

Interoffice
Communication

TO: Keith Fogg-LGCP

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FROM: T. G. Grumbles

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DATE: July 22, 1991

SUBJ: PRECAUTIONS FOR REMOVAL THERMAL MATERIALS IN ETHYLENE
HEATERS

VISTA

Based on a review of the information provided by the suppliers of these materials (A. P. Green and Thermal Ceramics) below are my comments and recommendations regarding safework practices for removing these materials from the furnaces.

HAZARDS

It is clear that two distinct respirable hazards are presented during this work. Exposure to the Cristobalite form of silica and to ceramic fibers are possible.

The current TLV and PEL cristobalite is 0.05 mg/n³ for the respirable dust fraction.

There is currently no consensus standard developed for ceramic fibers but the manufacturers are recommending 2 fibers/cc.

Cristobalite is classed a "probable" human carcinogen and ceramic fibers are classed as "possible" human carcinogens.

Air Sampling

The sampling technique for respirable cristobalite is done with a standard cyclone/filter sampling train.

The ceramic fibers are sampled similar to asbestos.

Air sampling for both materials should be conducted in a manner similar to what is required for small-scale short-duration asbestos jobs. A typical exposure level for the job should be determined via personal and area sampling during two or three removal jobs. All personnel involved in the work area, including welders, should be evaluated.

Respiratory Protection

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The manufacturers of these substances recommend half-mask air-purifying respirators with a high-efficiency filter.

The high-efficiency filter will protect the wearer from both hazards. The specific type of respirator worn should be consistent with the plant's general policies on respirator use.

Other Protective Clothing

The manufacturers recommend loose-fitting clothing that covers the arms and legs, and is made out of a material that will not retain dust or fibers. Specific laundering recommendations are also made.

I would recommend that disposable coveralls be used to meet the intent of the manufacturers recommendation and avoid the issues involved with laundering clothing.

Protective gloves and goggles should also be worn to prevent the potential for physical irritation.

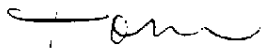
Administrative Controls

Wet removal methods are recommended by the manufacturers and should be utilized where feasible. Vacuuming only should be used for clean-up operations. The vacuums should be equipped with a "HEPA" filter.

Other issues such as sign-posting the work areas and worker training/notifications should be consistent with other non-routine exposures to hazardous materials.

Air sampling done to date by Vista was only for the respirable crystalline silica. Recent sampling done by a contractor was for ceramic fibers. Sampling results from both do indicate the potential for exposures but are not conclusive regarding the actual 8-hour time-weighted exposures. Typically these jobs do not last for a "full-shift" and short-term sampling results would have to be extrapolated. There are no STEL's recommended for these substances.

Based on the hazards presented by these thermal materials, and the recommendations made by the supplier, it would seem prudent to utilize our established asbestos removal procedures to the extent feasible for worker protection and removal methods.



T. G. Grumbles

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