

Oct.6, 1964

Mr. E. M. Bevilacqua, Associate Editor
Rubber Chemistry and Technology,
United States Rubber Company,
Research Center
Wayne, New Jersey (U.S.A.)

our ref. 715/lv

Dear Mr. Bevilacqua:

Thank you for your letter of Sept. 30, concerning the publication in RC&T of our paper "Polymerization of 1,3-Pentadiene to Cis-1,4 Stereoisomers".

I wish to inform you that, prior to it, we received a request by Mr. Gould of ACS (1155 Sixteenth St., N.W., Washington D.C.), who intends to publish the papers presented at the ACS meeting in Chicago in "Advances in Chemistry Series".

We gave him an affirmative answer; therefore, we do not know whether it is also possible to publish our paper in "Rubber Chemistry and Technology".

We think that an authorization must be requested by you to that journal, unless the American Chemical Society has already done it.

Looking forward to hearing further news on this matter,
I am,

Sincerely yours,

Giulio Matte

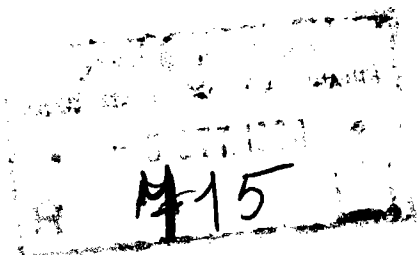
United States Rubber Company



RESEARCH & DEVELOPMENT
DEPARTMENT

RESEARCH CENTER
WAYNE, NEW JERSEY

TELEPHONE
OXBOW 4-4000



September 30, 1964

Professor G. Natta
Ustituto Chimica Industriale del Politecnico
Piazza Leonardo da Vinci
32 Milano, Italy

Dear Professor Natta:

"Polymerization of 1,3-Pentadiene to
Cis-1,4 Stereoisomers"

The object of RUBBER CHEMISTRY AND TECHNOLOGY is "to render available in convenient form under one cover important and permanently valuable papers relating to rubber or its allied substances." The papers in the symposium on New Aspects of Elastomer Stereospecific Polymerization at the ACS meeting in Chicago this fall form a group of such papers which we would like to publish in RC&T.

If you agree to including your paper, I should appreciate it if you would send me a copy of the manuscript in suitable form for publication. The original manuscript submitted to the Secretary can be used if there are no changes which you wish to make before publication.

Yours very truly,

E. M. Bevilacqua, Associate Editor
RUBBER CHEMISTRY AND TECHNOLOGY

EMB:jb

ADVANCES IN CHEMISTRY SERIES

PUBLISHED BY THE AMERICAN CHEMICAL SOCIETY

1155 Sixteenth St., N.W., Washington, D. C. 20036 • 202 REpublic 7-3337

September 11, 1964

Dr. L. Porri
Ulstituto Chimica Industriale del Politecnico
Piazza Leonardo da Vinci
32 Milano, Italy

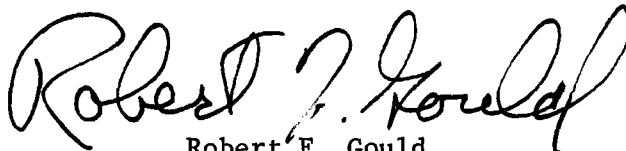
Dear Dr. Porri:

The symposium on "New Aspects of Elastomer Stereospecific Polymerization," from the recent ACS meeting in Chicago came to our attention and we spoke to Dr. J. D. D'Ianni about possible interest in publishing the symposium as a volume in ADVANCES IN CHEMISTRY SERIES. Dr. D'Ianni seemed interested in this possibility and suggested that we write to the authors about it.

The subject of this symposium is a lively one, and a book on it would probably be very well received by the technical community. If this project were undertaken, would you be willing to contribute your paper on "Polymerization of 1,3-Pentadiene to Cis-1,4 Stereoisomers" for publication in the book?

Such publication would be equivalent to publication in a journal because articles are reviewed according to journal procedures and after printing are abstracted by CHEMICAL ABSTRACTS. Most technical libraries shelve all volumes of ADVANCES IN CHEMISTRY SERIES so that references to articles published in these volumes are easily searched. We sincerely invite your participation and look forward to your early reply.

Sincerely yours,



Robert F. Gould
Editor

RFG/dh

*No wants book's del oc .
If the project seems interesting, I'll be glad to
contribute my paper for publication in the book.*

L. Porri

April 5, 1962

Carbello
Mr. H. Jordan
U.S. Rubber
Research & Development Dept.
Wayne, New Jersey (USA)

our ref.286/eg

Dear Mr; Jordan,

It is a long time since I have not heard from you, but I hope that you and Hazel are going on very well. Rosita and my children are well. Rosita and I became grandparents of a nice she-baby called Giulia, five months ago. Last winter I had been very ill, but now, after an operation I underwent in Paris last July, I feel much better and I have started working with greater intensity.

It was supposed to come to the United States next June to attend the Gordon Conference, but I am afraid I shall have to give up coming because I would like to have my summer holidays earlier.

Since you have always been very much interested in our works in the field of diolefins, I wish to inform you we obtained a patent on a very stereoregular cis-1,4-polybutadiene in the U.S.A., bearing the number 3,016,371. According to this procedure we can obtain cis-1,4-polybutadiene, which is over 97-98% pure, that is purer than indicated in the patent itself, because the analytical methods were in that time less precise.

As you probably know, the properties of cis-1,4-polybutadiene, which is over 97% pure, are much higher than those of the polybutadiene produced by Phillips, which does not reach a purity of 95%.

According to the Patent Department of Montecatini, this patent should be independent of other procedures and should allow Montecatini, also on the basis of ~~the~~ other patents, to produce polybutadiene in the U.S.A. (at its disposal)

With my kindest personal regards,

G.NATTA

April 1, 1960

Mr. Leland M. White
1361 Alps Road

WAYNE - New Jersey - U.S.A.

our ref. 343/rl

Dear Dr. White,

I am extremely sorry I have delayed such a long time before answering your very kind letter of December 11, 1959.

Your wishes for 1960 and for my health were highly appreciated; I heartily reciprocate them.

Under separate cover, I send you a few reprints of some papers of mine, which, I hope, may interest you.

Mrs. Natta joins me in sending you kindest regards.

Giulio Natta

Leland M. White
1361 Alps Road
Wayne, New Jersey

December 11, 1959

Professor G. Natta
Via Mario Pagano 54
Milano, Italy

Dear Professor Natta:

Yesterday I had the pleasure of discussing a number of technical subjects at our Research Center with Professor Nino Agliardi. As you probably know, Rumianca, S.p.a. and U. S. Rubber have recently organized a joint chemical company in Italy. That was the occasion for Professor Agliardi's visit with me.

During the course of our discussions, he told me of his close association and friendship with Mrs. Natta and you. Since several of us in U. S. Rubber have also enjoyed your friendship and hospitality on several occasions, we were much interested to hear about Mrs. Natta and you from Professor Agliardi.

We very much regret to learn of the persistence of your illness. Our thoughts are toward your early recovery.

From all of us, best wishes to Mrs. Natta and you for the new year.

Sincerely yours,

L M White

1/10/60 G. Natta

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[with
M. Natta
L. M. White
Playgo. all to be
on ribbon, not with*

10 Settembre 1958

~~Alto~~
U.S. Rubber

Rif.n.981/el

Egr. Ing. Piero GIUSTINIANI
Amministratore Delegato
Soc. Montecatini

S e d e

e, p.c. Ing. B. Orsoni
Ing. G. De Varda
Ing. G. Ballabio

Caro Ingegnere,

ho dato un'occhiata alle due bozze di contratto inviatele da Mr. Gake della U.S. Rubber. Credo che tali bozze possano servire da base per eventuali accordi, purchè vengano fatte, come Lei intende scrivere a Mr. Gake alcune sostanziali modifiche. Da parte mia mi limito a fare alcune osservazioni di carattere tecnico, lasciando la parte legale a chi è più competente di me in proposito.

1) Contratto sui copolimeri. Articolo I - Subject matter. Ritengo necessario di limitare l'accordo ai copolimeri non cristallini o per lo meno ai copolimeri "non crystalline in unstretched state". Ancora preferibile sarebbe limitare inoltre l'accordo ai copolimeri 20%-80% di etilene.

L'inclusione dei copolimeri cristallini può portare a delle gravi complicazioni, poichè i copolimeri C₂-C₃ contenenti piccole percentuali di etilene hanno proprietà poco diverse dal polipropilene e nel caso in cui tali polimeri siano altamente cristallini, possono rappresentare una concorrenza al polipropilene cristallino isotattico, presentando anche certi vantaggi, in quanto hanno una temperatura di transizione più bassa e quindi sono molto fragili a bassa temperatura.

L'impiego dei copolimeri come plastici dovrebbe comunque essere limitata ai polimeri aventi composizione 20-80% etilene e tale impiego si differenzerebbe dagli impieghi come elastomeri soltanto per il fatto che tali copolimeri non vengono vulcanizzati nel caso di impiego come plastici.

2) Polimeri del butadiene. In questo caso l'accordo può comprendere anche l'impiego indiscriminato dei polimeri come plastici. Polimeri cristallini del butadiene, ad es. quello 1-4 trans e quello 1,2 sindiotattico potrebbero trovare applicazioni importanti nel campo delle materie plastiche. C'è però da domandarsi se convenga fare già sin d'ora un contratto che comprende tutti i

./.

possibili polimeri stereospecifici del butadiene, oppure limitare il contratto ai polimeri aventi struttura 1,4 cis. Probabilmente conviene soltanto se la U.S. Rubber si impegna a studiare le applicazioni del polibutadiene 1-4 trans e di quelli 1-2 isotattici e sindiotattici, per gli ultimi dei quali la situazione brevettuale dovrebbe risultare più solida.

Per quanto riguarda il paragrafo 2, art. I, credo che dovrebbero essere inclusi i processi di "shaping elastomeric materials into articles" non per quanto riguarda il particolare articolo finito, ma i metodi generali di vulcanizzazione.

Per quanto riguarda i "gum plastics" che non contengono più del 50% in peso di polibutadiene, l'esclusione proposta dalla U.S. Rubber dovrebbe essere limitata al gum plastic, quale prodotto finito, ma non al componente poli-butadiene impiegato per la loro preparazione.

Art. II par.1 : non ho ben capito che cosa intenda la U.S. Rubber per "exclusive option". Ritengo che la Montecatini debba essere libera di dare opzioni a terzi dato che il contratto con la U.S. Rubber è un contratto di non esclusività.

Art. II par.2 : noto che non è considerato il pagamento di 25.000 dollari per l'opzione, che è invece considerato nel caso dei copolimeri. Tale esclusione può essere giustificata per il fatto che la U.S. Rubber ha già pagato un'opzione in passato, ma è da tener presente che la Montecatini prende l'impegno di fornire dei quantitativi di prodotto rilevanti in un tempo determinato.

Art. III par.3 : anche il "know how" potrebbe comprendere la fabbricazione di finished articles (purché non si tratti di articoli speciali) per quanto riguarda i mezzi generali di vulcanizzazione. L'esclusione proposta dalla U.S. Rubber faciliterebbe però gli accordi con terzi (ad es. Pirelli o Polymer Service), in quanto eviterebbe complicazioni sulla riservatezza per quanto riguarda l'eventuale know how derivante da rapporti con terzi.

Art. IV par. ii : il pagamento della U.S. Rubber dell'1% si riferisce all'utilizzazione delle lavorazioni "made by U.S. Rubber prior of the date of this Agreement". Sarebbe necessario, per poter prendere in considerazione tale proposta, conoscere le invenzioni fatte dall'U.S. Rubber prima della data di questo accordo.

Art. IV 2. ii: pag.8 ultimo paragrafo : il rimborso di parte del pagamento di 250.000 dollari proposto dalla U.S. Rubber non mi sembra giustificato dato che la motivazione di tale pagamento prende in considerazione anche lo "special know how" rivelato dalla Montecatini.

Delle limitazioni a tali prestazioni non possono derivare da successive complicazioni del problema brevettuale.

La riduzione delle royalties dal 5 al 3% dovrebbe essere evitata e se mai considerata non sulla produzione totale, ma su quella annuale ad es. sulla parte superiore a 10.000 t/anno.

Qualche osservazione ciascuna ad entrambi i contratti penserei che convenga limitarli agli Stati Uniti, in quanto la Montecatini potrebbe avere interesse a dare delle licenze esclusive in altri paesi. Sarebbe anche utile nei negoziati il Canada, tenuto conto delle trattative in corso con la Polymor-Sarria.

Cordiali saluti.

L. Batta

September 10, 1958

~~Rosita~~
U.S. Rubber

Mr. Hubert F. Jordan
7 Pomander Walk
Nutley 10, New Jersey
U.S.A.

/mb

Dear Hubert,

we have just now come back to Milan from the vacations into the mountains at Champoluc, where we spent, in our country house, the most part of the summer.

In July we went to England to attend the Meeting of Nottingham. From now on I foresee we will stay at home at least till the winter vacations that we will spend at Davos in Switzerland.

I was very glad to have your news from the nice and kind letters of Hazel, and to know that you spent your summer in New Jersey.

I have been informed about the intercourse of correspondence between Mr. Cake and Ing. Giustiniani. I read also the proposals he made to Montecatini Co. and I think that, with some substantial variations, they will be a basis for a probable agreement to be arranged between U.S. Rubber and Montecatini S.p.A.

Rosita and I are looking forward to seeing you soon in Italy and send to Hazel and you our best wishes.

Cordially yours,

G. Natta

ing of you especially these days because I am using the white bag which you sent me. I fastened little bouquets of flowers on it to go with my various dresses. Everybody admires it. I am glad that Franca received and liked the little hat.

My news is that I have lost all of my fat and I am very thin again. So I am happy to be able to wear the new

 *The Stockton*
A SURF AND COUNTRY CLUB HOTEL.
Sea Girt, New Jersey

July 27th

Dear Rosita and Giulio:

We wish you were here. This is a beautiful seashore hotel and only two hours by train from home. It is next best to Bermuda. A sure sign that Hubert is well again is that he dances and enjoys everything.

Rosita, I am think-

evening dresses, which I find quite provocative!

I am enjoying this summer at home and being able to have a nice flower garden. It has never been so nice.

We hope to take a winter vacation cruise next February or March, probably to the West Indies or Virgin Islands.

I suppose you are at the mountains now.

We always think of you and look forward to seeing you sometime again.

I am having broiled lobster for lunch. It is a great treat. It is shipped down live every day from the state of Maine.

Please give our best greetings to all of your family - and write to us.

Lovingly, Hazel

G/ra/Al

Milan, September 3, 1958

Dear Mr. Cake,

I apologize for replying with a certain delay to your letter of August 1st, by which you kindly sent me the drafts of two agreements between our Companies, one relating to cis-polybutadiene and the other relating to ethylene-propylene copolymers.

I have already run rapidly over the text of the two agreements and without, however, taking any precise position in this respect, at least for the moment, I have to tell you that it seems to me that some points should have to be substantially modified.

I consider that, with the introduction of such modifications, the texts you sent to us could be a basis for a useful understanding between our two Companies, to our mutual interest.

While reserving to resume the question matter with you as soon as possible, I beg you to accept my most cordial regards.

Yours sincerely,

(Ing. Piero Gastiniani)

Mr. W. E. CAKE
Vice-President
United States Rubber Company
1230 Avenue of the Americas
NEW YORK 20, N. Y.



US Rubber

7 Pomander Walk
Nutley, New Jersey

May 20, 1958

Dear Giulio,

Thank you very much for your letter and the comments on cis-1,4 butadiene. They are quite interesting.

I am very sorry indeed that I was ill the day you visited the Research Center, and that the weather was so terrible that Rosita could not take a tour of certain sections of New Jersey I am sure she would have found interesting. We are glad to learn that you had a safe return to Italy. Hazel and I are now well, and we are sorry that you are not here to see our gardens in full bloom; they are indeed quite pretty.

Hazel regrets that she was unable to go and say goodbye to you both, since she had a little hat for Franca. She has sent the hat by Air Post and we presume that Franca now has it. We hope that there were no complications in customs.

Hazel and I often recall the good times we had with you in Milan and we hope that we can remain the best of personal friends. Perhaps some day you will see us in Italy again; we both hope so. I feel that we have by no means seen all the beautiful things there are to see in Italy, but I presume that this would take years.

Kindest personal regards to both of you from Hazel and me.

Most sincerely,



Hubert F. Jordan

Professor G. Natta
Via Mario Pagano 54
Milano, Italy

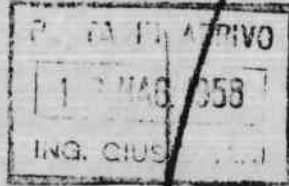
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United States Rubber Company
Rockefeller Center

1230 AVENUE OF THE AMERICAS · NEW YORK 20, N. Y.



OFFICE OF VICE-PRESIDENT



May 8, 1958

Ing. Piero Giustiniani
"Montecatini"
Via F. Turati 18
Milan, Italy

Dear Dr. Giustiniani:-

Thank you for arranging the visit with us of Professor Natta and Dr. Ottolenghi at our Research Center on April 28th. We enjoyed meeting with them and were interested in receiving from Professor Natta your present general ideas as to an agreement between our two groups.

We are giving careful consideration to these ideas among the various divisions of our company that are concerned and I shall expect to send you our views and suggestions in the near future.

With kindest personal regards, I am

Yours sincerely,

W. E. Cake

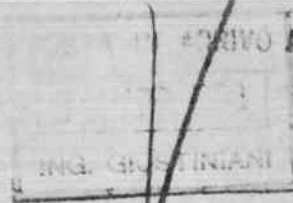
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United States Rubber Company

Rockefeller Center

1230 AVENUE OF THE AMERICAS · NEW YORK 20, N.Y.

OFFICE OF VICE-PRESIDENT



April 7, 1958.

Dr. Piero Giustiniani
"Montecatini"
Via F. Turati 18
Milan, Italy

Dear Dr. Giustiniani,

Thank you for your letter of March 28, 1958 and your letter of March 20, 1958 with enclosed note supplying us with some detailed information on the results your people have achieved with homogeneous polymerization.

We are obtaining by the method of heterogeneous polymerization materials very similar to those described in your note. We are of course quite interested in materials of this type and therefore look forward with special pleasure to discussing with Professor Natta additional details with regard to them. We expect to be in touch with Professor Natta and arrange a mutually convenient time for him to visit with us.

With kindest personal regards, I am

Sincerely yours,

W. E. Cake

Original - Air Mail
Confirm. - Air Mail

Prof. Natta c. f. e.

G/sb/A1

Milan, May 12, 1958

Dear Mr. Cake,

Many thanks for your kind letter
of May 8th.

Prof. Natta was particularly impressed
by the many kindnesses both you and your collaborators extended
to him. I wish in turn to express to you my best thanks.

While awaiting to receive your further
communications, I remain,

Cordially yours,

(Ing. Piero Giustiniani)

Dr. W. E. CAKE - Vice President
U. S. Rubber Co.
1230 Avenue of the Americas
NEW YORK 20, N. Y.

U.S. Rubber

May 6, 1958

Mr. Hubert JORDAN
7 Pomander Walk

NUTLEY - N.J. - U.S.A.

Ref. No. 550/r1

Dear Hubert,

I have been back to Milan last Saturday after an extremely interesting travel. I am sorry not to be able to see you during my visit to the Laboratory of U.S. Rubber and Rosita too has regretted not to have met Hazel. I hope that now you are completely recovered. Our last days in the United States have been very engaged and Rosita and I had to take advantage of the last Sunday to rest a little and to meet our Italian friends in New York.

As to 1,4-cis-polybutadiene, I have been able to verify, during my staying in the States, that all the products made till now in the States (as it appeared from the people I consulted) do not correspond to the high purity 1,4-cis polybutadiene, and their properties rather deficient were caused by their not sufficient steric purity. I remarked everywhere a great interest to our results, in the fields of 1,4-cis polybutadiene and its copolymers. I think that within few months we may obtain practical valuations, that enabled us to establish the opportunity to start a commercial production.

With my best personal wishes, and hoping to see you soon in Italy together with Hazel, I remain,

Very sincerely yours,