

Mr. F. A. Rideout
Bakelite Division
20 Providence St.
Boston, Mass.

January 17, 1951

Mr. R. A. Calsibet

Dear Mr. Rideout:

This refers to your report of call on Athol Mfg. Co., Athol, Mass. date of 12/20/50. Had noted the article by Dr. Jordan which appeared in the November 1950 issue of Archives of Dermatology and Syphilology. Believe that the comment of Dr. Richard S. Weiss of St. Louis, which follows this article on page 680 pretty well states the case. Dr. Weiss says, "It seems proper ... to surmise that a combination of materials, chemicals and perspiration may be responsible for the reactions observed."

In 1949 Dr. Crench and I had some correspondence and discussion with Dr. Earl D. Osborne of Buffalo, Dr. Jordan's associate, on the same general subject of dermatitis from the use of new chemicals, including plastics, in products in common public use. Our general attitude then remains essentially the same today and might be briefly stated about as follows: The resins themselves are seldom to any extent active irritants or sensitizers, and most of the completed formulations as they reach the consumer are free from such properties. The principal exception would seem to be the flexible, highly plasticized formulations where under certain types of contact sensitization may occur. In general, the properties of a plastic formulation can not with any accuracy be predicated upon tests made of individual ingredients. Patch tests of the finished formulation would be the more reliable method. We have found, for instance, that some formulations containing known primary irritants or sensitizers may give no reaction, and we have also found that some formulations containing only ingredients which had failed to show reactions, when combined in the plastic would produce reactions.

In 1943 and 1944 our laboratories at Mellon Institute ran some series of patch tests on human subjects using some of the resins applied as the powder or applied sheeted from a solvent. In the latter method the resins were dissolved in a suitable solvent then knife coated onto surgical gauze and air dried for one week before application. The coatings were heavy enough to bridge over the mesh of the gauze leaving a film of resin between the meshes when dried. When applied as the powder, there was good opportunity for mechanical irritation, and it is notable that all the reactions with the powdered resins were during the initial 7-day period, none developing upon retest. Probably irritation of the powder accounted for these irritations, irrespective of the chemical nature of the resin. When the mechanical irritation of the powder was overcome by applying from solution, it was possible that reactions noted were caused by retained solvent. Our laboratories believe, therefore, that the following results were not conclusive (because of the added factors of mechanical irritation or retained solvent):

Mr. F. A. McEurt

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REPORT OF DR. W. H. CRANCH:

Resin	Sheeted from solvent		Applied as powder	
	Subjects	Sensitizations	Subjects	Sensitizations
AYAB	33	6% trace	23	0
AYAN	33	0	23	0
VIB	33	6% definite	11	0
VIB	33	9% trace	10	0
VIB	34	10% trace	10	0
VIB	33	0	19	3% trace
VIB	33	8% trace	23	0
XIB	33	9% definite	23	0
XIB	33	3% trace	23	0

The above may be compared to patch tests made by one of our consultants of a woolen fabric (used as a control in the test) in which 4% reactions occurred (200 subjects) comparable to our laboratories "definite" reactions, but which the consulting dermatologist thought were not indicative of allergenic property because of the absence of uniformity in percentage and degree of positive reactions on first application compared to second application. I go into this detail to emphasize that the mere occurrence of "definite" reaction in a patch test does not necessarily imply allergenicity, but it should be interpreted by someone qualified to do so in the light of uniformity and degree of reactions noted.

In 1946 Dr. Cranch wrote an article on "Toxicity of Some of the Newer Plastics" which appeared in Industrial Medicine for February 1946. Since it has pertinent information an enclosing reprint for your ready reference.

Very truly yours,

INDUSTRIAL TOXICOLOGY DEPARTMENT

Thos. W. Hale, M. D.

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EARL D. OSBORNE, M. D.
JAMES W. JORDON, M. D.
471 DELAWARE AVENUE
BUFFALO, N. Y.
ZONE 2

January 17, 1949

File

A. G. Cranch, M. D.
Union Carbide and Carbon Corporation
80 East Forty-Second Street
New York 17, New York

Dear Doctor Cranch:

I enjoyed reading your letter of January 10, and I might say that I shall welcome the opportunity to talk with you, or Dr. Nale, regarding the problems of chrome, solvents and resins as a cause of dermatitis.

What you say in your first paragraph is entirely true. I have been pestered to death with letters from all sorts of manufacturing companies and societies regarding the press releases. Needless to say, I had nothing whatever to do with it, and it has occasioned me a great deal of trouble. Non-scientific reporters are always trying to make something sensational out of a strictly scientific statement. Fortunately, the AP did not carry near as bad a release as did our local papers, who quoted me as saying that fluorescent light was a common cause of dermatitis. Actually, I told the New York Central Surgeons about three patients who had a dermatitis due to the combined use of perfume locally on their skins with fluorescent lighting. This, of course, is well known. Three cases, however, out of many thousands of employees is an infinitesimal percentage.

It is the same thing in general as regards chrome, solvents and resins. We are talking about these cases as dermatologists. It must be admitted that out of the total number of workmen or housewives exposed to chrome, solvents and resins, the percentage that develop a specific hypersensitivity is extremely small, in fact, almost infinitesimal. However, the fact remains that many people do have dermatitis or eczema due to these exposures, and unfortunately this percentage is gradually increasing.

You are entirely right in your conclusion that I was not referring to individuals

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January 17, 1949

who were working in industries where chrome, resins and solvents are used. Of course the hazard there is recognized and is definite. I was referring particularly to railroad workers. There is a wide use of lacquers, chrome alloys and solvents in the railroad industry.

One of the most interesting phases of our work is the investigation of the leather, particularly the shoe cases. Two of the large tanners here in Buffalo are personal friends of mine. They insist that there is no free chrome that can be detected in chrome tanned leather. The fact of the matter is, however, that we have had several hundred cases of dermatitis due to chrome tanned leather. It is hard for the non-trained individual to appreciate allergy or hypersensitivity. We are dealing with infinitesimal quantities that many times cannot be detected by a quantitative test. Some of our leather cases will give a positive patch test to the leather in question and also to potassium bichromate and chromic acid in dilutions of one to one hundred and one to five hundred. Your remarks regarding other substances in leather as a cause of dermatitis is very well taken. Many of our cases in women today are due to the synthetic resins painted or sprayed onto the surface of the lining.

Your statement that "resins themselves are seldom to any extent active irritants or sensitizers" is certainly not correct in our experience. I will predict that all forms of resins, as time goes on, will become known as sensitizers. I am quite willing to agree that in the finished plastic there is little skin hazard. However, we do see rather frequently dermatitis around the neck and around the wrist from contact with synthetic resins.

We shall greatly appreciate any assistance which you can possibly give us in the future in helping us identify the exact ingredients in some particular preparation.

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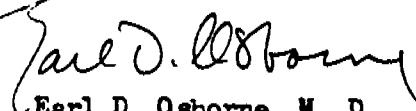
A. G. Cranch, M. D.

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That is our greatest stumbling block at the present time. It has always been my belief that any industry which is well-directed and which has scientific laboratories, would gladly welcome ideas such as those we might have. Unfortunately, this is not always so. I shall always remember the deluge of mail I received from cosmetic manufacturers producing nail lacquer when I published my extensive paper on nail lacquer dermatitis in 1941. We have since had more than twelve hundred such cases, and yet at the time I was subjected to a terrific barrage, and now I believe all manufacturers of nail lacquer recognize the hazard.

Sincerely yours,


Earl D. Osborne, M. D.

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January 10, 1949

Dr. Karl D. Osborne
71 North Street
Buffalo 2, New York

Dear Dr. Osbornes

Dr. T. W. Hale, who has taken over my old department here, recently wrote you with reference to the AP press release on your talk before the meeting of the Association of Surgeons of the New York Central System. Because of the Corporation's interest in chrome products and plastics this press release is constantly being brought to my attention and the last time by the Manufacturing Chemists Association whose Medical Advisory Committee I am a member. The MCA is also concerned as to the implications of this release. We all know how often reporters are prone to "play up" certain statements of a speaker, many times without reference to the context or qualifying remarks. Also they seem prone to "pick up" certain statements of a speaker which they apparently think may sound sensational, again without due reference to possible qualification. Am sorry that we have not had an opportunity to see a copy of this paper itself but perhaps you have one which you might send me. If so, I would greatly appreciate it.

With reference to the points at issue which are causing so much concern, I wish to write about them rather frankly and trust that you will not take my remarks amiss nor as a criticism of your observations. They simply represent impressions I have from experience with these materials over a long period of years in many applications. I would like to present them for what they are worth and if you feel that there is other specific information which refutes my conclusions I would be very glad to have it.

With reference to chrome, we probably have handled this as a metal as long as any company. Our principal interest has been in the manufacture of ferrochrome, which is used in the formulation of a wide variety of chrome-bearing metals. Our experience in the manufacture of ferrochrome and that of our customers in the manufacture of chrome-bearing metals both seem to indicate that there is no appreciable incidence of dermatitis among these workers as compared with any other metal workers in similar lines. As for effects on the public from handling chrome-bearing metals, to the best of our information there has been no resulting increase in dermatitis. Of course there are always a few hypersensitive individuals who may react to contact with such metals just as they do on contact with nickel and even gold, but still the general use of these latter metals can hardly be said to be responsible for any appreciable incidence of dermatitis. I am not referring of course to the dermatitis which is a fairly frequent occurrence in connection with chrome plating. This is a different proposition and exposure to chromic acid solutions and mists in the course of plating operations exposes a very minor portion of the population and has nothing to do with the handling of chrome-containing alloys and chrome-plated materials in every day use.

I am not as familiar personally with the use of chrome in the leather industry. I am in the metallurgical industry but from the best information at hand, and from the experience of those who are familiar with this application, I believe chrome was first found to be useful as a tanning agent some ninety years ago, and has been of practical importance in this field for well over sixty years. Since the turn of the century it has been in wide use for the tanning of leather and with no great changes in the method of its employment for this purpose. I do not believe it likely that there has been any

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Dr. Earl D. Osborne

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products which we have occasion to handle. Only rarely in the case of new developments there might be times when we would not wish to name certain ingredients.

I do not know just how soon Dr. Hale or I will be coming up to our operations at Tonawanda or Niagara Falls but at the first opportunity I will try to drop in to see you in regard to this interesting subject which I have just been discussing at some length.

Very sincerely,

MEDICAL CONSULTANT

A. G. Cranch, M. D.

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Manufacturing Chemists' Association, Inc.

(FOUNDED 1872)

246 WOODWARD BUILDING

WASHINGTON 5, D. C.

December 20, 1948

Dr. A. G. Cranch
Carbide and Carbon Chemicals Corp.
30 East 42nd Street
New York 17, New York

Dear Dr. Cranch:

I have received a communication which reads in part as follows:

"In the New York TIMES of November 18th there appeared under the date line 'Buffalo, November 17th' an article entitled 'Eczema Laid to New Chemicals' in which it was stated by Dr. Earl D. Osborne, head of the University of Buffalo dermatology department, that eczema has increased at least 50% in the last ten years because of the use of new chemicals such as chrome and plastics. This statement was made in an address before the Twenty-fifth Annual Meeting of the Association of Surgeons of the New York Central System. Dr. Osborne further states 'in every day life, repeated exposure to metals containing chrome, leather tanned with chrome, and is responsible for the major increase in dermatitis or eczema.'"

My informant feels, and I believe rightly so, that Dr. Osborne was not entirely familiar with the subject matter or that his remarks had been incorrectly reported. We have not been able to obtain a copy of the paper as yet but are making repeated efforts to secure one. Insofar as metals containing chrome are concerned, I am wondering if you have information relating to the experience of Electrometallurgical Corporation in your files. Surely with the widespread use of stainless steel such eczema, if it really exists, would have been widely publicized and would have come to your attention.

Any information that you can give me along this line will be sincerely appreciated. With kind regards and best wishes for a Merry Christmas and a Happy New Year.

Very truly yours,

M. F. Crass Jr.

M. F. Crass, Jr.

Acting Secretary

MFCJr/emk

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