

08/01/2000 11:07 AM

To:
cc:

Subject: Results DDT c-8 in blood monitoring program.

Please find in the attachments the results analysed by the NMS and the Schiwara lab in Germany. In the spreadsheets there are also reported the results of Dyneon in Germany. In the graphics the results are sorted on area and compared with the 1997. In 1997 the Shell lab had analysed all samples while the NMS lab did the cross checks. If there are questions, then contact one of the people in the cc list.

Best regards and farewell,

c 8 monitoring results; msg to employees c-8 in blood grafiek juni 2000; c-8 in blood Final report NMSjul2000

c-8 Kreuzversuch Ergebnisse.x

EID287640

C-8 IN BLOED MONITORING RESULTS IN FLPR DORDRECHT

In past month of May blood samples were taken of 38 employees in the Teflon® Homo Polymers, FEP/Viton®, Freon/Monomers A-shift areas and some employees in the service areas. This as a part of a c-8 in blood monitoring program in co-operation with DuPont FLPR Parkersburg and Dyneon in Gendorf Germany. Dyneon is our partner in purifying the recovered c-8 and owner of the technology. Previous c-8 in blood monitoring programs were conducted in 1997, 1981, 1982 en 1984.

Introduction

- C-8 is dispergator, required for the manufacturing of Teflon®
- C-8 is a toxic substantive that can be inhaled and absorbed via skin contact. The c-8 will be stored in the liver.
- C-8 is a toxic that should be discussed and registered in a yearly program with all employees.
- In the list of the Haskell lab, rev. July 1999, c-8 probably is no human carcinogen and developmental toxic
- The exposure limit is 0,56 ppb.
- C-8 in the human body can be measured only by analyzing the blood.
- Up till now it was not possible to define a maximum exposure limit for c-8 in blood.

The c-8 in blood samples were analyzed in two laboratories. All 38 samples were analyzed in the NMS lab in de U.S. while 19 each of them were also analyzed in the Schiwara lab in Germany as cross checks.

The analyze results of the two labs were corresponding pretty much. This makes that we have confidence in the results.

Characteristics of the analyze results

- Freon® Monomers employees have lower c-8 levels.
- Teflon® Homopolymers employees have higher c-8 levels.
- Teflon® FEP and Viton® employees have c-8 levels intermediate of both previous areas.
- Compared with the 1997 c-8 in blood analyzing program, there was a relatively slight difference in the c-8 levels of employees that co-operated in both the 1997 and the 2000 program.
- In week 29 the Managers Operations had a personnel contact with the six employees with the highest c-8 in blood levels to discuss possible sources of exposure and use of PPE. These contacts helped to determine some unknown exposure sources.

On July 13 a team of experts, Site physician, Site hygienist, FLPR c-8 coordinator, FLPR S&OH coordinator and Managers Operations, evaluated the results of the analyzes. Appointments were made to present the results to the employees involved and to inform all other FLPR and DuPont Dow Elastomers J.V. employees by means of an E-mail message.

Conclusions

- There are considerable differences in c-8 levels between employees performing the same jobs. An explanation for this phenomenon might be that the one person will pick up more c-8 and demolishes it slower than another person.
- Give more attention to prevent skin exposure to c-8 and the use of proper PPE.
- Comparison of the DDT c-8 analyzes with that of PKB will be done later as the PKB results are not completed yet.

Path forward

- New samples to be taken from employees with high analyze results after \pm two years from now.
- Further reduction of risk sources.
- Make up an inventory of the c-8 handling practices and use of PPE.
- Promotion of awareness to prevent exposure for all employees.
- Give special attention for prevention of exposure via the skin.

Sources for exposure

- High Pressure cleaning of Dispersion Poly kettles.
- All c-8 solved in water.
- All c-8 spills.
- PTFE Dispersions and non-dried Fine Powders.
- Coagulum and waste from the Wax trap.
- Supernate in Teflon® Homo Polymers and Thermal Converter areas.
- Fine Powder Dryers, especially during clean-outs.
- Granular production line.
- Teflon® FEP Wet Finishing system.
- Exhaust gasses and container changes in both c-8 recovery areas.
- Maintenance in c-8 containing equipment.

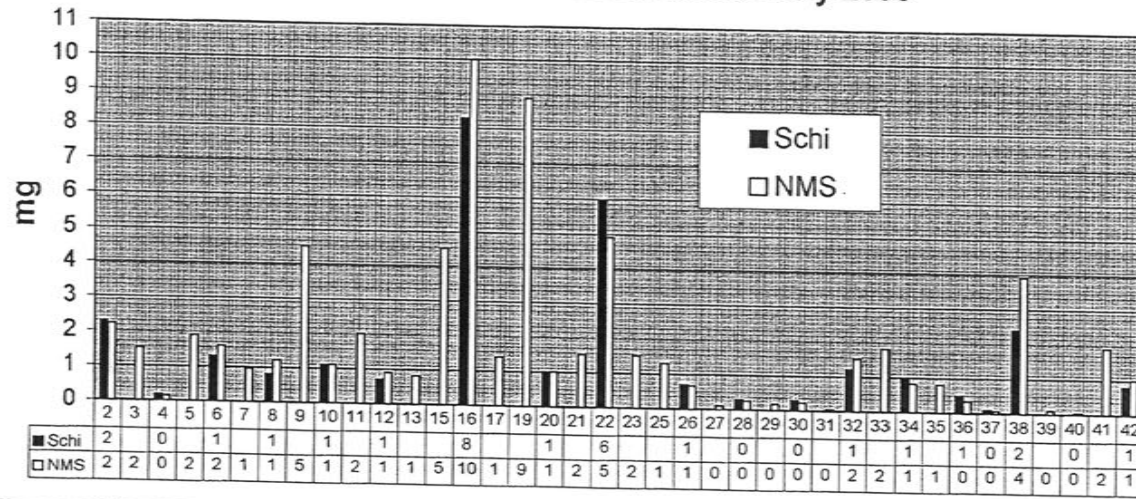
Actions taken to prevent exposure

- C-8 solved in water instead of c-8 powder in all areas.
- C-8 is injected automatically instead of weighing and handling of c-8 powder.
- Air exhausts on wax separators.
- Improve practices for cleaning of Fine Powder Dryers.
- Make up an inventory of emission sources and adequate actions.
- Proper procedures for use of PPE.
- Improvement of c-8 recovery systems.
- Communication with all employees.

Everybody's responsibility

The exposure prevention by the properly use of proper PPE, reporting of risks for exposure and cooperation to accomplish improvements. This also being an Arbolaw responsibility for all employees.

FLPR DDT C-8 in blood results May 2000



30 31 32 33 34 35 36
 0.3 1.2 1 0.5
 0.23 0.045 1.5 1.8 0.82 0.8 0.33

EID287643