

High rate of defects spur probe

The Ohio Department of Health confirmed today that it is investigating a report showing that Painesville, along with two other northern Ohio communities with plants using the chemical vinyl chloride, has about double the state average of birth defects.

Dr. Peter F. Infante of the department's Division of Chronic Diseases said that for every 1,000 births in each community, 22 in Avon Lake had defects, 20 in Painesville and 18 in Ashtabula. The average for Ohio is 11.4.

"We just don't know what they (the defects) are related to," said Infante. "I will take a long and complex investigation and a lot of time before we might know."

"Malformations occur at birth in every city and state and a lot of factors are related to these malformations," he said. "We can't say what causes it because now we don't know."

All three communities have plants which use vinyl chloride but Infante said there apparently is no link, at the present, between the chemical and the birth defects.

"There is not any evidence that I am aware of that is related to congenital malformations," said Infante.

Painesville City Health Department spokesman said today that of 826 live births in the city in 1973, 23 had birth defects, or a rate of 27.8 defects per 1,000 births.

"We're just starting to look into it," said Dr. Peter F. Infante of the Ohio Department of Health's division of chronic diseases. "There is something

in these areas that appears to be related to malformations at birth." He said the information taken from the study was crude data, and, although he failed to be specific, he indicated the department will be checking into the backgrounds and occupations of the parents of babies with defects.

Painesville has two plants using vinyl chloride, Robintech, Inc., and Uniroyal, Inc. The General Tire & Rubber Co. in Ashtabula and the B. F. Goodrich Co. in Avon Lake also use the chemical, the report shows.

The study turned up when the industrial union department of the AFL-CIO told a congressional committee excessive birth defects might be related to plant use of vinyl chloride. The chemical has been under attack by the union as a possible cause of liver cancer.

Infante called the preliminary information taken from a study of birth records and declined to outline the nature of the department's investigation.

PAINESVILLE TELEGRAPH

3 cities are high in birth defects; chemical is hit

By George P. Rasanen
Plain Dealer Bureau

WASHINGTON — An abnormally high rate of birth defects has been recorded in children born in Painesville, Avon Lake and Ashtabula, all northern Ohio communities with manufacturing plants using vinyl chloride.

The Ohio Department of Health is investigating preliminary findings of a study showing that for every 1,000 live births in each community, 22 in Avon Lake, 20 in Painesville and 18 in Ashtabula have defects. The average for Ohio is 11.4.

The study came to light when the industrial union department of the national AFL-CIO told a congressional committee it fears that excessive birth defects might be related to plant use of vinyl chloride.

Information on the birth defects has been turned over to the House Committee on Interstate and Foreign Commerce, which is considering a tougher law regulating chemicals used in industry.

Painesville has two plants that use vinyl chloride, Robintech, Inc. and Uniroyal Inc. Ashtabula has a General Tire & Rubber Co. plant and Avon Lake has a B.F. Goodrich Co. plant that uses the chemical.

Dr. Peter F. Infante of the Ohio Department of Health's division of chronic diseases, however, said there was no defi-

nite link between the high number of defects and vinyl chloride.

"We're just starting to look into it," Dr. Infante said. "There is something in those areas that appears to be related to more malformations at birth."

He called the preliminary information that was taken from a study of birth records crude data. The department is looking into the kinds of malformations found among babies. Although Dr. Infante declined to be more specific, the department presumably will be checking into the backgrounds and occupations of the parents of the babies born with malformations.

The AFL-CIO, which has been stepping up efforts to negotiate for stronger regulations to protect the health and safety of workers, had initially asked the health department to inquire into rates of fetal mortality in the three cities.

The chemical, used in the production of plastics, has been under attack by the union as a possible cause of liver cancer. The federal Food and Drug Administration has recently banned aerosol sprays using the chemical.

Peter Bommarito, chairman of the AFL-CIO's committee on worker health and safety, argued that evidence shows that wives and children can become exposed to vinyl chloride because workers carry the chemical home on their clothes and bodies.

CLEVELAND PLAIN DEALER 8/21/74

Telegraph survey indicates no link to PVC, defects

By JIM SPEROS
Telegraph Staff Reporter

A survey by The Telegraph indicates no apparent connection between the occupation of parents of children born in Painesville in 1973 and the abnormally high rate of birth defects in the area for that year.

The Ohio Department of Health reported in August that it was investigating reports that three northeastern Ohio communities, including Painesville, had double the statewide average of birth defects for 1973. The reports linked the defect rate to the use of vinyl chloride in industrial plants in Avon Lake, Ashtabula, and Painesville.

Painesville had 826 births in 1973 with 23 born with birth defects or congenital malformations. This gave the city a rate of 27.8 defects per thousand as compared with a statewide average of 11.2 defects per thousand births. Reports from the AFL-CIO Industrial Union Committee had indicated that the defects in several communities might be related to the use of the chemical, used to make polyvinyl chloride, the most common form of plastic.

The Telegraph survey found that of the 23 children born in 1973 with defects, only one had a parent working at either Uniroyal or Robintech, the two area plants that use vinyl chloride. In the control group of parents of children born normally that year, one also worked at a vinyl chloride plant prior to his child's birth.

Similarities also existed between groups of parents who worked in chemical plants where vinyl chloride was not used, and also between groups of parents who worked in plants or careers in which volatile chemicals were not used at all.

No correlation could be found between the type of defect in the child, or residence of the parent, and occupation. A cross tabulation of those variables produced only random patterns. Hyaline membrane disease (a disease that prevents air from entering the bloodstream in the lungs) was the most common defect, and Painesville, Madison, and North Madison were the communities with the highest concentration of births in both groups.



Scientific techniques applied in polling

The Telegraph survey on possible effects of the use of vinyl chloride in two area plants and the abnormally high rate of birth defects in the area was done using scientific polling techniques.

Each certificate of birth at the Painesville City Health Department is numbered consecutively. The certificates also show whether the baby was born with any kind of birth defect and the name and address of the parents.

Each birth certificate that noted a baby born with a defect was made part of the sample called the "experimental" group. The name and address of the 23 children born with defects in 1973 was taken as the basis for polling.

To select a "control" group, or group that accurately represented the entire population of babies born in Painesville in 1973, a random selection process was used. A number between one and 35 was selected at random, and the certificate with that number made part of the control sample. Each subsequent 35th certificate after that was also made part of the sample to make a control sample of 25, approximately the same number as in the experimental sample. Because the first certificate was chosen at random, each birth had an equal chance of being included in the control sample. In three cases, the 35th subsequent certificate could not be included in the control sample, either because it was one included in the experimental sample, or because the baby was adopted.

\$10

Now, for the first time
6½% interest on

And you can add
same high 6½%

Your interest starts
the effective annual

Now, and only at
maximum bank interest

Check the table
only \$10—and starts
from the day of

Now, there is a difference

All

Plan	Rate Compound Quarterly
3-Month Time-Deposit Plan	5½%
1-Year Time-Deposit Plan	6%
2½-Year Time-Deposit Plan	6½%

PVC claims buffet area's plastic industry

By JOHN MEYER
Sunday Paper Reporter

The polyvinyl chloride (PVC) plastic industry most find a middle ground that will protect the health of its workers, yet allow production to continue.

Vinyl chloride, the gas used in making the versatile plastic resin, has been shown to cause cancers in animals when breathed in high concentration. In January, B.F. Goodrich, the leading U.S. PVC manufacturer, revealed that three employees of its Louisville, Ky., PVC plant had died from a rare liver cancer.

Since then, 13 cases of the cancer have been identified in U.S. PVC workers, 11 of whom have died. This newly-discovered health hazard has led the federal government to propose regulations which could have a major impact on the U.S. economy.

Polyvinyl chloride is one of the most widely used plastics, and is found in homes, automobiles, recreation products, and a myriad of other applications.

The largest single use is in drain pipe and conduits for construction. The modern flooring materials which have replaced linoleum are nearly all based on PVC. Upholstery, both for furniture and in cars, the vinyl roofs of cars, and the insulation on most wiring are other major uses.

Records, credit cards, siding, shower curtains, hoses, wall coverings, and sporting goods are a few other applications.

Supermarkets wrap meat and produce in clear PVC film; beer and pop cans are lined with it; bottles now are sealed with PVC instead of cork.

All these plastic products are formulated from raw PVC resin, which is a granular, white substance resembling sugar or sand. It is an innocuous substance, resistant to flame and chemicals, and hasn't been connected with any health problems.

The problem lies with vinyl chloride monomer, the raw material for the resin. Vinyl chloride (VCM) is a molecule called a "monomer" which under heat and pressure is linked into a chain called a "polymer." This is PVC.

The polymerization process, carried out at 36 plants in the U.S. (including Untroyal and Robintech in Painesville Township) is never complete. The VCM molecules which don't

PAINESVILLE TELEGRAPH 8/25/74

Thirteen cases of angio sarcoma, a rare liver cancer, have been reported in polyvinyl chloride workers in the U.S. Eleven victims died. This week the Ohio Department of Health confirmed it is investigating a high incidence of birth defects in three northeastern Ohio communities—Painesville, Ashtabula and Avon Lake—which have vinyl chloride plants in their communities. Industry spokesmen criticized the report as "unsubstantiated" and "premature," and the health department said there was no evidence there was any connection between the plants and the birth defects. The industry's problem: how to protect its workers, yet not destroy an industry that employs some 2.2 million people.

connection to cancer was discovered, OSHA lowered the allowable level to 50 parts per million (ppm).

That standard will be lowered to essentially zero—"no detectable amount" by Congress in October if OSHA has its way. The 21 companies producing PVC have said compliance is impossible; they claim the industry would have to shut down.

Meanwhile, the Environmental Protection Agency (EPA) has sampled the air near several PVC plants and is expected to issue its own requirements on allowable levels of VCM gas outside the plants.

J.E. Zimmerman, operations manager for the plastics division of Diamond Shamrock Chemical Co., said a one ppm level outside a plant could be achievable "with difficulty," but would require "astronomical costs."

Diamond Shamrock's medical officer Dr. Richard W. McBurney of Painesville pointed out reductions in workers' exposure are largely gained by venting of the gas outside the plant.

Improved processing techniques, better control of leaks and waste, and plant designs that minimize worker contact with VCM gas have significantly reduced exposure throughout the industry.

Diamond Shamrock engineers have said in-plant levels around 20 ppm are achievable. The industry position, both in this country and in Europe, is that levels below five to 10 ppm couldn't be achieved even with today's most advanced technology.

The industry argument is that these low levels don't constitute an occupational hazard to workers, and that a zero level requirement would cause massive disruption in the building, automobile, clothing, and home

production, and between 1.7 and 2.2 million jobs would be lost.

The study, made by the Cambridge, Mass.-based firm of Arthur D. Little, Inc., concluded a shutdown of all PVC plants "would create severe economic dislocations in many local areas."

Substitute products for PVC are often inferior, and even if available in adequate quantities, which most are not, would require conversion programs of up to four years, the study said.

Besides the economic studies, the plastics industry has funded medical studies to determine what amounts of vinyl chloride in the air are dangerous. The crux of the issue is whether levels industry considers acceptable—around 20 ppm—are really safe.

As Diamond's Dr. McBurney pointed out, all identified cases of the liver cancer in PVC workers involved men who had worked over long periods in old plants where exposure levels were far higher than now.

When PVC production began in the late 1930s, VCM gas was considered safe except for its explosive qualities. The only concern was to keep levels in the air below three per cent (30,000 ppm), to prevent accidents. In the early days of the PVC industry—and into the 1950s—the odor of the gas was constantly present in the plants. VCM can't be smelled at concentrations less than 2,000 ppm.

The chemical corporations assert that the men who contracted the liver tumors did so when working under extremely high concentrations which are never found anymore.

The Manufacturing Chemists Association (MCA) sponsored a study of some 8,000 present and former PVC workers and found several types of cancer occurred more often

IX Medical Surveillance

1-10 yrs 1/yr

>10 2/yr

after emergency

statement of each employees suitability for continued exposure to VC

X Records

A - regulated areas

B - Medical

C - monitoring

D - 30 years

XI Demonstration of Respiratory Equip.

XII Questions / answers

I Hazards of VC

A - Explosive 4-22%

B - Anesthetic

C - CARCINOGEN

B.F.G.

animals

18/20

none D.S.

II Permissible Exposure Limit

1

5

LIQUID

ACTION LEVEL

III Monitoring

A - Charcoal

B - areas

IV Regulated Area

V Methods of Compliance

A - Engr Work practices

B - Operating procedures

VI Respiratory Equipment

5-25

VII Hazardous Operations
must wear respiratory equip.

VIII Training
Annual review