

ATTACHMENT 2.
JOB REVIEW SUMMARIES

ALP000604

EID089666

1) 08PF GRANULAR POLYKETTLE (Bud Yoho)

OBSERVATIONS

- Most of time spent in control room. Sometimes on rainy days, control room ventilation may pull in exhausts from other operations, causing false panel alarms.
- Run about 3 batches/shift/polykettle.
- C-8 solution is taken from a bottle in ingredients hood equipped with a dispenser pump and carried to the cell area in a closed plastic bottle, where the bottle is emptied into the polykettle at the start of the next batch. Rubber gloves are worn and changed every shift.
- Cell area now has very good ventilation due to TFE concerns. If this was ever an exposure route, which is not likely, it isn't any longer.
- The dispenser bottle is refilled from a larger C-8 storage tank outside the ingredients hood. There is no drip pan, and C-8 has accumulated on the floor below the spigot.
- Operators in this job have varying overtime habits. Some will accept overtime to clean the FP&D autoclaves, others will not.

CONCLUSIONS

- Glove usage practices can be an important exposure variable.
- Need a drip pan by the C-8 storage tank right away.
- Overtime practices can be an important exposure variable.
- Should take some C-8 air samples in the control room on a bad day.

CONCLUSIONS FROM INTERVIEWS (7)

- Should do air monitoring by B124 smoking area.
- Confirms conclusions from job review.

ALP000605

2) 18PC FEP WET FINISHING (S. B. Hensley, Bob Lewis)

OBSERVATIONS

- Drop from coagulator to blend tanks used to be a terrible dust problem which is now in closed pipes. There are still occasional problems, but nothing like before.
- Skimming solids off the sump (1/2 hour, 1-2 times/shift) is a very dusty job that also is ergonomically poor. Only recently was a respirator required. When operational, new vacuum system should eliminate operator exposure.
- "Clean" room is a respirator area because of high C-8. It is also hot and dusty. Operator is there about 10 minutes, 3-4 times/shift.
- 9050 Packout (Jurassic Packout) is a dusty, hot, clumsy task using equipment designed for another package. New packout station is included in project funds.

CONCLUSIONS

- If skin contact with polymer dusts is an important C-8 exposure route, this area should see major improvements in blood levels, as three significant improvements are implemented.

AJP000605

3) 18PK FEP SAFETY/DISPERSION (Lowell Spencer)

OBSERVATIONS

- About 60% of time spent in control room. Field time divided between work around various dispersion tanks and checking safety equipment all over the building.
- Some wet vapors come from the stab tanks when lids are first opened. If this is a C-8 exposure route, it will be eliminated when improvements are made to contain TFE/HFP in system.
- Tank platform is located right next to the coagulator-blend tank drop in wet finishing. Thus there used to be significant exposure to FEP dust.

CONCLUSIONS

- Two potential exposure routes to C-8 are being eliminated. Improvement should be seen in next blood study.

AP000607

EID089669

4) 18PB FEP EXTRUDER/OVEN (Jim Broadwater - oven, Jim Lauer - ext.)

OBSERVATIONS

- Two jobs will soon be combined, but operators already work both on overtime.
- Oven area is dusty.
- Most time spent in control room.
- Field work is mostly troubleshooting, mainly unjamming trays (2-3 times/shift, 5 minutes/jam, used to be more frequent).
- Sometimes will work near hot slab without respirator (before cooling tower, on top of oven).
- Extruder area is much less dusty than oven area and has gotten even better after the wet finishing drop was enclosed. Powdery polymer is not handled in this area.
- Fumes from wrapped FEP slabs can be pretty bad due to HF, so if C-8 is present too, this is not a likely exposure route.

CONCLUSIONS

- Should do air sampling near oven trouble spots.
- Since so much time is spent in control rooms, air monitoring in all of them may be a good idea.
- Control of dust exposure still important.

AFP000608

5) 08PE FP&D AUTOCLAVE (Steve Lutz)

OBSERVATIONS

- Most time spent in control room.
- C-8 is handled in closed system.
- Autoclave cleaning is a hot job with potential for skin contact with coagulum. Only cotton gloves are required, but some operators use inner rubber gloves. Three separate jobs; some operators too big to do them all. Takes 1/2 to 1 1/2 hours. Frequency has gone from every 25 batches to every 400 batches. Steve notices taste in throat like when cleaning FP dryers.
- Possible to breathe air from wax decanter for about 5 minutes/shift while working near open lid.
- Overtime practices vary. Some operators will never clean the autoclave.

CONCLUSIONS

- If autoclave cleaning is a major exposure route, this job should see reduced blood levels in the future.

CONCLUSIONS FROM INTERVIEWS (2)

- Confirms conclusion from job review.

ALP000609

EID089671

6) 18PA FEP POLYKETTLE (Ken Lauer, Tammy Zoller)

OBSERVATIONS

- Spend 90% of time in control room.
- Operators do not clean the claws.
- Overtime practices can be significant, since other jobs worked include wet finishing and 9050 packout.
- Coagulator platform has high C-8 air levels. Spend about 5 minutes at a time there, either sampling batches or adding catalyst to weigh tanks.

CONCLUSIONS

- Should consider respirator use while on coag. platform.

ALP000610

EID089672

7) 08PI FINE POWDER FINISHING OPERATOR (DRYER) (JEFF WALKER)

OBSERVATIONS

- The operator spends 30% to 40% of his/her time in the control room. The rest of his/her time in the field and trouble shooting equipment, changing filters, etc.
- The operator has to open the dryer to take care of paper breaks. The south end of the dryer by the blend tank has the greatest potential for C-8 exposure. The C-8 can be seen foaming when the dryer is being hosed down.
- There is also a great potential for operators getting splashed with a mixture of C-8, water and wax from the blend tank discharge chute when cleaning the blend tank. The chute is placed in a 55 gallon waste drum and the operator has to stand close to the chute to open a manual valve with a chain. The possibility of making a shroud cover for the waste drum was discussed, but the operator has to be able to see the drum level clearly so it does not overflow and go into the nearby trench. This trench goes directly to #5 outfall.
- There is believed to be C-8 in the wax that the operators shovel into scrap drums on the second floor. This is mixture of coagulum and dispersion.
- Operators clothes and shoes are covered in dispersion.

CONCLUSIONS

- Some improvement is expected when the paper is replaced with permanent belts (11/96, 5/97).
- Use of Tyvek* PPE (coveralls, booties) should be required for certain messy jobs, such as dryer or blend tank cleaning.
- May need to check C-8 air levels when operators are in dryer.

CONCLUSIONS FROM INTERVIEWS (4)

- Dryer cleaning may be task with most exposure potential.
- Leaving the area while the dryer cools and clears of mist may reduce exposure.

AJF000611

8) O8PH HOMOPOLYMER DISPERSION (GREG SMITH, JEFF LEWIS)

OBSERVATIONS

- The operator pours 15 lbs. of C-8 from a plastic jug into the Stab tanks on certain products. The C-8 is drained from the storage tank by the polykettle ingredients hood into the plastic jug. This is done approximately 2 days a month, 4 batches per each 12 hour shift. The only PPE required to handle filling or dumping the jug is playtex rubber gloves and chemical goggles.
- The operator cleans the filters on the Stab tanks every batch. The filter is removed and flushed with water.
- There is a ventilation system over the Stab tanks, but does not work well according to the operator.
- The Dispersion Packout operator packs dispersion in several types of containers such as tote bins, fiber drums and pails. The hose from the discharge line to the tote bins placed directly into a bung type opening on the container. The only exception to this is when PFA is packed in the tote bins and the port is removed from the top of the tote bin creating an 8" opening. The only PPE required to handle the filling equipment is latex rubber gloves and chemical splash goggles.
- There are frequent filter changes on the discharge of the storage bins. This is a messy job, with water and dispersion splashing.
- 8 ounce sample jars are taken from the storage tanks. PPE required is latex rubber gloves and chemical splash goggles.
- The operator cleans the storage tanks (3) and the form tank with a water hose. There is splashing of dispersion and water. There is a ventilation system over the tanks. The operator said it does not work properly.
- At times the operator has to hose out the return tote bins from the vendor.
- Operators clothing and shoes are splattered with dispersion.

CONCLUSIONS

- Ventilations systems over the various tanks should be made to work properly if they are truly needed.
- There is considerable chance for skin contact. Individual neatness could be a major exposure variable.
- PPE requirements should be reviewed.

CONCLUSIONS FROM INTERVIEWS (2)

- Confirms conclusions from job review.

ALP000612

9) 08PM C-8 DRYER RECOVER (RON CHANEY)

OBSERVATIONS

- Filter changes every 3 days. 7 filters each change.
- Operator changes other filters in area monthly.
- The operator wears latex rubber gloves and chemical goggles to change the process filters.
- The operator pumps fresh C-8 1 to 2 times a week. Required PPE is latex rubber gloves, chemical goggles and long sleeve shirt.
- The C-8 tote bins completely empty as does the flex hose. The pump is a air pump and is not process driven.
- All H&V filters are changed in area. There are filter changes going on somewhere in the area weekly. Every 3 months to 6 months there are some large filters on the roof that the crane sets up that have been tested and according to the operator are known to have C-8 residue in them.
- Major changes have taken place in this job as the ion exchange columns were replaced with a reverse osmosis unit.

CONCLUSIONS

- Exposures from dusty filters should be better characterized by air sampling and by analysis of the C-8 content of the filter dust.
- Chance of skin contact from splashes does not seem great.

ALP000613

EID089675

10) 08PJ FINE POWDER PACKOUT (WILMA ELLISON, HELEN SEEBAUGH)

OBSERVATIONS

- The operator wears the clean room lab coat, bonnet and booties.
- The air in the room is constantly filtered.
- About 2 to 3 times a week, the product changes on the packout lines and the chutes have to be cleaned.

CONCLUSIONS

- Exposure on this job appears minimal.
- Overtime on other jobs may be the only significant exposure route.

ALP000614

EID089676

11) 18PD FEP PACKOUT (ROGER PARSONS)

OBSERVATIONS

- Some of the packout operators relieve and or work overtime on the extruders and the ovens.
- Dust accumulation can be found on top of the sparge bins, lines and flex hoses. This is most likely carried over from the ovens.
- The packout operator assists with filter changes in the area.

CONCLUSIONS

- Overtime work in other jobs is probably the major exposure route.

ALP000615

EID089677

(12) 18PJ PFA/FEP BEAD (ROB SMITH)

OBSERVATIONS

- A lot of powder in the oven tray up room when tray up and baking 9050. This is not a routine material, but when it is done, it usually lasts for about 9 days.
- Ventilation system in oven room is not sufficient.
- The operator attaches a flex hose to either a tote bin or drops it in a fiber drum to pump dispersion to the pellitizer. No special PPE is required to perform this task. A Comfo II respirator with GMA-H cartridge was recently required in the oven room to tray up or packout.
- Housekeeping may have deteriorated.

CONCLUSIONS

- Although some messy material handling takes place with both liquid and dusty streams, this should be improved as a result of planned QA and environmental projects.

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