

DAVID OTIS WILSON AND

DEBRA B. WILSON,

Plaintiffs,

vs.

THE ROE CHEMICAL COMPANY, INC.

Defendant.

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TRANSCRIPTION OF SWORN DEPOSITION

ARTHUR STEELE

NOVEMBER 26

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Q. Please state your name.

A. My name is Arthur Steele.

Q. Would you tell us about your education,
Mr. Steele?

A. I have a B.S. in mechanical engineering from
the University of Denver in YR-45 and an M.S. from the
University of Denver in mechanical engineering in YR-34.

Q. Do you have any professional recognition or
licensing?

A. I'm a registered professional engineer in the
states of Colorado and Nebraska.

Q. Did you have to take an examination to receive
that title?

A. Yes. That's by examination.

Q. What is your post-graduate experience and
education?

A. I've attended numerous seminars, and I have
taught several seminars.

Q. Sir, would you tell us what your teaching
experience has been, please?

A. I was a lecturer of mechanical engineering at
the University of Denver for several years, where I
taught design - machine design, fluid mechanics,
hydraulics - all the senior laboratory courses in

1 mechanical engineering. I was an assistant professor at
2 the Colorado School of Mines, where I taught engineering
3 graphics, design, and the design of mechanical
4 components for buildings. I was an adjunct professor at
5 the University of Colorado, where I taught engineering
6 of thermal dynamics.

7 Q. Are you a member of any professional
8 societies?

9 A. I'm a member of the American Society of
10 Mechanical Engineers. I have held several offices,
11 including chairman of the local sections and regional
12 offices. I'm a member of the Society of Engineers. I
13 have held several offices in that society. I'm a member
14 of the National Society of Professional Engineers.

15 Q. What sort of work do you do now, Mr. Steele?

16 A. I am a consultant in the areas of mechanical
17 engineering and mechanical technology.

18 Q. Have you on other occasions testified about
19 contested matters in court?

20 A. Yes. I have testified numerous times, mostly
21 for plaintiffs.

22 Q. Mr. Steele, have you reviewed any materials in
23 preparation for forming your opinions in this case?

24 A. Yes, I have.

25 Q. What have you reviewed?

1 A. I reviewed the deposition of David Wilson, the
2 container label, and the advertising for the product,
3 and I have, of course, examined the container.

4 Q. Have you formed an opinion as to what caused
5 this accident?

6 A. Yes, I have.

7 Q. What is your opinion as to the cause of this
8 accident?

9 A. A defective container and lack of proper
10 warnings and instructions.

11 Q. Have you formed an opinion as to whether this
12 accident was foreseeable to Roe Chemical Company?

13 A. Absolutely.

14 Q. In what way, please, sir?

15 A. The company knows that it produces a very
16 dangerous product and that this product has to be used
17 by farmers. It has to be extracted from the container
18 that it's supplied in into other containers so it can be
19 mixed and diluted before being transferred into spraying
20 equipment. So it is very foreseeable that the product
21 can be spilled and the company knows it. The company's
22 advertising indicates that if the product is absorbed
23 through the skin, it can be fatal.

24 Q. What is your understanding of how this
25 material is to be used?

1 A. The material has to be poured into some type
2 of container for measuring into a mixing container.

3 Q. In what way do you contend that a hazard is
4 created?

5 A. May I demonstrate with these containers? This
6 container is empty by the way; if it was full, it would
7 weigh more.

8 Q. How much would it weigh?

9 A. About 50 pounds. It would be difficult to
10 lift.

11 Q. You were going to demonstrate?

12 A. Yes. In order to extract the liquid from the
13 container, it has to be poured. In order to pour the
14 liquid, the container has to be tilted. When the
15 container is tilted, the horizontal location of the end
16 of the spout moves. Also, because the container bottom
17 is round and has a hard edge, it presents a much smaller
18 surface area as the can is tilted. Those combined
19 factors make it very difficult and dangerous to pour
20 from the Dinitro can.

21 Q. Do you have an opinion as to the steps that
22 should be considered in designing a container such as
23 this?

24 A. You first consider the product, in this case,
25 the Dinitro. Consider the hazards of the use to the

1 person using it, to the people around, and what has to
2 be done in order to use the product.

3 Q. Mr. Steele, in your opinion, can the hazards
4 that you have referred to be designed out of a container
5 such as this?

6 A. Absolutely. And if the hazards could not be
7 designed out, there should be an adequate warning. We
8 know from the advertising that contact with the skin
9 with this product can be fatal.

10 Q. Do you have an opinion with respect to the
11 warning on this container?

12 A. Yes, I do.

13 Q. And what is that opinion?

14 A. The warning is a partial warning. It does not
15 include the information that is contained in the
16 advertising that absorption through the skin can be
17 fatal. Information that is only contained in the
18 advertising may not be seen by the consumer.

19 Q. Are there any other complaints you have with
20 respect to the label?

21 A. None that I can think of at this time.

22 Q. Have you attempted to design an alternative
23 product to the can in question?

24 A. Yes, I have.

25 Q. In your opinion, how would you modify this can

1 to make it safe?

2 A. First, the process of tipping needs to be
3 eliminated, because that creates an unstable activity
4 with a full can. One way to eliminate the tipping is to
5 replace the flexible spout with a spout that has a
6 spigot on the end of it. With a spigot, the can can be
7 laid on its side so that it's stable, and metering can
8 be accomplished simply by opening and closing a valve.

9 Second, the shape of the container could be
10 modified to have a broader base, and the forward edge of
11 the bottom rounded. When that type of container is
12 tilted, the size and shape of the bottom surface in
13 contact with the support remains essentially the same.

14 Q. Sir, isn't it a fact that the spout is a very
15 common type spout?

16 A. Oh, yes. It's common and quite safe for
17 gasoline or water. However, Dinitro is very toxic when
18 absorbed through the skin. Having the spout which is
19 actually stuck down into the container encourages a
20 person to handle the chemical. It is definitely not a
21 safe design.

22 Q. Are there any other alternative designs that
23 you would suggest?

24 A. Yes. I might suggest that the liquid could be
25 extracted from the container in other methods, such as

1 pumping or siphoning.

2 Q. And how would that work?

3 A. Well, a bulb siphon could be utilized so that
4 once the bulb is squeezed and the flow is started, the
5 fluid would flow out by gravity.

6 Q. Do you hold any further opinions in this case?

7 A. Well, basically, no. Of course, there are
8 many types of spouts that would be safer.

9 Q. Isn't it a fact that the type of container
10 with which the user is the most familiar might be the
11 safest container for the job?

12 A. In most circumstances. Yes.

13 Q. Do you have any further comments?

14 A. I don't believe the instructions with respect
15 to wearing gloves are adequate. Rubber gloves would be
16 safe, but not cloth or leather, since they would absorb
17 the chemical and keep it in contact with the skin.

18 (Deposition concluded)

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