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Nicolina
Sireci
1/25/84

NICOLINA SIRECI VS. CHEMCO, INC., ROHM AND HAAS,
MONSANTO, UNION CARBIDE, AMERICAN CYANAMID

Defendant UCC's Answers to Plaintiff's Interrogations dated July 20, 1984.

1. Yes, but only as applied to additional information from UCC's records.
2. Answers to these interrogations were prepared by R. N. Wheeler, Jr.
3. Persons assisting in answering these interrogations were (to be supplied later).
4. Where pertinent these will be identified with the answer to a particular interrogatory.
5. Union Carbide Corporation is the correct name of the manufacturer of Polyvinyl Chloride (Resins).
6. Y s.
7. UCC's records show Polyvinyl Chloride (Resins) sales to Elm Coated Fabrics, a Division of W. R. Grace & Co. and to Kalex Chemical Products, Inc. from 1968 through 1977.
8. Summary prepared by R. N. Wheeler and D. E. Gunther, Paralegal Assistant.

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PRIVILEGED AND
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SUBJECT TO PROTECTIVE
ORDER"

UCC 087050

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UNION CARBIDE CORPORATION
SALES OF POLYVINYL CHLORIDE TO KALEX,
CHEMICAL PRODUCTS OR TO ELM COATED FABRICS
BROOKLYN, NEW YORK

<u>Year</u>	<u>Product</u>	<u>Amount</u>	<u>Total</u>
1968	PVC Regular	375,678 lbs.	
	Nonsolvent copolymer	80,000	
	PVC Dispersion	<u>15,000</u>	
			470,678 lbs.
1969	Suspension Homopolymer	267,000	
	Dispersion Resin	<u>5,000</u>	
			272,000
1970	Suspension Homopolymer	1,510,570	
	Nonsolvent Homopolymer	200	
	Nonsolvent Copolymer	12,950	
	Dispersion Resin QYNV	<u>20,000</u>	
			1,543,720
1971	Suspension Homopolymer	3,206,000	
	Dispersion Resin QYNV	<u>9,000</u>	
			3,215,000
1972	Suspension Homopolymer	3,231,000	
	Dispersion Resin QYNV	<u>25,000</u>	
			3,256,000
1973	Suspension Homopolymer	258,000	
	Dispersion Resin QYNV	<u>19,000</u>	
			277,000
1974	Dispersion QYNV	<u>20,000</u>	
			20,000
1975	Dispersion QYNV-1	<u>6,520</u>	
			6,520
1976	Dispersion QYNV-1	<u>4,800</u>	
			4,800
1977	VYNW	<u>10,800</u>	
			10,800

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9.
 - a. Union Carbide Corporation first manufactured vinyl chloride resins in 1933.
 - b. Resin manufacture was carried out at South Charleston, WV and Texas City, Texas.
 - c. See Interrogatory 8.
 - d. On information and belief PVC resins were delivered in multi-wall paper bags by hopper truck or by railroad hopper car.
 - e. The year of sale is shown in Interrogatory 8. No records of delivery were available.
10. Non-solvent PVC resins were unique products developed by UCC. Suspension and dispersion PVC resins were manufactured to meet generally recognized market specifications, i.e., these were commodities.
11. See Interrogatory 10.
12. Non-solvent PVC resins technology was developed in 1937. Records of persons participating in development are not available.

Suspension PVC resins were developed under direction of Dr. Ing. Hans Bauer, Wacker-Chemie GMBH, Werk Burghausen, 8263 Burghausen/OBB, Federal Republic of Germany.

Dispersion PVC resins were developed in 1943. Records of persons participating are not available.
13. Records regarding design and manufacture of said PVC resins are not available. UCC ceased manufacture in 1977 of resins used by Elm.
14. On information and belief, no. It was common industry practice to provide resins with special properties to large customers. Thus, Elm could have set specifications, but no records are available.
15. Records do not indicate the specific resins supplied so written specifications cannot be provided. This information is irrelevant to the complaint.
16. No.
17. Elm Coated Fabrics and Kalex Chemical Products purchased resins with properties suitable for their use. UCC personnel did not specify resins for their use.

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18. Resin testing varied with the type and the anticipated use. The most universal and overriding test was how the resin performed in the users equipment and in the product produced. General resin tests for most types were heating loss, inherent viscosity, heat stability and contamination.
19. The interrogatory is unclear and thus cannot be answered meaningfully.
20. All UCC packages were marked "Industrial Use Only."
21. Th interrogatory is so broad that it is unlikely to produce meaningful information while asking UCC to identify every writing, instruction and warning it prepared since 1933 is burdensome.
22. No scientific studies have been done to show PVC (Resins) can be used without deleterious or harmful effects because it is not possible to show by scientific study that a product is absolutely safe for use.
23. The most commonly used reference is American Society for Testing and Materials Standard Specification for Polyvinyl Chloride Resin D1755.
24. The interrogatory is excessively broad and burdensome to the defendant. UCC has received complaints for various reasons since 1933. Records of all these are not available.
25. UCC has no records of any warranty provided purchasers of Polyvinyl Chloride (Resins).
26. Union Carbide Corporation has marketed hundreds of different Polyvinyl Chloride Resins since 1933 manufactured by six different processes. The interrogatory is unrealistic and burdensome.
27. Material Safety Data Sheets are available for resins sold to Elm Coated Fabrics and Kalex.
28. Yes.
29. Union Carbide has employed hundreds of experts over the years to examine, t st, inspect and analyze its products. The interrogatory is very broadly stated. Answering it in its present form would be burdensome and not meaningful to the plaintiff.
30. See Interrogatory 29 answer.
31. See Interrogatory 29 answer.

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32. Union Carbide knows of no material natural or synthetic that is not deleterious to the health of users under some conditions. The interrogatory lacks specificity.

A UCC sponsored study of PVC chronic oral toxicity in rats in 1947 gave no indication that PVC was carcinogenic. This study report by Smyth, H.F. and Weil, C.S. was published in 1966.

33. R. N. Wheeler, Jr.
34. Smyth, H.F. and Weil, C.S., "Chronic Oral Toxicity to Rats of Vinyl Chloride - Vinyl Acetate Copolymer", Toxicology and Applied Pharmacology, 9, 501-504, 1966.
35. Interrogatory is not specific as to the nature of the claims or allegations by persons and is not answerable in its present form.
36. See answer to Interrogatory 35.
37. Interrogatory is not specific as to the nature of the problem with Polyvinyl Chloride (Resins) and is not answerable in its present form.
38. See answer to Interrogatory 37.
39. See answers to Interrogatories 37 and 35.
40. On information and belief, Union Carbide advertised its Polyvinyl Chloride (Resins) in various trade journals.
41. On information and belief, Union Carbide did not advertise its Polyvinyl Chloride (Resins) in media serving the general public.
42. Answer to be supplied by Mr. R. M. Thode, UCC Insurance Department, Danbury, CT.
43. Not answerable until the plaintiff defines what is considered a discoverable matter.
44. Union Carbide produced and sold various types of Polyvinyl Chloride (Resins) from 1933 to the present. It has sold no PVC to Kalex Chemical Compounds since 1977.
45. UCC is searching files at:

South Charleston - J. J. Brezinski
Bound Brook - Carl Klemm - 2732
Tarrytown - W. R. Niehaus.

Material will be supplied when available.

46. No.

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47. See answer to Interrogatory 46.
48. See answer to Interrogatory 46.
49. Union Carbide Corporation purchased suspension PVC technology from Wacker-Chemie, Federal Republic of Germany about 1959.
50. On information and belief, the agreement was negotiated by W. R. Wheeler, deceased, of UCC.
51. R cords are not available.
52. Yes.
53. R cords of all persons are not available. Some persons are Watson Ackart, R. N. Wheeler, Richard Hughes, C. U. Dernehl, A. B. Steele.
54. All available writings are in R. N. Wheeler's custody.
55. Yes.
56. Marketing and sales data is regarded as confidential information by each manufacturer, thus no reliable market share statistics are available from any source.
57. Yes.

Vinyl Chloride Monomer

- a. Vinyl Chloride
- b. Dow Chemical and B. F. Goodrich
- c. Total organic impurities 75 ppm max.; Water 100 ppm max.
- d. Available records - E. S. Brown.

Suspending Aid

- a. Methocel-Methyl Cellulose
- b. Dow Chemical
- c. None
- d. Available records - E. S. Brown.

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58. This answer is limited to Polyvinyl Chloride (Resins) sold to the plaintiff's employer.
 - a. Dispersion and Suspension Homopolymer is essentially 100% polyvinyl chloride. Nonsolvent Copolymer is 96% vinyl chloride, 4% vinyl acetate polymerized into macro molecules.
 - b. PVC resins are essentially inert and contain no active ingredients.
 - c. No significant changes were made.

59. Union Carbide developed, manufactured, tested, packaged, distributed, warehoused and sold Polyvinyl Chloride (Resins).
60. Union Carbide formulated Polyvinyl Chloride (Resins) into molding materials for sale to customers who molded or extruded plastic materials. These materials were not sold to the plaintiff's employer nor were they used for calendaring operations, thus answers to a, b, and c are not pertinent to this claim.
61. Polyvinyl Chloride (Resins) sold to the plaintiff's employer were primary products not mixed, formulated or otherwise prepared with other materials. The interrogatory is not applicable to this claim.
62. See answer to Interrogatory 61.
63. See answer to Interrogatory 58.
64. See answer to Interrogatory 58.
65. During the period when UCC sold Polyvinyl Chloride (Resins) to the plaintiff's employer, there were no governmentally promulgated or private consensus standards pertaining to premarket testing or safety of these resins.
66. See answer to Interrogatory 65.
67. Polyvinyl Chloride (Resins) contain traces of residual vinyl chloride monomer left in the course of manufacture. Vinyl chloride monomer has been shown to cause cancer in animals exposed repeatedly to concentrations of 50 ppmv or more in the ambient air. Epidemiological studies have shown that humans develop liver cancer when exposed to high concentrations of vinyl chloride (1000 ppmv) for periods of years.
 - a. Vinyl chloride.
 - b. None
 - c. Vinyl chloride is a basic raw material for Polyvinyl Chloride (Resins).
 - d. Steps taken by Union Carbide to reduce the risk of cancer from vinyl chloride exposure:
 - (1) Union Carbide through Chemical Manufacturers Association supported research of the carcinogenic properties of vinyl chloride.
 - (2) Union Carbide complied with Occupational Safety and Health Administration Standard for Exposure to Vinyl Chloride.

- (3) Union Carbide complied with the Environmental Protection Agency's National Emission Standard for Hazardous Air Pollutants - Vinyl Chloride.
 - (4) Union Carbide labeled packages of Polyvinyl Chloride (Resins) as required by OSHA.
 - (5) Union Carbide issued to its customers and others a booklet entitled Monitoring the Concentration of Vinyl Chloride in the Workplace or Ambient Air calling attention to the OSHA Standard and suggesting monitoring procedures.
 - (6) Union Carbide conducted studies of its PVC operations to determine the nature of the hazard and its extent. Amounts of residual vinyl chloride in its products were reduced to minimum practical levels.
 - (7) Union Carbide supported through Organization Resources Counselors and assisted in studies of the PVC fabricating industry as regards to possible cancer hazards in this industry.
- e. There is no direct information on the amounts of PVC (resins) that must be ingested by adults to cause harm. Epidemiological studies of the PVC fabricating industry have shown no significant excesses of human cancer. Animal feeding studies conducted by Union Carbide and B. F. Goodrich have shown no evidence of carcinogenicity or long-term toxicity.

The plaintiff was also exposed to possible ingestion of plasticizers, stabilizers, pigments, processing aids, antioxidants and other materials of which Union Carbide has no knowledge.

- f. Union Carbide has no direct information on the amounts and concentrations of fumes from PVC fabricating operations that may cause harm. The epidemiological studies noted in e. give no evidence of significant carcinogenicity.

Union Carbide is aware that PVC (resins) produced contain some residual vinyl chloride monomer adsorbed in the resin particles. This is emitted by the resin during storage, handling and fabrication.

Case studies show that workers exposed to vinyl chloride in concentrations of 250 ppmv or more for periods of years have developed liver cancer. Chronic inhalation studies of laboratory animals exposed to vinyl chloride concentrations of 50 ppmv develop excess neoplasms. There is no information or test data from animals exposed to the very low vinyl chloride concentrations in air that are likely to occur in the PVC fabricating industry.

68. No. Inhalation of vinyl chloride is inherently dangerous.

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69. a. Label purpose is to identify contents, identify the manufacturer, to show amount of product contained, to provide critical storage and handling instructions, and to provide significant instructions and warning.
- b. See a.
- c. Mr. D. E. Gould.
- d. The Court may order copies for the plaintiff.
70. a. On information and belief UCC products sold to plaintiff's employer were not warranted in any fashion.
- b. See a.
- c. (1) Not warranted in any manner.
- (2) PVC (resin) value is based on properties displayed in fabrication and in the final product. Properties not under the control of UCC.
- (3) On information and belief, all product literature contained the following or similar disclaimer:
- "This information is not to be taken as a warranty or representation for which we assume legal responsibility nor as permission or recommendation to practice any patented invention without a license. It is offered solely for your consideration, investigation and verification."
- (4) The plaintiff's employer is responsible under the OSH Act of 1970 for his employee's occupational health and safety. If the plaintiff needed to know of any PVC (resin) warranties and properties, his employer should have made him aware of same.
71. Plaintiff was negligent in that he smoked for a significant portion of the period 1951² to 1981. Smoking is a known cause of lung cancer.
- Plaintiff's employer may have been negligent in that there is no indication of compliance with OSHA regulations as regards to vinyl chloride exposure and other hazardous chemicals.

72. No.

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