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Occupational
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Direction
de la santé
au travail

Consultant Field Visit Report
Rapport de la visite sur les lieux de travail

2635

Date 984 03 01		From/De D. Mozzon, P.Eng., C.I.H. R. House, M.D., D.I.H.	
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Plant/Usine Crane Packing Co. Ltd.		Date of Request/Date de la demande 1984 01 13	
Address/Adresse 423 Green Road North Stoney Creek, Ontario		Requested by/Demande par IHSB	
Contacts/Personnes contactées Mr. R. Mellikow, Plant Manager Mr. A. Giacomello, Plant Engineer Mr. D. Howard, Union President		Accompanied by/Accompagné par Mr. D. Hart, IHSB	
Hazard/Risque Asbestos, teflon decomposition products, ammonia		Date of Visit/Date de la visite 1984 02 10	
		Copies to/Copies à IHSB Administrator - Ham(5) Dr. G. Debow Central File-Tor OHB File-Ham	

Abstract/Sommaire des résultats

A combined medical and hygiene visit was made in regard to workers' concerns about emission of teflon decomposition products and asbestos from an electric curing oven in the Teflon Department.

Analysis by the Occupational Health Laboratory of the teflon asbestos sealing product indicated that a number of decomposition products can be emitted at the curing temperature (370°C) which can be irritating to the eyes and nasal passages at high enough concentrations.

The company was installing an exhaust system on the curing oven during the OHB visit to capture the oven emissions.

Advice is given to the management and the Health and Safety Committee.

No advice is given to IHSB.

General

The company manufactures and distributes engineered sealing products.

There are 49 hourly employees. About 5-6 employees work in the Teflon Manufacturing Department.

On an intermittent basis a "C-14" teflon coated asbestos sealing ring is produced. The process operates on a batch-wise basis, and is done once or twice a month dependent on demand.

Basically, chrysotile asbestos cloths are coated by TEFLON[®] (polytetrafluoroethylene dispersion supplied by DuPont Canada) via immersion into the polymer solution. After drying, billets of seals are made.

The seals are cured at about 700°F for 20 minutes in an electric furnace. Several batches can be cured during the day. One operator is involved with the curing.

The electric oven is located in the south-west corner of the department. Ceiling height is about 15'. The electric oven which handles the asbestos seals had not been vented to atmosphere.

There have been complaints and concerns by the workers about the fumes escaping from the oven into the plant air during the curing of the asbestos seals.

Comments

1. A sample of the teflon coated asbestos was sent to the Occupational Health Laboratory for analysis.

Occupational Health Laboratory Report No. 20,502 (copy attached) indicated that chrysotile asbestos is present in the product (25 to 50%).

2. The teflon coated asbestos was heated to 370°C (700°F) in the lab in order to determine thermal decomposition products. A number of compounds were identified (see lab report) including acetaldehyde, 2-furaldehyde, ketones and a trace of hydrogen fluoride. These compounds in sufficient airborne concentration can cause irritation to the eyes and nasal passages.

3. Employees are under a medical surveillance program operated through the Wilson Medical Clinic.

4. At the time of the OHB visit, the company was installing an exhaust ventilation system for the electric curing oven handling the teflon coated asbestos. The exhaust hooding will be comprised of: a 5' x 7' canopy, 7 feet above the floor, over the complete curing oven. Curtains will be hung from the perimeter of the canopy. The oven, itself, will be vented. The exhaust from the oven and the overhead canopy will be provided by a 4600 cfm fan.

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The company will check the effectiveness of the new exhaust system.

5. The operators wear NIOSH approved respiratory protection (3M -8710) when handling the asbestos cloth.

However, the Teflon® dispersion solution can give off ammonia vapours. Hence a combination respirator could be worn to provide protection for both asbestos and ammonia vapours.

Advice to Management and the Health/Safety Committee

1. A combination asbestos/ammonia respirator should be worn during asbestos cloth emmersion if the operator experiences ammonia irritation.

Advice to IHSB

None.

R. House

R. House, M.D., D.I.H.
Medical Consultant

D. Mozzon

D. Mozzon, Eng., C.I.H.
Supervisor

RH/DM/bm