

INTER-OFFICE MEMO **TENNECO CHEMICALS, INC.**

to W. Miringoff

At Burlington

DATE March 18, 1974

FROM W.C. Champion

At Burlington

COPY TO R.T. Bucsko
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SUBJECT Sumitomo Plant
Quality Control Laboratory

As you requested, we have reviewed laboratory space, services and equipment needs for the proposed Sumitomo Plant. The attached estimates are based on the assumption that separate laboratory facilities will be provided at the new site. If, as an alternative, the current facilities are expanded, considerable savings could be anticipated in manpower and equipment needs.

In-process and effluent testing would be done at the frequency recommended by Sumitomo. Finished product testing would conform with our current practices (they apparently do less). We would propose simple identification testing of raw materials, instead of complete reliance on supplier information as done by Sumitomo.

The total floor space requirement is projected to be 1460 square feet (including retain sample storage), distributed as shown in Table I. There are no unusual power requirements related to the laboratory equipment. Special design considerations are as follows:

1. Two 10' x 10' rooms must be maintained at a constant temperature ($23^{\circ}\text{C} \pm 1^{\circ}\text{C}$).
2. One of these rooms, the electron microscope laboratory, must be a relatively clean (dust-free) area, free of vibration of severe magnetic field disturbance. This suggests a building separate from the plant or a floating pad.
3. Because of monomer and latex handling, a total of four explosion-proof hoods are required.

W.C. Champion

Attachments (2).

WCC/jst

TABLE I

SUMITOMO PLANT QUALITY CONTROL LABORATORY
SPACE AND SERVICE REQUIREMENTS

1. Finished Product Physical Testing Laboratory

Area 20' x 24' = 480 square feet

H/C Water

Demineralized Water

110/220 volt, 40 amp electrical service

2. Finished Product Rheological Testing Laboratory

Area 10' x 10' = 100 square feet

H/C Water

110 volt, 20 amp electrical service

Constant Temperature

3. Analytical Laboratory

Area 20' x 30' = 600 square feet

H/C Water

Demineralized Water

110/220 volt, 60 amp electrical service

4. Microscope Laboratory

Area 10' x 10' = 100 square feet

H/C Water

110 volt, 30 amp electrical service

Constant Temperature

Vibration and Magnetic Field-Free

5. Office Cubicle

Area 8' x 10' = 80 square feet

110 volt, 15 amp electrical service

6. Storage Area (Chemicals, Glassware, Retained Samples)

Area 10' x 10' = 100 square feet

110 volt, 15 amp electrical service

Total Area Requirement = 1460 square feet

TABLE II

SUMITOMO PLANT QUALITY CONTROL LABORATORY

EQUIPMENT REQUIREMENTS

Finished Product Physical Testing Laboratory

Laboratory Benches
Overhead Storage Cabinets
Standing Storage Cabinet
Solvent Storage Cabinet
Sink
Water Demineralizer
Chemical Hood (Explosion-Proof)
Top-Loading Balance
Hobart Mixers (2)
Gardner Haze and Gloss Meter
Hot Bar Gelation Tester
Circulating Air Oven
Hegman Fineness-of-Grind Gauge
Viscosity Bath
Syntron Vibratory
Volatiles Test Oven
Stir Plate
Hot Plate
Calculator

Finished Product Rheological Testing Laboratory

Laboratory Benches
Overhead Storage Cabinets
Standing Storage Cabinet
Sink
Brookfield Viscometer
Severs Viscometer
Timer
Top-Loading Balance
Water Bath - Thermostatically Controlled

Analytical Laboratory

Desk
Laboratory Benches
Overhead Storage Cabinets
Standing Storage Cabinet
Solvent Storage Cabinet
Sink
Water Demineralizer
Explosion-Proof Hoods (3)
Gas Chromatograph

Analytical Laboratory (continued)

Top-Loading Balance
Analytical Balance
Centrifuge
IR Spectrophotometer
Circulating Air Oven
Vacuum Oven and Pump
Stir Plate
Stir Hot Plate
Calculator
pH Meter
Titration Apparatus
Dissolved Oxygen (DO) Meter
Total Organic Content (TOC) Meter
Hach Apparatus (BOD)
Desicator
Specific Resistivity Meter
Coulter Counter

Microscope Laboratory

Laboratory Bench
Sink
Desk
Transmission/Scanning Electron Microscope
Milipore PIMC Particle Analyzer

Office Cubicle

Desk
File Cabinet
Book Case
Calculator