

1 STATE OF MICHIGAN

2 IN THE CIRCUIT COURT FOR THE COUNTY OF WAYNE

3 GARY HOWELL and
4 JAMES PARSONS,

Plaintiffs,

5 -vs-

76 601 868 NP

6 MONSANTO CORPORATION,
7 a foreign corporation,

8 Defendant.

9
10 The deposition of R. EMMET KELLY,
11 taken in the above-entitled cause before Carol A. Sweeney (R2286),
12 Court Reporter and Notary Public for the County of St. Clair,
13 Michigan, at 10405 Clayton Road, St. Louis, Missouri, on
14 September 20, 1979, commencing at or about the hour of 1:00
15 o'clock P.M.

16 APPEARANCES:

17 MR. PAUL W. HINES,
18 Sommers, Schwartz, Silver & Schwartz, PC,
19 1800 Travelers Tower,
Southfield, Michigan 48076, 355-0300,
appearing on behalf of the Plaintiffs.

20 MR. RICHARD R. DENARDIS,
21 Kitch, Suhrheinrich, Smith, Saurbier,
22 and Drutchas,
23 2030 Buhl Building,
24 Detroit, Michigan 48226, 964-5890,
appearing on behalf of the Defendant.

C O N T E N T S

WITNESS

R. Emmet Kelly

ATTORNEY

Mr. Paul W. Hines

EXAMINATION

4

E X H I B I T S

DESIGNATION

Plaintiff's Exhibits Numbers 1, 2 & 3

MARKED FOR
IDENTIFICATION

13

1

2

3

4

5

6

R. EMMET KELLY, M. D.,

7

8

9

called as a witness for cross examination under the Michigan General Court Rules, as amended, being first duly sworn by the Notary Public was examined and testified as follows:

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

MR. HINES: Let the record reflect this is the Discovery Deposition of Doctor Kelly and is being taken pursuant to Notice and agreement of counsel as to time and place, and the record should further reflect this deposition is being taken pursuant to the Michigan General Court Rules.

Doctor Kelly, I am Paul Hines.

WITNESS: Yes, Mr. Hines.

MR. HINES: And I represent Mr. Parsons and Mr. Howell with regard to a lawsuit pending in Wayne County against the Monsanto Company.

The product involved in this particular case is Aroclor 4465. I will attempt to confine my questions of you, Doctor, to this particular product and your knowledge of the same.

1 If at any time, though, you do not
2 understand me just let me know and I will repeat my questions
3 for you or rephrase them. Okay?

4 WITNESS: Yes, sir.

5 MR. HINES: Let me also caution you,
6 Doctor, if you answer my question I am going to assume you
7 understood it. Is that clear?

8 WITNESS: Yes, sir.

9 CROSS EXAMINATION BY MR. HINES:

10 Q Your full name is R. Emmet Kelly.

11 A Yes.

12 Q You are an employee of Monsanto.

13 A No.

14 Q Are you employed?

15 A I am self employed.

16 Q What is the nature of your self employment?

17 A I am a consultant in occupational medicine.

18 MR. DENARDIS: One other thing, Paul,
19 as a preamble, if you will, --

20 MR. HINES: Oh, about the signing.

21 MR. DENARDIS: Yes. You might as well
22 do it now or we'll forget.

23 MR. HINES: Doctor, when the transcript
24 of your deposition is prepared it will be sent to you so that

1 you may make any corrections if you feel they are necessary.
2 Let me caution you to simply put on a separate piece of paper
3 indicating the page and line number where you feel that there
4 has been an error or typographical or whatever concerning any
5 answers you have to my questions.

6 WITNESS: I understand that.

7 MR. HINES: And you will have to sign
8 that deposition, Doctor, on the last page after it's been
9 forwarded to you.

10 WITNESS: Yes, sir.

11 MR. HINES: Just simply forward it to
12 Mr. DeNardis a copy of your page of proposed corrections and
13 the deposition.

14 WITNESS: Yes, sir.

15 Q (By Mr. Hines) You told me, sir, you are a self-employed
16 consultant?

17 A Yes, sir.

18 Q How long have you been so engaged?

19 A Since 1975.

20 Q Before that what did you do?

21 A I was an employee of Monsanto Corporation.

22 Q How long have you been employed with Monsanto?

23 A I started with Monsanto as a part-time physician in 1936.

24 At the conclusion of World War II I returned as a full-time

1 employee in 1946, although I did occasional small amounts ,
2 of consulting along with my service at Monsanto, but ninety-
3 nine per cent of my medical activity was associated with
4 Monsanto.

5 Q Would that be in the field of occupational medicine?

6 A Yes, sir.

7 Q What is occupational medicine? Would you define that for me,
8 Doctor?

9 A Yes. Occupational medicine is that branch of medicine that
10 deals with the relationships of employees to their work
11 environment.

12 Q In 1975 did you retire from Monsanto?

13 A Yes.

14 Q From what you told me so far, Doctor, I assume that you have
15 not practiced medicine in the sense of seeing patients,
16 diagnosing, treating patients?

17 A I diagnose patients, I do not treat them.

18 Q You have never had other than your consulting business
19 a private practice?

20 A I was in private practice when I was part-time with Monsanto
21 from 1936 until 1942.

22 Q Was it your understanding, Doctor, that you are here today
23 on behalf of Monsanto?

24 A No.

1 Q Were you consulted by Monsanto or their attorneys regarding
2 any issue in this particular lawsuit?

3 A Yes.

4 Q When were you first contacted?

5 A Several months ago. I do not know the exact date.

6 Q At the time that you retired from Monsanto in 1975 what was
7 your title over there?

8 A Director of the Medical Department.

9 Q What duties would that include as Director?

10 A There were varied duties. The first one was to see that
11 we had adequate medical installations at all of our manu-
12 facturing research installations.

13 Q Would that be for employees?

14 A For employees.

15 Q Injuries on the job, that type of thing?

16 A That is correct. We also carried out a periodic health
17 maintenance program in preventive medicine at our various
18 installations and I oversaw that.

19 Part of my duties was to supervise
20 a Toxicological Department of the Medical Department to
21 obtain data on products we either manufactured or used.

22 There were also Industrial Hygienists,
23 section on industrial hygiene, who monitored the air environ-
24 ment in our various plants.

1 Q Could you tell me first, Doctor, how long did you have the
2 position of Director of Medical Department?

3 A Since January 1946.

4 Q Ever since you came back full time?

5 A That is correct.

6 Q And then the Toxicological Department, as of the time you
7 retired in 1975 how many employees were there?

8 A In the Toxicological Department?

9 Q Yes.

10 A We had three or four Ph.D.'s and three or four nontechnical
11 library-clerical help.

12 Q Were those in terms of numbers of employees more or less
13 consistent during the close to thirty years you were there
14 as the Department Director?

15 A No, they were not.

16 Q Did they increase or decrease?

17 A They increased. We did not have a toxicologist until sometime
18 in either the late Fifties or the late Sixties -- or the
19 early Sixties. Then after a particular period of time he
20 died and we obtained another toxicologist. I do not exactly
21 know when he came to work with us, but then we engaged two
22 more rather rapidly in the late Sixties or early Seventies.

23 Q The field of toxicology is what? What does that include or
24 encompass?

1 A Toxicology encompasses the action on the human animal
2 organism of various compounds, whether industrial or
3 pharmaceutical.

4 Q Were the three Ph.D.'s who were there when you retired all
5 toxicologists?

6 A Yes.

7 Q And you exercised supervisory responsibility over them?

8 A Yes.

9 Q Along with your other duties that you told me about.

10 A Yes.

11 Q Before the one toxicologist, the first toxicologist, started
12 in the late Fifties or early Sixties did you have or are you
13 aware of anyone employed by Monsanto from '46 until that
14 time who was a specialist or professed expertise in the
15 area of toxicology?

16 A I was the one.

17 Q You were the one.

18 A Yes.

19 Q Did you actually conduct experiments yourself?

20 A No. To clarify, toxicologists do not conduct their experi-
21 ments either.

22 Q They collect data?

23 A They collect data and they have experiments carried out at
24 independent laboratories.

1 Q That's what you did in the field of toxicology between '46
2 and when the first toxicologist Ph.D.'s started in the late
3 Fifties and early Sixties?

4 A That's right.

5 I might also clarify that too, because
6 I did some of that when I was in a part-time function from
7 '36 to '41 and then I went into the Service.

8 Q From '46 up through the period of time, late Fifties-early
9 Sixties, when that toxicologist started with Monsanto how
10 much of your time, Doctor, was devoted to toxicology?

11 A Probably twenty to twenty-five per cent.

12 Q In preparation for your testimony today, Doctor Kelly, did
13 you review any documents or studies of test results, lab
14 results concerning the allegations in this case?

15 A I read the Interrogatories -- the Answers I guess.

16 Q What did you review?

17 A The Interrogatories, some of the medical records furnished me
18 by Mr. DeNardis.

19 Q DeNardis.

20 A And I reviewed some of the toxicological work that we had
21 carried out on the Aroclor 4465.

22 Q As a result of your review of those documents, Doctor Kelly,
23 did you come to any conclusion with respect to the allegations
24 in this lawsuit and the alleged injuries as set forth in the

1 medical records of Mr. Parsons or Mr. Howell?

2 A Would you repeat that, please.

3 Q Sure. As a result of your review of these various documents,
4 and particularly the medical records of Mr. Parsons and Mr.
5 Howell, did you come to any conclusions as to the relation-
6 ship between Aroclor 4465 and the injuries or damages that
7 Mr. Parsons and Mr. Howell have set forth in their medical
8 records?

9 A Yes.

10 Q What conclusion did you come to?

11 A I found no correlation between the animal data that was
12 shown, was gathered in these experiments and the alleged
13 medical complaints of Mr. Howell and Mr. Parsons.

14 Q What specific medical records did you review, Doctor?

15 A I reviewed records from Doctor Bayles' records. I reviewed
16 several hospital records.

17 Q Do you recall which ones those were?

18 A They were ones up until either '68 or '72. I am not sure.
19 I do not know if '72 was the breakoff point. It was the
20 early medical records of Mr. Parsons and Mr. Howell.

21 Q Anything else? Any other records that you reviewed then?

22 A Of what records?

23 Q Of Mr. Parsons or Mr. Howell.

24 A Those are all I had.

1 Q Did you see the report or reports, I should say, of Doctor
2 Bayles concerning Mr. Parsons and Mr. Howell?

3 A Yes.

4 Q I assume you disagree with his conclusions.

5 A Yes.

6 Q And the basis for your disagreement is the type of alleged
7 injuries as set forth in those medical records are not
8 consistent with the lab results from your testing on Aroclor
9 4465?

10 A No, sir, not only that.

11 Q What then?

12 A I notice that Doctor Bayles alleged certain permanent
13 injuries and I found nothing in any of the hospital records
14 or even his own records which would lead me to believe that
15 there was anything found of a permanent nature.

16 Q Were the records that you reviewed of Doctor Bayles up to
17 date?

18 A They were up to which date?

19 Q 1979.

20 A No, I did not see anything recent. I thought it was 1968 or
21 '70. I have not had the opportunity to review any up-to-date
22 records. I was given a bundle last night which I have not
23 looked at.

24 Q You were the individual doctor who was responsible for the

1 testing on Aroclor 4465?

2 A Yes, sir.

3 Q Mr. DeNardis has given to me, Doctor, some test results and
4 let me ask you if you can -- why don't I have these marked
5 as Exhibits 1, 2 and 3. I want you to identify these in a
6 moment, Doctor.

7 (Whereupon the reporter marked Plaintiff's
8 Kelly Deposition Exhibits Numbers 1, 2 and 3.)

9 Q (By Mr. Hines) Doctor, I have handed you three documents
10 that we have had marked here as Exhibits 1, 2 and 3. Can
11 you identify those for me, sir?

12 A Yes. Plaintiff's Exhibit Number 1 is a report of an inhala-
13 tion experiment carried out by Doctor Drinker at Harvard
14 in 1973. Yes, 1973.

15 Q It deals with Aroclor 4465?

16 A That is correct.

17 Q That was a study done at the request of Monsanto?

18 A That is correct.

19 Q And presumably paid for by Monsanto?

20 A Yes.

21 There is a mistake in this which I
22 think should be corrected right now. He uses the term
23 chlorinated diphenyl for Aroclor 4465.

24 Q It should be biphenyl?

1 A No, it should be Aroclor 4465, a mixture of chlorinated
2 terphenyls and biphenyls. The terms bi- and di- are inter-
3 changeable but this is not chlorinated diphenyl -- or bi-
4 phenyl.

5 Plaintiff's Exhibit 2 is an acute
6 screening study by the Younger Laboratories in St. Louis
7 carried on in July, 1962.

8 Plaintiff's Exhibit Number 3 was a
9 Subacute Dermal Toxicity Study of Aroclor 4465 carried out
10 by the Industrial Biotests Laboratories of Chicago in 1963.

11 Q Are you aware of other tests either done by Monsanto or
12 at Monsanto's request concerning Aroclor 4465?

13 A I am aware of none.

14 Q Other than the three I have just given you.

15 A Yes, these three.

16 Q Can you tell me why, sir, the 1962 and 1963 tests were done?

17 A Yes. I would think that that 1962 test was done because of
18 freight classification. At that particular time we had to
19 arrive at a certain amount of data on an acute basis to find
20 out what particular freight classifications they were, and
21 I believe this is why this is done.

22 The 1963 test must have been done be-
23 cause we wanted to find out what the action of solutions of
24 Aroclor 4465 would have should people be subjected to

1 prolonged or repeated skin contact with the material. I
2 don't know at this time why that was important to us in
3 1963. I cannot remember why that was important.

4 Q Did the first test, the one back in 1937, did that deal
5 with either effects of inhalation of vapors heated to a
6 melting point of Aroclor 4465 or prolonged skin contact?

7 A It dealt with vapors evolved at elevated temperatures.

8 Q These three tests are the only tests that you are aware of
9 or test results, I should say, concerning possible toxic
10 affects of Aroclor 4465; is that correct, sir?

11 A No, sir.

12 Q What additional tests are you aware of then?

13 A I was shown a test that was supposed to be of Aroclor 4465
14 done by a Doctor LeClerc or a Mr. LeClerc which was in the
15 medical records that were transmitted to me by Mr. DeNardis.

16 Q Any other tests?

17 A None that I know of.

18 Q Is Aroclor 4465 composed of about fifty per cent PCB's?

19 A Aroclor 4465 is a mixture, and when I say mixture it is a
20 compound that is composed of chlorinated terphenyl and
21 chlorinated biphenyl 1268. This is not a mixture in the
22 sense that you would mix salt and sugar. The nature of the
23 physical and chemical combination I am not familiar with.

24 Q Up until the time of your retirement, Doctor Kelly, did

1 Monsanto to your knowledge sponsor or prepare in house
2 testing as to the buildup of PCB's in human tissue?

3 A No.

4 Q In your opinion will prolonged exposure to vapors of heated
5 Aroclor 4465 result in a buildup of PCB's in human tissue?

6 MR. DeNARDIS: Objection to the
7 foundation but go ahead and answer it.

8 A You will have to qualify that and define the parameters a
9 little more exact for me, Mr. Hines. I have to know how
10 much they breathed, how long they breathed. I cannot answer
11 your question in the form it is given.

12 Q (By Mr. Hines) I assume by your answer, Doctor, under a
13 certain set of conditions, depending upon the length of time,
14 the room conditions themselves and the length of exposure
15 that conceivably PCB's could build up in human tissue.

16 MR. DeNARDIS: I am going to object
17 to the characterization of your assumption, and also I
18 believe the form is incorrect but go ahead if you can answer.

19 A I can't answer it. I know of no studies relating to Aroclor
20 4465 referring or relating to the accumulation of this
21 material or any of its make-up materials or primary materials
22 in human or animal tissues. I do not know of any such studies.

23 Q What about in the Aroclor 1200 series?

24 A The Aroclor 1200 series I -- the only human data that I know

1 of consisted of my examination of individuals who were
2 exposed to the 1200 series. We ran blood tests on in-
3 dividuals who were exposed to Aroclor, various liquid
4 Aroclors, and at that particular time there were no -- there
5 was no PCB's found in these workers' blood. I did not
6 examine their tissues. I know that there have been studies
7 where individuals have ingested some of the lower chlorinated
8 biphenyls and have had material found in their tissues. None
9 of that was sponsored by Monsanto.

10 Q Was that the Japanese study you are referring to?

11 A Yes.

12 Q Is Aroclor 4465 a highly chlorinated material?

13 A No. It's chlorinated to sixty-five per cent whereas some
14 of the Aroclors have been chlorinated to seventy-two per cent
15 or sixty-eight per cent.

16 Q In terms of comparing it to the other Aroclors, would you
17 consider Aroclor 4465 to be one of the lower chlorinated or
18 higher chlorinated?

19 A I would say probably higher. Middle to higher.

20 Q Are you aware, Doctor, of any adverse affects associated
21 with long-term exposure to products such as Aroclor 4465?

22 MR. DENARDIS: Again, for the record,
23 I am going to object to the vagueness of that question but
24 go ahead and answer it.

1 A You have to define products such as Aroclor 4465. We are
2 dealing, Mr. Hines, with one compound, 4465.

3 Q All right. A highly chlorinated biphenyl.

4 A A highly chlorinated biphenyl is not Aroclor 4465, so if we
5 were talking now, if you want me to talk about a highly
6 chlorinated biphenyl, fine.

7 MR. DeNARDIS: No, we are here to talk
8 about 4465.

9 WITNESS: Okay. Fine.

10 MR. DeNARDIS: Is your question directed
11 to 4465?

12 Q (By Mr. Hines) How would you describe Aroclor 4465?

13 MR. DeNARDIS: He said middle to high.

14 Q (By Mr. Hines) None of these other products of the Aroclor
15 1200 series are related to it or similar to it?

16 A They are related in the sense that apples and oranges are
17 related, apples and oranges are edible fruits.

18 Aroclor 4465 is a chlorinated terphenyl
19 with some chlorinated biphenyl. The others are completely
20 chlorinated biphenyl.

21 Q What is the percentage of chlorinated biphenyl in Aroclor
22 4465?

23 A I understand it is in the neighborhood of fifty per cent.
24 Whether it still exists as a chlorinated biphenyl after the

1 final reaction is completed I cannot answer.

2 Q Concerning the toxic affect of Aroclor 4465, Doctor, would
3 you agree with the following statement: "Experimental
4 work in animals shows that prolonged exposure to Aroclor
5 vapors evolved at high temperatures or by repeated oral
6 ingestion will lead to systemic toxic affects."

7 MR. DENARDIS: Can I see that? Where
8 are you reading from?

9 MR. HINES: The top.

10 A That is a generalization. In order to be accurate I would
11 have to know how much was inhaled -- how much was evolved,
12 how much was inhaled and over how long a period.

13 Q (By Mr. Hines) Let me show you, Doctor, what I have
14 previously marked here Plaintiff's Exhibit Number 3 in
15 Mr. Papageorge's deposition this morning and ask you, sir,
16 if you can identify this document for us.

17 A Yes. This is a document of Monsanto Chemical Company relating
18 to Aroclors.

19 Q Does not the quotation which I have just asked you in your
20 last question appear in that document, sir?

21 A I do not know if you said 4465. Here they are talking about
22 Aroclor vapors. Aroclor vapors includes the low boiling
23 liquid chlorinated biphenyls whereas Aroclor 4465 is not what
24 they are referring to here.

1 Q Let us go back to the first page then of the document, Doctor

2 A Yes.

3 Q Does not the document refer to the physical properties of
4 Aroclor and does it not also list Aroclor 4465?

5 A Yes, it does.

6 Q Are you then telling us, Doctor, that the last quotation
7 which I quoted to you does not apply to 4465?

8 A No, I am not saying that.

9 Shall I continue?

10 Q Please. Please explain.

11 A What this refers to, this is a blanket statement referring
12 to vapors of Aroclors evolved at high temperature and I
13 agree that that will lead to systemic affects.

14 If we quantify it and state how much
15 and for how long a period in a bulletin such as this we have
16 to take a very conservative stance because there is no way
17 that we can observe or regulate what particular exposure is
18 liable to occur.

19 Q Are you aware of any studies or test results, Doctor, that
20 state in essence prolonged inhalation of vapors from heated
21 Aroclor 4465 will not cause toxic systemic affects?

22 MR. DeNARDIS: I am sorry, could you
23 repeat that back.

24 (Whereupon the reporter read back the

1 question.)

2 A Yes, I am.

3 Q (By Mr. Hines) What document are you referring to, Doctor?

4 A The Drinker work stated that it was his opinion that
5 chlorinated -- that Aroclor 4465 under the limit of .5
6 milligrams per cubic meter of air was safe for an eight
7 hour working day.

8 Q That study was done in 1937?

9 A That is correct.

10 Q Which exhibit number was the Drinker work, Doctor?

11 A Plaintiff's Exhibit Number 1. Kelly 1.

12 Q Doctor, would you agree with this statement: "When Aroclor
13 compounds are used at elevated temperatures engineering
14 controls must be applied either by the use of closed systems
15 or by effective local exhaust ventilation together with
16 general workroom exhaust."

17 MR. DeNARDIS: Can he see that?

18 MR. HINES: Well, he can't see it at
19 the time I am reading from it.

20 MR. DeNARDIS: Can he see it right now?

21 MR. HINES: Yes. It has already been
22 marked as an exhibit and introduced.

23 MR. DeNARDIS: Here you go, Doctor.

24 Read it.

1 Q (By Mr. Hines) I did quote it correctly, didn't I, Doctor?

2 MR. DeNARDIS: I am not saying that.
3 I am saying he should, Paul, have an opportunity to look
4 at it.

5 A I am trying to find out where you were.

6 Oh, this one. When Aroclor compounds
7 are used at elevated temperatures engineering controls must
8 be applied either by use of closed system or by effective
9 local exhaust ventilation together with general workroom
10 exhaust.

11 Q Now, my question was would you agree or disagree with that
12 statement.

13 A I agree but my answer must be qualified, Mr. Hines, because
14 this particular statement refers to a vast amount of uses
15 in which there are large amounts of Aroclor used. For
16 example, in heat exchange media and places like that, and
17 where there are plasticizers that might have been used where
18 they are dropped on hot coals.

19 So that while it is true that this
20 statement is correct and I agree with this statement, still
21 it does not mean in my opinion that any time any Aroclor is
22 used one must have it in a closed system or have a large
23 amount of local or general workroom exhaust.

24 Q That statement, Doctor, that I just quoted to you and we have

1 been talking about, is also from the Monsanto document?

2 A Yes, it is.

3 Q All right. Now, let me ask you, Doctor, to turn the page.

4 Turn it on to Page 50. Let me read to you the following

5 statement: "Vapor of liquid Aroclor compounds at room

6 temperature should not be breathed in a confined space

7 and no vapor of any Aroclor compound evolved at elevated

8 temperatures should be allowed to be dispersed into the

9 general room." Do you agree with that statement, Doctor?

10 A No, I don't agree with the statement "no vapor of any

11 Aroclor compound evolved" because there certainly are

12 numerous instances where there are levels of Aroclor

13 vapor that are entirely harmless to people.

14 Q Was your Department, Doctor, consulted before that statement

15 was put in the Monsanto literature?

16 A I am sure it was.

17 Q Do you now have a recollection that you disagreed with that

18 statement as to why it was put there?

19 A I do not disagree with it. I am saying that in a general

20 bulletin one must be as conservative as possible and try to

21 take care of whatever conditions might possibly arise, and

22 that I believe is the reason for this particular statement.

23 Q And the reason why a conservative approach was used with

24 regard to the last two statements I read to you is because

1 Monsanto wasn't aware of conceivably toxic affects of PCB?

2 A Would you repeat that statement.

3 Q Sure. The reason why conservative approach was used with
4 regard to the last two statements, I think you have told me
5 it was a conservative approach that I quoted to you, those
6 last two statements that are in the Monsanto document, is
7 because Monsanto was, I want to make sure I have the right
8 terminology here, concerned about possible toxic affects of
9 long-term exposure to Aroclor?

10 MR. DENARDIS: I object to the form.

11 I don't even understand it but go ahead.

12 A Monsanto was trying to avoid any possible toxic affects.
13 We could not put several pages of toxicological data, as
14 for example, stating you should not have people breathe
15 Aroclor 4465 over five milligrams per cubic meter for an
16 eight hour day, but there are various safe levels of almost
17 all industrial chemicals, so the blanket statement of no
18 vapor at any time is not really a hundred per cent correct.

19 Q Were any tests done by Monsanto or at Monsanto's request
20 to determine what an unsafe level of Aroclor would be in the
21 environment, the atmosphere?

22 A The only test of Aroclor 4465 was with regards to inhalation
23 was carried out with Drinker. No other tests were done.

24 Q That determined to Monsanto's satisfaction what a safe level

1 was.

2 A That is correct.

3 Q But there was no testing done to determine what an unsafe
4 level was.

5 A No, sir.

6 Q This was already marked in Mr. Papageorge's deposition,
7 Doctor, let me show you what we have had previously marked
8 here Plaintiff's Exhibit Number 1, Papageorge Deposition,
9 and ask you, sir, if you can identify that.

10 A Yes. This is a label of Aroclor 4465.

11 Q Do you know, sir, how long that label was in affect, from
12 what date, to when it was no longer in affect?

13 A I know it was in affect during the Sixties. I cannot tell
14 the date it started and the date it ended. I do not recall
15 that.

16 Q Is it at least from 1965 through the termination of
17 production, and could it have been before that?

18 A I am sure, I feel sure it was to the end of the production.
19 I do recall seeing this label both in files and on drums
20 when I would visit the plant, but I would never -- I cannot
21 tell the date it started. I do not recall that.

22 Q During your years with Monsanto do you recall any changes
23 in labeling of Aroclor 4465?

24 A No, I don't.

1 Q Did you have any responsibility with regard to the labeling
2 of Aroclor 4465?

3 A Yes.

4 Q What responsibilities did you have?

5 A I had the responsibility of putting on the safe handling
6 data on the label.

7 Q The language "avoid prolonged breathing and avoid contact
8 with eyes and prolonged contact with skin"?

9 A That is correct.

10 Q Is that on the basis of these three test results or not?

11 A It is on the basis of these test results and also on the
12 basis of fact that this is a chlorinated hydrocarbon and
13 this is the type of label that is put on all chlorinated
14 hydrocarbons.

15 Q The labeling with regard to the Aroclor 1200 series is the
16 same, then, as the Aroclor 4465?

17 MR. DeNARDIS: If you know.

18 A I can't -- I do not know. I do not recall the 1242. I
19 would imagine that that same information, it's relatively
20 the same safe handling data on it.

21 Q At any time until Aroclor 4465 production terminated did
22 Monsanto to your knowledge limit the application or use of
23 Aroclor 4465?

24 MR. DeNARDIS: That was before?

1 MR. HINES: That was before the
2 production terminated. Production terminated in '70 or
3 '71 and I want to know if before that time did Monsanto
4 limit or restrict the application or use of Aroclor 4465.

5 A I cannot be sure of the dates. I do know that they
6 restricted the use of some of the chlorinated biphenyls.
7 Whether they restricted Aroclor 4465 I cannot answer. I
8 have no knowledge.

9 Q When was that, sir?

10 A I am not sure of the dates. I don't know.

11 Q It would have been before your retirement?

12 A Oh, yes. Yes.

13 Q Do you know why they were restricted?

14 A The chlorinated biphenyls were found to be persistent and
15 accumulate in the environment and at that particular time
16 the persistence and accumulation of an industrial chemical
17 in the environment was looked at askance by people interested
18 in the ecological movement. So that was the reason Monsanto
19 restricted the use of the chlorinated Aroclor or chlorinated
20 liquid Aroclors. Whether they restricted Aroclor 4465 or
21 whether they went out of the business of making Aroclor 4465
22 because of the restrictions on the other compounds and made
23 it commercially not feasible to make it I don't know.

24 Q Were you aware, sir, that the production of Aroclor 4465

1 terminated in 1970 or '71?

2 A I was told it terminated around then, yes, sir.

3 Q Do you know why production was terminated?

4 A I am not sure. I mean there may be commercial reasons
5 why it was terminated.

6 In other words, if people cut down the
7 manufacture of the other, of the chlorinated biphenyls, it
8 may make the production of the chlorinated terphenyls
9 commercially unwise. I don't know, though.

10 Q Are you familiar, Doctor, with the Kimbrough Studies on
11 PCB?

12 A Yes, sir.

13 Q You have had an opportunity to review those studies before
14 today I assume?

15 A Not since 1974.

16 Q Do you recall at least in a general sense the Kimbrough
17 conclusions concerning PCB's?

18 A Yes.

19 Q Do you agree or disagree with those conclusions?

20 A I disagree.

21 Q Would you tell me, Doctor, the basis of your disagreement?

22 A Yes. Because there is a great body of evidence of other
23 studies which do not agree with Doctor Kimbrough's Studies.
24 There are pathologists, cancer pathologists, who examined her

1 slides in 1974 and disagreed with her conclusions.

2 Q What studies are you referring to, Doctor, this great body
3 of evidence that disagrees with Doctor Kimbrough?

4 A There was one National Cancer Institute study using one of
5 the chlorinated biphenyls. They did not find the liver
6 lesions that Doctor Kimbrough describes. There were at
7 least two pathologists that I know of who are cancer
8 specialists who examined her slides and disagreed with her
9 conclusions.

10 Q Were those studies published?

11 MR. DeNARDIS: If you know.

12 A I don't know.

13 MR. DeNARDIS: With respect to this
14 line of questioning I will let it go on but I don't think
15 cancer is an allegation here. Correct?

16 MR. HINES: Only on the basis of some
17 of the literature Aroclor -- or the PCB's in general are
18 suspected to be carcinogenic agents.

19 MR. DeNARDIS: Well, I believe the
20 Kimbrough Study deals with the 1200 series. It doesn't
21 deal with 4465, Paul. I think you will find it in the very
22 beginning.

23 MR. HINES: Yes, 1254 and 1260 and she
24 talks more generally about Aroclors and PCB's.

1 MR. DeNARDIS: That is the basis for
2 my objection. Go ahead.

3 Q (By Mr. Hines) Is it your opinion, Doctor, that Aroclors
4 are not suspected carcinogenic agents?

5 A They are suspected by some people, yes. They are not
6 suspected by me.

7 Q Not by you personally or Monsanto to your knowledge?

8 A I do not know about Monsanto. At the time when I was
9 with Monsanto we did not suspect them to be carcinogenic.

10 Q Were any tests conducted or sponsored by Monsanto on that
11 particular issue?

12 A Again, we will deal not with Aroclor 4465, we will deal
13 with Aroclor 1254, 1248. There were tests carried out
14 over two year periods and found no cancers.

15 Q When was that?

16 A That was published sometime I guess in the late Sixties.

17 Q By whom?

18 A Industrial Biotech Laboratories of Chicago.

19 Q Monsanto hired this company to run tests; is that right?

20 A They are a consulting toxicological laboratory and we
21 engaged them to run the tests, yes.

22 Q Are you familiar with the Jenson Studies on PCB's?

23 A In a general way.

24 Q Was his testing with respect to PCB residue in wildlife?

1 A I do not know if -- may I see the report and I will recognize
2 it if I see it.

3 Q It's referred to in the document I was just looking at and
4 it's somewhere in all these other documents. Let me find it
5 for you.

6 I am sorry, I didn't bring it with me.
7 It's only referred to in another article.

8 I will withdraw my last question.
9 Off the record.

10 (Whereupon a discussion was held off
11 the record.)

12 Q (By Mr. Hines) Were the cautions, Doctor, on the labeling
13 of Aroclor that we have referred to previously, and now the
14 exhibit is in your hand, put on there because Monsanto was
15 aware that they could not control how their product was to
16 be used in industry and also where they had determined safe
17 levels to be five milligrams in the atmosphere -- or .5
18 milligrams?

19 A Would you repeat it. There are two parts to this question.

20 Q Sure.

21 A I would like to answer one at a time if I may. Do you want
22 to rephrase it?

23 Q All right. I suggested two possible reasons why those
24 cautions were on there, namely the fact that Monsanto couldn't

1 control industrial use of their product and secondly that
2 they had an awareness of safe levels being .5 milligrams.

3 A No, that is not correct. These were put on to show people
4 how they could use the products correctly and safely. That
5 is the reason for the label information.

6 As I said before, also, these particular
7 cautions were put on because that is the information that is
8 put on all chlorinated hydrocarbons and, as you see, the
9 second line under cautions says contains chlorinated hydro-
10 carbons. So then these particular statements is Monsanto's
11 effort to have people use the material safely.

12 Q Why is the caution regarding prolonged breathing and so
13 forth on all the chlorinated hydrocarbons?

14 A Because if you inhale enough of a chlorinated hydrocarbon
15 over a prolonged period of time liver problems may occur.

16 Q Any other problems?

17 A In some chlorinated hydrocarbons a condition called chlor-
18 acne may occur.

19 Q Anything else?

20 A Nothing else.

21 Q What is the basis for that statement, Doctor, that the two
22 things that can occur, liver problems and chloracne, on what
23 basis was that statement made? Was it a test result or what?

24 A The tests on almost all chlorinated hydrocarbons show the

1 primary affect of the particular compound is on the liver.

2 Q Anything else?

3 A Repeat the question. I don't know, I thought I answered it.
4 Maybe I haven't.

5 Q I asked you on what information did you base your conclusions
6 that with prolonged breathing liver problems may occur and/or
7 chloracne may occur, and you just told me that there has been
8 a lot of testing done, a lot of studies published.

9 A That is correct, and that some of the chlorinated hydro-
10 carbons in industrial use have caused chloracne.

11 Q And Monsanto had been aware of those complications for many
12 years, in fact going back to the Forties. Correct?

13 A Yes. I would say yes depending on the severity of exposure.

14 Q Was any consideration given, Doctor, with respect to
15 Aroclor 4465 that the labeling should be changed so that
16 use should be restricted to a closed system?

17 A No, sir.

18 Q Would you agree, Doctor, that if a closed system was used
19 with respect to Aroclor 4465 it reduces the hazard of
20 prolonged breathing of vapors?

21 A Well, Mr. Hines, we must differentiate between exposure and
22 a hazard.

23 Q All right.

24 A I say there are uses of Aroclor 4465 in not enclosed systems

1 that do not constitute a hazard.

2 Q Would you agree with this statement, Doctor; "Where Aroclor
3 vapors may be encountered in workrooms local exhaust venti-
4 lation together with general workroom exhaust is recommended

5 MR. DeNARDIS: I think that has been
6 asked and answered and that is my objection.

7 A Yes.

8 Q (By Mr. Hines) That particular statement or quote was not
9 given before.

10 You did agree with that?

11 A Yes. Yes.

12 Q Did your label recommend ventilation in the workroom?

13 A No, it did not suggest the means by which avoidance of
14 prolonged or repeated inhalation of the vapors was to be
15 obtained. It just said don't do it.

16 Q You had no input or your department had no input as to the
17 decision whether or not production of Aroclor 4465 should
18 be continued or terminated?

19 A Our department relayed the information -- did you say
20 Aroclor 4465?

21 Q Yes.

22 A No, we did not.

23 Q PCBs are a synthetic compound, one that is not found
24 naturally in the environment.

1 A That is correct.

2 Q To your knowledge Monsanto was the major manufacturer of
3 PCB's in the United States.

4 A That is my impression, yes.

5 Q PCB's are not found naturally in human tissue.

6 A That is correct.

7 Q Are you aware of any studies documenting PCB's having been
8 found in human tissue?

9 A Having been found?

10 Q Yes.

11 A Yes.

12 Q Are you aware of any studies concerning the toxic affects
13 of PCB's in human tissue?

14 A No, I don't know of any studies relating to the presence
15 of PCB's in the tissues to disease. I do know that the
16 Japanese work where people drank PCB's, not Aroclor 4465,
17 did have illness and did get PCB's in their tissues, but
18 I do not know of any studies, although there may be, in-
19 tending to show if there is any relationship between levels
20 of PCB and any illness. I don't know that.

21 Q With regard to the Japanese studies, what type of diseases
22 were present? I recall the chloracne. Do you recall any-
23 thing else?

24 A Yes. There was, as far as I can recall, there were skin

1 discolorations, I believe there were liver troubles and I
2 think there were small babies but I don't recall anything
3 else.

4 Q With regard to this particular case, the one with Mr. Parsons
5 and Mr. Howell, Doctor, do you have an awareness of how the
6 product Aroclor 4465 was used?

7 A I have read the interrog-- or I have read the deposition of
8 Mr. Parsons, yes, sir.

9 Q Was the usage of Aroclor 4465 as you read in Mr. Parsons'
10 deposition one of the contemplated uses of Aroclor 4465?

11 A I did not know whether Aroclor was to be -- 4465 was to be
12 used in the investment of dental appliances.

13 Q It's not one of the more ordinary uses, would that be a fair
14 way to put it?

15 MR. DENARDIS: As far as he is aware.

16 MR. HINES: Yes.

17 A As far as I am aware, yes.

18 Q (By Mr. Hines) But that's not to say it shouldn't be used
19 in that application.

20 A No.

21 Q Have you ever testified for Monsanto before, Doctor Kelly?

22 A I have testified in cases where Monsanto was a participant.

23 Q And in those cases you testified at the request of Monsanto.

24 A That is correct.

1 Q And with regard to this case have you been paid by Monsanto
2 for your time?

3 A Yes.

4 Q Was that also the case in the situation in the other cases
5 or case?

6 A I was an employee of Monsanto at that particular time.

7 Q Was it just one other time you testified?

8 A I would say that in the course of my thirty-eight years with
9 Monsanto I don't recall testifying over five times.

10 None of them, by the way, had to do
11 with either PCB's or Aroclor 4465.

12 Q Does that include appearances in front of governmental
13 agencies?

14 A Where I would testify under oath?

15 Q Yes.

16 A I never testified under oath before any governmental agency.

17 Q Have you ever testified for any chemical company other than
18 Monsanto?

19 A Yes.

20 Q Who?

21 A American Cyanamid.

22 Q Was that in conjunction with your consulting business?

23 A That was during my period at Monsanto. I testified in an
24 ammonia nitrate case which I had some knowledge.

1 Q Can you tell me, Doctor, why the statement contained on
2 Page 50 of the previously marked exhibit, the Monsanto
3 document, and I will give you the page right here marked
4 safe handling, specifically paragraph 1 part of which I
5 quoted to you earlier.

6 A The first paragraph?

7 Q Yes.

8 A Yes, sir.

9 Q Can you tell me, Doctor, why the language in that paragraph
10 was not put on the label?

11 A Yes. Because the information on the label which says
12 avoid prolonged or repeated breathing of fumes is sufficient.
13 If people avoid that they will not get in trouble.

14 Q That isn't what that statement that we are looking at now
15 says.

16 A That is true, but there are certain limitations of space on
17 a label that preclude you from putting several paragraphs
18 on.

19 Q Well, are you saying, Doctor, that the essence of this first
20 paragraph should not be put on a label because there isn't
21 enough space for it?

22 A No, I am not saying that.

23 MR. DENARDIS: I am going to object to
24 that characterization.

1 Q (By MR. Hines) Go ahead.

2 A No, sir, I am not saying that.

3 MR. HINES: I don't have any more
4 questions. Thank you, Doctor.

5 (Deposition concluded.)

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

VERIFICATION OF DEPONENT

I, R. EMMET KELLY, having read
the foregoing deposition consisting of my testimony
taken at the aforementioned time and place, do hereby
attest to the correctness of the transcription.

SIGNED: _____

DATE: _____

CERTIFICATE OF NOTARY - COURT REPORTER

STATE OF MICHIGAN)
) ss.
 COUNTY OF ST. CLAIR)

I, Carol A. Sweeney, a Notary Public for
 the County of St. Clair, acting in St. Louis, Missouri, do hereby
 certify that the deposition of R. EMMET KELLY was taken before me
 at the time and place hereinbefore set forth; that the witness was
 by me first duly sworn to testify to the truth, the whole truth
 and nothing but the truth; that thereupon the foregoing questions
 were asked and foregoing answers made by the witness which were
 duly recorded by me stenographically; and by my later reading from
 my stenographic notes, dictating that which appears on my steno-
 graphic notes, given to a typist-transcriber, who, under my
 supervision and control, prepared the foregoing deposition
 transcript in final form; and I certify that this is, to the
 best of my knowledge and belief, a true and correct transcript
 of my stenographic notes so taken; also, that I am not of counsel
 to either party nor interested in the event of this cause.


 Carol A. Sweeney, Notary Public
 St. Clair County, Michigan
 Acting in St. Louis, Missouri

My Commission Expires: 12-5-79

October 9, 1979

Ms. Carol A. Sweeney
1000 City National Bank Bldg.
Detroit, Michigan 48266

Dear Ms. Sweeney:

I enclose the signed deposition - the corrections are listed below:

Page 7 Line 12 add "and" between manufacturing and research

Page 9 Line 1 add "or" between human and animal

Line 20 add "Monsanto's" before toxicologists and change "do" to "did"

Page 22 Line 18 change "coals" to "coils"

Page 24 Line 15 change 5 milligrams to .5 milligrams

Page 25 Lines 11, 12, 13 change "affect" to "effect"

Sincerely,

R. Emmet Kelly, M.D.

cc: Richard R. Denardis
Kitch, Suhreinrich
2030 Buhl Bldg.
Detroit, Mich. 48266