

DATE: October 3, 1979

" G. E. Paget

SUBJECT: Dioxins in Chlorophenols

TO: G. Roush



1. Pentachlorophenol containing 3,000 to 10,000 ppm total dioxin primarily, octachloro dibenzo dioxin could cause chloracne in exposed workers and produced a positive response in the chick edema factor study.
2. TCDD has not been found in Pentachlorophenol by either Monsanto or Dow.
3. 2,3,7,8 TCDD and mixed hexachloro dibenzo dioxins at dietary concentrations of 0.5ppb and 2.5ppb produced a positive chick edema response.
4. Orthochlorophenol, Parachlorophenol 2, 4-dichlorophenol pentachlorophenol feed stock and chlorophenol still residues at dietary concentrations of 1500 ppm were negative in the chick edema factor study in 1974. Some evidence of toxicity was observed with the still residue.
5. Based upon these negative responses and the 2,3,7,8 TCDD response, it was concluded that the tested chlorophenol materials contained less than 0.3ppm 2,3,7,8 TCDD activity.
6. The present total TCDD analysis in chlorophenol from Dayton (0.5ppm TCDD) are consistent with these negative responses and with the reported lack of chloracne in the chlorophenol workers.
7. The Nebraska report of 2.6ppm 2,3,7,8 TCDD in chlorophenol is not consistent with the biological assay or with the Dayton results.
8. It has been recommended to MICC that chick edema studies be conducted with the chlorophenol materials in question. These studies could detect 0.1 to 0.3ppm 2,3,7,8 TCDD activity. (attached)
9. If the Nebraska data are correct, then (1) the exposure to the chlorophenols must be much lower than those previously to pentachlorophenol (2) the previously bioassay results on chlorophenols must have been flawed, or the composition of that 1974 material was different, (3) the Dayton data must be grossly in error, and (4) previous MICC analysis (Jim Mieure) must have been in error.

Confidential-Subject to
Protective Order

P. L. Wright C01094
Paul L. Wright

77A 1586 FROM MON 10/13
EPA Sample management office

D. X. Sample Extraction (Jar Method)

O CAUTION: When using this method to analyze for 2,3,7,8-TCDD, all of the following operations should be performed in a limited access laboratory with the analyst wearing full protective covering for all exposed skin surfaces. See Section IV for details on specific safety requirements.

P.12 5. If 2,3,7,8-TCDD is detected, immediately notify the client so that corrective action can be taken.

P.3 In addition to the EPA Method 613 concerns, the analyst should note that finely divided dry soils contaminated with TCDD are particularly hazardous because of the potential for inhalation and ingestion of fine particulates containing TCDD. It is recommended that such samples be processed in a confined environment, such as a hood or glove box. Lab personnel handling these types of samples should also wear masks fitted with charcoal adsorbent media to prevent inhalation of dust.

Recommended field sampling safety procedures are given in Appendix C.

ST. LOUIS AREA DIOXIN SAMPLING SAFETY PROCEDURES

A. Personnel Safety

1. Protective Equipment - All personnel on site will wear neoprene steel-toed boots, coated Tyvek or Saran disposable coveralls, and Buna-N or Nitrile gloves. In addition, anyone actually involved in taking a sample will wear a full-face mask respirator with combination organic vapor and dust cartridges.
2. Decontamination - A decontamination area will be set up next to the sample packing station and all entry to and exit from the site will be through this area. In the decontamination area will be a soap and water wash and water rinse for the boots and gloves. Also, a 55-gallon drum will be placed in the area for disposal of overalls and gloves. In addition, an industrial first-aid kit will be located in the decontamination area.
3. Communication Equipment - Communication equipment on site will be a base station at the command post, one vehicle with a mobile radio and 5 walkie-talkies. Each sampling team will have a walkie-talkie for communication with the team leader.

B. Site Safety

1. Access - The extent of access for members of the news media has been decided at this time. For safety reasons, nonessential individuals shall be kept away from the site during sampling. No participating personnel will be permitted inside the site without the permission of the OSC nor are they to wander off site without permission.
2. Physical Examinations - EPA, E&E and TAT personnel who have not received a complete physical examination within the past year will not be allowed inside the site during sampling.
3. Personal Hygiene - No one shall be permitted to eat, drink or smoke within the site, and shall thoroughly wash hands and face with soap and water before doing so outside the site. Individuals must wash hands with soap and water before urinating. All footwear, once worn inside the site, must remain on site until completion of the field work. At the end of each day, disposable clothing shall be removed and disposed of in 55-gallon metal drums. Individuals are expected to thoroughly shower, as soon as possible, after leaving the job site at the end of the day.
4. Personnel Exposure - In the event clothing is ripped or torn, work is to stop and the clothing is to be removed and replaced as soon as possible. In the event of direct skin contact, the affected area is to be washed immediately with soap and water. There will be a person stationed in the decontamination area to assist in helping people on and off with the protective gear.

1588
BLOWUP

FROM NOV. 10/13

EPA MAINTENANCE
SAMPLE

5. Hospital - One person stationed outside the security area shall know the quickest route to medical facilities.

6. Decontamination - The 20 by 20 foot area located next to command post is provided as a decontamination area. Individuals within the site shall remove all disposable clothing, at this point, before exiting the area. Because of possible dust on disposable clothing, the decontamination man shall wear protective clothing, gloves, and face mask while assisting people in removal of exposed articles. All disposable items shall be placed in 55-gallon metal drums with lids located within the fences. Items which cannot be disposed of will be given a preliminary decontamination wash, placed in plastic bags, and returned to the Regional Laboratory for further decontamination, and be withheld from further use pending the analytical results.

In an effort to reduce the volume of contaminated trash and rinse water, team members are to make a conscious effort to minimize the amount of equipment and supplies brought inside the site.

7. Disposal of Wash and Rinse Solution - All wash and rinse water will be disposed of at the end of each working day on the working site. Rinse solvents will be allowed to evaporate. Lids are to be put on all drums in the event of rain and at the close of each workday.

8. Site Security - Absolute security will be impossible because there are houses and residences on the sites. During actual daily operations, sites will be posted with banner cord and team leaders will make an active effort to minimize general population exposures.