

Monsanto Backgrounder

NITRO DIOXIN TEST RESULTS

MONSANTO COMPANY / ST. LOUIS, MO.

July 27, 1983

Tests of crushed rock samples taken from the surface in active work areas at Monsanto Company's Nitro, W. Va., plant, have been found to contain extremely small amounts of dioxin at levels well below one part per billion (ppb).

Monsanto has provided state and federal officials with the results of tests on these surface-level crushed rock samples as well as 38 subsurface soil samples.

According to George Roush, M.D., Director of Monsanto's Department of Medicine and Environmental Health, the soil samples were taken at depths of from six inches to about three feet below ground -- mostly in areas covered by several additional inches of crushed rock. "While some of these samples did find dioxin in the low parts per billion range, its presence, buried as it is below this crushed rock barrier, does not present a hazard to our employees.

"Thirty of these 38 soil samples contained less than 10 ppb. Only one sample contained more than 100 ppb and it came from soil which is covered over and protected from exposure by a layer of crushed rock in an area where the herbicide 2,4,5-T was manufactured some 20 years ago," Dr. Roush said.

C02602

Dr. Roush reiterated that these findings clearly represent no hazard to the Nitro workforce. "We've already assured ourselves that no dioxin related health problems exist at this plant. Because of the plant's past 2,4,5-T manufacturing history, our Nitro employees have become one of the most medically studied industrial populations in the world.

"At least three separate health studies have been conducted on employees at this location and, other than the skin condition, chloracne, no long-term health problems that could be associated with dioxin exposure have ever been found here," Dr. Roush said.

Dr. Roush pointed out that the much publicized "one part per billion" cleanup guideline established by the federal Centers for Disease Control (CDC) does not apply to industrial sites. "That guideline," he continued, "is intended only for residential areas and is based on the virtually impossible assumptions that a small child would eat one gram of dioxin-contaminated soil every day for several years while at the same time being exposed to another gram every day through skin contact. Using this 'worst case' scenario, CDC has projected that a child, so exposed for 6½ years, would accumulate a large enough dose of dioxin to raise his risk of cancer by one additional chance in a million."

"This uniquely conservative risk analysis also assumes that humans are as sensitive to dioxin as laboratory animals and further, that dioxin causes cancer in humans. Neither of these assumptions has any basis in fact. The American Medical Association reported last October that there is no scientific

evidence that dioxin has caused cancer or birth defects in humans," Dr. Roush said. "On the contrary," he continued, "the substantial amount of medical information available to date clearly shows that, other than chloracne, no long-term human health effects have ever been associated with exposure to dioxin."

Nitro Plant Manager David S. Frazer said these results are based on Monsanto's own laboratory analyses of both its own crushed rock samples and the shared soil samples taken by EPA Region III personnel on July 1. The typical sample accuracy at these ultratrace levels is in the range of plus or minus 50 percent. The EPA results on its half of the samples are expected in the next few days.

"The sampling was done as part of EPA's national dioxin surveillance program. Monsanto's Nitro plant is cooperating in the implementation of this program because the plant manufactured the herbicide 2,4,5-T from 1948 to 1969. It is now known that dioxin was formed in trace amounts as an unwanted, unavoidable contaminant in that production process," Mr. Frazer said.

Mr. Frazer said the company expects to meet with state and federal officials after EPA's own results are available to discuss the situation further.

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MAR 30 1981

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March 27, 1981

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CONFIDENTIAL
SUBJECT TO PROTECTIVE ORDER.

004023



Monsanto

FROM
(NAME-LOCATION-PHONE) D. R. Bishop - A3NB

DATE : March 27, 1981

SUBJECT :

REFERENCE :

TO : Distribution List

cc.

Enclosed is the official corporate response to allegations contained in the lawsuit filed by Nitro Plant employees earlier this week.

This position has been reviewed and approved for use by Messrs. Duesenberg, Gossage, Hussey, Roush, Throdahl and others as appropriate.

It will be used both internally and externally in the Nitro/Charleston area at the discretion of Nitro Plant management.

Its use in all other areas to respond to press inquiries will be at the discretion of and controlled by me. We intend to give this limited corporate-wide circulation to senior, key and some select managers on an F.Y.I. basis.

OpUnit distribution to these managers will be at the discretion of individual Directors of Public Relations.


Dan R. Bishop

DRB:ec

Enclosure

CONFIDENTIAL
SUBJECT TO PROTECTIVE ORDER.

ON REQUEST

D. R. Bishop
(314) 694-2891

PUBLIC RELATIONS DEPARTMENT
Monsanto Company
800 N. Lindbergh Boulevard
St. Louis, Missouri 63166

ST. LOUIS, March 27 -- Monsanto Company issued the following statement today in response to allegations contained in a lawsuit filed on March 25, 1981 against the company by 54 individuals, including former employees at Monsanto's Nitro (W. VA) Plant, their spouses and representatives of eight deceased former employees:

The suit charges that Monsanto was aware of health hazards associated with specific chemicals, but concealed that information from employees. In support of this allegation, reference was made to a company memo dated November 16, 1977, which, according to the complaint, "instructs managers in ways to avoid requests for industrial health data." The complaint quotes -- out of context -- from two paragraphs of a two-page guideline document entitled: "How to Handle Employee and Local Union Requests for Employee Health Data." (A copy of the full document is attached).

When read in context, these guidelines present an entirely different picture of the company's approach to sharing health and safety information with employees even by today's standards -- which are quite different than they were just four years ago.

In a company of this size with 62,000 employees worldwide and 150 manufacturing locations, it is both appropriate and necessary to establish and promulgate guidelines, policies and procedures.

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SUBJECT TO PROTECTIVE ORDER.

Hazard is a relative expression of potential danger. Virtually anything at some level of exposure may become hazardous. At other levels of exposure it can be relatively hazard-free. Experiences from the real world are replete with examples bearing this out. Penicillin and streptomycin, for example, are both extremely beneficial drugs that have saved millions of lives around the world. However, when fed to laboratory animals at certain relatively high doses, both have been shown to cause cancerous tumors -- an obvious hazard to test animals.

Monsanto has a long standing policy of being open and candid with its employees -- willingly sharing with them and their union representatives -- pertinent health, safety and environmental information.

At the same time, it would be impractical, imprudent and against their individual or collective best interests to pass on to them every new bit of newly generated toxicological data from whatever source until and if it can be quantified, qualified and placed in the proper medical or scientific perspective.

Roman numeral IV (from the attached) was designed to guide local managers in handling requests for this kind of "out of perspective" information. It was also designed to ensure that employee privacy rights with respect to their own medical records were protected.

To attempt to lift this out of context and use it as proof that the company deliberately concealed information on health hazards associated with chemicals flies in the face of reality and falsely characterizes what has long been a responsible employee relations program.

As far as we know, the only chemical that any Nitro plant employee was ever exposed to in an amount that could be considered hazardous was para amino biphenyl (PAB). This intermediate chemical was used from the mid-1940s to the mid-1950s in the production of chemical raw materials at the Nitro Plant. (Note: A chemical intermediate is one that occurs during a chemical reaction and is consumed in the process).

In 1955, Monsanto confirmed that prolonged exposure to PAB could cause a delayed incidence of tumors of the bladder in humans. On its own initiative, Monsanto immediately halted the use of PAB and placed all employees exposed to the substance -- even those remotely exposed -- in a long-term health monitoring program which continues even today at company expense.

This incident has been widely treated in both the medical literature and the popular press and Monsanto's response to this unfortunate health problem has been referred to several times in the medical literature as a model for safety activities and for the guidance of other companies and occupational medicine physicians.

The suit also alleges that these employees were exposed to hazardous levels of the phenoxy herbicide, 2,4,5-T, and "dioxin" and that this information was concealed from them.

2,4,5-T was manufactured at Nitro from 1948 until 1969 when its production was discontinued for a variety of economic reasons.

This herbicide has been safely manufactured and marketed for nearly 40 years in this country and abroad by many firms for crop production and forest management applications.

In March of 1949, a well known and widely documented accident occurred in the 2,4,5-T unit, exposing those present and those later involved in the cleanup, on an acute or short term basis, to potentially hazardous amounts of the chemicals present. Some 121 employees developed symptoms including a skin rash known as chloracne, eye and respiratory tract irritation, headache, dizziness, nausea and liver disorder. These employees all received medical treatment at company expense and some were even referred to outside physicians who were specialists in specific disorders. All symptoms -- except some cases of residual chloracne -- subsequently disappeared.

We have continued to monitor the health status of these employees and have observed no adverse long-term health effects in this group of workers other than the aforementioned residual chloracne.

Monsanto does not believe that its Nitro employees, other than those involved in the 1949 accident, were ever exposed to potentially hazardous amounts of this chemical or its byproducts and even those present in 1949, to the best of our knowledge, did not suffer serious or irreversible long term health effects.

Two detailed mortality studies (studies of the cause of death) support this position. One study centered on those employees who were involved in the 1949 accident and have since died from any and all causes. The other looked at the cause of death of all others involved in 2,4,5-T production at Nitro for one or more years between 1955 and 1977. The results of both studies, completed and made public in 1980, failed to show any apparent relationship between workplace exposure and death.

Two additional and very comprehensive epidemiology studies of the Nitro work force are currently being conducted by independent medical investigators. These studies involve present and former employees -- still alive -- and are focusing on current health status. We are confident that these studies, when completed, will further bear out our belief that Nitro employees have not suffered ill effects from their occupational exposure to chemicals.

Monsanto is terribly disappointed that this group of people have seen fit to bring this action. The company will, however, vigorously protect its interests and its reputation as this litigation proceeds.

HOW TO HANDLE EMPLOYEE AND LOCAL UNION REQUESTS
FOR EMPLOYEE HEALTH DATA

- I. Where exposure standards have been set by OSHA, management is to notify employees, individually, of:
 1. The employee's exposure to toxic materials or harmful physical agents in excess of the levels set by the standard, and corrective action being taken by management.
 2. Where requested by the employee, plant records which indicate the level of the employee's exposure.
- II. Management, upon request only, of local union representatives, is to provide such representatives with the same information given to individual employees under I, above.
- III. Management, upon request only, of either an employee(s) or the local union representatives, in cases where exposure standards have been set by OSHA:
 1. Is to provide the employee(s) and/or their local union representatives -- depending on the form of the request -- an opportunity to observe monitoring/measuring of employee exposure to the material/agent.
 2. Is to provide the employee(s) and/or their local union representatives -- depending on the form of the request -- access to records of such monitoring/measuring.
- IV. Except as provided in I, II and III above, requests by local union representatives for "industrial hygiene data," "occupational disease cases data," lists of all chemicals with which employees come into contact, all data on all monitoring/measuring, etc., will be handled as follows:
 1. Local union representatives will be told time is needed to prepare a response (that it is a complicated question; or that all or parts of the data requested are not currently available; not that clearance is needed from St. Louis).
 2. The question/situation will be forwarded to the operating company personnel department.
 3. The operating company personnel department will review the situation with corporate medical, corporate labor law and corporate labor relations. As limited a response as deemed appropriate will be developed.

4. The site management response to the local union will be oral, but reduced to writing upon request. (Where oral, accurate notes will be kept by management.) When data not currently available becomes available, a decision must be made whether or not to provide it, voluntarily, to the local union representatives.
- V. It should be noted that these "How to Handle" guidelines cannot cover all the situations nor allow for the nuances of local plant employee and union relationships. For a plant's industrial hygiene effort to be effective, a positive approach is necessary to employees and union representatives as to what's being done, where problems are, and what cooperation is required from employees. Plant management, with the concurrence of the operating company personnel department, should develop their own positive communications efforts. However, whenever possible, "broadside" and/or "antagonistic" and/or "suspicious" union requests should be resisted as outlined in IV, above.

November 16, 1977

Monsanto

Asham Dep Gx #5
12/21/83 CID

Statement Approved
3/30/79

FROM
NAME - LOCATION - PHONE

Shara Taylor - BLND

DATE : March 30, 1979

SUBJECT :

REFERENCE :

TO : D. R. Bishop

Attached is the approved position statement regarding trace amounts of TCDD in crude orthochlorophenol at Sturgeon, Mo., spill.

This statement is in addition to the ones dated 2/7/79 and 2/12/79.

Shara
Shara Taylor

smt

Att.

C00461

Position Statement: Trace amounts of TCDD in crude orthochlorophenol spilled January 10, 1979, in Sturgeon, Missouri

QUESTIONS & ANSWERS TO BE USED ONLY BY MIC PR IN RESPONDING TO
DIRECT MEDIA INQUIRIES

Q1 What is Monsanto going to do about dioxin caused fish/frog/or calf kills in Sturgeon?

A1 The clean-up contractor for the railroad has removed all contaminated material from the January 10 spill. The EPA has undertaken a very thorough monitoring plan to ensure there is no long-term health problem in Sturgeon. The EPA has taken water and soil samples from the spill site and has taken blood and urine samples from clean-up workers. The EPA is also coordinating the tissue and blood examination of area livestock. At this point there's no indication that the trace amount of TCDD have anything to do with the reported fish/frog or calf kills.

OCP itself is a product that requires worker protection like gloves and eye protection. It is classified as a corrosive liquid and can cause burns. The emphasis since the January spill has been on containment of the spilled product and removal of the contaminated soil. The EPA feels the two ponds containing dead fish contain enough OCP to have been toxic to the fish. Steps were taken to bulldoze a dam to prevent overflow from these ponds into nearby streams.

(If pushed on dioxin vs. OCP as the toxic agent)

We do know that TCDD, the production impurity found in this load of OCP, while highly toxic to man was found in quantities so small that we can just barely measure it. We found 0.037 ppm in our OCP. Another way of stating that is the total load of OCP weighed about 207,000 pounds. The trace contamination of TCDD in that load was 1/8 of 1 ounce, and spread evenly throughout the tank car contents. We feel confident that the TCDD has had absolutely nothing to do with the animal, fish losses in Sturgeon and the TCDD impurity presented no hazard to the citizens.

Q2 Have other tank cars of OCP shipped since this accident been contaminated with TCDD?

A2 Very shortly after the TCDD was discovered we started to analyze the production unit where the OCP and its chemical intermediates are made. If TCDD is found elsewhere, it would be a production impurity which we would try to eliminate. We are looking at all levels of the production unit and as part of that complicated process, we are studying other batches of OCP. We'll probably know in mid-April where the problem is in the unit.

Q3 How long will the OCP be a hazard in Sturgeon?

A3 Fortunately, OCP rapidly biodegrades. Under laboratory conditions the product in water goes from 300 ppm to essentially zero in from two days to two weeks, depending on conditions. We'd expect any OCP that is in a body of water to degrade completely in two weeks. The reason OCP is still around in the water now is evidently because it was frozen and hence, didn't have the opportunity to biodegrade.

Q4 If OCP is killing fishes, frogs, how do we know it isn't poisoning humans?

A4 OCP is detectable in taste and smell at extremely low levels. For example, you can taste OCP in water at .001 ppm. The LD₅₀ in animals is 67 ppm. So you can see our taste is a safety factor against any contamination of ground water. You get a strong medicinal taste (hospital room/mothball smell or taste) at 1/1000 of the LD₅₀ level.