

MONTECATINI

Società Generale per l'Industria Mineraria e Chimica

AMMINISTRATORE DELEGATO

ISTITUTO DI CHIMICA
INDUSTRIALE DEL POLITECNICO
* 23 SET 1958 *
R 1025

22 settembre 1958

(American Cyanamid)

PROMEMORIA

G/tp

per il Signor.....

ing. BALLABO

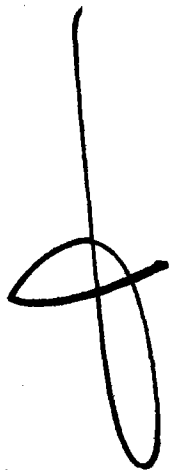
ing. DE VARDA

prof. NATTA

Vi invio, per conoscenza, copia di una lettera scrittami dal Sig. Lindgren dell'American Cyanamid, al quale ho inviato il rapporto redatto dal Dott. Mario Simeoni sulla "Polimerizzazione stereospecifica di una miscela di monometilstireoli isomeri e principali caratteristiche dei polimeri ottenibili".

Cordiali saluti.

AHL



CYANAMID

AMERICAN CYANAMID COMPANY
PLASTICS AND RESINS DIVISION
30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

September 17, 1958.

Dr. Piero Giustiniani
Montecatini
Sede Milano
Via F. Turati 18
ITALY.

Dear Dr. Giustiniani:

Thank you for sending us the laboratory report on the stereospecific polymerization of monomethylstyrene with your letter of September 12. The report indicates that a considerable amount of effort was applied to the evaluation of this product.

I am taking this opportunity to turn the report over to our research laboratory and am asking them to comment upon the results described here. My own reading of the report has shown that there are several points of interest, which we may not have seen in our own work. Certainly the relative polymerization rates of the three isomers in the presence of a typical stereospecific catalyst are different from those encountered using a normal polymerization system.

I understand that you will be visiting the United States before the end of the year. I hope that we shall have the opportunity of discussing this report with you at that time.

Thank you again for submitting such a complete report.

Sincerely yours,

AMERICAN CYANAMID COMPANY



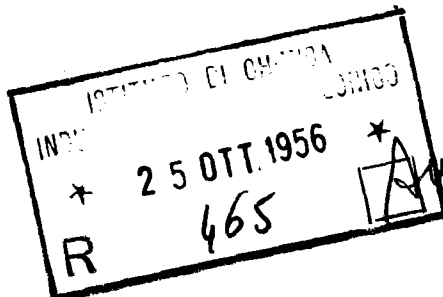
V.V. Lindgren
Technical Director.

VVL:pag

CYANAMID

AMERICAN CYANAMID COMPANY
30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

ADDRESS REPLY TO
RESEARCH DIVISION
BOUND BROOK, NEW JERSEY
ELLIOT 6-2000



October 19, 1956

VIA AIR MAIL

Prof. G. Natta
Istituto Polytecnico
Milano, ITALY

Dear Professor Natta:

I am writing to thank you for your hospitality in connection with my visit to your laboratory on October 3. Please also extend my thanks to Dr. Corridini and to Dr. Gastone Pajaro who helped make my visit a most interesting one.

I hope that when any of you gentlemen visit the United States that I shall have the pleasure of a visit from you at Bound Brook.

Sincerely yours,

A handwritten signature in cursive script, which appears to read "W. Seaman".

William Seaman
Research Fellow

WS/cah

A large, stylized handwritten mark or signature, possibly "Via", written in dark ink.

CYANAMID

AMERICAN CYANAMID COMPANY
30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

August 16, 1956

Professor Giulio Natta
Istituto Di Chimica Industriale
Del Politecnico
Piazza Leonardo Da Vinci, 32
Milan
Italy

Dear Professor Natta:

Thank you for your letter of July 31, 1956, regarding your unexpected change in plans which prevented you from visiting our Stamford Laboratories. Dr. Giustiniani advised us that you had to return to Italy at an earlier date than originally planned.

We had been looking forward to seeing you again and showing you our laboratories, and we were disappointed when we learned of your change in plans.

I hope that you will be returning soon to the United States and that we will have an opportunity to see you. It is possible also that some of us may be going abroad in the near future, in which case we will surely get in touch with you.

With kind regards,

Sincerely yours,



Kenneth H. Klipstein
General Manager
Research Division

KHK:frw

35
July 31, 1956

Mr. Kenneth H. Klipstein
General Manager
Research Division
American Cyanamid Company
30 Rockefeller Plaza
NEW YORK 20, N. Y., U. S. A.

Dear Mr. Klipstein,

I regret very much that, because of unforeseen developments, I have been obliged to shorten my stay in your country and to change the program that Prof. Mark already planned for me.

Please excuse if my busy trip through the States did not permit me to write to you before my coming back to Milan.

I do hope to have soon an other opportunity to see you in Italy or in the States.

With best regards.

Very truly yours,

Giulio Natta

CYANAMID

AMERICAN CYANAMID COMPANY
30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

RESEARCH DIVISION

June 5, 1956

Mr. Lucio Lucini
Chemore Corporation
21 West Street
New York 6, New York

Dear Mr. Lucini:

This note is to confirm our invitation to Dr. Giustiniani and yourself for luncheon at The University Club, 54th Street and Fifth Avenue, at 12:30 o'clock on Wednesday, June 20. Dr. W. G. Malcolm, Vice President for Sales, Mr. L. C. Duncan, General Manager Lederle Laboratories Division, and Mr. R. A. Hoekelman, General Manager Plastics and Resins Division, will be present. I hope that Mr. Towe will be able to join us also and I will ask him as soon as he returns from a trip South. Please let me know if there is anyone else from your company to whom you would like me to extend an invitation.

In regard to Professor Natta's visit to Stamford, I will plan to meet him at his hotel at 9:00 o'clock on Tuesday, June 26, with my car. We should arrive at Stamford by 10:30 A. M. and the rest of the morning will be spent in a tour of the various laboratories. The luncheon for him will be attended by our Research Directors. It will be held at The Riverside Yacht Club which is only a short distance from the laboratories. After luncheon, there will be an hour for discussion prior to his lecture which is scheduled at 3:30 P. M. I will drive Professor Natta back to New York when he has finished his lecture.

We would, of course, be glad to have you and Dr. Giustiniani accompany us if you would be interested in seeing the laboratories and attending the lecture. Anyone else you suggest would also be welcome.

We hope these arrangements will fit in with your plans and look forward to seeing Dr. Giustiniani and Professor Natta again.

Very truly yours,

Kenneth H. Klipstein

Kenneth H. Klipstein
General Manager
Research Division

Lucio Lucini
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John
connets
over
KHK:frw

Europe & can be as well

VIA AIR MAIL

AMERICAN Cyanamid COMPANY

PLASTICS AND RESINS DIVISION

30 ROCKEFELLER PLAZA
NEW YORK 20, NEW YORK



TELEPHONE CIRCLE 7-0100
CABLE ADDRESS LIMENITRO

30 f
Am

April 11, 1956

Prof. G. Natta
Istituto Politecnico
Milano, Italy

Dear Prof. Natta:

Having just returned to the United States, we are not yet recovered from the overwhelming hospitality of the many people whom we visited in Europe. This especially applies to our very pleasant visit with you and Mrs. Natta in your charming home. I hope that we will have the opportunity to entertain you as well here in New York.

On the matter of your process for polymerizing methylstyrenes, I can say that we are very interested in the results which you have obtained. We would like to follow this closely with you in the future. As discussed, we are sending you five gallons of monomethylstyrene as produced in the pilot plant. This is, of course, a mixture of isomers. Unfortunately, we do not have any dimethylstyrene available at the present time. As soon as additional quantities have been prepared we will send another sample to you.

The identity of three samples of monomer, namely PDL 2-902, PDL 2-903 and PDL 2-904, was discussed with you. I was under the impression from our discussion that two of these were meant to be pure samples of ortho and para monomethylstyrene. On the contrary, I find that PDL 2-902 is the following mixture of methylstyrene:

31.8% ortho
2.6% meta
68.0% para

As you can see the accuracy of the determination is such that these do not add up to 100%. PDL 2-903 is 2,4-dimethylstyrene and PDL 2-904 is 90% 2,4-dimethylstyrene and 10% 2,6-dimethylstyrene.

Was it PDL 2-903 or PDL 2-904 that was used to produce the crystalline polymer having a density of 1.013 gms/cc and a melting point above 300°C?

The commercial plant for the production of monomethylstyrene is going into operation this month. As soon as representative material is

Prof. G. Natta

- 2 -

April 11, 1956

available we will ship a drum to Montecatini. This will make available to them enough material to be polymerized in their pilot plant. We shall follow this up directly with Dr. Giustiniani. In the meantime it would be extremely helpful to our own fundamental research on the analysis of polymers if we could have small samples (1-2 grams) of polymethylstyrene, polyethylene, polypropylene and polystyrene produced by your technique. Obviously, if larger samples were available we would have the opportunity to give them some evaluation.

I understand that you plan to be in the United States in June. I sincerely hope that we will have the opportunity to see you at that time. Please get in touch with us if there is anything further that we can do to assist you with your research program.

Sincerely yours,

AMERICAN CYANAMID COMPANY



V. V. Lindgren
Technical Director

VVL/rmc

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May 7, 1956

Mr. V. V. Lindgren
Technical Director
Plastics and Resins Division
American Cyanamid Company
30 Rockefeller Plaza
NEW YORK 20 - N. Y. - U. S. A.

Dear Mr. Lindgren,

Many thanks for your kind letter of April 11 and for your sending us five gallons of monomethylstyrene. This is very much appreciated.

In regard to the samples, already examined, I inform you that we ourselves prepared pure samples of ortho and para methylstyrene.

We have been already informed about the approximate composition of PDL 2-902 and I may confirm you that from this sample we obtained an amorphous polymer, having properties very similar to those of the polymer from the pure para methylstyrene.

Besides your samples, PDL 2-902, PDL 2-903 and PDL 2-904, we received also a little sample (100 cc), indicated as "Research sample - p.methylstyrene 99,5% by titration". Also this sample yielded an amorphous polymer like that from the para methylstyrene, prepared by us from the pure para tolylmethylcarbynol. We are studying the different substituted styrenes but I think it should be useful that you send a larger sample to the Montecatini in Ferrara, to have more data about the possible use of these products.

I informed the Montecatini about your request of samples of polyethylene, polypropylene and polystyrene.

Hoping to have the pleasure to meet you in the United States during my staying (from June 10 till August 3), I send you my best regards.

Very truly yours,

Ciulio Natta

VIA AIR MAIL

AMERICAN Cyanamid COMPANY

30 ROCKEFELLER PLAZA
NEW YORK 20, NEW YORK



TELEPHONE CIRCLE 7-0100
CABLE ADDRESS LIMENITRO

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July 26, 1955

AIR MAIL

Professor G. Natta,
Istituto Chemico
- Industriale Polytechnico,
Milan, Italy.

Dear Professor Natta:

At the request of Dr. N. B. Sommer of our Plastics and Resins Division, we are making arrangements for sending you on a complimentary basis a one gallon sample of Monomethylstyrene.

This sample is expected to go forward from Stamford, Connecticut, via air cargo prepaid within the next ten days.

If we can be of any further service to you concerning this material or its applications, please feel free to write us.

Very truly yours,

AMERICAN CYANAMID COMPANY

L. A. Van Campen
L. A. Van Campen,
New Product Development Department.

DC

23th July 1959

Am.

L.S. Meriwether
Physical Chemistry Section
American Cyanamid Co.
1937 West Main Street
Stamford, Conn.
U.S.A.

our references 858/eg

Dear Dr. Meriwether,

referring to your letter of July 16,
I am sorry to inform you that on Sept. 8 I shall not be
in Milan.

Anyway a co-worker of mine, Professor Mazzanti, will meet
you and show you our laboratories at your arrival.

Sorry to miss the chance of meeting you I send you my best
regards.

G. Natta

Cyanamid

ORIGINAL
VIA AIR MAIL

FOLLOW COPY

49

June 23, 1955.

Professor G. Natta,
Istituto Chimico Industriale Polytechnico,
Milan,
Italy.

Dear Professor Natta:

At the request of Dr. J. T. Thurston and Dr. E. W. Cook of American Cyanamid Company, who have recently had discussions with you, we are forwarding under separate cover three small samples of alkyl substituted styrenes. It is our understanding that you will polymerize these samples using a new technique on which you are working and will let us know what sort of polymers you can produce.

Sample #1 - PDL-2-902-

This is a sample of monomethylstyrene, typical of the monomer now being produced in our pilot plant and we believe, typical of the commercial product we will get from our new plant, which should be in production some time in 1956. This sample analyzes 99.8% methylstyrene by Mass Spectroscopy, and is approximately two-thirds para-methylstyrene and one-third ortho-methylstyrene. The ethyl toluene content is less than 1/10 of a percent and there is approximately 2 to 3% of the meta-isomer.

Sample #2 - PDL-2-903-

This is a sample of mixed dimethylstyrenes, the alkyl groups being on the ring. We do not have immediate plans to produce this monomer commercially, but have done considerable work on its production and we could produce it some time in the future. We do not have the exact analysis of this sample, but it is high in the meta-isomer.

Sample #3 - PDL-2-904-

This is also a sample of mixed dimethylstyrenes, with a substantial amount, approximately 10%, of the 2,6 dimethylstyrene. A product approximating this sample could also be made commercially, but it is our belief that it would be less desirable than the mixture represented by Sample #2. For this reason we are extremely

Cyanamid

- 2 -

Professor G. Natta

June 23, 1955.

Sample #1 - (Cont'd.)-

interested in the polymerization results obtained on this sample, in contrast to Sample #2.

It is our understanding that you would also like to have about a gallon of monomer to work with. We can forward to you by sea freight a gallon of monomer comparable to Sample #1. However, we do not have sufficient quantities of Samples #2 and #3 to supply such quantities.

We very much appreciate your interest in these samples and we will be looking forward with considerable interest to hearing from you as to the results you obtain. We would also much appreciate any small samples of polymer from these samples you could send us for our observation.

Very truly yours,

AMERICAN CYANAMID COMPANY

L. P. Moore
Assistant General Manager
Plastics and Resins Division

LPM:KF

cc Dr. J. T. Thurston - CPL
Dr. E. W. Cook - CPL
Mr. K. Klipstein - NYO
Mr. R. Lindenfelser - Stamford

550 A

May 9, 1956

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Mr. Kenneth H. Klipstein
General Manager - Research Div.
American Cyanamid Company
30 Rockefeller Plaza
NEW YORK 20 = N.Y. = U.S.A.

Dear Mr. Klipstein,

Prof. Stark let me have your kind letter of April 10, concerning my forthcoming visit to the United States.

I thank you very much for your invitation and I shall be very pleased to visit your Research Laboratories at Stamford on June 26.

With kindest regards.

Very truly yours,

Giulio Natta

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Jan

AMERICAN Cyanamid COMPANY

RESEARCH DIVISION

30 ROCKEFELLER PLAZA
NEW YORK 20, NEW YORK



TELEPHONE CIRCLE 7-0100
CABLE ADDRESS LIMENITRO

April 10, 1956

Dr. Herman F. Mark, Director
Polymer Research Institute
Polytechnic Institute of Brooklyn
99 Livingston Street
Brooklyn 1, New York

Dear Dr. Mark:

In reply to your letter of April 4, 1956, to Dr. Joseph C. Pullman, we are glad to learn of Professor Natta's proposed visit to the United States. We are reserving the date suggested by you; namely, Tuesday, June 26, for his visit to our Research Laboratories at Stamford, Connecticut.

Vac

We plan to show Professor Natta through the laboratories in the morning and hope that he will be able to give a lecture to our staff in the afternoon. We will arrange for his transportation to and from Stamford.

As you suggested, we will provide Professor Natta with an honorarium of \$150 for his lecture.

Very truly yours,

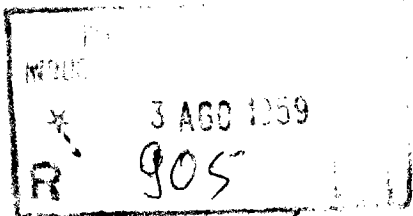
Kenneth H. Klipstein
General Manager
Research Division

KHK:frw

CYANAMID

AMERICAN CYANAMID COMPANY
CENTRAL RESEARCH DIVISION
1937 WEST MAIN STREET, STAMFORD, CONN.

FIRE SIDE 8-7331



Am

July 29, 1959

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

Dear Professor Natta:

Thank you very much for your kind invitation to visit
your laboratories on September 8. I am sorry not to have an
opportunity to meet you, but I shall look forward to meeting
Professor Mazzanti and seeing the laboratories. I shall plan
to arrive in the middle of the morning.

Yours very truly,

L. S. Meriwether

L. S. Meriwether
Physical Chemistry Section
Physical Research Department

gmc

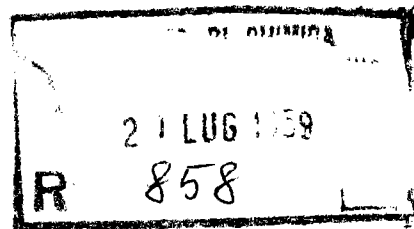
Mazzanti

CYANAMID

AMERICAN CYANAMID COMPANY
CENTRAL RESEARCH DIVISION
1937 WEST MAIN STREET, STAMFORD, CONN.
FIRESIDE 8-7331

July 16, 1959

Dr. Giulio Natta
Istituto di Chimica Industriale
del Politecnico di Milano
Milano
Italy



Dear Dr. Natta:

I am an inorganic chemist in the Central Research Division at the Stamford Laboratories and will be coming to Europe this summer in connection with the IUPAC Congress in Munich. During my stay in Europe, I would very much appreciate an opportunity to visit you and your laboratories.

For the past seven years, I have been working on homogeneous catalysis by various metal complexes and have been particularly interested in the polymerization of acetylene and olefins.

My travel plans bring me to Milan on September 8, and if it is convenient, I should like to visit you on that day.

Yours very truly,

L. S. Meriwether

L. S. Meriwether
Physical Chemistry Section
Physical Research Department

gmc

Mygott

Presento da una copia collata il 16