In The Matter Of:

Judith Bechtold, et al. v.
Monsanto Company, et al.

George Levinskas, Ph.D
June 7, 1994

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IN THE CIRCUIT COURT - CITY OF ST. LOUIS
STATE OF MISSOURI
JUDITH BECHTOLD, wife of/and
STEPHEN E. BECHTOLD, ELIZABETH
TAMEWITZ, as Personal
Representative of her deceased
husband, Kenneth F. Tamewitz,
KELLIE LEE TRISLER, as Personal
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mother, NINA TRISLER, PHYLLIS
GOODMAN, as Personal Representative
of her deceased husband,
CHARLES GOODMAN, JR.,
Plaintiffs,
vs. NO. 922-00911
MONSANTO COMPANY and
WESTINGHDUSE ELECTRIC
CORPORATION,
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Deposition of GEORGE LEVINSKAS, Ph.D.
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Deposition of GEORGE LEVINSKAS, Ph.D., taken on behalf of the Plaintiffs, at the law offices of Husch & Eppenberger, 100 North Broadway, Suite 1300, in the City of St. Louis, State of Missouri, on the 7th day of June, 1994, before Victoria L. Wilson, Registered Professional Reporter and Notary Public.

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EXHIBITS
(None marked)

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[1] GEORGE LEVINSKAS, Ph.D. [2] of lawful age, having been first duly sworn to [3] testify the truth, the whole truth, and [4] nothing but the truth in the case aforesaid, [5] deposes and says in reply to oral [6] interrogatories propounded as follows, to-wit:

[7] **EXAMINATION**

[8] **QUESTIONS BY MR. MURRAY:**

[9] **Q:** Good morning, Dr. Levinskas. My name [10] is Joe Murray. I represent the plaintiffs in [11] this case and I'm here today to ask you [12] various questions about some of the issues [13] involved in the case. Most of the issues in [14] this case are similar, if not identical, to [15] the issues involved in the Cecil Scott versus [16] Monsanto case which was tried back in 1987 or [17] '88, as I remember it, and I believe you gave [18] testimony in that case, as well as a [19] deposition; is that correct?

[20] **A:** I was deposed. I did not testify.

[21] **Q:** Okay. I have got your deposition [22] here and I'm going to try not to repeat what [23] was asked in that deposition to try and [24] shorten this up as much as possible. So most [25] of the questions I will be asking you today

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[1] will relate to the time period after 1987, [2] okay?

[3] **A:** 1987?

[4] **Q:** '87 when you were deposed, yes, sir. [5] I say most, not all.

[6] Now, as you know from being deposed [7] before, this lady is going to be taking down [8] everything that's said so it is necessary for [9] you to answer out loud whenever a question is [10] addressed to you, okay?

[11] **A:** Yes.

[12] **Q:** Okay. Now, Dr. Levinskas, I want to [13] go way back with you right now and talk about [14] your education, both undergraduate and [15] graduate school, okay? Give me the name of [16] the college that you graduated from in [17] undergraduate school.

[18] **A:** Wesleyan University.

[19] **Q:** And as I understand it, that was a [20] degree in chemistry?

[21] **A:** It was a major in chemistry, yes.

[22] **Q:** BS?

[23] **A:** BA, AB.

[24] **Q:** What year was that?

[25] **A:** 1949.

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[1] **Q:** Were there any toxicology courses [2] that you took in your undergraduate studies?

[3] **A:** None.

[4] **Q:** And as I understand it, you did not [5] receive a Master's but went straight to a [6] Ph.D., correct?

[7] **A:** Right.

[8] **Q:** And what school was that from?

[9] **A:** University of Rochester.

[10] **Q:** Is that different than Rochester [11] Institute of Technology?

[12] **A:** Yes, sir, it is.

[13] **Q:** Separate college completely?

[14] **A:** Completely separate.

[15] **Q:** What year did you receive your Ph.D.?

[16] **A:** 1953.

[17] **Q:** And in what field was that Ph.D. [18] awarded?

[19] **A:** Pharmacology.

[20] **Q:** Would that be the same course that I [21] would take if I wanted to be a pharmacist?

[22] **A:** No.

[23] **Q:** Pharmacology relates to what? Tell [24] me generally what that is.

[25] **A:** It is the study of the science of

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[1] drugs, their effects.

[2] **Q:** Does it include the study of the [3] effects of chemicals that are not considered [4] as drugs?

[5] **A:** It covers some but it is not [6] primarily directed to that subject.

[7] **Q:** Tell me — can I make a distinction [8] for our purposes today between toxicology and [9] pharmacology, meaning the — for our purposes [10] "toxicology" referring to health effects or [11] toxicological effects of chemicals and [12] "pharmacology" would be the effects of drugs?

[13] **MR. CARNEY:** Let me object. Are you [14] asking him if it is okay if you do that or are [15] you saying is that a fair way to do it?

[16] **MR. MURRAY:** I'm asking him if we can [17] agree on that definition for these purposes [18] today.

[19] **A:** I don't think it would be a valid [20] definition.

[21] **Q:** Tell me how we can distinguish [22] between those two fields, if you can.

[23] **A:** I think the nature — the intent of [24] the chemicals differs. Any drug given in [25] excess dose will produce toxic signs so you

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[1] are studying the effects of chemicals, both [2] good and bad, on biological tissues or living [3] organisms and I accept one set of chemicals as [4] more associated with industry and the other is [5] more associated with medicine but I don't [6] think that distinction is really this —

[7] **A:** I would say at the present time that [8] the procedures are probably [9] indistinguishable. Back when I started out, [10] there was a tendency to be more — different [11] spectrum of tests being used with some overlap [12] in each of these two fields.

Q: That's what I want to get into today and I'm talking now in terms of back when you were doing your graduate work in the early fifties. What were the standard tests run on industrial chemicals to determine the toxic effects on humans, if there were any?

MR. CARNEY: In the fifties?

MR. MURRAY: Yes, I'm talking about the early fifties.

MR. CARNEY: I'm going to object because I don't know that this witness was involved. When did you graduate from —

A: '53.

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MR. CARNEY: '53. You know, all I'm saying is don't speculate. If you know how to answer his question from firsthand knowledge, that's fine but don't speculate about what you might think happened before you were involved in that area.

A: Oh, back in the fifties there were no standards or reference points or defined, agreed-upon procedures for doing the testing, either in drugs, that I am aware of, or in industrial chemicals.

Q: Okay. Tell me, then, what the study of pharmacology was all about during that time period. What type of courses is did you take? What was the general thrust of your studies?

A: I took more or less the pre-clinical sciences that the medical students took at the university — the medical school at the University of Rochester — physiology, biochemistry, pharmacology — subjects of that sort, the pre-clinical sciences.

Q: Did any of those courses deal with the tests that were being used at the time, whether there was standard tests or not, the

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potential, the possible testing that could occur to determine the toxic effects of either drugs or chemicals on humans?

A: We had laboratory sessions with tests, if you will, or lesson plans that demonstrated the effects of chemicals. Insofar as I recall or I can recall from others, there were no — there were no procedures describing testing or how one goes about finding the adverse effects of chemicals.

Q: Well, how were they determined back then?

A: Largely through the efforts of individual investigators and their own thoughts.

Q: And they would, I assume, develop tests or experiments or some sort of scientific procedure to determine what the adverse effects might be?

A: Yes.

Q: All right. And during your studies at the University of Rochester, were you made aware of the procedures that these individuals would use?

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A: The textbooks that were used would describe the experiments or refer to the experiments that earlier researchers had done to uncover or discover or understand the biological effect of drugs. To that extent, we were exposed to testing procedures which was a recital of an individual investigator's efforts and hopefully some exposure to his way of thinking.

Q: So back even in the early fifties when an article, scientific article, was published talking about the results of an experiment that was run, the person writing that article would usually talk about what he did in order to reach his conclusions, right?

A: That would be common practice, yes.

Q: In the early fifties, did it ever occur that a scientist would use feeding studies to try and determine the toxic effects of drugs? And when I am saying, "feeding studies," I'm talking about animal studies.

A: There are published reports of animal studies that predate the fifties, yes.

Q: And did those studies have a generally accepted length of time that they

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would run?

A: I have —

MR. CARNEY: I'm going to object to the question as to what's meant by "generally accepted." I think he has testified there really wasn't any generally accepted procedure during that time.

A: I have seen reports labeled, "The Chronic One-month Toxicity Studies in Rats," and I have seen reports, "Chronic Two-year Toxicity Study in Rats." If the term "chronic" was used for one-month and for 24- month duration tests, I would have to conclude there was very little standardization.

Q: There were, during the early fifties and possibly before then, two-year studies that were run, feeding studies?

A: Yes.

Q: Do you remember during that time period —

MR. CARNEY: Are you talking about for industrial chemicals or drugs or anything?

MR. MURRAY: No, I'm just talking about feeding studies.

MR. CARNEY: Okay.

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Q: Do you remember why, if there were reasons given, why one person might choose one month and one person might choose two years if they were both labeled "chronic"?

A: I would have no reason to even speculate why they would use that terminology.

Q: Now, let me get to the gist of Mr. Carney's previous objection. Were these feeding studies only done with regard to pharmaceutical drugs as opposed to industrial chemicals?

MR. CARNEY: Are you talking about the two-year ones?

MR. MURRAY: Yes.

A: I wouldn't profess to be able to speak to all the literature but my general impression, I think it would be substantiated, is that most of the long-term studies at that time were being done on non-drug materials.

Q: Okay. Industrial chemicals, then?

A: Industrial or other use chemicals, yes.

Q: Let me make sure we are not miscommunicating. Is it your understanding that the long-term studies were being done on

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the industrial chemicals?

MR. CARNEY: Let me object. Again, don't speculate. If you know —

Q: I'm only asking for your recollection.

MR. CARNEY: But if he is talking about in the fifties, now —

A: I would say in the fifties that there were probably more long-term studies done on non-drug uses of materials than on drug uses.

Q: Now, when you graduated in 1953, what did you do?

A: I went to the University of Pittsburgh to the department of occupational health in the school of public health, graduate school of public health, to do teaching and research.

Q: What fields were you — first of all, let's go with teaching. What fields were you teaching in?

A: I developed a course that was called "Applied Toxicology" and I gave a series — not a series — I gave lectures in several other courses at the school.

[25] Q: And what was your field of research?

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[1] A: We had contracts with the government [2] and the general topic was health hazards of [3] military chemicals and, most specifically, a [4] class of compounds called boron hydrides.

[5] Q: Boron hydrides?

[6] A: Hydrides.

[7] Q: And what were you attempting to learn [8] from your research?

[9] A: We wanted to improve our [10] understanding of what effects these chemicals [11] would produce in military personnel who were [12] using them and also to get some idea of how [13] they produce these effects and what we might [14] do to protect or to treat individuals who [15] might be exposed.

[16] Q: Were your efforts directed towards [17] acute effects or chronic effects or was any [18] distinction made?

[19] A: Predominantly acute effects because [20] the materials were very limited in supply.

[21] Q: And what type of tests or experiments [22] did you develop to try and learn about these [23] chemicals?

[24] A: We did what many other people have [25] done; we would take animals, expose them to

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[1] the chemicals by the various routes of [2] exposure that people would be exposed if they [3] handle them.

[4] Q: And that would either be injection, [5] inhalation or skin absorption?

[6] A: Correct.

[7] Q: And what were the durations of the [8] tests that you ran?

[9] A: As I indicated, most were short [10] term. We did one inhalation study for six [11] months and I spent several months working with [12] test tube experiments without whole animals.

[13] Q: How long were you at the University [14] of Pittsburgh?

[15] A: Five years.

[16] Q: Was the thrust of your research [17] during that entire five-year period on these [18] boron hydride chemicals?

[19] A: That was the major — the major [20] research effort was on that, yes, it was.

[21] Q: Okay. Were there any other [22] chemicals — let me ask you specifically, were [23] you doing any chronic studies on any chemicals [24] during that five-year period?

[25] A: No.

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[1] Q: Where did you go after the University [2] of Pittsburgh?

[3] A: I joined the American Cyanamid [4] Company.

[5] Q: As I understand it from your previous [6] testimony, American Cyanamid had its own [7] toxicological lab and you were the director of [8] it; is that correct?

[9] A: That's correct.

[10] Q: What type of chemicals was American [11] Cyanamid producing during that time period?

[12] A: At that time they had a rather wide [13] range — agricultural chemicals, various dyes, [14] polymers, organic chemicals — general all- [15] around chemical producer.

[16] Q: Did American Cyanamid have a policy [17] when you went with them with regard to the [18] testing of its products?

[19] A: I am not aware of any formal policy.

[20] Q: How did you determine what products [21] to test and which ones didn't need testing?

[22] A: There would be a variety of reasons. [23] One could be regulatory requirements, another [24] could be customer complaints or employee [25] complaints, a third one could be just general

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[1] interest of the people who were manufacturing [2] the product wanted to know more about it.

[3] Q: You first went with American Cyanamid [4] in 1958?

[5] A: That's correct.

[6] Q: Did you run — let me back up. You [7] left them in what year?

[8] A: 1971.

[9] Q: During the time period between 1958 [10] and 1971, did that toxicological laboratory [11] run any chronic feeding studies?

[12] A: Yes.

[13] Q: Was that something that was done on a [14] regular basis or was it something unusual?

[15] MR. CARNEY: I'm going to object to [16] what you mean by "regular basis" or what you [17] mean by "unusual."

[18] Q: How often did it occur that you would [19] run chronic studies?

[20] A: First, I guess we would have to [21] define the term "chronic."

[22] Q: Okay. What was your definition of [23] "chronic"?

[24] A: I would regard any study of less than [25] a year's duration as either being acute or

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[1] subchronic. It would be hard to guess but I [2] would say probably — certainly less than a [3] dozen chemicals at the time at Cyanamid that [4] we ran a chronic study on.

[5] Q: When you first went to work there in [6] 1958, were there any chronic studies going on [7] at that time?

[8] A: There was one that was just being [9] finished when I joined them.

[10] Q: Do you remember the duration of that [11] test?

[12] A: Two years.

[13] Q: You used the term "subchronic." I [14] have also heard the term "subacute" used. [15] What would be the distinction between those [16] two?

[17] A: Those of us who use "subchronic" are [18] older in the field than those who use [19] "subacute."

[20] Q: They are basically the same term?

[21] A: They cover the same basic term but it [22] is a generational phrase, I think.

[23] Q: Are you aware of any chronic studies [24] that were done, let's take the time period [25] while you were at Cyanamid but I want to talk

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[1] about just in general terms, not just at [2] Cyanamid, but were you aware of any chronic [3] studies that were done that did not use [4] feeding as the method of exposing the animal [5] to the chemical?

[6] A: I have indicated we did a six-month [7] inhalation study with boron hydrides.

[8] Q: Under your definition, though, that [9] would be subchronic?

[10] A: That would be subchronic. That's my [11] definition, though. I am not aware of studies [12] that would last two years other than the [13] feeding studies at that time.

[14] Q: Has that changed over the years? Are [15] there any of those type of studies other than [16] feeding studies done nowadays?

[17] A: Yes.

[18] Q: Okay. And would those studies use [19] both inhalation and absorption or only [20] absorption or only inhalation?

[21] A: Well, absorption is the process of [22] the chemical getting into the animal.

[23] Q: I guess I'm talking about skin [24] absorption.

[25] A: Skin studies are done; inhalation are

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[1] done; feeding are done.

[2] Q: And is the general time period used [3] nowadays still about two years?

[4] A: It may be slightly beyond two years [5] because some of the strains of rats they are [6] using are living a little bit longer than they [7] used to.

Q: Basically, when you do a long-term chronic study, you want to use the — well, let me ask you that. Is the general intent when doing a long-term study to try and do it over the life span of the animal?

MR. CARNEY: Object to him speculating as to what other people's intentions are.

A: It depends on the purpose of the study and it would be true only for the shorter-lived animals; it would not be true if we were working with elephants.

Q: All right. Let's talk about the time period now, Dr. Levinskas, of 1987 and beyond. You were asked various questions in your previous deposition about your opinion with regard to health hazards associated with PCB exposure and I guess I want to make sure

or find out if that general opinion has changed in the period subsequent to 1987. I guess the thrust of my question is has any new scientific evidence come out that makes you think that exposure to PCB's might cause something other than the chloracne liver effects and the dermal effects that you described in your previous testimony?

MR. CARNEY: Well, let me object. I don't think the witness — he may have reviewed his testimony in Scott but I'm not aware of it and so I'm not — I don't want to oppose the line of questioning but I just want to voice that objection and the other objection I would make is this witness isn't being proffered as an expert on what is going on in science today. He is retired, as I understand it, so I'm not sure he is qualified to say what is happening in the literature.

And I don't want you to speculate on that unless you have followed the literature and are comfortable.

Q: I'm sorry about that, Dr. Levinskas. I should have asked you that previously. You are not still employed by Monsanto?

A: No, I'm retired.

Q: All right. When did you retire?

A: September '91.

Q: During the period between '87 and '91, did you attempt to keep up with the scientific literature concerning PCB's?

A: I kept a general interest in it but I did not make a concerted effort to be kept up to date.

Q: What about the period after 1991?

A: Less concerted.

Q: In order to be fair to you, since you really — you haven't reviewed your testimony, let me talk just in general terms now about your opinion today with regard to the toxic effects of exposure to PCB's and let's first take what I would describe as the acute effects of exposure to PCB's. In your opinion, are there any acute effects of exposure to PCB's?

A: I would say as a class of compounds, they are relatively non-toxic, rather low in toxicity in terms of single exposures by essentially all routes of exposure.

Q: So if somebody was working with the

material for a day and got some on their skin and maybe even swallowed a little bit, that normally wouldn't cause any acute effects? And when I say, "a little bit," I talk about something that might accidentally get in their mouth as opposed to drinking a glass of it.

A: As I indicated, other than the messiness of the ones that may be oily, I don't anticipate that there would be any significant adverse health effects.

Q: Now, I would like to talk to you, then, about the potential chronic effects of working with PCB's over a long period of time and I don't want to go into a hypothetical question that talks about, you know, if he got this on his skin every day, I'm talking about the potential effect if somebody was really messy with it, what could be the potential effect of it?

A: Based on the animal studies, if you have repeated prolonged exposure, like many other compounds that we call the chlorinated hydrocarbons, these would be absorbed and they will attack and damage the liver.

Q: In your opinion, is that the only

organ they would attack?

A: I think that's the first thing that one would see signs of, liver injury, liver damage.

Q: So I won't ask you about the — I guess I'm talking about — I'm not interested in the symptoms relating from that liver damage. Tell me now if there would be any other health effects other than liver damage.

A: I guess my position would be I think that unless you can get enough to produce liver damage, I don't think you are going to see anything else.

Q: Okay. I understand that but —

A: Yes.

Q: But let's go beyond that. Let's assume that you have got enough to produce liver damage. Are there any other potential effects that might occur?

A: I guess my difficulty here is that if one got liver damage, I would expect someone to notice this and the exposures would stop. In other words, I can't conceive of someone having bad liver damage and continuing to be exposed until something else triggers and

something else triggers and something else triggers and so I think that the sentinel warning sign would be the liver injury and then that would cease or cause the exposures to cease.

Q: Let me ask you this: You talked about chloracne in your previous testimony. Would chloracne be a possible effect that could be associated with PCB exposure?

A: There are very early published reports indicating chloracne from exposure to PCB's. Subsequently, and not — I don't mean in the fifties or sixties, but some years after those twenties and thirties exposures, they found that there probably were mixtures of biphenyls with what they the halo axis axis, the chlorinated axis, and that the chloracne may be due to chlorinated paraffins, so I really — I'm not aware of any reports attributing chloracne solely to PCB's. I think there is a lot of confusion in that early literature and I really have a difficult time making up my mind on this.

Q: I was going to ask you that. The articles that I have seen, in any event, that

talk about the combinations that may be occurring and what might be causing the chloracne versus what other thing might be causing it, is it generally true that none of those articles can ever make a definite distinction as to this chemical is the one that is causing it as opposed to that one? Are you aware of any that have?

MR. CARNEY: I'm going to object. I think it is a little — I assume you are talking about the Tricker studies.

Q: All of those. All of the studies that you are aware of. Do you know of any of them that have definitively attributed the chloracne to one chemical as opposed to another?

MR. CARNEY: I'm going to object for the record that I think those studies speak for themselves and

would be the best evidence [20] of what they say rather than this witness's [21] recollection of what they say and he might not [22] have seen those for a number of years.

[23] But if you know for sure — but I [24] just caution you not to speculate on what they [25] said.

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[1] **A:** My comment is, I think in this same [2] direction, that these published papers make [3] statements about what they think are causing [4] the chloracne and it is later work which cast [5] doubt on those, the validity of those [6] conclusions, and since we don't have the [7] samples that were used, essentially, to go [8] back and analyze, we are not in a position to [9] make a distinction. It is well known that the [10] so-called chlorinated paraffins, the halo [11] axis, as a trade name, particularly, are [12] notorious chloracne producers. I mean that [13] much is known. But some of those early [14] compounds, there is difficulty identifying [15] with certainty what was used and it makes it [16] difficult to draw conclusions.

[17] **Q:** Okay. And that's my understanding of [18] the literature, as well. I mean it is not [19] something that can be definitively stated one [20] way or another, is it?

[21] **A:** No.

[22] **Q:** Now, with regard — well, let's be [23] specific. Have you read anything over the [24] years between '87 and throughout that makes [25] you believe that PCB's could be a potential

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[1] carcinogen?

[2] **MR. CARNEY:** In humans?

[3] **Q:** In humans, yes.

[4] **A:** I have not seen anything that would [5] cause me to think they would be a potential [6] carcinogen in years.

[7] **Q:** I have some documents that I want to [8] go over with you, Dr. Levinskas, some of which [9] don't have your name anywhere on them and my [10] intent in asking you about these documents is [11] just to see if you recognize them and can tell [12] me what they are. I'm going to first show you [13] a document which has been marked as [14] MONS040440.

[15] **A:** I really don't recall having seen [16] this document before. I may have but I really [17] don't — I really don't — it doesn't ring a [18] bell.

[19] **MR. CARNEY:** It looks like it is out [20] of something else.

[21] **MR. MURRAY:** That's what I thought [22] and I couldn't tell what it was, that's why I [23] was going to take my shot with Dr. Levinskas.

[24] **A:** It has three other trade names. I [25] don't think those are Monsanto trade names.

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[1] Gofin is not, I'm sure.

[2] **MR. CARNEY:** That's the European PCB, [3] isn't it?

[4] **A:** It sounds like — looks like an [5] industry type document but I don't recall [6] having seen it before.

[7] **Q:** Let me ask you, then, Dr. Levinskas, [8] if you would agree with the statement that [9] when dealing with PCB's at elevated [10] temperatures via hot ovens, welding, et [11] cetera, where vapors are apparent, inhalation [12] of these vapors must be strictly avoided by [13] using proper exhaust ventilation and organic [14] cartridge respirators or air-blowing apparatus [15] away from operators?

[16] **MR. CARNEY:** I'm going to object to [17] the question because I think it is vague and [18] it talks about elevated temperatures but it [19] doesn't talk about what they are and, you [20] know, what kind of other ventilation there [21] might be. There are a lot of variables there [22] that I didn't recall in your reading it that [23] might be necessary to really definitively [24] answer that question.

[25] **A:** There are so-called threshold limit

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[1] values that have been set for Aroclors and at [2] elevated temperatures it would be easier to [3] increase the airborne concentration so taking [4] those two, you would — it would be prudent to [5] advise people to take extra precautions if [6] they are working in a heated atmosphere [7] because it just makes the air concentrations [8] that much higher.

[9] **Q:** I guess I should have read that whole [10] paragraph and it does talk about at room [11] temperature PCB's give off negligible fumes [12] and are, therefore, harmless to breathing. [13] Would you agree with that?

[14] **A:** I would say yes.

[15] **Q:** At room temperatures, do PCB's give [16] off an odor?

[17] **A:** I haven't really looked at large work [18] places. I'm not conscious of any appreciable [19] odor from the small quantities that I have [20] handled.

[21] **Q:** So you would expect if there is an [22] odor in the air that it is more likely than [23] not it's been heated to some extent?

[24] **A:** Well, the elevated temperatures will [25] increase the air concentration. It is my

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[1] understanding that at room temperature the [2] vapor pressure which would indicate the ease [3] with which it gets in the air is so low that [4] they don't represent much of a hazard. I [5] haven't been exposed to, you know, extended [6] periods of time or large volumes but I don't [7] recall any particular odor associated with it.

[8] **Q:** So your answer is really you don't [9] know?

[10] **A:** Yes.

[11] **Q:** Okay. This is another one of those [12] documents that your name is on here, although [13] it doesn't appear that you wrote it. Can you [14] look at that and tell me if you recognize it? [15] This is, for the record, labeled MONS030773 [16] and when I say, "labeled," that's just the [17] Bates number on the first page of the [18] document.

[19] **MR. CARNEY:** Did you say his name is [20] on here?

[21] **MR. MURRAY:** Not on that page, on the [22] next page.

[23] **MR. CARNEY:** Okay.

[24] **A:** This is an apparent epidemiology [25] study done on Monsanto employees. The primary

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[1] investigator is —

[2] **MR. CARNEY:** Well, what he asked you [3] is do you recall this document?

[4] **A:** I was going to say I was not involved [5] in this. This copy came across my desk [6] because Dr. Johanson was reporting to me but I [7] was not involved in it, other than reading the [8] memo.

[9] **Q:** Okay. Who is Dr. Johanson?

[10] **A:** At that time he was the manager of [11] toxicology reporting to me.

[12] **Q:** Do you know if he is still employed [13] by Monsanto?

[14] **A:** Yes.

[15] **Q:** Let me ask you this: During your [16] period at Monsanto, did Monsanto ever run any [17] in-house epidemiological studies, and when I [18] am talking about in-house, I mean actually the [19] employees of Monsanto performing the study?

[20] **MR. CARNEY:** On PCB's?

[21] **Q:** Yes, on PCB's.

[22] **A:** Yes.

[23] **Q:** All right. When was that done?

[24] **A:** This would be one of them, in August [25] '75. We had a young lady, Judy — did another

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[1] study, I think, and then Bill Gaffy may have [2] done some later on — Judy Zack, I think. I [3] think Judy Zack did one. She

was in the medical department. And then later Dr. Bill Gaffy joined us as an epidemiologist. I don't know whether he did or not. He may have.

Q: Judy Zack. Bill Gaffy. And this one was apparently done by — is it Doctor or Mister Johanson?

A: Doctor. No, let me take it back. I don't know whether Judy Zack did a PCB study. She did some studies but I don't recall whether it was PCB's.

Q: Was any study, epidemiological study, on PCB's done in-house by Monsanto ever published?

A: That I'm not aware of. I don't know the answer to that. I don't recall.

Q: The general gist of what I understand from what occurred with Dr. Johanson is that he did some preliminary epidemiological work dealing with a mortality study, correct?

A: I would have to reread the letter. I don't recall. I was not involved in it and I don't recall.

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Q: He mentions a consultant in here. Do you know who that was?

A: As I say, I was not involved in that. I don't recall the details of it.

Q: He talks about a department 246 cohort at Krummerick. Do you know which department that was?

A: No, I do not.

Q: Do you know Mr. E. C. Barnes?

A: That name doesn't ring a bell.

MR. CARNEY: Is he a Westinghouse person?

MR. MURRAY: That's what I don't know.

MR. CARNEY: Is this in the forties?

MR. MURRAY: Apparently, yes.

MR. CARNEY: There is a —

MR. MURRAY: But I didn't see the letterhead so I couldn't tell who it is.

MR. CARNEY: There is an E. C. Barnes industrial hygienist at Westinghouse. The reason I know that is I was just looking at a letter, a 1947 letter, from Barnes to somebody that came out of a Westinghouse file so I assume — I think it is E. C., I'm not sure,

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but that's my assumption. Can I look at that Barnes letter?

MR. MURRAY: This is the original. Apparently it was retyped onto this.

MR. CARNEY: Let me just read into the record that Barnes Bates stamp. On the original, there is an NPC00002135. In the lower right-hand corner there is another Bates stamp number 745090 and at the upper right-hand corner there is an HD000133 and then there is a — the typed copy of this letter has a HD000135.

MR. MURRAY: Can I go on?

MR. CARNEY: Yes.

Q: Dr. Levinskas, who is K. Warren Easely?

A: He is a Monsanto employee who was in our Washington office in some aspects.

Q: Do you know if he is still employed by Monsanto?

A: I'm sure he is not employed. I don't recall when he left.

Q: What was his job description when he was employed at the Washington office?

A: I am not aware of it. When I would

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make visits to Washington to meet with regulatory agencies or something, he would be there. I don't know his specific job description.

Q: Do you know if he was a lawyer or not?

A: I don't know his background.

(Recess)

Q: I'm going to take another shot with you, Dr. Levinskas, and show you a document which has Bates stamp number SEM76859 and ask you if you have ever seen that.

A: I don't really recall seeing this document.

Q: Don't recognize the handwriting?

A: Other than to say it is not mine.

Q: Okay. Do you know anybody with the initials "WSJ"?

A: I can't think of anybody with those initials.

MR. CARNEY: Did you read the Bates stamp numbers in?

MR. MURRAY: Yes. I read the SEM number, anyway.

MR. CARNEY: Okay.

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Q: No idea of who may have generated this document or where it may have come from?

A: As I said, I don't recall seeing it before and I really have no knowledge of it.

Q: Okay. This document makes a reference which reads, "Levinskas caused Calandra (IBT) to change language from 'mildly tumoragenic' to 'does not appear to be carcinogenic.'" And then above that statement it's got in parentheses, "(How justified?)" Do you remember anybody at Monsanto ever discussing that issue with you?

A: That's been brought up in depositions. That goes back to a memo I wrote where I had two sets of reports that IBT had supplied and I reviewed them in their editorial context and I said since you have basically the same findings in all three studies, you have — in the second go-round, you have changed the terminology.

Q: Doctor, I don't mean to interrupt you but you are right, you have discussed that issue in previous testimony.

A: That's a reference to that.

Q: My question related to do you

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remember any particular person coming to you during the time at Monsanto and specifically asking you about that issue? And basically what I am trying to get at is somebody who may have generated this document.

A: I don't recall anybody coming in specifically to talk to that subject.

Q: All right.

MR. CARNEY: Other than his conversations with lawyers.

MR. MURRAY: Obviously. Obviously.

A: So that's what I was trying to refer to.

Q: That's the only reason I was asking. Again, I don't want to go back into all these other issues. We might be here for a week if I did.

With regard to the epidemiological studies that were done in-house at Monsanto, do you know why they were done, at whose suggestion they were done?

A: No, I do not know.

Q: You were not part of that process as to making that decision to go ahead and do it or not?

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A: I was not involved in that.

Q: Okay. Was there an epidemiological department or a section at Monsanto?

A: No, not at that time.

Q: There is a document with an SEM number of 052789 regarding a meeting that was held with NIOSH apparently some time in 1974. I will show you that document and just ask you to review it and tell me if you recognize it.

A: I have seen this document before in depositions. To the best of my recollection, I did not meet — I did not attend this meeting with NIOSH.

Q: Okay. Let me just direct your attention to the last page of the document where it lists those people

present at the [17] meeting and your name is present along with [18] others for Monsanto Company; is that correct?

[19] **A:** Yes.

[20] **Q:** That doesn't help you remember the [21] meeting, huh? Or do you think that that's [22] inaccurate?

[23] **A:** I know Dr. Wagener by reputation [24] only. I do not recall ever having met him. [25] And when I say I don't recall being at this

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[1] meeting, I still say I have never met [2] Dr. Wagener personally and had I been at that [3] meeting, I think I would have remembered him, [4] at least.

[5] **Q:** So you think that that's probably a [6] mistake?

[7] **A:** So I don't recall having been at that [8] meeting.

[9] **Q:** Well, let me ask you this: This memo [10] talks about a possible study with — an [11] epidemiological study with using Monsanto [12] employees and, as best I can tell from this, [13] it appears that NIOSH wants to do it. Do you [14] know whether or not such a study ever took [15] place?

[16] **A:** I — I really don't know anything [17] about the epidemiological studies.

[18] **Q:** Okay. Are you aware of the studies [19] that were done in-house by Monsanto on certain [20] Aroclors to determine dibenzol furan [21] contamination and dibenzol dioxin [22] contamination?

[23] **A:** I'm not sure of what, if anything, [24] was done for analysis.

[25] **Q:** Generally, are you aware that that

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[1] took place at some point?

[2] **A:** I think they probably were done but I [3] have no knowledge of such studies.

[4] **Q:** Let me ask you about knowledge of any [5] other studies that may have been done outside [6] of Monsanto with regard to that issue and I [7] guess specifically I'm more interested in the [8] time period after 1987. Are you aware of any [9] recent work that's been done in that field?

[10] **A:** I generally do not pay much attention [11] to the analytical data. I'm really not aware [12] of any analysis.

[13] **Q:** Okay. Let me just make sure I cover [14] all bases and ask you specifically if you are [15] aware of any work that has been done on any [16] Inerteen products with regard to furan or [17] dioxin contamination?

[18] **A:** I have no knowledge of work done on [19] Inerteens.

[20] **Q:** Okay. Let me ask you — I don't [21] remember this — did you ever visit the [22] Westinghouse Bloomington plant?

[23] **A:** No.

[24] **Q:** During your time at Monsanto, were [25] you ever asked — strike that.

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[1] You didn't go to work for Monsanto [2] until after '71?

[3] **A:** July '71 I started.

[4] **Q:** Other than the IBT studies, are you [5] aware of any other chronic toxicity studies [6] that were done by Monsanto on any aroclor [7] product?

[8] **A:** I'm not aware of any others done by [9] Monsanto.

[10] **Q:** Were you aware of any others done at [11] the request of Monsanto?

[12] **A:** No.

[13] **MR. MURRAY:** Thank you, [14] Dr. Levinskas. That's all I have.

[15] **MR. CARNEY:** Let me just ask you a [16] couple of questions.

[17] **EXAMINATION**

[18] **QUESTIONS BY MR. CARNEY:**

[19] **Q:** You mentioned a long-term test that [20] was being done at American Cyanamid when you [21] got there. What kind of material was being [22] tested?

[23] **A:** That was a polymer, which is called a [24] wet strength resin, and it was to be used for [25] food packaging.

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[1] **Q:** You mentioned, I think, that during [2] the time you were at American Cyanamid there [3] were approximately a dozen tests, long-term [4] tests, that were done. Can you tell me what [5] kind of materials, just generically, were [6] being tested in those long-term tests?

[7] **A:** They are what we call food contact [8] chemicals used for packaging or holding food [9] and pesticides where there would be the [10] likelihood of a residue, if used according to [11] directions.

[12] **Q:** Residue on the food?

[13] **A:** On the food.

[14] **Q:** And was it generally true in the [15] fifties that the kind of long-term tests that [16] you were familiar with had to do either with [17] food contact materials or pesticides where [18] there was a residue?

[19] **A:** I would say that certainly the great [20] majority would be in that category.

[21] **Q:** Was it customary to your knowledge in [22] the fifties to do long-term studies on [23] industrial chemicals?

[24] **A:** I would say there were a few, if any, [25] being done on industrial chemicals.

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[1] **MR. CARNEY:** Okay. I don't have [2] anything else.

[3] **EXAMINATION**

[4] **QUESTIONS BY MR. MURRAY:**

[5] **Q:** Dr. Levinskas, wasn't "industrial [6] chemicals" the term we used earlier when you [7] talked about that the long-term studies that [8] were done were being done on industrial [9] chemicals?

[10] **A:** I tried to make the comment once or [11] twice of saying, "non-drug uses," and a food [12] packaging material is or isn't an industrial [13] chemical, depends on how you want to classify [14] it but it is certainly not a drug use.

[15] **Q:** There was certainly no prohibition [16] against doing those long-term studies on [17] industrial chemicals, was there?

[18] **A:** I'm not aware there has ever been a [19] prohibition against doing studies on a [20] chemical.

[21] **Q:** I guess the point I am making is [22] there is really — there wasn't some [23] obstruction to doing it on industrial [24] chemicals as opposed to chemicals that may [25] have contact with food?

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[1] **A:** Probably. The motivating force, I [2] guess, in doing them was somebody had to [3] perceive a need for it and it was not a [4] perception in most of the industry that there [5] was need for such studies at that time. [6] That's the only conclusion I could draw.

[7] **Q:** That's the point I'm making, though, [8] that if somebody wanted to do chronic testing [9] on chemicals in the early fifties, they [10] certainly could have done it and, in fact, [11] chronic testing was being done during that [12] period of time on other types of chemicals?

[13] **A:** In response to specific needs.

[14] **MR. MURRAY:** Okay. Thank you.

[15] **MR. CARNEY:** I have no further [16] questions.

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COMES NOW THE WITNESS, GEORGE LEVINSKAS, Ph.D., and having read the foregoing transcript of the deposition taken on the 7th day of June, 1994, acknowledges by signature hereto that it is a true and accurate transcript of the testimony given on the date hereinabove mentioned.

GEORGE LEVINSKAS, Ph.D.

Subscribed and sworn to me before this ____ day of _____, 1994.

My Commission expires: _____
Notary Public

vw
Bechtold v. Monsanto

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[1] State of Missouri [2] SS. [3] City of St. Louis [4] I, Victoria L. Wilson, a Notary Public in [5] and for the State of Missouri, duly [6] commissioned, qualified and au-

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