

# The Kemner Brief — partial — retyped for clarity

## From Frances Kemner et al v. Monsanto by Rex Carr

Monsanto's Santophen, stating untruthfully that the impurities were not Dioxin. [Santophen was the active ingredient in Lysol for many years. Monsanto had many products with a dioxin problem, most famously Agent Orange and hexachlorophene in ill-fated PhisoHex medical cleanser].

(R.8/6/85, p.35)

Transbas Company, one of Monsanto's 2,4-Di customers, requested information about the Dioxin content of Monsanto's 2,4-Di. Monsanto was aware that Transbas wanted this information for its "EPA file." (R.4/23/85, p.113) Monsanto told Transbas there was no detectable amount of Dioxin in the May to November, 1988, 2,4-Di samples (R.4/23/85, p.28); but Monsanto failed to tell Transbas that Monsanto knew its pre-May 1988 and post-November 1988 2,4-Di did contain Dioxin. (id. at p.22) Further, Dr. James Wilson testified about Monsanto's lies to Vestal Labs about there having been no Dioxin in Monsanto's Santophen. (R.5/10/85, p.2)

Monsanto not once warned any of its customers of the presence of Dioxin in its products. At one time, Monsanto considered changing the label on its 2,4-Di to indicate its presence (Pl.Ex.1318); but this proposed label change unaccountably was laid aside. (R.4/23/85, p.70) Monsanto never warned any of the potential customers, even though it knew the consumers would be exposed to quantities of Monsanto's Dioxin. (R.3/6/85, p.108) Monsanto knew that some people who used Lysol were contacting 3 parts per billion of Monsanto's 2,3,7,8. (R.3/21/85, p.114) It knew that people were spraying their lawns with a product containing 2,3,7,8, and that these people had no way of knowing of the presence or toxicity of 2,3,7,8 in these products. (R.3/22/85, p.20) Monsanto knew that Lysol contained Monsanto's 2,3,7,8 and that Lysol was recommended for cleaning

infants' nurseries and children's toys (R.5/29/85, p.149; and R.3/21/85, p.102), although there was no warning to customers that Lysol contained any Dioxin. (Pl.Ex.1194) Likewise, notwithstanding Monsanto's policy that 1 part per billion 2,3,7,8 is probably medically acceptable in Santophen, Monsanto failed to ever warn the Sturgeon residents about the Dioxin spilled in their community, even after Monsanto had become absolutely certain that the spilled contents of the tanker had contained 45 parts per billion 2,3,7,8. (Pl.Ex.188-92)

Why did Monsanto lie to and fail to notify the world about the Dioxin in Monsanto's chlorophenols? Monsanto knew that its chlorophenols would be less marketable if its customers learned about the Dioxin content. Monsanto's James Wilson testified that it was profitable for Monsanto to not notify its customers. (R.3/28/85, pp.147-8) Monsanto knew that Diamond Shamrock would stop buying Monsanto's 2,4-Di if Diamond Shamrock learned about the Dioxin content. (R.4/18/85, p.81) Monsanto's Donald Edwards testified that "Any Dioxin in Santophen might discourage customers." (R.4/24/85, p.5) When Monsanto told Rawlings Waste Company that Dioxin was in Monsanto's waste, Rawlings discontinued taking Monsanto's waste. (R.4/29/85, pp.92-97) Monsanto wanted to advertise Santophen as "Dioxin free," and as a result, Wilson suggested testing only five lots if McPhillips could "live with" the results. (Pl.Ex.1342; and R.5/1/85, pp.77-80) Phocion Park testified that sales could be affected if customers thought there could be adverse health effects from the products. (R.8/5/85, p.87) Park testified that Monsanto knew that its business would be hurt if its customers learned that

Dioxin was in Monsanto's products. (id. at p.92) Plaintiffs' Exhibit 1326 is a March 9, 1989 Edwards to Wilson memo about TCDD in Monsanto's chlorophenols as being of "very high importance" to the continuation of business. (id. at pp.95-96) Monsanto worried that Lehn And Pink would quit purchasing Santophen if notified, so Lehn and Pink was not notified.

(id. at p.122) Park's testimony on the cost of ceasing production shows clearly why Monsanto kept its Dioxin a secret. (R.8/6/85, p.63)

Probably the most appalling feature of this story is Monsanto's efforts to convince the world that Dioxin is harmless. Dr. Suskind testified that he advised Monsanto they should publish experimental findings so as to better defend their position on Dioxin. (R.3/6/86, p.41) Plaintiffs' Exhibit 1552 is a March 3, 1978 memo from McPhillips to Monsanto's Callis saying,

"The monkey's on Monsanto's back to show that Dioxin is acceptable, as Dow's Penta has less Dioxin than Monsanto's." (R.8/5/86, pp.58-65) Monsanto did, in fact, produce "research" to defend its position that Dioxin is harmless. In 1949 there occurred a 2,4,5-T explosion in the Nitro, West Virginia, plant. As a result, many of the plant workers were exposed to the 2,4,5-T and its Dioxin contaminants. These workers were studied by Monsanto, and the results of these studies were published by Monsanto and accepted as valid by the world. (R.1/9/86, p.124)

The record, however, shows a deliberate course of conduct designed to convince its employees and the world at large that Dioxin is harmless, and that even large doses of Dioxin cause

only chloracne (“Something similar to teenage acne,” according to Monsanto’s press releases), aside from some minor initial reversible health effects. The “research” studies to prove these bald-faced lies were created by Monsanto’s agents and employees, and published in the world’s literature without any refutation, until this case was tried. All of the data, until released to the Plaintiffs during the discovery process, had been under Monsanto’s exclusive control, and never released to the world.

During the course of this trial, these salient and deeply disturbing facts about the health effects of Dioxin surfaced:

Zack and Gaffey, two Monsanto employees, published a mortality study purporting to compare the cancer death rate among the Nitro workers who were exposed to Dioxin in the 1949 explosion with the cancer death rate of unexposed workers. The published study concluded that the death rate of the exposed workers was exactly the same as the death rate of the unexposed workers. However, Zack and Gaffey deliberately and knowingly omitted 5 deaths from the exposed group, and took 4 workers who had been exposed, and put these workers in the unexposed group, serving, of course, to decrease the death rate in the exposed group, and increase the death rate in the unexposed group. The exposed group, in fact, had 18 cancer deaths, instead of the reported 9 deaths (Pl.Ex.1464) with the result that the death rate in the exposed group was 65 percent higher than expected. Consider what the medical community would believe about Dioxin, if these facts were known outside the confines of the case!!! The Plaintiffs, in cross-examining the Medical Director of Monsanto, Dr. Roush, clearly established the fraud that took place.

The cross-examination not only revealed that the overall death rate from cancer was 65 percent greater in the exposed population than expected, but that the death rate from lung cancer was 143 percent higher than expected, the death rate from genitourinary cancer was 108 percent higher than expected, the bladder cancer death rate was 809 percent higher, and the lymphatic cancer death rate was 92 percent higher. Death from heart disease was 37 percent higher than expected. (Pl.Ex.1465)

To further confound and mislead the medical community and the world at large, a later study of the reported cases of cancer, comparing cancers in living exposed-to-Dioxin workers with living unexposed workers was undertaken by Dr. Suskind in the so-called Suskind-Hertzberg Study. It was also fraudulent, and published in the Journal of the American Medical Association just three months after the trial of this case started. This published study of the workers exposed in the 1949 incident reported only 14 cancers in the exposed group and 6 cancers in the unexposed group (a smaller cohort). However, the medical records produced to the Plaintiffs conclusively proved gross misclassifications and omissions. The correct classification and inclusion of known cancers revealed 28 cancers in the exposed group, as compared to only 2 in the unexposed group. (Pl.Ex.1473) There were 17 skin cancers in the exposed group, as compared to only 2 in the unexposed group. There were 11 cancers at other sites in the exposed group, as compared with no cancers whatsoever at other sites in the unexposed group. Thus, there were 28 cancers in the group that had been exposed to Dioxin in 1949, as opposed to only 2 cancers in the unexposed group.

The background of these two fraudulent reports was demonstrated and delineated clearly during the cross-examination of Dr. Roush, the Medical Director of Monsanto, which took place on the 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> of July, 1985. The conclusions reached in these exhibits and in the examination of Dr. Roush stood throughout the trial, without any serious challenge. Dr. Suskind attempted a half-hearted defense of Monsanto, but even that attempt was abandoned by Monsanto after Dr. Suskind was cross-examined, and shown to be such a fraud that he refused to return to the State of Illinois for the completion of his cross-examination.

Of great concern to the Plaintiffs is that no publication of the truth has ever taken place, and the world still believes that the occurrence of cancer and the cancer death rate is the same for the person exposed to Dioxin as it is for the person unexposed, even though great significant statistical differences exist.

Earlier, at Monsanto's request, Dr. Suskind had examined the exposed workers in 1953 to determine whether any adverse health effects had resulted from the exposure. In 1955, a Dr. John Nestmann examined many of the exposed Nitro workers, and found that most of them had severe psychoneuroses. (Pl.Ex.1779) Some of the workers filed claims under the West Virginia Workers Compensation Act. In November of 1955, Dr. Suskind met with Monsanto's McClain and Weger (Pl.Ex.1754), at which meeting it was decided that Monsanto and its medical witness, Dr. Suskind, would delete any reference to Nestmann's findings of psychoneuroses. (id.) Monsanto succeeded in concealing

Nestmann's findings from the Workers Compensation Commission. (R.3/6/86, p.169) Dr. Suskind made no mention of these psychoneuroses in his later reports published on the Nitro workers (id. at p.185), and had no knowledge that the world ever was told of Dr. Nestmann's findings. (id. at p.191) By concealing these psychoneuroses, Monsanto was able to maintain its position that chloracne is the only long-term health effect of chronic Dioxin exposure.

In his 1988 and 1984 reports, Dr. Suskind indicated that, "except for a few cases," the workers' nervous system problems and liver problems had disappeared by 1953, (R.2/19/86, p.87) although Suskind knew that 27 of the 29 workers out of 36 workers studied, continued to have the same problems in 1953 as they had originally in 1949. (id. at p.175) Suskind said that he had intended to make the world think that only a few of the workers continued to have problems in 1953. (R.3/3/86, p.17) Suskind's studies are misleading, and cannot be relied on. (R.11/19/85, p.128) Monsanto's Dr. George Roush testified that Suskind's studies were "joint studies" between between Suskind and Monsanto (R.7/10/85, p.79) – that the studies were really Monsanto's studies. (id. at p.62)

Monsanto presented all of these studies to the world, claiming fewer Dioxin-caused cancers, deaths and health problems than actually existed. (R.7/9/85, p.127-32) Monsanto and Suskind clearly intended that the world would rely on these reports. (R.3/7/86, p.122) Dr. Suskind acknowledged that the world and the scientific community had, in fact, relied on them. (R.3/19/86, p.101) The damage done to the medical and scientific

world by these false and misleading statements cannot be overstated!

E. STURGEON

Norfolk and Western's train, pulling a tank car filled with 19,000 gallons of Monsanto's OCP-Crude, left Monsanto's Sauget, Illinois plant on December 10, 1978, en route to a California customer, who used OCP-Crude as an ingredient in a common wood preservative. The train derailed, and the contents of the tank car spilled in Sturgeon, Missouri, in the late evening of January 10, 1979.

Because the ruptured tank car did not come immediately to a stop, the chemical spilled over a stretch of approximately 2,700 feet (R.3/5/84, p.154); however, most of the chemical was spilled over a stretch of about 240 feet. (R.3/6/84, p.9) Most of the chemical spilled on the Railroad's right-of-way adjacent to the public school, and property owned by Frances Kemner and William Kemner. Substantial amounts of the chemical were spilled on both the mainline track and the passing track.<sup>9</sup> (R.3/7/84, p.210; R3/14/84, p.65; R.3/15/84, p.48 and p.191; and R.3/19/84, p.38)

The Sturgeon Fire Department evacuated all residents of the Town in the early morning of January 11, 1979. The evacuation

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<sup>9</sup>As is described at pp.34-35 of Monsanto's brief, the Railroad's three tracks run east and west, and parallel to each other, through the center of Town. The "mainline" is the furthest north, the "passing track" in the middle and the "siding track" furthest south. The Kemners' property is just south of this passing track, where the major part of the spill occurred.

for why it did not use the safer process until after the Sturgeon spill.



Second, Monsanto knew for some time before 1979, that simply redistilling its chlorophenols would eliminate or greatly reduce the chlorophenols' Dioxin content. (R.8/14/85, pp.116-20) Yet this, too, was not done until 1980. (id.) Finally, Monsanto could have rid its chlorophenol products of Dioxins by testing every batch, and not selling those it found contaminated.

D. MONSANTO'S DIOXIN POLICY

Monsanto's Chemical Engineer, Donald Edwards, testified that for at least seven years in the 1970's, Monsanto was dumping daily 30 to 40 pounds of Dioxin into the Mississippi River from its Krummrich Plant. (Pl.Ex.1113 and R.5/2/85, pp.31-32) Monsanto tried to conceal this fact, as is evidenced by comparing Plaintiff's Exhibit 1111 with Plaintiff's Exhibit 1113, and reviewing the testimony found at R.3/8/85, p.74. This dumping was continuing as late as 1977, although Monsanto officials recognized the potential health hazard from Dioxin getting into the St. Louis food chain through the River. (R.5/2/85, pp.33-54) Monsanto secretly tested fat samples from several deceased St. Louis area residents who had died in accidents, and not as a result of illness, and the test results showed that every such cadaver contained 2,3,7,8 in its fat tissue. (Pl.Ex.1398; and R.5/16/85, pp.137-139) Even Monsanto's Expert, Dr. Alex Arieff, admitted that the 2,3,7,8 in these cadavers' fat could have come from the Krummrich Plant. (R.8/27/86, a.m., p.92) Steven Vogel, also, testified about the large amount of Dioxin Monsanto was

dumping into the Mississippi River through its Krummrich Plant's sewer. (R.3/7/85, p.69; and R.3/8/85, p.62)

Monsanto's Santophen is the active ingredient in Lysol disinfectant and cleaning products. (R.3/5/85, p.111) Monsanto's Analytical Chemist, Fred Hileman, testified that Monsanto knew Lysol is recommended for cleaning babies' toys, and for various other cleaning activities involving direct contact with the human body. (R.3/21/85, p.102) Yet there is no Dioxin warning on the Lysol package. (id. at p.106) Hileman testified that he knew people who used Lysol were contacting three parts per billion of 2,3,7,8 (id. at p.114) and that 2,3,7,8 is extremely toxic. (id. at pp.130-131) Hileman testified that he knew people were spraying their lawns with products containing Monsanto's 2,3,7,8, and that these people didn't even know it, because they had not been told the products contained Dioxin, let alone 2,3,7,8. (R.3/22/85, p.20)

Monsanto's Dr. James Wilson's testimony shows that Monsanto decided to sell its 2,4-Di, despite Monsanto's having assumed that it contained 2,3,7,8. (R.3/27/85, pp.59-65) In fact, Wilson testified that Monsanto knowingly sent TCDD-contaminated 2,4-Di to its customers from 1978 to 1983, (id. at p.75) and that there was no evidence that any customer ever was notified of the contamination. (id. at p.165) Wilson testified that Monsanto possibly was shipping out Santophen with 65 parts per billion of TCDD before February of 1979, (R.3/28/85, p.118) and that who got the contaminated product depended on "the luck of the draw." (id. at p.125) Wilson testified that Monsanto has produced

products with Dioxin for fifty years. (R.5/18/85, pp.134-135) Even though Monsanto had adopted Dr. Paget's recommendation that one part per billion 2,3,7,8 is "probably medically acceptable," (R.4/8/85, p.108) Monsanto knew that higher levels of TCDD's that "coelute like" 2,3,7,8 were in its products, (R.5/13/85, p.50) and yet gave no notice to its customers. Wilson

knew Monsanto was sending out 2,4-Di with much more than 100 parts per billion of these TCDD's. (R.5/14/85, p.53) Wilson testified that he knew Lysol was used on children and dogs. (R.5/29/85, pp.149-150)

Monsanto's Chemical Engineer, Donald Edwards, testified that Monsanto continued selling its Santophen and its 2,4-Di for years after Monsanto had learned that these products contained Dioxin. (R.4/29/85, p.79) Monsanto's Munie, Kilbourne and Sellew made the decision to continue selling the Dioxin-contaminated products. (id. at pp.85-88) Edwards testified that Monsanto knew Dioxin was in its 2,4,5-T as early as 1957. (id. at p.154) Monsanto manufactured its 2,4,5-T from 1948 to 1969, and it was used widely in North America, and in VietNam as Agent Orange. (R.5/16/85, pp.146-171) It is beyond dispute that Monsanto's 2,4,5-T contained 2,3,7,8. (See e.g., Pl.Exs. 1486-1488; and R.7/12/85, p.5)

Monsanto's Expert, Dr. Frank Dost, testified that Monsanto contributed substantially to environmental TCDD's by its 2,4,5-T production. (Pl.Ex. 1487; and R.12/16/85, pp.185-188)

Monsanto's

2,4,5-T is present throughout the world.<sup>4</sup> (R.12/12/85, p.48) Dr. Suskind testified that Monsanto acknowledged that its "2,4,5-T problem" had not been solved as of December 7, 1955 (R.3/25/86, a.m., pp.63-64); but Monsanto continued to sell its 2,4,5-T for another twenty years.

Monsanto's John McPhillips admitted that Dioxin possibly was in all of Monsanto's products in 1978. (R.8/5/85, p.81) Monsanto's Phocion Park testified that Monsanto knew Santophen (containing seven parts per billion of TCDD's that could have been 2,3,7,8) and 2,4-Di (containing 200 parts per billion of TCDD's that could have been 2,3,7,8) were going into consumer products at this time. (R.8/6/85, pp.47-50) Monsanto's George Roush testified about Monsanto's having shipped products containing high levels of Dioxin to Monsanto's customers in and before 1979. (R.7/12/85, p.123) Monsanto's Elizabeth Fay testified that Monsanto knowingly sold 2,4-Di containing TCDD in 1970. (R.8/14/85, p.68) Fay testified that the Santophen Monsanto had been selling for 23 years was in hospitals and homes, and that it could have contained levels of TCDD. (id. at p.149) Fay admitted that people were exposed to TCDD in Department 237, where the chlorophenol products were made at

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<sup>4</sup> Dioxin in the environment has risen substantially since 1940. (Pl.Ex.1809; and R.4/4/86, pp.155-157) There is now a low level of Dioxin throughout the world. (R.12/17/85, p.18) The evidence shows the source of this Dioxin to be the manufacture and disposal of chlorophenols. (Pl.Exs.1809 and 1810)

**C00175**

the Krummrich Plant. (id. at p.194) The transcript contains literally hundreds of admissions that Monsanto was selling Dioxin-contaminated chlorophenol products to its customers for nearly thirty years, and that it did so with the knowledge that those products contained a contaminant that was highly toxic both to the environment and to human beings.

So it would not have to bear the expense of changing its manufacturing processes or the expense of losing customers, Monsanto failed to notify and lied to its Krummrich Plant workers about the presence and danger of 2,3,7,8 in the Krummrich chlorophenols. In February of 1979, shortly after the Sturgeon spill, there was a spill of Monsanto's 2,4-Di in Department 237 of the Krummrich Plant. Shortly thereafter, the Occupational Safety and Health Administration ("OSHA") ran tests on some samples taken from the walls of Department 237, and found 2,3,7,8 was present. (Pl.Ex.1119) Immediately thereafter, Monsanto conducted its own tests of Department 237 wall samples, and found 2,3,7,8 at an even higher level than OSHA had found. (Pl.Ex.1233) Nonetheless, Monsanto lifted the protective measures OSHA had imposed, and did so without even knowing whether the Department had been cleaned up of 2,3,7,8. (R.3/26/85, p.115) Also, in June of 1979, Monsanto issued a newsletter to its Krummrich Plant personnel, saying that Monsanto had failed to confirm OSHA's findings! (Pl.Exs.1118 and 1237) In June of 1979, Monsanto issued a press release, for the express purpose of "offsetting" the OSHA report (R.3/26/85, pp.26-27),

**C00176**

telling the world that Monsanto had failed to confirm OSHA's findings. (Pl.Ex.1117) Monsanto's Donald Edwards admitted that Monsanto, in the newsletter and the press release, was not telling the truth. (R.4/24/85, p.136; and R.4/29/85, p.147) Likewise, Frank Dost, Monsanto's Toxicologist, testified that what Monsanto told its workers and the public was untrue. (R.8/14/85, p.199) As a result of its having found 2,3,7,8 in Department 237, OSHA issued formal charges against Monsanto. (Pl.Ex.1119) In response to OSHA's Request for Admissions, Monsanto swore untruthfully that it had tested for 2,3,7,8 and had found none.

(Pl.Ex.1545) Elizabeth Fay, who took the wipe samples, testified that this was a false statement. (R.8/14/85, p.200)

In September of 1979, Monsanto's Dr. Spolano compiled a set of answers that Monsanto personnel were instructed to use in responding to Dioxin questions in conjunction with the Krummrich Plant. (Pl.Ex.1496) Monsanto's Attorney, Phocion Park, responded to this question and answer form by suggesting that the Krummrich workers be lied to about the presence of Dioxin in the Department 237 products. (Pl.Ex.1497) Monsanto's Dr. George Roush testified that high Monsanto officials approved Park's suggestion to lie to the workers (R.7/16/85, p.22), and no witness ever was called to rebut Dr. Roush's testimony.

Plaintiffs' Exhibit 1511 is a June 17, 1985 Krummrich Plant bulletin, in which the workers were told that there were no significant health problems in those exposed to Dioxin, and that workers could only get a skin condition and possibly a reversible

**C00177**

liver problem from exposure<sup>5</sup>. Dr. Roush testified that he had no knowledge that Krummrich workers were given any other health information about 2,3,7,8 (R.9/17/85, p.10), even though Monsanto knew at this time that 2,3,7,8 exposure could cause cancer, liver damage, nerve damage and other injuries.

Monsanto's Toxicologist, Dr. Wendell Kilgore, testified that the Krummrich Plant workers had the opportunity to be exposed to 2,3,7,8, (R.12/12/85, p.117) and that it was possible that all plant

workers had been exposed. (id. at p.126 and p.133) Yet, several of Monsanto's Krummrich Plant employees testified they were kept in ignorance of the presence and hazard of Dioxin in the Krummrich Plant. For instance, Ronald Savage, who operated a still and chlorinator in Department 237, was informed about Dioxin only after the Sturgeon lawsuit had brought the matter to light. (R.3/25/85, p.4) Tim Smythe, Department 237 Unit Controller in 1979, was never advised of the long-term health effects from Dioxin exposure. (R.3/25/85, p.23) Joe Starzyk, Department 237 Foreman in 1979, was never told that the products of Department 237 contained Dioxin, (id. at p.137) and was never told that the 2,4-Di spilled in February of 1979 contained Dioxin. (id. at p.140) The Department 237 employees were permitted to work with the chemicals without protective clothing, and were not told of the presence of Dioxin, even though Monsanto

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<sup>5</sup> Until filing its Brief in this Court, Monsanto argued that chloracne, a minor skin disorder, is the only health risk of chronic, low-dose exposure to 2,3,7,8.

**C00178**

had known for years that it was being made in Department 237, and that it could cause serious human health problems.

Section 8(e) of the Toxic Substances Control Act<sup>6</sup> requires Monsanto and other chemical manufacturers to report to the EPA the presence of any hazardous substance in the manufacturer's products. (Pl.Ex.1283) Monsanto acknowledged that the EPA, and not the chemical companies, should determine whether products containing 2,3,7,8 are marketable, and hence, any 2,3,7,8 warrants notice under Section 8(e). (R.8/26/86, p.92) Nonetheless,

notwithstanding the long-standing presence of 2,3,7,8 in Monsanto's products, Monsanto never gave the EPA a notice pursuant to Section 8(e). (R.4/12/85, p.44; and R.4/15/85, p.m., p.74) In fact, Monsanto made every effort to conceal its 2,3,7,8 from the EPA. For instance, although the chemical that spilled at Sturgeon contained 45 parts per billion 2,3,7,8, Monsanto's Dr. James Miere testified that Monsanto, which could detect it at levels as small as 10 parts per billion, never reported it to the EPA. (R.3/13/85, p.48) For another example of Monsanto's refusal to identify its 2,3,7,8, see Plaintiffs' Exhibit 1171 and the testimony of Monsanto's Analytical

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<sup>6</sup> Section 8(e) – Notice to Administrator of Substantial Risks – Any person who manufactures, processes or distributes in commerce a chemical substance or mixture, and who obtains information which reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment, shall immediately inform the administrator of such information unless the person has actual knowledge that the administrator has been adequately informed of such information. 15 U.S.C.A. Sect.2607(e) 1976.

**C00179**

Chemist Robert Kaley. (R.3/19/85, p.9) Plaintiffs' Exhibit 1135 is Kaley's June 26, 1979 memo stating that ninety percent (90%) of the TCDD's in the tanker were the 2,3,7,8 isomer. At Monsanto's Miere's request, before the memo was sent to the EPA, it was altered to delete the admission about the presence of 2,3,7,8 (R.3/18/85, pp.45-50; and R.3/13/85, pp.115-127)

Dr. James Wilson testified that from 1978 to 1983, Monsanto was selling 2,4-Di containing TCDD's that Monsanto assumed were 2,3,7,8; (R.3/27/85, pp.75-76) but the EPA was not notified. (id. at p.174) Monsanto's James Miere testified further about Monsanto's having 9.5 parts per billion of this "unidentified" TCDD in its 2,4-Di, and not reporting the finding to the



EPA. (R.4/9/85, pp.164-167) Phocion Park testified that, to his knowledge, the EPA has never been given any Section 8(e) Dioxin notice by Monsanto. (R.4/12/85, p.44; and R.4/15/85, p.m., p.74)

Plaintiffs' Exhibit 1310 is a memo from Monsanto's Clayton Callis to Monsanto Attorney Phocion Park, suggesting that Monsanto "hedge" in its reports to the EPA.<sup>7</sup> (R.4/17/85, p.134) Plaintiffs' Exhibit 1329 is an April 9, 1980 memo James Wilson sent to the EPA, claiming that samples of Monsanto's products showed quantities of only "undifferentiated tetras." Monsanto's Donald Edwards testified that this memo was "untrue" because Monsanto had, in fact, identified the Tetras as 2,3,7,8. (R.4/24/85, p.116)

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<sup>7</sup> This memo was distributed to Monsanto's Wilson, Roush, Gossage, Head and Kilbourne. (Pl.Ex. 1310, p.1)

**C00180**

Edwards testified further that Wilson's comment to the EPA that, "Further, no TCDD's were detected in samples in other lots manufactured at approximately the same time," was an untrue statement. (R.4/30/85, p.150) Wilson admitted telling untruths to the EPA about the Dioxin content of Monsanto's Santophan. (R.5/8/85, pp.38-82) Wilson admitted further that he willfully made the "incorrect" statement to the EPA that, "Production since 1979 contained no detectable TCDD's." (R.5/9/85, p.97)

At one time in 1979, Monsanto represented to the EPA that Monsanto could not test its products for the presence of 2,3,7,8 because the extreme toxicity of 2,3,7,8 precluded its use in

Monsanto's Labs.<sup>8</sup> (Pl.Ex.1346; and R.5/2/85, pp.135-137) The testimony was that this was an untrue statement, and that the upper echelons of Monsanto Company knew 2,3,7,8 was being used in Monsanto's Labs. (id.; R.5//16/85, pp.26-28; and Pl.Ex.1346) In fact, Monsanto had a 2,3,7,8 sample in its Lab no later than 1970. (R.3/13/85, p.37)

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<sup>8</sup> At trial, one of Monsanto's excuses for its not having tested its products, and not having reported its TCDD's and 2,3,7,8, was that Monsanto did not have sufficiently precise testing methods to detect it at low levels. Wilson testified TCDD testing could have been done as early as 1957, (R.3/28/85, p.98) but Monsanto tested very few batches before the Sturgeon spill. (id. at pp.89-91) Fred Hileman admitted it was possible that Monsanto just did not utilize its full testing capacity. (R.3/22/85, p.96) Monsanto had no regular testing program before the spill. (R.5/29/85, p.121) James Mieure's testimony shows that Monsanto implemented only after the Sturgeon spill a much more precise TCDD-testing method that it could have implemented before the spill. (R.4/10/85, pp.14-126)

At trial, Monsanto offered several other excuses for its having not reported the 2,3,7,8 TCDD contained in its products to the EPA. In one instance, Monsanto identified 9.5 parts per billion of what "coelutes like 2,3,7,8," but failed to report this, because they were not certain that it was indeed 2,3,7,8. (R.4/9/85, p.164) Yet, there is no evidence Monsanto told the EPA when these "uncertainties" later were removed by the exact identification of 2,3,7,8. (id. at pp.167-176)

It was Phocion Park's opinion that Monsanto had no duty to report small amounts of 2,3,7,8 in its products. (R.4/12/85, p.33) Park stated that reporting very low levels of 2,3,7,8 would merely "add fuel to the media fires." (Pl.Ex.1295) Park testified further that the EPA need not have been notified of Dioxin in Monsanto's products, because the EPA already knew that Dioxin was dangerous! (R.4/15/85, a.m., p.48) In addition, Park said that Monsanto had a 2,3,7,8

sample in its Lab no later than 1970. (R.3/13/85, p.37) Park said that Monsanto can refuse to follow the EPA's stated policy that a chemical manufacturer cannot consider the likelihood of exposure in determining whether to report the presence of Dioxin in its products. (R.4/12/95, p.60)

Even Monsanto's Dr. Nair recommended to the Monsanto Biohazards Committee that any product containing more than 250 parts per billion total Dioxins (i.e., all Dioxin isomers, including 2,3,7,8) should be reported to the EPA; yet Monsanto disregarded this recommendation by refusing to report products containing as high as 20,000 parts per billion Dioxins. (R.4/12/85, p.146)

Monsanto's Director of Environmental Management, Michael Pierle, told the EPA in 1977 that Monsanto had no information whether Monsanto's Krummrich Plant's effluents contained Dioxin. (Pl.Ex.1345) Monsanto's Dr. James Wilson confirmed this to be an untrue statement made to the FDA. (R.5/2/85, p.86)

The Canadian government required that no product entering Canada could contain more than 10 parts per trillion 2,3,7,8, Plaintiff's Exhibit 1364 is Monsanto's James Wilson's September 3, 1981 memo to the Canadian government stating that Monsanto's tests indicated shipments showing no 2,3,7,8 at one part per billion. Wilson acknowledged this was an "incorrect" representation. (Pl.Ex.1364; and R.5/10/85, pp.168-172)

Monsanto's cover-up of the Dioxin in its products included, of course, the deception of the purchasers of the products. The testimony was that there was no evidence Monsanto ever notified any of its customers that any of Monsanto's products contained Dioxin. (R.3/27/85, p.165) John McPhillips, Monsanto's Marketing Manager, testified that Lehn and Fink, the manufacturers of Lysol and one of Monsanto's Santophen customers, was not notified of the Dioxin in the Santophen, because Monsanto was worried that Lehn and Fink would stop purchasing the Santophen from Monsanto if it learned about the Dioxin. (R.8/5/85, p.122) Plaintiffs' Exhibits 1566 and 1567 show McPhillips' response to Tennessee Eastman Company's inquiry about whether Dioxin was in Monsanto's Santophen. These Exhibits show that Monsanto lied by saying, "No TCDD in product at 10 parts per billion." (R.8/5/85, p.165 and p.188) Plaintiffs' Exhibit 1561 is Monsanto's reply to Shulton Labs' request for information on the impurities in

Monsanto's Santophen, stating untruthfully that the impurities were not Dioxin.

(R.8/6/85, p.35)

Transbas Company, one of Monsanto's 2,4-Di customers, requested information about the Dioxin content of Monsanto's 2,4-Di. Monsanto was aware that Transbas wanted this information for its "EPA file." (R.4/23/85, p.113) Monsanto told Transbas there was no detectable amount of Dioxin in the May to November, 1988, 2,4-Di samples (R.4/23/85, p.28); but Monsanto failed to tell Transbas that Monsanto knew its pre-May 1988 and post-November 1988 2,4-Di did contain Dioxin. (id. at p.22) Further, Dr. James Wilson testified about Monsanto's lies to Vestal Labs about there having been no Dioxin in Monsanto's Santophen. (R.5/10/85, p.2)

Monsanto not once warned any of its customers of the presence of Dioxin in its products. At one time, Monsanto considered changing the label on its 2,4-Di to indicate its presence (Pl.Ex.1318); but this proposed label change unaccountably was laid aside. (R.4/23/85, p.70) Monsanto never warned any of the potential customers, even though it knew the consumers would be exposed to quantities of Monsanto's Dioxin. (R.3/6/85, p.108) Monsanto knew that some people who used Lysol were contacting 3 parts per billion of Monsanto's 2,3,7,8. (R.3/21/85, p.114) It knew that people were spraying their lawns with a product containing 2,3,7,8, and that these people had no way of knowing of the presence or toxicity of 2,3,7,8 in these products. (R.3/22/85, p.20) Monsanto knew that Lysol contained Monsanto's 2,3,7,8 and that Lysol was recommended for cleaning

infants' nurseries and children's toys (R.5/29/85, p.149; and R.3/21/85, p.102), although there was no warning to customers that Lysol contained any Dioxin. (Pl.Ex.1194) Likewise, notwithstanding Monsanto's policy that 1 part per billion 2,3,7,8 is probably medically acceptable in Santophen, Monsanto failed to ever warn the Sturgeon residents about the Dioxin spilled in their community, even after Monsanto had become absolutely certain that the spilled contents of the tanker had contained 45 parts per billion 2,3,7,8. (Pl.Ex.188-92)

Why did Monsanto lie to and fail to notify the world about the Dioxin in Monsanto's chlorophenols? Monsanto knew that its chlorophenols would be less marketable if its customers learned about the Dioxin content. Monsanto's James Wilson testified that it was profitable for Monsanto to not notify its customers. (R.3/28/85, pp.147-8) Monsanto knew that Diamond Shamrock would stop buying Monsanto's 2,4-Di if Diamond Shamrock learned about the Dioxin content. (R.4/18/85, p.81) Monsanto's Donald Edwards testified that "Any Dioxin in Santophen might discourage customers." (R.4/24/85, p.5) When Monsanto told

Rawlings Waste Company that Dioxin was in Monsanto's waste, Rawlings discontinued taking Monsanto's waste. (R.4/29/85, pp.92-97) Monsanto wanted to advertise Santophen as "Dioxin free," and as a result, Wilson suggested testing only five lots if McPhillips could "live with" the results. (Pl.Ex.1342; and R.5/1/85, pp.77-80) Phocion Park testified that sales could be affected if customers thought there could be adverse health effects from the products. (R.8/5/85, p.87) Park testified that Monsanto knew that its business would be hurt if its customers learned that

Dioxin was in Monsanto's products. (id. at p.92) Plaintiffs' Exhibit 1326 is a March 9, 1989 Edwards to Wilson memo about TCDD in Monsanto's chlorophenols as being of "very high importance" to the continuation of business. (id. at pp.95-96) Monsanto worried that Lehn And Pink would quit purchasing Santophen if notified, so Lehn and Pink was not notified.

(id. at p.122) Park's testimony on the cost of ceasing production shows clearly why Monsanto kept its Dioxin a secret. (R.8/6/85, p.63)

Probably the most appalling feature of this story is Monsanto's efforts to convince the world that Dioxin is harmless. Dr. Suskind testified that he advised Monsanto they should publish experimental findings so as to better defend their position on Dioxin. (R.3/6/86, p.41) Plaintiffs' Exhibit 1552 is a March 3, 1978 memo from McPhillips to Monsanto's Callis saying,

"The monkey's on Monsanto's back to show that Dioxin is acceptable, as Dow's Penta has less Dioxin than Monsanto's." (R.8/5/86, pp.58-65) Monsanto did, in fact, produce "research" to defend its position that Dioxin is harmless. In 1949 there occurred a 2,4,5-T explosion in the Nitro, West Virginia, plant. As a result, many of the plant workers were exposed to the 2,4,5-T

and its Dioxin contaminants. These workers were studied by Monsanto, and the results of these studies were published by Monsanto and accepted as valid by the world. (R.1/9/86, p.124)

The record, however, shows a deliberate course of conduct designed to convince its employees and the world at large that Dioxin is harmless, and that even large doses of Dioxin cause

only chloracne (“Something similar to teenage acne,” according to Monsanto’s press releases), aside from some minor initial reversible health effects. The “research” studies to prove these bald-faced lies were created by Monsanto’s agents and employees, and published in the world’s literature without any refutation, until this case was tried. All of the data, until released to the Plaintiffs during the discovery process, had been under Monsanto’s exclusive control, and never released to the world.

During the course of this trial, these salient and deeply disturbing facts about the health effects of Dioxin surfaced:

Zack and Gaffey, two Monsanto employees, published a mortality study purporting to compare the cancer death rate among the Nitro workers who were exposed to Dioxin in the 1949 explosion with the cancer death rate of unexposed workers. The published study concluded that the death rate of the exposed workers was exactly the same as the death rate of the unexposed workers. However, Zack and Gaffey deliberately and knowingly omitted 5 deaths from the exposed group, and took 4 workers who had been exposed, and put these workers in the unexposed group, serving, of course, to decrease the death rate in the exposed group, and

increase the death rate in the unexposed group. The exposed group, in fact, had 18 cancer deaths, instead of the reported 9 deaths (Pl.Ex.1464) with the result that the death rate in the exposed group was 65 percent higher than expected. Consider what the medical community would believe about Dioxin, if these facts were known outside the confines of the case!!! The Plaintiffs, in cross-examining the Medical Director of Monsanto, Dr. Roush, clearly established the fraud that took place.

The cross-examination not only revealed that the overall death rate from cancer was 65 percent greater in the exposed population than expected, but that the death rate from lung cancer was 143 percent higher than expected, the death rate from genitourinary cancer was 108 percent higher than expected, the bladder cancer death rate was 809 percent higher, and the lymphatic cancer death rate was 92 percent higher. Death from heart disease was 37 percent higher than expected. (Pl.Ex.1465)

To further confound and mislead the medical community and the world at large, a later study of the reported cases of cancer, comparing cancers in living exposed-to-Dioxin workers with living unexposed workers was undertaken by Dr. Suskind in the so-called Suskind-Hertzberg Study. It was also fraudulent, and published in the Journal of the American Medical Association just three months after the trial of this case started. This published study of the workers exposed in the 1949 incident reported only 14 cancers in the exposed group and 6 cancers in the unexposed group (a smaller cohort). However, the medical records produced to the Plaintiffs conclusively proved gross misclassifications and omissions. The correct classification and inclusion of known cancers revealed 28 cancers in the exposed group, as compared to only 2 in the unexposed group. (Pl.Ex.1473) There were 17 skin cancers in the exposed group, as compared to only 2 in the unexposed group. There were 11 cancers at other sites in the exposed group, as compared with no cancers whatsoever at other sites in the unexposed group.



Thus, there were 28 cancers in the group that had been exposed to Dioxin in 1949, as opposed to only 2 cancers in the unexposed group.

**C00188**

The background of these two fraudulent reports was demonstrated and delineated clearly during the cross-examination of Dr. Roush, the Medical Director of Monsanto, which took place on the 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> of July, 1985. The conclusions reached in these exhibits and in the examination of Dr. Roush stood throughout the trial, without any serious challenge. Dr. Suskind attempted a half-hearted defense of Monsanto, but even that attempt was abandoned by Monsanto after Dr. Suskind was cross-examined, and shown to be such a fraud that he refused to return to the State of Illinois for the completion of his cross-examination.

Of great concern to the Plaintiffs is that no publication of the truth has ever taken place, and the world still believes that the occurrence of cancer and the cancer death rate is the same for the person exposed to Dioxin as it is for the person unexposed, even though great significant statistical differences exist.

Earlier, at Monsanto's request, Dr. Suskind had examined the exposed workers in 1953 to determine whether any adverse health effects had resulted from the exposure. In 1955, a Dr. John Nestmann examined many of the exposed Nitro workers, and found that most of them had severe psychoneuroses. (Pl.Ex.1779) Some of the workers filed claims under the West Virginia Workers Compensation Act. In November of 1955, Dr. Suskind met with Monsanto's McClain and Weger (Pl.Ex.1754), at which meeting it was decided that Monsanto and its medical

witness, Dr. Suskind, would delete any reference to Nestmann's findings of psychoneuroses.  
(id.) Monsanto succeeded in concealing

**C00189**

Westmann's findings from the Workers Compensation Commission. (R.3/6/86, p.169) Dr. Suskind made no mention of these psychoneuroses in his later reports published on the Nitro workers (id. at p.185), and had no knowledge that the world was told ever of Dr. Nestmann's findings. (id. at p.191) By concealing these psychoneuroses, Monsanto was able to maintain its position that chloracne is the only long-term health effect of chronic Dioxin exposure.

In his 1988 and 1984 reports, Dr. Suskind indicated that, "except for a few cases," the workers' nervous system problems and liver problems had disappeared by 1953 (R.2/19/86, p.87), although Suskind knew that 27 of the 29 workers out of 36 workers studied, continued to have the same problems in 1953 as they had originally in 1949. (id. at p.175) Suskind said that he had intended to make the world think that only a few of the workers continued to have problems in 1953. (R.3/3/86, p.17) Suskind's studies are misleading, and cannot be relied on. (R.11/19/85, p.128) Monsanto's Dr. George Roush testified that Suskind's studies were "joint studies" between between Suskind and Monsanto (R.7/10/85, p.79) – that the studies were really Monsanto's studies. (id. at p.62)

Monsanto presented all of these studies to the world, claiming fewer Dioxin-caused cancers, deaths and health problems than actually existed. (R.7/9/85, p.127-32) Monsanto and Suskind clearly intended that the world would rely on these reports. (R.3/7/86, p.122) Dr. Suskind

acknowledged that the world and the scientific community had, in fact, relied on them.  
(R.3/19/86, p.101) The damage done to the medical and scientific

world by these false and misleading statements cannot be overstated!

E. STURGEON

Norfolk and Western's train, pulling a tank car filled with 19,000 gallons of Monsanto's OCP-Crude, left Monsanto's Sauget, Illinois plant on December 10, 1978, en route to a California customer, who used OCP-Crude as an ingredient in a common wood preservative. The train derailed, and the contents of the tank car spilled in Sturgeon, Missouri, in the late evening of January 10, 1979.

Because the ruptured tank car did not come immediately to a stop, the chemical spilled over a stretch of approximately 2,700 feet (R.3/5/84, p.154); however, most of the chemical was spilled over a stretch of about 240 feet. (R.3/6/84, p.9) Most of the chemical spilled on the Railroad's right-of-way adjacent to the public school, and property owned by Frances Kemner and William Kemner. Substantial amounts of the chemical were spilled on both the mainline track and the passing track.<sup>9</sup> (R.3/7/84, p.210; R.3/14/84, p.65; R.3/15/84, p.48 and p.191; and R.3/19/84, p.38)

The Sturgeon Fire Department evacuated all residents of the Town in the early morning of January 11, 1979. The evacuation

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<sup>9</sup>As is described at pp.34-35 of Monsanto's brief, the Railroad's three tracks run east and west, and parallel to each other, through the center of Town. The "mainline" is the furthest north, the "passing track" in the middle and the "siding track" furthest south. The Kemners' property is just south of this passing track, where the major part of the spill occurred.