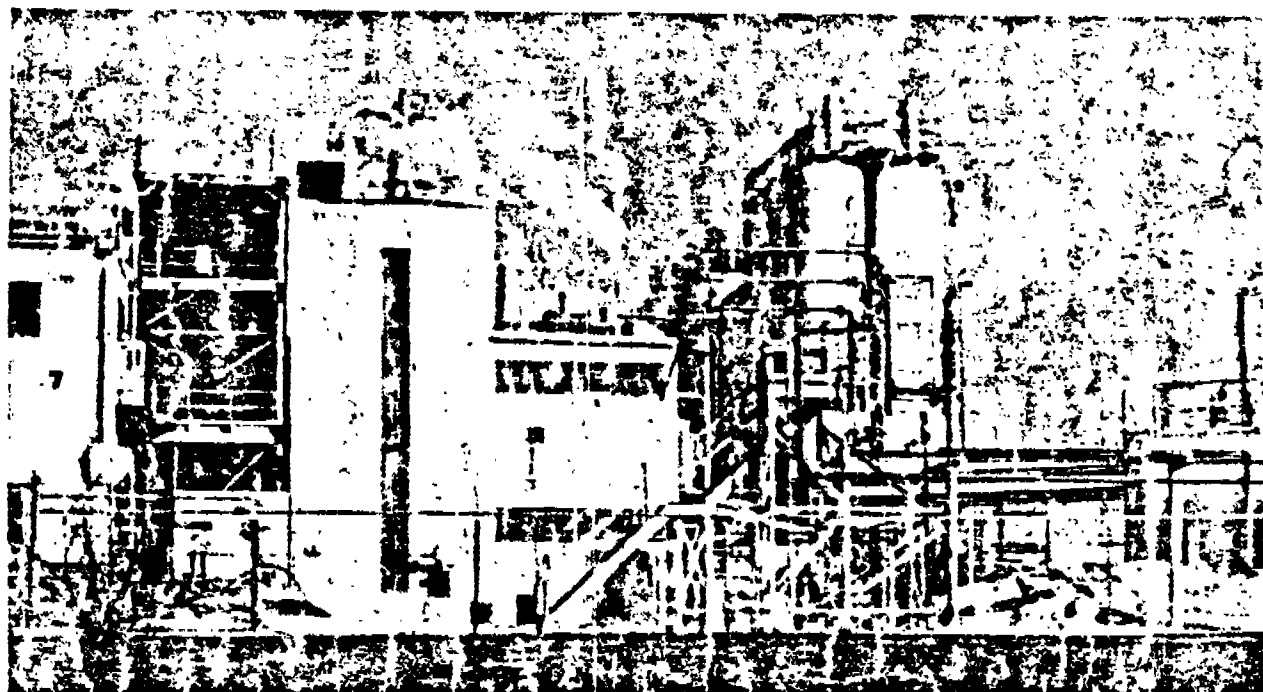


Another article which indicates our public relations policy is poor. *FRD*

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FLA Reed

An Army, a Factory and a



Telegram Photo by FRANK A. CAZANE

The highest levels of the cancer-causing vinyl chloride — six times higher than an upcoming federal safety level — were found near the fence outside this Borden Chemical Co. plant in Leominster.

It's Costly to Curb Vinyl Chloride

By ROGER A. LEO

Telegram Leominster Bureau

LEOMINSTER — The signs say, "Welcome to Leominster — Pioneer Plastic City." And they mean it.

Plastic is the bread and butter of Johnny Appleseed's hometown these days.

Trouble is, some ingredients of plastic are dangerous. Vinyl chloride, the raw material of polyvinyl chloride, has been irrefutably linked to angiosarcoma, a rare liver cancer. Eighteen cases have been confirmed in the United States among vinyl chloride workers, and more have occurred outside the U.S. Less convincing evidence links vinyl chloride with birth defects and miscarriages.

Borden Chemical Co., Leominster

Street, is this city's only producer of polyvinyl chloride, and hence the only handler of vinyl chloride in Leominster.

Great American Chemical Corp. of Fitchburg is the only other area firm handling vinyl chloride.

Borden officials are quick to say no cases of angiosarcoma have turned up at either of their plants — the one here, or the one in Illinois, Ill.

The officials say they are sensitive to the dangers of vinyl chloride and will do what they must to meet new federal regulations on permissible levels of the gas inside and outside the plant.

As one company official put it, "You don't make money continuously in a business by killing or maiming your customers, your workers, or people in the area."

Vinyl chloride is the raw material for a wide range of plastics. As a gas, it was used to propel chemicals from spray cans for several years, until the federal government banned such use last year because of air pollution and cancer dangers. Linked in chains, the vinyl chloride gas becomes polyvinyl chloride, a plastic. Such a chain of molecules is called a polymer.

Borden's two plants produce 500 million pounds of polyvinyl chloride a year. Industry officials and federal agencies in charge of protecting workers and the environment differ on just how dangerous the vinyl chloride gas actually is.

The Occupational Safety

and Health Administration (OSHA) and the Environmental Protection Agency (EPA) have been working to set limits on the amount of vinyl chloride that can escape during production of polyvinyl chloride — and the levels are so small they indicate healthy respect for the amount of damage vinyl chloride can do.

Inside plants such as Borden's plant here, OSHA sets limit of 1 part vinyl chloride per million parts air. The limit takes effect at the end of April.

The EPA is expected to set a limit of 10 ppm at points of emission from the plant. A limit is expected to be promulgated March 30, and will

Turn to BORDEN Page 2

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who is this?

Borden Chemical Fails Vinyl Chloride Tests

Continued From Page 21A

take effect 90 days thereafter. A two-year delay in meeting the standard may be granted by the agency, if it determines an effort is being made to comply.

Borden now meets neither standard, and company officials are the first to admit this.

This is why the company is seeking a \$12.5-million loan through sale of revenue bonds by the municipal Industrial Finance Authority. Such a loan is attractive to the company because of the low finance charge; the bonds are attractive to buyers because of their tax exempt features; and the whole deal is attractive to the city because it is one tool for helping industry solve problems economically thereby insuring jobs and a stronger tax base.

Mayor John B. McLaughlin and City Accountant John R. Tata are pleased to be able to assist in the process, as they feel such a financial commitment on the part of Borden indicates an intention to remain in the city for some time to come.

With the \$12.5 million, Borden will install equipment to capture and remove vinyl chloride, and to filter out what can't be recaptured, company officials explained.

Vinyl chloride is delivered to the plant here in railroad cars, and is either stored in the rail cars or in pressurized tanks.

The isolated molecules (monomers) of vinyl chloride gas are pumped into "bottles" where heat and pressure are applied, forcing the monomers to link up into the molecular chains (polymers) of polyvinyl chloride.

PVC takes the form of resins that have a variety of commercial applications, in-

cluding pipes for irrigation and plumbing. The Borden plant also produces latexes and plastics made of vinyl chloride and some other material to produce special characteristics.

The polymer (chain of molecules) has not caused problems — it is the monomer that is the culprit.

The 18 cases of angiosarcoma in the U.S. all involved workers in five of the oldest plants handling vinyl chloride.

OSHA and the EPA became concerned about the monomer in 1974, when a doctor with B.F. Goodrich noted a link between vinyl chloride and angiosarcoma.

Studies have since found the 18 cases at the five old plants.

Borden checked all former employees' health records, and tested all present employees, but has found no trace of the liver cancer.

Nevertheless, Borden is moving to comply with the federal guideline.

The plant here is relatively new — it went on line with PVC in November, 1956.

When the EPA first became concerned with vinyl chloride, Borden officials invited the agency to send teams to Leominster to develop a system for testing levels in the air.

EPA accepted, in spring of 1974, and the results showed low levels in and around the plant — but levels that were in some cases far above the standard OSHA and EPA are urging.

On May 9, 10 and 12, 1974, 157 air samples were taken on plant property and within a three-mile radius of the plant.

The vinyl chloride concentrations in the samples ranged from less than the detectable level of 0.06 ppm to 6.8 ppm, the EPA report states.

The samples exceeding 2 ppm were obtained on plant

property near the fence line, the report states.

Twelve 24-hour samples were collected at the fence line, on plant property, and the EPA found vinyl chloride levels ranging from less than 0.06 ppm to 1 ppm.

The EPA admits the methods used in the tests were "interim procedures which have already been subjected to further modification."

But company officials, for their part, admit the plant does not meet either OSHA limits of 1 ppm inside the plant, or the EPA proposed standard of 10 ppm at ventilation points.

Every worker wears a device that monitors his aggregate exposure to vinyl chloride, and has a respirator which he or she is encouraged to wear. In addition, there is an alarm system which sounds whenever the level of vinyl chloride goes above 25 ppm.

One Borden official said when the OSHA standard takes effect April 30, all workers will be required to wear the masks any time the level of vinyl chloride goes above 1 ppm. Monitoring of the workers must continue as long as the vinyl chloride level remains above 0.5 ppm, the official said.

To meet the federal standards, Borden is going to install a system that will include:

- Strippers to remove residual vinyl chloride gases from polyvinyl chloride resins.

- Fugitive emission controls to capture and eliminate from the air stray gaseous emissions from the industrial processes.

- Equipment to control the escape of gases from reactors and mixing, weighing and holding containers used in the manufacture of PVC resin.

- Gas collection and purification machinery.

- Equipment to control the escape of gases from reactor pressure relief devices.

- And construction of wastewater stripping devices.

Vinyl chloride is produced from acetylene or ethylene and once was used as an anesthetic.

Standard toxicity tests on animals showed no hint of the cancer danger, and no other harmful effects were noted.

The product is sold in bulk at 24 cents a pound loose or 26 cents a pound in 50-pound bags. A company spokesman would not speculate on what effect the \$12.5-million pollution project will have on prices.

One thing seems sure — nothing, not even pure air to breathe — comes free anymore.

Car Hits Tree Flips in Dudley, Injures Two

DUDLEY — Two local men were injured early yesterday morning when their car struck a tree and overturned on Route 131.

INJURED

VAN CHAUVIN, 21, of 15 Williams St., listed by police as the driver, treated at Harrington Memorial Hospital Southbridge, for minor injuries.

STEPHEN WILGA, 18, of Oakwood Ave., a passenger, also treated at the hospital for minor injuries.

Police said the crash occurred about 3 a.m. A second accident occurred at the scene a short time later but the driver of the car, not identified, was not injured.