

AIR MAIL

EXPRESS DELIVERY

March 24, 1954

copy
all

Mr. Edwin S. Hartshorn,
Attorney and Counsellor At Law,
Public Service Building, Suite 706,
Asheville, N. C.

Dear Mr. Hartshorn:

Doctor Kehoe has referred your query of March 12, 1954, to me for reply. I shall attempt to answer your questions in order.

1. Solutions of DDT, lethane 384, special, in such solvents as deodorized kerosene will pass through the skin. Whether toxic amounts will enter the body depends upon the amount of solution that is kept upon the skin and the duration of the contact. This is known from animal experimentation. This is not to say that the use of such sprays in actual practice is likely to cause poisoning for they have been widely used for several years without harm. It merely means that common sense precautions should be taken to avoid spilling the solutions upon the skin and to remove them by washing should this occur. The hazard from inhalation in using formulations of this sort, as fly-sprays, for brief periods is not regarded as great enough to limit their use in the household if the usual directions on the label are followed.

2. Dibutyl phthalate is classed as a relatively non-toxic substance and one that is not a likely cause of dermatitis. There is virtually no substance that can be said to be incapable of causing dermatitis in a rare individual.

3. Of the substances listed only DDT contains chlorine as a part of its molecule (50.01 per cent).

4. Chlorine is an irritant gas which is not used in its free state as an insecticidal spray. When bound in chemical combination it loses its properties as a greenish irritant gas. An example is sodium chloride which, although it is composed of sodium and chlorine, lacks completely the properties that characterize elemental chlorine.

The so-called chloracne is known to occur among workers in the manufacture of certain chlorine-containing compounds,

Mr. Edwin S. Hartshorn

- 2 -

March 24, 1954

but DDT does not give rise to this condition and it is not known to occur among those engaged in the making of DDT.

5. We are not in a position to make an analysis of the formulation you mention. This could better be done by a commercial analytical laboratory.

6. The answer to No. 5 applies also to dibutyl phthalate.

7. Your understanding of the nature of lupus erythematosus and its cutaneous manifestations is in line with current medical thought. The disease had been described before any of the substances listed had found use as insecticides. Their chemical structures are as follows:

DDT is 2,2-bis(p-chlorophenyl)-1,1,1-trichloroethane.

Lethane Special is a mixture of 12.5 per cent β -butoxy- β' -thiocyano-diethyl ether with 37.5 per cent β -thiocyano-ethyl laurate in 50 percent of petroleum distillate.

Dibutyl phthalate is the ester of butyl alcohol with phthalic acid.

Deodorized kerosene is a complex mixture of petroleum hydrocarbons of variable nature depending on its source.

We have little first-hand knowledge of lethane since we have done little toxicologic work with it and are not familiar with the analytical methods for its determination. Our analytical department is so overburdened at present that it would not be possible to take on work of this sort, since this would require us to make a preliminary study of the methods.

You have commented upon the patch testing to which the plaintiff has been subjected. I might comment that this is not very pertinent. Those seeking to establish his case should have had him patch-tested with the sample of insecticide that is claimed to have caused his illness. It is, as you suggest, at the best a very round-about and illogical procedure to attempt to prove allergy to a given material solely by exclusion.

It would be important for you to know how well the diagnosis of lupus erythematosus has been established. This could be done only by a competent dermatologist or internist. I may add that we have knowledge of one case of exfoliative

Mr. Edwin S. Hartshorn

- 3 -

March 24, 1954

dermatitis that was attributed to the use of a DDT spray. This individual was shown by patch-testing with DDT to have been sensitive to that insecticide. Such a sensitivity is extremely rare. It is the only case that has been carefully studied among the millions of persons who have used DDT sprays.

For further background information I can refer you to the book by A. W. Brown, Insect Control by Chemicals, - John Wiley & Sons, New York, Chapter VII, p. 467.

Very truly yours,

/s/

Francis F. Heyroth, M. D.
Assistant Director

FFH:fe

cc: Dr. R. A. Kehoe + original correspondence

100-1774
3/5/7

OFFICES: SUITE 706
PUBLIC SERVICE BUILDING
TELEPHONE 2-3951

EDWIN S. HARTSHORN
ATTORNEY AND COUNSELLOR AT LAW
ASHEVILLE, N. C.

March 12, 1954

Dr. Robert A. Kehoe
Department of Preventive Medicine and
Industrial Health
University of Cincinnati
Cincinnati 19, Ohio

Dear Dr. Kehoe:

Can you advise me as to the following:

1. Is a product consisting of 5 per cent DDT, 5 per cent lethane 384, special, and 90 per cent deodorized kerosene toxic upon contact with the skin if used as a spray or inhaled when used as a spray?
2. Is a product known as dibutyl phthalate toxic upon contact with the skin if used as a spray or inhaled when used as a spray, and would it cause dermatitis?
3. Do either of these products contain chlorine, and if so in what percentage?
4. Is chlorine an irritant which would produce dermatosis on contact with the skin when used as a spray or if inhaled when used as a spray?
5. Could an analysis of a substance thought to consist of 5 per cent DDT, 5 per cent lethane 384, special and 90 per cent deodorized kerosene be made at the University of Cincinnati?
6. Could an analysis of a substance thought to be dibutyl phthalate be made?
7. I am engaged in the defense of a suit which has been brought against a local drugstore by a man who claims that he contracted the disease lupus erythematosus by using on one occasion only for a period of not over 30 minutes a spray thought to contain one or the other of the substances mentioned above.

My information is that lupus erythematosus is a disease of unknown etiology; that it is an organic internal disease and not a skin disease and that skin irritation is only a symptom of the disease. Could you give an opinion as to this? Would you be in a position to analyze the substances mentioned if I could furnish you samples of them? The principal purpose of the analysis would be to determine just what substance it was that the plaintiff used which he claims brought

Dr. Robert A. Kehoe
March 12, 1954
Page Two

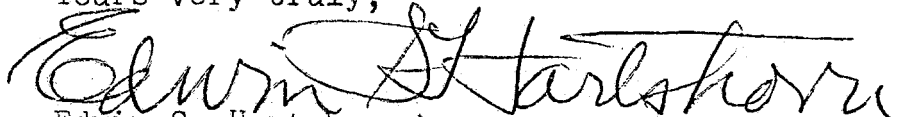
on the disease. Can you give me the chemical composition of these substances? Another point in the case is that the plaintiff is contending that he has had patch tests made which show that he is not subject to any known allergy. His point is that he is not allergic to anything and that the disease he complains of was not due to a special allergic propensity of his, but was due entirely to the poisonous, irritant and toxic qualities of the spray he claims to have used.

I would like to ask you whether in your opinion it is scientifically practicable and possible to thus, by a process of elimination, pin down the cause of the plaintiff's trouble to this particular spray material by showing that he was not allergic or sensitive to any other substance? In this connection it has been my understanding that there are literally hundreds of products such as food, chemicals and materials like fur, feathers, dust, pollen and various animal and vegetable substances to which people may be allergic and it seems to me improbable that any series of patch tests could definitely eliminate all allergy causing materials in the case of any particular individual. My thought here is that evidence of this nature would probably be so conjectural and inconclusive that it should not constitute legal proof that the disease could not come from anything else and therefore had to result from the use of this spray.

My clients, of course, will expect to compensate you for any assistance which you can give.

I was referred to you by Dr. William P. Richardson of the University of North Carolina, who advised me that you probably can give me more help than anyone else in the country. I will greatly appreciate your assistance in this matter and would be glad to hear from you as soon as possible since the case is on the trial docket and we are anxious to complete our preparations for the trial.

Yours very truly,


Edwin S. Hartshorn

pac