



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

MAY 30 1974

Mr. E. D. Macias, Plant Manager
Olin Corporation
238 South Main
Assonet, Massachusetts 02702

Dear Mr. Macias:

The Office of Air Quality Planning and Standards of EPA is in the process of gathering information for possible use in the development of national emission standards for vinyl chloride (VC) and polyvinyl chloride (PVC) plants in accordance with the Clean Air Act of 1970. This information will be obtained from a number of such plants for purposes of quantifying the emissions, ambient concentrations, and identifying control techniques presently being used to reduce emissions. We will need the following information from your company regarding your PVC plant located in Assonet, Massachusetts.

Process and Emission Data

Please provide a brief description of the process to include all transfer and storage points. Include information on the manufacture of PVC through the formation of PVC pellets.

The following information should also be included.

A. Process flow sheet - Provide a simple process flow sheet showing all major equipment and the amount of product produced.

B. Emissions - On the process flow sheet indicate all continuous and intermittent sources of air emissions. Give the composition and amount of each emission expressed in terms of pounds per pound of product produced, concentration, and pounds per hour. If emission data are not available "best estimates" are to be prepared. The bases and assumptions used in preparing the emission estimates are to be discussed in detail.

RECEIVED

JUN 03 1974

E. D. MACIAS

OLI 5283

✓ CK 14 Jan
Recovery
Collectors
R. Rowling

C. Control Device - Emission control devices presently in use should be indicated on the process flow sheet. Show the amount and composition of process streams into and out of each control device. Provide a brief engineering description and significant operating and design parameters for each device. Provide a discussion of the control devices or techniques that could be applied to each source of emissions and the approximate emission reductions that would result from application of that technology.

✓ CK 14 Jan
Emission
Control
Procedures

D. Fugitive Emissions - Estimate by material balance (or other method) the total amount of vinyl chloride lost from leaks through valve stems, safety valves, pump seals and other miscellaneous sources. In addition, emissions resulting from line or vessel blow down, reactor ventilation, storage or transfer operations within the plant are to be estimated and summarized. The individual locations and amount of each emission in pounds per hour is to be specified.

E. Emission Control Procedures - If special maintenance procedures, process design features or plant operating procedures are used to control emissions describe the methods used and estimate their effectiveness. Discuss procedures that could be used or are planned to reduce emissions.

Control and Economic Data

For each of the control devices or emission control procedures currently in use or planned give the following information.

✓ CK 14 Jan

A. Investment Cost - Provide separately the total investment cost and the cost of installation (where applicable). Include a list of the equipment, the year of purchase, and whether the system was part of the original plant or was retrofitted.

✓ CK 14 Jan
Operating and Maintenance Cost

B. Operating and Maintenance Cost - Provide estimates of the expected life of the control equipment and the annual operating and maintenance costs required. Operating costs should distinguish labor costs, capital charges, cost of utilities used, fuel costs, and costs of chemicals and other materials. Give amount and value of any material recovered, both annually and per unit of production.

Ambient Air Data

✓ CK 14 Jan
Ambient Air Sampling
Points on Plant

A. Provide the results of any ambient air sampling for vinyl chloride which you have done. Show layout of plant with location of major process areas, sampling points, and concentrations found.

Analytical & Sampling Data
Weather Data

Give the analytical and sampling method used and weather data during the sampling period.

B. Where possible for each source of emission provide the information that is necessary to estimate ambient air concentrations. This would include stack heights, configurations and diameters, the gas flow rates, temperature, and gas velocities to the atmosphere. ~~SECRET~~

The Environmental Protection Agency has broad authority to secure any information deemed necessary for development of standards under the Federal Clean Air Act (42 U.S.C. section 1857, et. seq.). Section 114 of the Act (42 U.S.C. section 1857c-9) authorizes this agency to make inspections, conduct tests and require owners or operators of any emission source to submit information for the purpose of developing emission standards. This letter and the requests for information contained herein are being sent pursuant to section 114.

Any records or information obtained during an investigation shall be available to the public unless a satisfactory showing has been made to the Administrator that the release of the information obtained would divulge a trade secret. Information requested pursuant to section 114 cannot be withheld from EPA on the grounds that you consider it to be confidential.

If you believe that any of the information we are requesting would reveal a trade secret if divulged, you should clearly identify that information, and set forth reasons for your claim, including supportive data or legal authority. Your reasons and supportive data should be presented separately for each item of information. Unsupported statements that you consider certain information confidential will not be accepted. Emission data, however, will always be available to the public. Any information determined to constitute a trade secret will be covered by 18 U.S.C., section 1905. A copy of the Act is enclosed for your convenience.

Please provide all of the information requested in writing before June 14, 1974. In addition, we may be requesting that representatives of your company meet with the EPA to discuss the information requested in this letter and other matters concerning the vinyl chloride emission problem. EPA may also request additional information.

-4-

Please contact Mr. Leslie B. Evans at 919-688-8146, extension 295, if you have any questions regarding the specific information requested in this letter.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Don R. Goodwin".

Don R. Goodwin
Director
Emission Standards and
Engineering Division

Enclosure

FSA

1. Night Reactor Aerating

a) VCM concentration

b) pH

c) PO_4

2. Straight down and Monitor / Control

3. Measure of VCM in slurry

4. Measure of VCM in shed - open

5. Measure of VCM separated to atmosphere from
the building

6. Measure of VCM concentration from inlet to the
exhaust

7. Measure of VCM in tank sample

8. Measure of VCM final PVC sample & return

9. Measure of VCM & inlet dust collector

10. Measure of VCM & inlet tank

11. Measure of VCM & transfer line from tank to
the holding tanks

12. Measure of VCM & transfer line from holding tanks
to VCM receivers

13. Measure of VCM lost & R.S. Tank and building
VCM receiver when exhausted

14. Measure of PC concentrated in sitting down.
15. Opp. of Measure of PC in sitting down.
16. Measure of PC from centrifuge off down.
17. Measure of PC in long stature & back bending.

135

8/24/74

100

20

5/1/74

EPA

- 1. weight water vapors
- 2. H_2O conc
- 3. VCN conc
- 4. dry wt PVC

VCN test to atmosphere

- 1. record monomer
- 2. monomer in series for run
- 3. record mass of VCN in slurry
- 4. down stream
- 5. wet cake (VCN concentration)
- 6. concentration in centrifuge effluent
- 7. VCN concentration in PVC (final)

- 1. Building Efficiency
- 2. Efficiency of transport
- 3. Efficiency of system
- 4. Efficiency of transport system

also see attached A

Monday

- 1. Slurry samples from Reactor
- 2. Slurry samples from Bluff tank
- 3. Slurry samples
- 4. Slurry samples

Tuesday & Wednesday

1. Slurry - feed from reactor

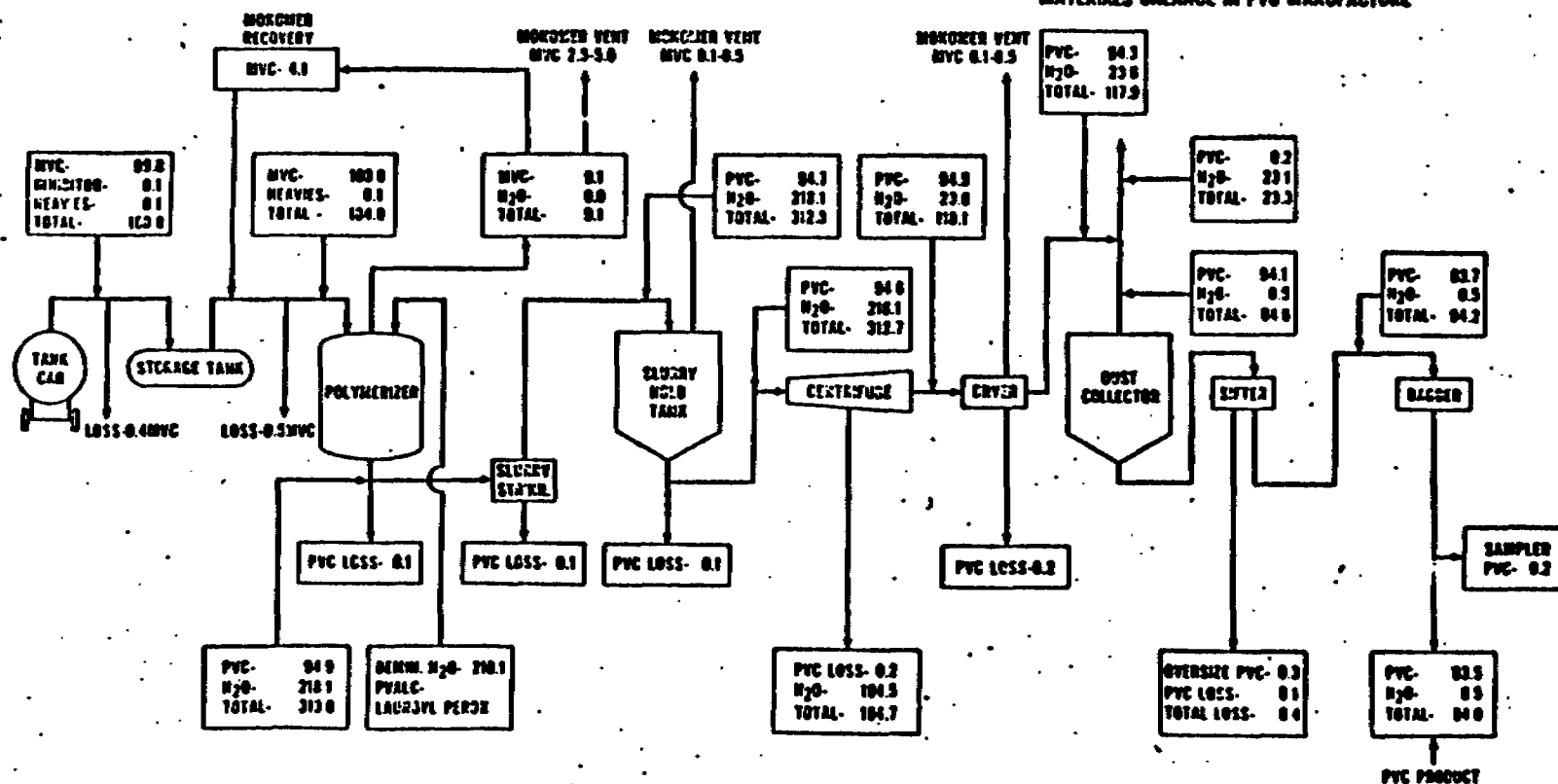
OUTDOORS

PRELIMINARY ESTIMATE OF LOSSES

IN PVC SUSPENSION POLYMERIZATION
(TYPICAL PROCESS)

ENCLOSED IN BUILDINGS

MATERIALS BALANCE IN PVC MANUFACTURE



BASE: 100LB. MONOMER MVC
INTO PLANT

DAY CCSTAIN
0-1000 PPM
UNREACTED MVC

