trans. Soc. Advan. Electrochem. Sci. Technol., 4, 71-6, (1969)
"Cyclohexane Derivatives As Corrosion Inhibitors For Aluminum Inhibitors For Aluminum - 2S in HCl"
Use of cyclohexane derivatives as corrosion inhibitors for Al-2S in 1 and 2N HCL solutions.

1969-10 M.N. Desai, C.B. Shah, Y.B. Desai, S.M. Desai and M.N. Gandhi
Brit. Corros. J., 4, 315-17, (1969)
"Morpholine As A Corrosion Inhibitor For Aluminum Alloys in HCl"
Inhibition studies of the corrosion of Al alloys 2S, 57S and 65S in HCl of varying concentrations with morpholine added.

1969-11 M.N. Desai, G.H. Thanki and M.N. Gandhi
Australas. Corros. Eng., 13, 19-21, (1969)
"Vapor Phase Corrosion"
A review with 21 references.

1969-12 Zisis A. Foroulis
Symp. Coupling Basic Appl. Corros. Res. Dialogue 1966, 24-37, (1969)
"Molecular Designing Of Organic Corrosion Inhibitors"
Guiding principles for designing organic chemical compounds having corrosion inhibition properties.

1969-13 T.K. Grover and B. Sanyal
Labdev. Part A, 7, 178-84, (1969)
"Corrosion Inhibitors For Cooling Water. III Inhibitors For Bimetallic, Multimetallic Assemblies In Mains Water Studies Under Conditions For Intermittent Heating (80°) and Cooling"
A study of the action of inhibitors on selected bimetallic and multimetallic combinations representing cylinder head and block, radiator and other materials of engines of vehicles.

1969-14 V.P. Grigor'ev and V.V Ekilik
Zashch. Metal., 5, 275-80, (1969)
"The inhibitive effects of the introduction of various substituent groups into aniline on metals.

1969-15 I.N. Gladkii and Yu. P. Chmyrev
Khim. Neft. Mashinostr., 8, 18-19, (1969)
"Corrosion Resistance Of Aluminum And Its Alloys In A Sodium Chloride Medium"
Corrosion resistance of Al and its alloys in a NaCl medium.

1969-16 N. Guglielmi
Int. Leichtmetalltag., 5th 1968, 39-43, (1969)
"Electrochemical Behavior Of Aluminum In Water Containing Trace Impurities"
Corrosion of Al in water from municipal water supplies.

1969-17 Y. Hayakawa, H. Kato and S. Kawai
Denki Kagaku Oyobi Kogyo Butsuri Kagaku, 37, 804-8, (1969)
"Inhibition Mechanism Of Organic Corrosion Inhibitors"
A review of the methods of evaluating the inhibition of corrosion and classical and modern aspects on the mechanism of inhibition.

1969-18 Kinya Horibe
Kerkinzoku, 19, 184-8, (1969)
"Pit Formation On Aluminum Immersed In Artificial Waters. III"
Methods of preventing or retarding pit formation on Al in artificial water.

1969-19 Ito, Goro, Kenjiro and Shimizu, Yoshihiko
Keikinzoku, 19, 264-8, (1969)
"Effect Of Barrier Layer Thickness On Aqueous Corrosion Of Aluminum"
Barrier layer thickness of Al which had been subjected to corrosion tests in water contg. a few ppm of various reagents was detd. by the polarization method proposed by M.S. Hunter and P. Fowle. The thickness of the barrier layer formed in air decreased with increasing time of immersion in pure water up to 100 hrs.

1969-20 L. Kalde, A. Ratsep, H. Turkson, R. Metsik, H. Hurkse and E. Rohumagi
Otkrytiya, Izobret. Prom. Obraztsy Tovarnye Znaki, 46, 125, (1969)
"Protection Of Metals From Acid Corrosion"
Protection of metals from acid corrosion using the reaction product of resorcinol or alkylresorcinol with hexamethylenetetraamine used as the inhibitor.

1969-21 V. Kapali, S.V. Iyer and N. Subramanyan
Brit. Corros. J., 4, 305-8, (1969)
"Anodic Behavior Of Aluminum And Its Alloys In Alkaline Media In The Presence Of Inhibitive And Complexing Substances"
Study of corrosion rates of Al and Al alloys 2S, 3S, and 57S in 1M NaOH with the addition of CaO and Na citrate.

1969-22 N.G. Klyuchnikov and V.F. Ushenina
Uch. Zap., Mosk. Gos. Pedagog. Inst., 303, 229, (1969)
"Mechanism Of The Action Of Inhibitors In Atmosphere And In Neutral Media And The Role Of Complexing In Protection Of Metals"
Evaluation of the effectiveness of 11 complex-forming agents in inhibiting corrosion of Armco-Fe, M-1 Type Cu, Al and Type Ts 1 Zn.

1969-23 N.G. Klyuchnikov and V.F. Ushenina
Uch. Zap., Mosk. Gos Pedagog. Inst., 303, 214, (1969)
"Role Of Complexing In Corrosion And Protection Of Metals"
Study of effectiveness of the formation of insoluble metal-complex film to inhibit corrosion of various metals when immersed complex media.

1969-24 G.V. Kiryutkin, A.A. Rozov and A.I. Klychev
Tr. Vses. Nauch-Issled. Inst. Vet. Sanit., 33, 264-78, (1969)
"Hypochlorides, Their Corrosive Action And Methods For Reducing It"
The effect of $CoCl_2$, $NiCl_2$, $FeSO_4$, & Pb SO_4 on the decompn. of NaClO contg. active Cl 5.14 and NaOH 0.61 or 1.30%.

1969-25 K.F. Lorking
Aust. Aeronaut. Res. Labl, Met. Rep., ART/MET -61, (1969)
"Studies Of The Corrosion Of Aluminums"
Investigation of six anions on the corrosion of Al in 0.1 N Na salt solutions.

1969-26 R. Mazzone and E. Nyvold
Scand. Corros. Congr. Proc., 5th 1968 1, 4, (1969)
"Effect Of pH On Corrosion Rates Of Aluminum In NaCl Solutions"
Corrosion rate of Al in deaerated 3% NaCl solutions at pH 1-7.

1969-27 Apolonia Malinowska
Przem. Chem., 48, 354-7, (1969)
Corrosion Of Aluminum As A Function Of The pH Of The Corroding Medium"
Corrosion of Al (99.99% pure) in acetic, tartaric and citric acids and their mixtures with NaOH.

1969-28 Hiroko Mihara, and Yasumasa Hayakawa
Denki Kagaku Oyobi Kogyo Butsuri Kagaku, 37, 288-91, (1969)
"Inhibitor Of Aluminum Corrosion In Alkaline Media. II. Effects Of Hydroxycarboxylic Acids On The Corrosion Of Aluminum In Alkaline Media"
Effects of the addition of hydroxycarboxylic acids to aq. alk. solns. as chelating agents on the corrosion of Al.

1969-29 T. Neznamova and N. Romanova
Budivel'ni Mater. Konstr., 5, 11-12, (1969)
"Protection Of Metals From Corrosion By Inhibitors"
Action of azole-type compounds containing a benzene ring as inhibitors of corrosion on steel, Al and Cu.

1969-30 N. Ohtani
Kinzoku, 39, 69-72, (1969)
"Countermeasures For Pitting Corrosion And Stress-Corrosion Fracture"
Countermeasures for pitting corrosion control in terms of its potential, its induction period and the chemical mechanism involved.

1969-31 T.L. Rama Char and D.K. Padma
Trans. Inst. Chem. Eng., 47, T177-82, (1969)
"Corrosion Inhibitors In Industry"
Review of literature of inhibitors minimizing corrosion in different environments from 1965-68.

1969-32 T.L. Rama Char
Anti-Corros. Methods Mater., 16, 16-18, (1969)
"Aspects Of Corrosion Research"
A review with 72 references of fundamental and corrosion prevention studies on Al, its alloys and mild steel in acid and alkaline media.

1969-33 P.R. Shibad, M.S.D. Elayathu and J. Balachandra
Indian At. Energy Comm., Bhabha At. Res. Cent., BARC-386, (1969)
"Corrosion Of Aluminum Alloys In Dilute HCl Solutions With Organic Inhibitors"
Influence of various organic inhibitors on the corrosion of some commercial and experimental Al-base alloys in 0.1 and 1N HCl solutions.

1969-34 Charles R. Southwell
Corros. Sci., 9, 179-83, (1969)
"Corrosion Rates Of Structural Metals In Sea Water, Fresh Water, And Tropical Atmospheres. Summary Of A Sixteen-Year Exposure Study"
A summary is presented of a 16-year exposure trial on 52 structural metals and alloys in 5 uncontaminated natural environments.

1969-35 M. Subramanyan and A.R. Yamuna
Brit. Corros. J., 4, 32-4, (1969)
"Behavior Of Aluminum In Alkaline And Neutral Tartrate And Citrate Solutions"
The influence of tartrate ions in alk. solns. during the anodic polarization and corrosion behavior of com. Al.

1969-36 J.D. Talati and B.M. Patel
Indian J. Technol., 7, 62-3, (1969)
"Inhibition Of Corrosion Of Aluminum In Trichloracetic Acid"
The inhibition of corrosion of Al (99.8%) and Al-Mg (2%) alloy in decinormal solutions of trichloracetic acid by different inhibitors.

1969-37 A.I. Vol'fson and S.A. Il'ina
Zashch. Metal., 5, 27-30, (1969)
"Tragacanth As A Corrosion Inhibitor For Aluminum And Aluminum Alloys In Alkaline Solution"
Effectiveness of gum tragacanth in protecting aluminum alloys (A Mg, V-95 and D-IT) from corrosion in 1-1.5N NaOH at 60-70°.

1969-38 L.P. Volkov and M.G. Yartsev
Khimiya, 73, (1969)
"Quantitative Evaluation Of Atmospheric Corrosion Rate Of Aluminum By Microbrightness Change"
Estimation of rate of atmospheric corrosion of aluminum by changes in the microbrightness of the surface.

1969-39 W. Vedder and David A. Vermilyea
Trans. Faraday Soc., 65, 561-84, (1969)
"Aluminum + Water Reaction"
Mechanism of Al + H_2O reaction, Al ions and electrons are removed in sep. steps at different sites on the surface.

1969-40 C. Yoshimura and S. Ito
Kinzoku Hyomen Gijutsu, 20, 513-19, (1969)
"Electrochemical Behavior Of Hexacyanoferrate (III) In Dilute NaOH And Its Corrosion-Inhibiting Effect For Aluminum"
Potentiostatic studies and chemical analysis of hexacyanoferrate (III) on 52S, 257S aluminum alloys and pure aluminum (99.50%).

1970-1 J.M. Abdel-Kader and A.M.S. El Din
Corros. Sci., 10, 551-9, (1970)
"Efficiency Of Alkylamines And Alkylammonium Ions In Retarding The Dissolution Of Aluminum"
Dissolution of Al in 2-4N HCl and 0.5-3N NaOH in the presence alkylamine and alkylammonium ions.

1970-2 M.H. Akstinat
Werkst. Korros., 21, 273-81, (1970)
"Organic Corrosion Inhibitors"
Detailed review of action mechanism of corrosion inhibition in terms of three systems: inhibitor-acid, metal-acid and metal-inhibitor.

1970-3 Jean Y. Bcos and Claude Goux
C.R. Acad. Sci. Ser., 271, 978-80, (1970)
"Intergranular Corrosion Of Pure Aluminum In Water: Boundaries With Symmetrical Bending Around ⟨001⟩ And ⟨011⟩ "
Intergranular corrosion of pure Al bicrystals in water with symmetrical bending around ⟨001⟩ and ⟨011⟩ .

1970-4 H. Boehni
Schweiz. Arch. Angew. Wiss. Tech., 36, 41-5, (1970)
"Pit Corrosion Of Metallic Materials And Detection Methods"
Determination of pitting potentials of stainless steel and Al in corrosive solutions and the effects of various anions on the pitting potentials.

1970-5 J.M. Brooke
Hydrocarbon Process, 49, 138-44, (1970)
"Inhibitors: New Demands For Corrosion Control. Circulating Water And Miscellaneous Inhibitors"
A review with one reference.

1970-6 A. Bukowiecki
Quim. Ind., 16, 129-35, (1970)
"Metal Corrosion And Corrosion Protection"
Review of metallic corrosion to include protection against corrosion by chemical inhibitors, coatings, deaeration of corrosive solutions and electrochemical methods.

1970-7 N.G. Chen, A.S. Kiryukha and L.N. Chen
Tekhnol. Organ. Proizvod., 3, 59-61, (1970)
"Protective Action Of EKP Acid Corrosion Inhibitor Of Metals"
Inhibiting action of EKP on steel (St.3) in 10-20% H_2SO_4 and 10% HCl; Al in 10% HCl and Cu in 10% HNO_3.

1970-8 Mahendra N. Desai and Mrs. S.M. Desai
J. Inst. Chem., Calcutta, 42, 135-9, (1970)
"Ethylamines As Corrosion Inhibitors For Aluminum-65S In Hydrochloric Acid"

1970-9 Mahendra N. Desai, Y.B. Desai, C.B. Shah, S.M. Desai and Mrinalini H. Gandhi
Corros. Sci., 10, 831-6, (1970)
"Influence Of The Combined Effect Of Cathodic Polarization And Inhibitors On The Corrosion Of Aluminum In Hydrochloric Acid"
Study of the effect of external cathodic polarization on the behavior of org. inhibitors for Al alloys in HCl.

1970-10 M.N. Desai and S.M. Desai
Corros. Sci., 10, 233-7, (1970)
"Inhibition Of The Corrosion Of Aluminum-3S In NaOH"
Inhibitive effect of sodium alginate on Al-3S in 0.2-0.6N NaOH.

1970-11 M.N. Desai and C.B. Shah
Werkst. Korros., 21, 789-91, (1970)
"Corrosion Inhibitors For Aluminum-57S In HCl Solutions"
Inhibiting action of methylamines on corrosion of Al-57S in 1-4N HCl.

1970-12 A.K. Dunlop
Chem. Eng., 77, 108,110,112,114, (1970)
"Using Corrosion Inhibitors"
Use of electrochemical properties of corrosion inhibitors in attacking the weakest link in the chain of electrochemical reactions.

1970-13 I.A. Efimov, N.G. Smetanina and B.I. Lur'e
Khim. Neft. Mashinostr, 1, 16-18, (1970)
"Corrosion Resistance Of Aluminum Alloys"
Nine alloys of the Al-Mg., Al-Mg-Si, and Al-Cu-Mg systems were corrosion tested in various industrial atms.

1970-14 H. Fischer
Ann. Univ. Ferrara, Sez. 5, Supp 5, 15-21, (1970)
"Definition And Modes Of Inhibition Of Electrochemical Electrode Reactions"
Definition and modes of inhibition of electrochemical electrode reactions in terms of the interface and electrolyte layer.

1970-15 R.F. Ford Jr. and B.M. Gallaway
U.S. Clearinghouse Fed. Sci. Tech. Inform. PB Rep. 190656 (1970)
U.S. Gov't. Res. Develop. Rep. 70, 108, (1970)
Corrosion rate of Al coupled with and insulated from a large mild-steel cathode in 5 different solutions and 2 inhibitor solutions.

1970-16 S. Fujii, H. Tanabe and H. Maeda
Boshoku Gijutsu, 19, 177, (1970)
"Amine-Type Corrosion Inhibitors. XL. Effects Of Active Hydrogen Atoms Of Inhibitor Adsorbate"
Study of the effects of amine-type corrosion inhibitors whose active hydrogens have been replaced by methyl radicals on metallic corrosion.

1970-17 J.R. Galvele and Stella Mae De Micheli
Corros. Sci., 10, 795-807, (1970)
"Mechanism Of Intergranular Corrosion Of Aluminum-Copper Alloys"
The function of Cl^- in the intergranular corrosion of Al-Cu alloys.

1970-18 J.R. Galvele and S.M. De Micheli
Met. Ass. Brasil. Metais, 26, 567-74, (1970)
"Mechanism Of Intergranular Corrosion Of Aluminum Alloys Containing 4% Copper"
Anodic polarization studies of intergranular corrosion and pitting corrosion of pure Al, Al-Cu alloys and Al_2Cu in NaCl solutions.

1970-19 K. Goto, G. Ito and Y. Shimizu
Keikinzoku, 20, 88-94, (1970)
"Effect Of Some Oxidizing Agents On Pitting Corrosion Of Aluminum In Neutral Water"
Effects of some oxidizing agents on the occurrence and propagation of pitting corrosion of Al in neutral water.

1970-20 I.M. Issa, A.A. El Samahy and Y.M. Temerk
J. Chem. U.A.R., 13, 121-6, (1970)
"Surface Activity Of Some Amino Compounds"
Inhibition of dissolution of Al in 2N HCl by thiosemicarbazide, cystine, cysteine and semicarbazide.

1970-21 N.D. Karmatskikh
Tr. Altai. Politekh. Inst., 8, 44, (1970)
"Effect Of Temperature On Corrosion Resistance And Electrode Potential Of Aluminum In Inhibited Electrolyte Solutions. 1. Hydrochloric Acid"
Effects of acridine, thiourea and hexamine on the corrosion rate of Al in 1N HCl at 25-85°.

1970-22 N.D. Karmatskikh
Tr. Altai. Politekh. Inst., 8, 49, (1970)
"Effect Of Temperature On The Corrosion Resistance And Electrode Potential Of Aluminum In Inhibited Electrode Solutions 2. Sodium Hydroxide"
Effects of dextrin and benzotriazole on the corrosion rate of Al in 1 N NaOH at 25-85°.

1970-23 H. Kato and Y. Kayakawa
Denki Kagaku, 38, 9-12, (1970)
"Corrosion Inhibitor Of Aluminum In Alkaline Medium"
Effects of aliphatic and aromatic amines on the corrosion of Al in alkaline media.

1970-24 K Kawano and S. Tajima
Boshoku Gijutsu, 19, 17-27, (1970)
"Corrosion Behavior Of Couples Of Aluminum And Mild Steel In Sodium Chloride Solution Containing An Inhibitor"
Corrosion studies of behavior of couples of Al and mild steel in 0.42M NaCl containing an inhibitor.

1970-25 T.E. Kil'chevskaya
Zh. Prikl. Khim., 43, 1062-8, (1970)
"Influence Of Temperature And Concentration On The Corrosion Of Metals In Aliphatic Acids"
Study of the corrosion of stainless steels, aluminum and its alloys in aliphatic acids.

1970-26 A.M. McKissick, Jr., A.A. Adams and R.T. Foley
J. Electrochem. Soc., 117, 1459-60, (1970)
"Synergistic Effects Of Anion In The Corrosion Of Aluminum Alloys"
A ratio of NO_3^-/Cl^- of 5 exerts an inhibiting effect on the corrosion of Al alloys.

1970-27 N.A. Mikhailova, N.P. Zhuk, A.V. Turkovskaya, Yu P. Adler and A.I. Ratner
Zashch. Metal., 6, 387-96, (1970)
"Corrosion Resistance Of Aluminum In Acetic Acid-Formic Acid-Water System"
Corrosion resistance of 3 grades of Al (99.97%, 99.7% and 99.6%) at various temperatures in the ternary system: Acetic acid- Formic acid-water.

1970-28 R. Natarajan and A.D. Purohit
Indian J. Technol., 8, 98-100, (1970)
"Substituted Benzoates As Corrosion Inhibitors For Ferrous And Nonferrous Metals In Neutral Aqueous Solutions"
Study of substituted benzoic acid salts as corrosion inhibitors for mild steel, cast iron, Cu, brass, Al and Zn in Aqueous solution.

1970-29 R.S. Ondrejcin
U.S. At. Energy Comm. DP-1197, (1969)
Avail. Dep.; CFSTI. From NuCl. Sci. Abstr., 24, 12354, (1970)
Reduction of corrosion rate of Al cladding on fuel elements in Savannah River reactors by lithium silicate.

1970-30 B.A. Pandya, S.S. Sampat, J.C. Vora and A.M. Trivedi
Werkst. Korros., 21, 801-3, (1970)
"Corrosion Of Aluminum In Mixtures Of Salts And Effect Of Copper Ions"
The corrosion of Al in NaCl + $NaHCO_3$, NaCl + Na_2CO_3 and Na_2CO_3 + $NaHCO_3$ with a 3% total concn.

1970-31 Marcel Pourbaix
Cent. Belge Etude Corros., Rapp. Tech., 114, Rt.179, (1970)
"Meaning Of The Protection Potential During Pitting Corrosion, Intergranular Corrosion, And Stress-Corrosion Cracking"
Pitting and protection potentials are given for Armco Fe, C steels, stainless steels, Cu, Al and Ti in Cl^- contg. soln. of pH 5,7,9,11 and 13.

1970-32 M. Pourbaix
Corrosion, 26, 431-8, (1970)
"Significance Of Protection Potential In Pitting And Intergranular Corrosion"
Experimental conditions of immunity general corrosion and passivity as a function of pH and electrode potential for Armco Fe, Cu, Ti, Al and various stainless steels.

1970-33 P.I. Protsenko, A.A. Ugryumova and T.E. Kutsenko
Zh. Prikl. Khim., 44, 30-4, (1971)
"Physicochemical Properties Of Ammonium Nitrite-Ammonium Nitrate-Water System Solutions Saturated at 20° "
Study of physicochemical properties of NH_4NO_2 - NH_4NO_3 - H_2O systems and their use as corrosion inhibitors for liquid nitrogen fertilizers (conc. solns.) and Fe, Al and Zn alloys (dil. solns.).

1970-34 I.L. Rozenfel'd
Zh. Fiz. Khim., 44, 945-58, (1970)
"Problems Of Metal Corrosion"
Review of mechanism of corrosion processes, local-corrosion processes, passivity of metals, corrosion inhibitors and corrosion-resistant alloys.

1970-35 N. Subramanyan and K. Ramakrishaiah
Indian J. Technol., 8, 369-72, (1970)
"Effects Of Some Amino Compounds On The Corrosion Of Aluminum"
Effects of some amino compounds on the corrosion of Al in 1 M HCl and 0.1 M NaOH.

1970-36 J. D. Talati and B.M. Patel
Indian J. Technol., 8, 228-30, (1970)
"Corrosion Of Aluminum In Trichloracetic Acid"
Corrosion of Al (99.8%) and Al-2% Mg alloy in solutions of chloro-substituted acetic acid.

1970-37 L.N. Teterina, G.G. Kotova, Yu. N. Shekhter, A.A. Markov, N.S. Sosina, K.I. Zimina and E.V. Koroleva
Khim. Tekhnol. Topl. Masel., 15, 45-8, (1970)
"Effect Of Functional Groups Of Additives On Electrochemical Corrosion Processes"
Synergetic effect exhibited by combining anodic, cathodic and shielding inhibitors on long-time protection of ferrous and nonferrous metals.

1970-38 D.A. Vermilyea and J.F. Brown, Jr.
J. Electrochem. Soc., 117, 783-4, (1970)
"Surface-Active Agents As Corrosion Inhibitors For Aluminum"
Use of capacitance changes of anodic Al_2O_3 film to measure the inhibiting effects of inorganic groups attached to a hydrocarbon on the corrosion of Al at pH 5.

1970-39 A. Weisstuch, D.A. Carter and C.C Nathan
Proc. Conf. Nat. Ass. Corros. Eng., 26th, 536-40, (1970)
"Chelation Compounds As Cooling Water Corrosion Inhibitors"
Determination of inhibition effectiveness of chelating compounds as cooling water inhibitors.

1971-1 T.A. Abasov, A.F. Aliev and V.V. Shchepetkina
Tr. Vses. Nauch. Issled. Inst. Vodosnabzh. Kanaliz. Gidrotekh. Sooruzh. Inzh. Gidrogeol., 32, 82, (1971)
"Effect Of Inhibitors On The Corrosion Of Pipes From Aluminum Alloys By Caspian Sea Water"
Retardation of corrosion of pipes from Al alloys in desalinating apps. by addn of $Na_2O \cdot 3SiO_2$ and $K_2Cr_2O_7$

1971-2 N.G. Chen, V.K. Dektyareva and L.K. Chen
Ukr. Khim. Zn., 37, 706, (1971)
"Effect Of A Mixture Of Surface-Active Agents On The Local Corrosion Of Metals"
Use of the inhibitors KKh-1 and KKh-2 (by products of coke production) to reduce the local corrosion of steel and Al.

1971-3 K.G. Compton
U.S. Office Saline Water, Res. Develop. Progr. Rep., 662, (1971)
"Effect Of Aerobic Marine Bacteria On The Corrosion Of Metals In Sea Water"
A limited study of the corrosion of 5052 Al by bacteria.

1971-4 G.A. Dibari and H.J. Read
Corrosion, 27, 483-93, (1971)
"Electrochemical Behavior Of High-Purity Aluminum In Chloride Containing Solns"
Corrosion of high-purity Al in O-free and O-std saline solns of varying pH.

1971-5 M.N. Desai, S.M. Desai, M.H. Gandhi and C.B. Shah
Anti-Corros. Methods Mater., 18, 4, (1971)
"Corrosion Inhibitors For Aluminum And Aluminum Based Alloys 2"
A review. 125 refs.

1971-6 M.N. Desai, S.M. Desai, M.H. Gandhi and C.B. Shah
Anti-Corros. Methods Mater., 18, 9-13, (1971)
"Corrosion Inhibitors For Aluminum And Aluminum-Based Alloys"
A review of the inhibitors reported in the literature up to 1967 for the corrosion of aluminum in water, sea water and salt solutions and alkaline solutions.

1971-7 M.N. Desai, S.M. Desai, C.B. Shah, Y.B. Desai and M.H. Gandhi
Brit. Corros. J., 6, 269, (1971)
"Ethylenediamine As A Corrosion Inhibitor For Aluminum Alloys In Hydrochloric Acid"
Study of ethylenediamine as a short-term inhibitor of Al alloys, 2S, 57S, and 65S in 1-4N HCl at 35-55°c.

1971-8 M.N. Desai, Y.B. Desai, C.B. Shah and M.H. Gandhi
Ann. Univ. Ferrara, Sez. 5 1970, Suppl. 5, 165-73, (1971)
"Influence Of Temperature On Inhibitors For Corrosion Of Aluminum In Hydrochloric Acid"
The influence of temperature on the performance of corrosion inhibitors of Al in 1.0 N HCl.

1971-9 G.A. Dibari
U.S. Clearinghouse Fed. Sci. Tech. Inform., AD 722165,(1970).
Avail NTIS. From Gov't Rep. Announce. (U.S.), 71, 1 (1971)
"Corrosion Behavior Of Aluminum"
Study of the electrochem. behavior of high-purity Al when exposed to O-free and O-sat'd salines solns of varying pH.

1971-10 I. Drimus
Rev. Coroz., 1, 47, (1971)
"Corrosion Inhibitors And Derivatives"
A review w/15 refs regarding chemical structure of corrosion inhibitors and their useful ranges.

1971-11 Z.M Evenshtein
Izv. Vyssh. Ucheb. Zaved., Pishch. Tekhnol., 2, 56-9, (1971)
"Electrochemical Corrosion Of Aluminum In Contact With Beer"
Corrosion of Aluminum (99.50% and 99.99%) in contact with beer.

1971-12 A.C. Fraker and A.W. Ruff
Corrosion, 27, 151-6, (1971)
"Hot Saline Water Corrosion Of Aluminum Alloys"
Use of transmission electron microscopy and diffraction to study the corrosion film formed on Al in hot salt water (100-177°).

1971-13 S. Friberg and H. Mueller
Ann. Univ. Ferrara, Sez. 5 1970, Suppl. 5, 93-104, (1971)
"Investigation On The Bonds Between Corrosion Inhibitors And Metal Ions By Means Of Surface Pressure And Infrared"
Investigation on the bonds between corrosion inhibitors and the metal ions by means of surface pressure and infrared spectra of collected monolayers.

1971-14 S. Fujii and R. Sugano
Boshoku Gijutsu, 20, 127, (1971)
"Amine Corrosion Inhibitors. XLI. Corrosion And Inhibition Of Aluminum In Carbon Tetrachloride"
Use of amine-type inhibitors on pure Al in pure CCl_4 at 50°.

1971-15 H. Graefen
Handb. Kathod. Korrosionsschutzes, 355, (1971)
"Anodic Corrosion Protection"
A review w/41 refs.

1971-16 Y. Hoshida, H. Kawabe and M. Maki
Nat. Tech. Rep. (Matsushita Elec. Ind. Co., Osaka), 17, 177, (1971)
"Inhibitors For A Hot Water Central Heating System"
The effect of inhibitor formations consisting of an org.-acid salt, 2 heterocyclic compds. and 2 buffer reagents on Al, Cu, Fe and their alloys.

1971-17 T. Inoue, M. Kato, K. Goto, G. Ito and T. Shimizu
Keikinzoku, 21, 27, (1971)
"Effects Of pH And Dissolved Oxidizing Agents On The Pitting Corrosion Of Aluminum"
Corrosion com. pure aluminum in various solutions containing 5ppm of an inhibitor, 0.5-5ppm of an oxidizing ag[illegible] deionized water.

1971-18 F. Joerg
Werkst. Korros., 22, 682, (1971)
"Microscopic Analysis Of Corrosion Phenomena On Some [illegible]ural Elements Consisting Predominantly Of Aluminum"
Microscopic analysis of Al wire coated with Cu and Au and corroded in chlorofluorohydrocarbons.

1971-19 K. Kawano, N. Baba and S. Tajima
Denki Kagaku, 39, 296-301, (1971)
"Effect Of Chromate Ions On The Corrosion Of Aluminum In Alkaline Solutions"
Effects of chromate ions on the corrosion of aluminum in alkaline solution.

1971-20 I. Sh. Kharitonov, V.V. Vainsthok, S.A. Gintsberg and I.F. Bun'kin
Khim. Tekhnol. Topl. Masel., 16, 45-8, (1971)
"Mechanism Of The Protective Action Of Some Oil Soluble Corrosion Inhibitors"
Inhibitors of the MSDA-11 type used to inhibit the anodic metal ionization in aqueous extracts separated from the oil plus inhibitor.

1971-21 Ya. M. Kolotyrkin
Zh. Vses. Khim. Obshchest., 16, 627, (1971)
"Theory Of Electrochemical Corrosion"
Review of the current status of electrochemical corrosion theory and its connection with chemical passivity.

1971-22 N.A. Mikhailova, N.P. Zhuk, I.A. Barten'eva and A.V. Turkovskaya
Zashch. Metal., 7, 575, (1971)
"Mechanism Of Aluminum Corrosion In Acetic And Formic Acids And Their Mixtures"
The corrosion and electrochemical behavior of Al in 43% formic acid, 50% acetic acid and a ternary mixture contg. 33% acetic acid + 27% formic acid + 40% H_2O at 22° and 50°.

1971-23 L. Milicka
Z. Phys. Chem., 246, 133-40, (1971)
"Electrochemical Studies Of The Protective Effect Of Calcium Saccharate During The Dissolution Of Aluminum In Sodium Hydroxide"
Use of Ca saccharate as an inhibitor of the dissolution of Al in strong alkalies.

1971-24 R. Natarajan and A.D. Purohit
Indian J. Technol., 9, 27-9, (1971)
"Corrosion Of Metals In Brackish Waters"
Behavior of mild steel, cast iron, Cu, brass, Zn, Al and Sn solder under static and circulating conditions.

1971-25 C.C. Nathan and C.L. Dulaney
Mater. Prot. Performance, 10, 21-5, (1971)
"Statistical Concepts Facilitate Evaluation Of Corrosion Inhibitors"
Statistical concepts to facilitate evaluation of corrosion inhibitors.

1971-26 B.D. Oakes and J.S. Wilson
U.S. Office Saline Water, Res. Develop. Progr. Rep., 649, (1971)
"Sea Water Corrosion Control By Environment Modification II"
Use of Na_2CrO_4 (3ppm) + Na_2CO_3 as a corros. inhibitor for Al in desalination plants.

1971-27 I.M. Orudzheva, S.A. Rasulova, Z.M. Salamzade, A.M. Kyazimov and S.A. Sultanova
Issled. Obl. Neorg. Fiz. Khim., 2, 365, (1971)
"Amides Of Phosphorous And Triphosphoric Acids As Corrosion Inhibitors For An Aluminum Alloy In Alkaline Solutions"
The inhibiting effects of amides of phosphorous and triphosphoric acids on the corrosion of Al alloy D-16T.

1971-28 M.J. Pryor
Corros. Sci., 11, 463, (1971)
"Study Of The Pitting Corrosion Of Aluminum By Scanning Electron Microscopy Comments"
Comments on Richardson & Wood theory of pitting of Al in Cl^- electrolytes by anodic attack at various suggested flaws.

1971-29 K.S. Rajagopalan, P. Annamalai, M. Sundaram, C. Rajagopal and V. Chandrasekaran
Brit. Corros. J., 6, 175, (1971)
"Atmospheric Corrosion Of Metals At Mandapam Camp, India"
Corrosion studies of mild steel, com. pure Zn, Cu, 60-40 brass, com. pure Al and 18-8 stainless steel in tropical marine locations.

1971-30 P.R. Shibad, and J. Balachandra
J. Electrochem. Soc. India, 20, 58-60, (1971)
"Corrosion Of Some Alloys In 3% NaCl Solution"
The influence of temp., agitation and oxygenation on the corrosion of com. Al alloys (2S, 3S and 57S), Al, brass, 304 stainless steel, and Ni cast iron in 3% NaCl Solutions.

1971-31 O.F. Shevchenko
Zashch. Metal., 7, 434-6, (1971)
"Effect Of The Removal Of Corrosion Products And Growths On The Corrosion Of Metals In Seawater"
Effects of the removal of corrosion products and growth on the corrosion of metals immersed in seawater.

1971-32 S.S. Sampat, J.C. Vora and A.M. Trivedi
Indian J. Technol.,9, 74, (1971)
"Sodium Diethyldithiocarbamate as an Inhibitor for The Corrosion of Aluminum by Trichloroacetic"
Use of sodium diethyldithiocarbamate as an inhibitor of the corrosion of Al in trichloroacetic acid.

1971-33 Yu. N. Shekhter, S.E. Krein, L.N. Tetevina, E.V. Fertman and E.S. Churshukov
Khim. Teknol. Topl. Masel.,16, 51, (1971)
"Reaction of Polarity and Protective Properties of Oil-Soluble Corrosion Inhibitors"
Synergism of protective effects on ferrous and non-ferrous metals by combining anodic, cathodic and shielding inhibitors.

1971-34 N. Subramanyan and K. Ramakrishnaiah
J. Electrochem. Soc. India,20, 106, (1971)
"Effect of Alkaloids on the Corrosion of Aluminum"
Study of 5 alkaloids, brucine, strychnine, narcotine, ephedrine and papaverine in reducing the corrosion of Al in HCl and NaOH.

1971-35 N. Subramanyan, V. Kapali and S.V. Iyer
Corros. Sci.,11, 115-23, (1971)
"Influence of Hydroxy Compounds on the Corrosion and Anodic Behaviour of Aluminum in Sodium Hydroxide Solutions"
Effect of different hydroxy compounds on the suppression of Al corrosion in 0.01 and 0.1 M NaOH.

1971-36 N. Subramanyan and V. Kapali
Corros. Sci.,11, 55-7, (1971)
"Difference in the Effects Produced by Nonradioactive and Radioactive Calcium"
Inhibition mechanism of the corrosion of Al 2S in an alkaline soln. by Ca^{++} and citrate ions.

1971-37 Z. Szklarska - Smialowska, "Inhibitors of Metal Corrosion", Wyd Mauk-Tech.: Warsaw, Pol. (1971)

1971-38 W. Von Baeckmann, F. Gisen and D. Funk
Gesammelte Ber. Betr. Forsch. Ruhrgas AG 19, 25, (1971)
"Breaks Caused by Corrosion Pitting"
Application of cathodic protection to pitted surfaces to inhibit corrosion.

1971-39 J. Vosta and J. Eliasek
Corros. Sci.,11, 223, (1971)
"Corrosion Inhibition from the Aspect of Quantum Chemistry"
Selection and quant. evaluation of corrosion inhibitors from a quantum-chem viewpoint.

1971-40 J.N. Wanklyn, N.J.M. Wilkins, D.R.V. Silvester, C.E. Ansting and P.F. Lawrence
Desalination, 9, 245-58, (1971)
"Corrosion Of Aluminum Alloys In Hot Brine"
Corrosion of Al and its alloys in flowing acid-treated brine at 120° and 140°.

1971-41 B.A. Wilson
Corros. Sci., 11, 527, (1971)
"Identification Of Inhibitor Films On Aluminum In Silicate Solutions"
Electron diffraction examination of corrosion-inhibiting films stripped from pure Al substrates that had been immersed in silicate solutions.

1971-42 M. K. Zagoruiko, G.V. Mashtakova and V.P. Barannik
Zh. Prikl. Khim. (Leningrad), 44, 76-80, (1971)
"Effect Of Double Bonds On The Anti-Corrosion Action Of Carboxylic Acid Salts"
Study of Na salts of succinic and fumaric acids as water corrosion inhibitors for ferrous and non-ferrous metals.

1972-1 J.D. Alekseenko, I.K. Maroshakov, A.P. Karavaeva and T.I. Koroleva
Teor. Prakt. Sorbtsionnykh Protsessov, 7, 126-30, (1972)
"Corrosiveness Of Desalted Water Used For The Technological Cleaning Of Metallic Products"
The rate of corrosion of several metallic materials caused by a desalinated cleaning water

1972-2 O.P. Arora, and M. Metzger
Proc. Int. Congr. Metal. Corros. 4th 1969, 435-8, (1972)
"Corrosion Anisotropy In Aluminum"
Corrosion of Al in 16% HCl with particular attention to orientation.

1972-3 R.D. Armstrong and H.R. Thirsk
Electrochem. Acta, 17, 171, (1972)
"Effect Of Thin Anodic Films On Metal Dissolution"
The effect of anion adsorption and thin anodic film formation on metal dissoln.

1972-4 F.D. Bogar and R.T. Foley
J. Electrochem. Soc., 119(4), 462-4, (1972)
"Influence Of Chloride Ion On The Pitting Of Aluminum"
Identification of the primary intermediate species in the corrosion of Al immersed in saline solutions.

1972-5 M.N. Desai
Werkst. Korros., 23, 475, (1972)
"Corrosion Inhibitors For Aluminum Alloys"
A review on corrosion inhibitors of the alloys Al-2S, Al-3S, Al-57S, and Al65S in HCl, H_2SO_4, HOAc, $H_2C_2O_4$ and NaOH.

1972-6 M.N. Desai
Anti-Corros. Methods Mater., 19, 21, (1972)
"Corrosion Inhibitors For Aluminum In Hydrochloric Acid. Vanillan on Aluminum 2S, 57S and 65S"
Use of vanillan for corrosion protection of various Al alloys in 1-2 N HCl.

1972-7 M.N. Desai and R.P. Patel
Anti-Corros. Methods Mater., 19, 12, (1972)
"Aromatic Amines As Corrosion Inhibitors For Aluminum 3S In Hydrochloric Acid"
The use of chloranilines and anisidines as inhibitors of the corrosion of Al-3S in HCl.

1972-8 M.N. Desai and S.M. Desai
Anti-Corros. Methods Mater., 19, 17, (1972)
"Corrosion Inhibitors For Al In HCl. 3. Anilines For Aluminum 65S"
The corrosion inhibition of Al-65S in HCl by anilines and N-substituted anilines.

1972-9 M.N. Desai, S.M. Desai and M.H. Gandhi
J. Inst. Chem., Calcutta,44(Pt1), 14, (1972)
"Molecular Structure Of Amines And Their Inhibitive Action On The Corrosion Of Aluminum 65-S In Hydrochloric Acid"
Use ethylenediamine as an inhibitor of the corrosion of Al in HCl.

1972-10 A.A. El Hosary, R.M. Saleh and A.M.S. El Din
Corros. Sci.,12, 897, (1972)
"Corrosion Inhibition By Naturally Occurring Substances. I. Effect Of Hibiscus Subdariffa (Karkade) Extract On The Dissolution Of Aluminum And Zinc"
Study of retardation of the dissolution of Al and Zn in NaOH and HCl by aqueous extract of Hibiscus subdariffa (Karkade or Roselle).

1972-11 P. Feuillat
Trait. Surface,13, 37,39, (1972)
"Chemical Treatment Of Aluminum"
Passification of Al surfaces by treatment with chromate solutions.

1972-12 T. Hori, K. Yano and H. Uchida
Bosei Kanri,16, 536, (1972)
"Performances Of Commercial Corrosion Inhibitors For Radiators"
Study of 10 soln inhibitors and 15 colloidal inhibitors on the corrosion of Al, cast iron and steel.

1972-13 Ching-Fung Huang and Mou-Lung Cheng
Shih You Tsuan T'sai Kung Ch'eng,13, 220, (1972)
"Electrochemical Corrosion Of Metals And Its Control"
Methods of controlling corrosion by increasing passivity, addn of lining, addn of drying agent, increasing polarity, etc. are described.

1972-14 S.V. Iyer and N. Subramanyan
Prepr. Semin. Electrochem. 13th 1972,187, (1972)
"Influence Of Some Organic Acids And Calcium On The Corrosion And Anodic Polarization Of Al In 1 M NaOH Soln"
The influence of aliphatic and aromatic acids on the corrosion and anodic behaviour of Al-2S.

1972-15 H. Kaesche
Proc. Int. Congr. Metal Corros., 4th 1969,15, (1972)
"Electrochemical Methods Of Corrosion Protection"
A discussion of electrochemical methods of corrosion protection with respect to fundamental aspects, criteria of safe protections, and possible causes of failure.

1972-16 V. Kapali and N. Subramanyan
Prepr. Semin. Electrochem., 13th 1972,176, (1972)
"Ketones And Ethers As Inhibitors For 2S Aluminum In 1N HCl"
The effects of some ketones and ethers on the self corrosion and anodic/cathodic polariz. of 2S Al in N HCl in the presence/absence of Ca^{++}.

1972-17 M. Krishnan and N. Subramanyan
Prepr. Semin. Electrochem., 13th 1972,169, (1972)
"Effect Of Some Aldehydes On The Corrosion And Polarization Of Aluminum In HCl"
Effects of some aldehydes on the corrosion of Al in 1.0 M HCl.

1972-18 L. Kawano, N. Baba and S. Tajana
Denki Kagaku,40, 29-32, (1972)
"Radioactive Tracer Study Of Inhibitive Action Of Chromate Ions On An Aluminum Surface"
Behaviour of CrO_4^{2-} ions, inhibiting the corrosion of Al specimens in chloride soln., was investigated by using Cr tracer.

1972-19 L. Kawano, N. Baba and S. Tajima
Denki Kagaku ,40 , 632-6, (1972)
"Radioactive Tracer Study Of Inhibitive Action Of Chromate Ions For Reactions Occurring On The Aluminum Surface II."
Inhibitive action of chromate ion on an Al surface was studied in 10^{-4} M Na_2CrO_4 (pH 6.5) radioactive soln. using Cr as a tracer.

1972-20 V.S. Kemkhadze, F.N. Tavadze, G. Kh. Dzhinchardze, S.N. Mandzhgaldze, L.A. Chanturaya and E.V. Glonti
Vop Mitalloved, Korroz.,261-7, (1972)
"Corrosion Of Alloys Under Conditions Of A Seaside Humid Subtropical Climate"
Corrosion of steels (Kh17, St. 3, 1Kh18N9T) and Fe-Cr-Mn, Al, and Ti alloys

1972-21 Y. Li, S. Chen and C. Huang
'Tai-wan Lu Yeh Ku Fen Yu Hsien Kung Szu Yen Chin Fa Chan King Tso Pao Kao,71-99, (1972)
"Corrosion Test Of Aluminum & Aluminum Alloys In Sea Water"
Corrosion of Al and its alloys in underground areas in the presence of water, oil or steam at 150°.

1972-22 E.Y. Lyublinskii and N.N. Bibikov
Zashch. Metal.,8 , 36-9, (1972)
"Cathodic Processes Parameters Of The Protection Of Aluminum & Its Alloys In Sea Water"

1972-23 J.M. Moreau
Rev. Prat. Froid Cond. Air 25, 23, (1972)
"Corrosion Of Aluminum By Liquid Ammonia"
Corrosion of aluminum by liquid NH_3 and an assessment made of various methods of protection of the material against this form of attack.

1972-24 M. Pourbaix
J. Less-Common Metals,28, 51, (1972)
"Significance Of Protection Potential In Pitting, Intergranular Corrosion And Stress-Corrosion Cracking"
Significance of protection potential under conditions of restricted diffusion.

1972-25 S.N. Prajapati, K.P. Soni and A.M. Trivedi
Indian J. Technol.,10, 73, (1972)
"2- Mercaptobenzothiazole As A Corrosion Inhibitor For Cu, Brass And Al In Halogen Substituted Acetic Acid"
Inhibitive action of 2-mercaptobenzothiazole against the corrosion of Cu, brass and Al in 0.1 N chloro-substituted acetic acid.

1972-26 T.L. Rama Char
Corros. Prev. Contr.,19, 8, (1972)
"Corrosion-Resistant Nonferrous Metals And Alloys In The Chemical Industry"
A review of the corrosion resisting characteristics of the alloys of Ti, Al, Cu, Ni and rarer metals. 160 refs.

1972-27 T.L. Rama Char and R.P. Dambal
J. Inst. Eng. Part MM, 52(Pt3), 105, (1972)
"Aluminum In Corrosion Prevention By Cathodic Protection"
A review showing the importance of Al, composition and performance of anode installation, principles and design aspects, recent applications and scope of the method.

1972-28 F.M. Rheinhart, and J.E. Jenkins
U.S. Nat. Tech. Inform. Serv., A.D. Rep.,(1972)
"Corrosion Of Materials In Surface Sea Water After 12 And 18 Mths. Of Exposure"
Compilation of data from the immersion of 1150 specimens of 189 different alloys immersed in surface sea water for 12 and 18 months.

1972-29 I.L. Rozenfield, M.N. Ronzhin and V.G. Pedanova
Zashch. Metal.,5, 560-2, (1972)
"Effect Of Temp. On The Pit Formation Potential Of Aluminum And Its Alloys"

1972-30 R.M. Saleh and A.A. El Hosary
Prepr. Semin. Electrochem., 13th 1972 226, (1972)
"Corrosion Inhibition By Naturally Occurring Substances.II. Effect Of Pomegranate Juice And The Aqueous Extract Of Pomegranate Fruits And Tea Ieaves On The Corrosion Of Aluminum"
The effect of the juices and tea leaves on the dissolution of Al in 2N HCl and 1.5N NaOH.

1972-31 N. Subramanyan and K. Ramakrishnaiah
Trans. Soc. Advan. Electrochem. Sci. Technol., 7, 100, (197
"Radiotracer Study Of The Adsorption Of Dibutyl Sulfide By Copper, Mild Steel, Zinc And Aluminum In Normal H_2SO_4."
Adsorption of Bu_2S by Cu, mild steel, Zn and Al in N H_2SO_4 using radioactive S.

1972-32 N. Subramanyan and M. Krishnan
Brit. Corros. J., 7, 184, (1972)
"Corrosion And Anodic Polarization Behaviour Of Aluminum In Sodium Hydroxide Soln Containing Sucrose Or Allied Products With Or Without Calcium"
The effect of sucrose, glucose, fructose, mannose, and mannitol on the corrosion and anodic polarization of Al-2S in M NaOH in the presence of Ca.

1972-33 A.K. Vijh
Corros. Sci., 12, 105, (1972)
"Corrosion Potentials Of Some Common Metals In Oxygenated Solutions In Relation To Semiconductivity Of The Corrosion Films"
The role of estd. semicond. of corrosion films in the detn of the magnitudes of open-cicuit corrosion potentials of Cu, Sn, Al, Ni, Fe, Zn and Pb in Cl^- solutions.

1972-34 R. Winand
Metallurgie, 12, 122, (1972)
"Fundamental Aspects Of Anodic Oxidation Of Metals. Anodization"
A review on the anodic behaviour of metals based on thermodynamic, kinetic, and morphological conditions.

1972-35 G. Wranglen, "An Introduction to Corrosion and Protection of Metals", Inst. Metallskyd: Stockholm, Sweden (1972)

1973-1 R. Alwitt and L.C. Archibald
Corr. Sci., 13, 687-8, (1973)
"Hydrous Oxide Film On Al Immersed In Warm Water"
Scanning electron microscopy was used to examine films produced on electropolished 99.99% Al immersed in H_2O contg. dissolved O from air at 40°.

1973-2 T.A. Buraya, I.V. Turkovskaya and Yu. M. Zhuk
Zashch Metal., 9, 35, (1973)
"Corrosion Of Aluminum And A Mg-3 and A Mts Alloys In Chloride Containing Aqueous Solutions Of Ethylene Glycol"
An electrochemical evaluation of the corrosion resistance of Al and Al alloys in aq. ethylene glycol solns containing chloride ions.

1973-3 A.V. Byalobzheskii, G.M. Anurova and O.P. Darovskikh
Nov. Metody Issled. Korroz. Metal., 143-50, (1973)
"Use Of Gas Chromatography For Studying The Corrosion Of Metals In Water Of High Temp."
Use of gas chromatography to study the corrosion of metals in water at high temperatures.

1973-4 S. Ciolac and P. Matei
Rev. Chim. (Bucharest), 24, 285, (1973)
"Anticorrosive Protection Methods Based on Metal Passivity Property"
A review w/43 refs.

1973-5 G.P. Cherepanov
Fiz-khim Mekh-Mater., 9, 62-66, (1973)
"Mechanics Of Corrosion Failure"
A review is given with 44 refs. on the corrosion of steels, Ti and Al alloys.

1973-6 M.N. Desai, R.R. Patel and D.K. Shah
J. Inst. Chem. Calcutta, 45(Pt 3), 87, (1973)
"Alicyclic Compounds As Corrosion Inhibitors For Aluminum 3S In Hydrochloric Acid"
Use of alicyclic compounds as inhibitors for Al 3S in HCl.

1973-7 M.N. Desai, S.M. Desai, C.B. Shah and Y.B. Desai
Labdev Part A, 11, 8, (1973)
"Effect Of External Anodic Polarization On The Efficiency Of Corrosion Inhibitors for Al Alloys in HCl"
An evaluation is given of various inhibitors, mostly amines. for Al alloys in HCl under the influence of ext. anodic pol.

1973-8 M.N. Desai, J.D. Talati and B.M. Patel
J. Inst. Chem., Calcutta, 45(Pt 4), 135, (1973)
"Colloidal Substances As Inhibitors Of Corrosion Of Aluminum 2S And 57S In Acetic Acid And Chloro-Substituted Acetic Acids"
Use of colloidal substances as corrosion inhibitors for Al in acetic and chloro-substituted acetic acids.

1973-9 R. Graner and E. Wiedmer
Werkst. Korros., 24, 128-30, (1973)
"Behavior Of Aluminum At Cathodic Polarization"
Current-voltage curves of an Al-0.28% Fe alloy and highly pure Al in buffered M NaCl solns.

1973-10 K. Goto, Y. Shimiza and G. Ito
Keikinzoku, 23, 164-72, (1973)
"Pitting Corrosion Of Al In Synthetic Supplemented Water"
Corrosion behavior of pure Al in water containing Ca^{2+}, Mg^{2+}, HCO_3^-, Cl^-, SO_4^{2-} and free Cl.

1973-11 M. Nagiwara
Keikinzoku, 23, 471, (1973)
"Effects Of Some Ions In Water On The Pit Shape Of Aluminum"
Effects of some ions in water on the number of corrosion pits and the depths of these pists on Al.

1973-12 D. Koncar, K. Slobodan, O.B. Vukovic V. Vujeic and L.J.G. Krizanic
Ana J. Belgrad, 38, 545-53, (1973)
"Properties Of The Oxide Layer On Anodized Aluminum Studied Under Corrosion Conditions"
A method was given for detn. of the thickness of anodized layer on Al (7429-90-5) by measuring the intensity of changes in the diffuse reflected light from the dyed surface.

1973-13 V. Ken
Inf. Chim., 123, 93, (1973)
"Corrosion Inhibitors In Acid Medium"
The mechanism of acid attack, the mechanism of corrosion inhibition and different types of corrosion inhibitors are discussed.

1973-14 Ya. M. Kolotyrkin
Vest. Akad. Nauk SSSR, 6, 46, (1973)
"Scientifica And Technical Problems Of Controlling The Corrosion Of Metals"
Presentation of the general aspects of scientific and technical problems of metal corrosion in the USSR.

1973-15 E. Ya. Lyublinski
Korroz. Zashch. Neftegazov. Prom., 11, 19, (1973)
"Criteria To Evaluate And Protect Metals From Corrosion"
Criteria to evaluate materials for electrochem. protection of steel and Al alloy.

1973-16 S.C. Makwana, N.K. Patel and J.C. Vora
J. Electrochem. Soc., India, 22, 28, (1973)
"Effect Of Some Thio Compounds On The Corrosion Of Aluminum In Hydrochloric Acid Solutions"
Use of some thio compounds as corrosion inhibitors for 3S Al in 0.5 N HCl.

1973-17 S.C. Makwana, N.K. Patel and J.C. Vora
Labdev, Part A, 11A(1-2), 28, (1973)
"Influence Of Aldehydes On The Corrosion Of 3S Aluminum In HCl Solutions"
The corrosion inhibiting effects of aldehydes on the corrosion of Al-3S in 0.5 N HCl.

1973-18 S.C. Makwana, N.K. Patel and J.C. Vora
J. Indian Chem. Soc., 50, 664, (1973)
"Action Of Thioureas As Corrosion Inhibitors For 3S Aluminum In HCl Solution"
Action of some thioureas as corrosion inhibitors for Al 3S in HCl solutions.

1973-19 S.C. Makwana, N.K. Patel and J.C. Vora
Indian J. Technol., 11, 135, (1973)
"Inhibitory Action Of Some Organic Thiocompounds Towards 3S Aluminum In HCl Solutions"
The influence of some organic thiocompounds on the corrosion rate of 3S Al in 0.5 N HCl solutions.

1973-20 Y.V.V.R.S. Murty, T.Z. Kattamis and O.F. Devereux
Met. Trans., 4, 2575, (1973)
"Effect Of Solidification Microstructure On The Corrosion Behavior Of A Columnar Al-Cu Alloy"
Evaluation of the morphology and kinetic nature of corrosion of directionally solidified Al-4.5 wt% Cu.

1973-21 N. Ohtani, Y. Fujishima, H. Sato, and K. Ito
Technol., Nagoya, (Japan), (1973)
"Effect Of Stess And Surface Film On The Anodic Dissolution Of Aluminum Alloys"
The mechanism of anodic dissoln. of various heat treated Al alloys under plastic deformation was examd. in a 1% NH_4 borate soln.

1973-22 N.K. Patel and S.C. Makwana
Werkst. Korros., 24, 964, (1973)
"Action Of Phenols On The Corrosion Of 3S Al in HCl Solns"
The inhibitor effect of some phenols on the corrosion of Al-3S in HCl.

1973-23 A.H. Roebuck
"Corrosion Inhibitors"
Edited by C.C.Nathan, NACE: Houston (1973)
Corrosion inhibitors for Al in a wide range of acidic and alk. environments.

1973-24 N. Sato
Mizu Shori Gijutsu, 14, 165, (1973)
"Corrosion And Corrosion Control Of Metals"
A review.

1973-25 K. Sugimoto and Y. Savada
Nippon Kinzoku Gakkasihi, 37, 148-55, (1973)
"Relations Between The Polarization Characteristics Of Aluminum Intermetallic Cpds & The Corrosion Morphology Of Binary Aluminum Alloys"
The potentials of binary Al alloys (Al-0.5% Fe, Al-0.5% Ni, Al - 0.5% Mn, & Al-4% Cu) & the polarization curves of pure Al (99.999% Al) & Al intermetallic cpds.

1973-26 H. Weber
Schweiz. Alum. Rundsch., 23, 201-6, (1973)
"Corrosion & Surface Protection Of Aluminum Automatic Machine Alloys"
The types of corrosion to which Al alloys are subject are reviewed. Methods of protection are described with special ref. to anodizing. Applications of Al alloys in the food industry are given. No refs.

1974-1 S.A. Awad, Kh. M. Kamel and A. Kassab
Egypt. J. Chem., 17, 11-18, (1974)
"Corrosion behaviour of aluminum in phosphate solutions"
The potential of the Al (7429 - 90 - 5) electrode was measured at 30° in 5 x 10^{-4} M aq. phosphate (14265 -44 -2) solns. as a function of pH and electrolyte concn.

1974-2 A. Becerra and R. Darby
Corrosion, 30, 153-60, (1974)
"Influence of Copper Bicarbonate Ions on the Corrosion of Aluminum Alloy in Saline Solutions"
Corrosion rate studies of 3 Al. alloys (1100, 5052, 6063) were conducted in saline solns.

1974-3 P.L. Bonora, G.P. Ponzano and V. Lorenzelli
Brit. Corros. J., 9, 108, (1974)
"Localized Corrosion of Al and its Alloys. I. Critical Potential, E_r, with respect to Pitting "
Determination of the critical potential for Al and its alloys with Si and Zn in 0.5 M NaCl at pH 2 and pH 6.

1974-4 P.L. Bonora, G.P. Ponzano and V. Lorenzelli
Brit. Corros. J., 9, 112, (1974)
"Localized Corrosion of Aluminum and Its Alloys. II. Influence of Environment"
Corrosion of Al and its alloys in 0.5 M HCl and 0.5 M NaCl.

1974-5 M.N. Desai and R.R. Patel
Trans. Soc. Adv. Electrochem. Sci. Technol. 9, 125, (1974)
"N-Substituted Anilines as Corrosion Inhibitors for Aluminum -3S in HCl"
Study of N-substituted anilines as corrosion inhibitors for Indal 3S(11146-15-9) in HCl solns.

1974-6 A. Broli, H. Holtan and K.L. Prestrud
Corrosion 30, 427, (1974)
"Use of Galvanokinetic Methods for the Determination of Characteristic Potentials for Pitting Corrosion on Aluminum"
Use of galvanokinetic methods to det. the pitting potential and protection potential against pitting for unalloyed Al in a dearated soln of 3% NaCl at 0° and 30°.

1974-7 V.V. Ekilik, V.P. Grigor'ev, G.N. Ekilik and N.M. Gontmakher
Zashch. Metal 10, 325, (1974)
"Effect of the Nature of a Solvent on the Inhibiting Effect of Some Organic Compounds in HCl-Alcohol Systems"
Use of pyridine derivatives or perylium perchlorates to inhibit corrosion of Fe, Al and Zn in 0.5-4.0 N HCl.

1974-8 F.E. Faller
Korrosion, 25, 128-32, (1974)
"Corrosion behaviour of aluminum in sea water and brackish waters with special reference to shipbuilding conditions"
The importance of the low electro-chem. potential of Al. & phy. chem. properties of Al. oxide on the corrosion resistance of Al. are reviewed with 8 refs.

1974-9 H. Fisher
Werkst. Korros.,25 , 706-11, (1974)
"Corrosion inhibition mechanisms as compared to the inhibition mechanisms of other electrode reactions"
A review with 3 refs.

1974-10 R.J. Gesl and A. Troiano
Corrosion,3C , 274-9, (1974)
"Stress Corrosion and Hydrogen Embrittlement in an Aluminum Alloy"
A strain aging type of reversible H embrittlement was demonstrated for a high strength Al alloy in a 3% NaCl soln.

1974-11 W. Gruhl and F.E. Faller
Z. Werkstofftech,5 , 274-9, (1974)
"Corrosion & stress corrosion, problems of aluminum structural alloys"
The corrosion behaviour of several structural alloys of Al. in different media is discussed.

1974-12 E.S. Ivanov
Zashch. Metal.,7, 193-4, (1974)
"Mechanism of the Action of Aminochromates as Inhibitors of the Corrosion of Some Metals"
Mechanism of the action of aminochromates as inhibitors of the corrosion of steel, Al, Cu, and Cd.

1974-13 St. Ivascanu and I. Antonescu
Rev. Chim. (Bucharest),25, 311, (1974)
"Behaviour of Al in NaOCl Solns"
Behaviour of aluminum (7429-90-5) in NaOCl solutions.

1974-14 M. Izuyama
Kinzoku Hyomen Gijutsu,25, 310, (1974)
"Corrosion Inhibitors of Al"
A review on the corrosion mechanism of Al and classification of corrosion inhibitors.

1974-15 T. Jangg, H. Meissner and R. Zuerner
Aluminum Duesseldorf,5C , 205-13, (1974)
"Pitting Corrosion of Aluminum"
A new method was developed to determine the so-called breakdown pot. V in the pitting corrosion of Al (7429 - 9C - 5) and Al alloys in NaCl solns. contg. various additives.

1974-16 V. Kapali and N. Subramanyan
Proc. Semin. Electrochem. 14th 1973,368,(1974)
"Behaviour of Some Ketones and Ethers as Inhibitors of Corrosion of Aluminum in HCl and in NaOH Solution"
The effectiveness of some ketones and ethers as inhibitors of corrosion of Al(7429 -90 -5) in hydroxide soln and in HCl both in the presence and absence of Ca.

1974-17 V.P. Kassyura and E.M. Zaretski
Zashch. Metal., 10, 162-4, (1974)
"Effect Of Magnesium On The Anodic Behavior Of Aluminum Magnesium Alloys In Alkaline Nitrate Solutions"
Mg effect on the corrosion rate of Al-Mg alloys in alk.-nitrate solns was determined by studying the anodic behavior of this system.

1974-18 B.S. Lee, M. Seno and T. Asahara
Kinzoku Hyomen Gijutsu, 25, 398, (1974)
"Vapor Phase Corrosion Inhibitors. 4. Effects Of Various Sub-Components On The Corrosion-Inhibiting Action Of Hexamethylenetetramine On Aluminum"
Investigation of vapor-phase corrosion-inhibiting papers, powders, tables and oils for Al.

1974-19 R.T. Lawson
Chem. Technol. Div. Anst. J. Chem., 27, 105-27, (1974)
"Al Corrosion Studies. I. Potential-pH-Temperature Diagrams For Aluminum"
The potential-pH-temp. relation for the Al-H_2O system were calcd. by the methods of Bethune, Khodakovskiy, Criss & Cobble and Helgeson & a crit. comparison made.

1974-20 T.J. Lennox, M.H. Peterson, J.A. Smith and R.E. Groover
Mater. Performance, 13, 31, (1974)
"Corrosion And Cathodic Protection Of 5086-H32 Aluminum Coupled To Dissimilar Metals"
Study of corrosion of 5086-H32 aluminum in various environments.

1974-21 H. Lommel
Korrosion, 25, 29-34, (1974)
"Corrosion Behavior And Corrosion Protection Of Light Metal Alloys In Shipbuilding & Similar Applications"
The corrosion behavior of Al and its alloys in shipbuilding is reviewed with 7 refs. The effect of structure, compn., heat treatment, welding & contact with other metals is considered.

1974-22 V.A. Makavov
Itogi Nauki Tekh. Korroz. Zashch. Korros., 3, 84, (1974)
"Anodic Electrochemical Protection"
A review w/194 refs.

1974-23 A. Maitra and S. Barua
Corros. Sci., 14, 587, (1974)
"Dicyandiamide. Inhibitor For Acid Corrosion Of Pure Aluminum"
Inhibition efficiency of dicyandiamide an Al in 0.5-2.0 N HCl at 27° for 1-6 hrs.

1974-24 M. Marek and R.F. Hochman
Corrosion, 30, 208-10, (1974)
"Stimulated Crevice Corrosion Expt. For pH And Solution Chemistry Determination"
Crevice corrosion in dental amalgam

1974-25 T.L. Rama Char
J. Electrochem. Soc. India, 23, 103, (1974)
"Aluminum. Corrosion And Metal Finishing Bibliography Of Publications"
A list of 83 papers published from the electrochem. labs of the world covering various aspects of the use of Al(7429-90-5).

1974-26 B. Sanyal, et. al.
Indian Chem. Manuf., 12, 13, (1974)
"Corrosion Of Metal In Different Chemical Environments And Its Protection"
Corrosion of Al, steels and bronzes in acids, water, sea water, cutting oil emulsions, detergents, petroleum and org. solvents is reviewed.

1974-27 R.K. Shah, B.B. Patel and N.K. Patel
J. Inst.Chem. Calcutta, 46,Pt5,167, (1974)
"Azoles As Corrosion Inhibitors For 3S Aluminum In Local Supply Water"
Use of 2-mercaptobenzothiazole and 2-mercaptobenzimidazole as corrosion inhibitors for 3S Al in Gujarat Univ supply water.

1974-28 V.S. Sinyavskii, V.D. Val'Kov, G.M. Budov and V.D. Kalinin
Metalloved Term. Obrab. Metal.,6, 25, (1974)
"Corrosion Resistance Of Al Alloys"
Statistical study of the corrosion of Al alloys in sea water and in an industrial atm for 5 yrs.

1974-29 A. Soudan
Galvano-Organo, 43, 937, (1974)
"Protection Of Metals And Light Alloys"
A review is given of industrial Al and Mg alloys and of corrosion and its prevention.

1974-30 N. Subramanyan and K. Ramakrishnaiah
Proc. Semin. Electrochem. 14th 1973, 375, (1974)
"Effect Of Some Amino Acids In The Corrosion Of Al In 1M HCl"
The influence of 10 amino acids on the corrosion of Al (7429-90-5) in 1 N HCl both in the presence and absence of Ca (7440-90-2).

1974-30 N. Subramanyan and K. Ramakrishnaiah
Proc. Semin. Electrochem. 14th 1973, 375, (1974)
"Effect Of Some Amino Acids In The Corrosion Of Al in 1M HCl"
The influence of amino acids on the corrosion of Al (7429-90-5) in 1 N HCl both in the presence and absence of Ca (7440-90-2).

1974-31 T. Suzuki
Zairyo, 23, 912, (1974)
"Corrosion Inhibitors"
Types of inhibitors and their applications in various chem. and environmental processes are reviewed.

1974-32 J.D. Talati and J.M. Pandya
Anti-Corros. Method Mater., 21, 7, (1974)
"Amines As Corrosion Inhibitors For B26S Al in H_3PO_4"
The inhibition of corrosion of Al-Cu (4%) alloy B26S in 0.1 N solns of H_3PO_4 (7664-38-2) by different amines.

1974-33 S. Terai, Z. Tanabe and M. Hagiwara
Suiyokai-Shi, 18, 80, (1974)
"Corrosion And Corrosion Control Of Aluminum And Its Alloys. I"
A review w/46 refs.

1974-34 S. Terai, Z. Tanabe and T. Suzuk
Suiyokai-Shi, 18, 80, (1974)
"Corrosion And Corrosion Control In Aluminum And Its Alloys. II"
A review w/84 refs is given on cathodic protection of Al, corrosion inhibitors and corrosion protection by surface treatment.

1974-35 D.E. Taylor and R.B. Waterhouse
Corros. Sci., 14, 111-22, (1974)
"Electrochemical Investigation Of Fretting Corrosion Of A Number Of Pure Metals In 0.5M Sodium Chloride"
Free potential measurement supplemented by transient linear polarization was used to study the effect of fretting corrosion on Zn, Al, Ag, Ta, Cu, Cr, and Ni in 0.5 M NaCl.

1974-36 E.D. Verink, Jr.
Chem. Eng., 81, 104,106,108,110
"Aluminum Alloy For Saline Waters"
Work at an exptl. desalting plant shows that Al alloys can handle saline water with min. corrosion.

1975-1 M. Izuyama
Bosei Kanri, 19, 22, (1975)
"Corrosion Inhibitors For Al And Their Applications"
A review on corrosion inhibitors for Al in acid, basic, neutral solns and alcohols.

1975-2 S.C. Makwana, J.C. Vora and N.K. Patel
Acta Cienc. Indica, 1, 179, (1975)
The effects of some aldehydes on the corrosion of Al AA 3003 in HCl solutions.

1975-3 E. Sato and M. Sato
Kinzoku Hyomen Gijutsu, 26, 66, (1975)
"Anodic Polarization Behavior And Pitting Corrosion Mechanism Of Aluminum In NaCl Soln"
Anodic polarization studies of 99.999% Al in 0.5 N NaCl soln of pH 4,6,8.5,10 and 12.

1975-4 J.D. Talati and R.M. Modi
Bri. Corros.J., 10, 103, (1975)
"Dihydroxy-benzenes As Corrosion Inhibitors For Al-Cu Alloy In NaOH"
Investigation of dihydroxy-benzenes as corrosion inhibitors of Al-4% Cu alloys in NaOH.