HMM/file

FROM A. G. Aiuvalasit AT Houston IN REPLY REFER TO

TO S. A. Bayless AT Houston DATE 1-7-77

AK8C-09
CGPC

INDUSTRIAL HYGIENE SURVEY - CHINA GULF PLASTICS

As mentioned to you in my note of 11-8-76, I recapped the major points of the comprehensive and excellent report by Dr. R. T. Cheng.

Another copy of my recap is attached.

Of primary interest here, due to the hazards identified are the following:

1. A "follow-up" procedure should be established with China Gulf so that our management as well as the Medical Division be advised of the status of work on the recommendations.

2. The standards cited by Dr. Cheng represent goals toward which this operation should move. However, because of the seriousness of the hazards involved, immediate action should be taken to reduce exposures particularly in the cases of vinyl chloride and mercury.

3. Periodic resurveys of the operations by Safety and Health personnel should be scheduled until the major hazards are removed or reduced.

Dr. Cheng's report is enclosed.

A. G. AIUVALASIT

AGA:sc
Enclosures

cc: R. J. Comeaux - wo/encls.
H. T. Miller - " "

RECEIVED
JAN 10 1977

CHINA GULF PLASTICS RECAP

INDUSTRIAL HYGIENE SURVEY

AUGUST 1976

I. TOUFEN GENERAL PLANT

1. Vinyl Chloride: p. 12

"... reemphasized that our final goal is to comply with U. S. Standards not temporary Canada Standards." (Canada 10ppm TWA and 25 ppm ceiling - United States [proposed] 1 ppm 8 hours TWA and 5ppm [15 minutes] ceiling of VC gas.) (Odor threshold ≈ 2000 ppm)

2. Solvents

Benzene contamination of toluene (2% benzene) and MEK (0% Benzene)

3. Mercury

TLV exceeded in aisles between chlorine cells

4. Chlorine

Tail gas unit not working Cl_2 being emitted to atmosphere. Suggested use of caustic scrubber. (Apparently no tests were made for Cl_2) (US TLV 1ppm or $3mg/m^3$)

5. Dusts Pb, Cd, Ba

No air sample taken for lead, barium, and cadmium dust. Pneumatic transport planned - See '74 Industrial Hygiene report for specific recommendations.

6. Dyes & Pigments

Handle with care. Effective local exhaust. Look for sensitization, irritation.

7. Plating Room

Cyanide bath - Safety shower inoperative

8. DOP Fumes

Dioctyl Phthalate - Rather inert, but fumes were noxious and dense.

9. Heat Stress

Chinese Government Standard exceeded at mixing rolls of film plant (≈39°C WBGT vs. 30.6°C or 87°F Standard for 8 hours. Suggest, also, high at leather shop, tile shop, PVC Drying, Chlor-Alkali, etc.

II. TAOUAN PLANT

1. Dusts

Wear respirators when lead, cadmium, and barium powders are used.

2. Epoxy

Check toxicity of Union Carbide's JPO type

3. Noise

At boilers and overhead mixer

III. KAOHSIUNG TVCM PLANT

1. VCM

React ethylene and Cl_2, form ethylene dichloride then dehydrochloronation of EDC to form vinyl chloride and HCl - Leakage of VC possible. Samples ranged from 5.1 ppm - 21.3 ppm.

2. EDC

OVA not working. Odor (100 ppm threshold) indicated high levels at spots. [NIOSH proposes decrease from 50 ppm to 5 ppm TWA 10 hours or ceiling of 15 ppm (15 minutes sample)]

A. G. AIUVALASIT

10/28/76