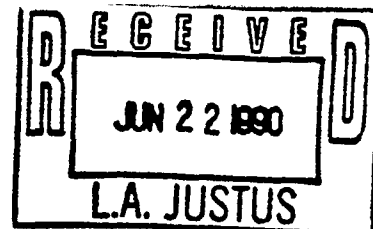


GLK
SDV
original

Date: June 21, 1990

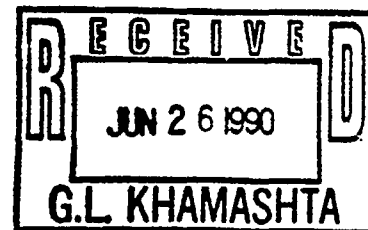
Subject: Contractor Warnings Regarding Benzene/Asbestos

From: A. K. Nagayama

AP-4349/486-8012

To: Mike Jackson

LAC-1177



Per your request the following is some information regarding asbestos and benzene in relationship to warning of contractors.

You indicated you would research for applicable regulations, other than OSHA, that would establish requirements in this area. Particularly in regard to marine/shipyard situations I am not well versed in the jurisdictions or requirements.

You also indicated you would research the areas where asbestos and benzene would be potential hazards on the ship. In regard to benzene, the crude oil cargo, bunker fuel and the tanks and piping that contain these come to mind. Any other materials or areas that may be of concern need to be determined.

Please
note

*

Regarding asbestos, attached is a memo I obtained from Pam Persaud that lists by ship where asbestos is located. As this memo is from 1983 it should be updated with any changes due to modifications, repairs, or shipyard work. The only addition to check is if any gaskets contain asbestos.

After knowing the requirements and determining where materials may be present, a procedure to inform contractors can be developed. In summary, the procedure should inform contractors of the potential hazards of asbestos or benzene and also where this may be encountered in their activities aboard our ships. As to training for their employees and controls to limit their exposures due to their activities that is primarily their responsibility. The following is some information based in part on the Hazard Communication standard requirements.

Information on potential hazards should be provided to contractors as part of the bidding/request for services process. This ensures that safety and health considerations are taken into account in determining the costs to complete a project and that the contractor has sufficient time to ensure that properly trained and equipped personnel are available for the task to be completed.

The information on potential hazards should include information on the potential hazard and where this may be encountered during their task. Any precautions or controls we require to protect the contractor or their employees from potential hazards present from other concurrent activities should be communicated. However, proper

mjcrrt.a06
AKW:jj-S&IH/160

Subject: Contractor Warnings Regarding Benzene/Asbestos
Date: June 21, 1990

precautions and controls needed to perform their own work safely is usually the responsibility of the contractor. We would usually not want to be in the position of directing their work. Talk to your legal department if more clarification is needed on this aspect.

You may want to stipulate in any contract that the contractor will specifically meet the OSHA benzene and asbestos standards. This may make the requirement a contractual requirement. Again you should discuss this with your legal department.

You may want to have the contractor provide some type of verification that their employees are adequately trained. You may also want to ensure that ARCO has the ability to review and stop their work if any serious hazards are not being dealt with. However, you would not want to take the responsibility for inspecting and evaluating the contractors work.

You would want to ensure that any contractor activities that involve asbestos or benzene containing materials would not impact any ARCO employees. Reviews of their plans to control operations to prevent exposures to ARCO employees would be advisable.

Regarding potential health hazards I have attached information on benzene and asbestos that you can incorporate into your procedure. As these were developed for distribution to the outside community you may want to reduce/modify the material. Some minor modifications to the wording will be necessary to fit your procedure and situation.

I hope this provides sufficient guidance and information in developing your procedure. I will be out of the office until July 9. If you have additional questions or require further information you might contact Pam. She was able to provide some valuable information and can provide further guidance.

attachments

cc: L. Birkner
L. Justus
S. Menkus
P. Persaud

**SARA Title III****Hazardous Substance Information Sheet****BENZENE****WHAT IS BENZENE?**

Benzene is a colorless hydrocarbon liquid with a characteristic "aromatic" odor. Small amounts of benzene occur naturally in crude oil, but most benzene is produced by refining processes designed to make benzene and other related substances from crude petroleum. Benzene is present (in varying amounts) in refined oil products including motor gasoline. Benzene is also known to be present as a naturally-occurring substance (in very small amounts) in many plants and in some animals as a normal metabolite.

IMPORTANT PROPERTIES OF BENZENE:

Benzene is a highly flammable material which ignites on contact with any source of ignition such as sparks, open flames, and lighted cigarettes, and may explode if confined. Benzene is a clear, colorless liquid which readily vaporizes at room temperature, and has a characteristic "aromatic" odor. Benzene vapor is heavier than air and may accumulate along the ground and "flash back" to the source of the vapor creating an explosion and/or fire hazard.

WHAT ARE BENZENE'S USES?

Benzene is used primarily as a basic chemical starting material or "building block" in the manufacture of plastics, synthetic rubber, resins, nylon, and other synthetics. Benzene is also used in the production of other chemicals and pharmaceutical products. Benzene is no longer used as a solvent in the United States.

WHAT ILLNESSES OR EFFECTS ARE CAUSED BY EXPOSURE TO BENZENE?

Benzene can be hazardous by contact with the eyes or skin, ingestion, or exposure to benzene vapor.

Direct eye contact with liquid benzene causes severe eye irritation and may result in damage to the eye tissue. Direct skin contact with liquid benzene can cause dryness and cracking of the skin and skin irritation. In most cases, damage to the eyes and skin is not permanent if the benzene is removed promptly.

ARCO

The information herein was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness—July 18, 1988

**SARA Title III****Hazardous Substance Information Sheet****ASBESTOS****WHAT IS ASBESTOS?**

Asbestos is a fibrous mineral which creates dust when mined or processed. The four different types of asbestos are: chrysotile, amosite, crocidolite, and anthophyllite.

IMPORTANT PROPERTIES OF ASBESTOS:

Asbestos is a very stable substance which does not react with other chemicals or materials and has excellent heat and electrical insulating properties. Asbestos readily separates into long, thin, strong fibers of sufficient flexibility to be woven.

WHAT ARE ASBESTOS'S USES?

Because of its ability it withstand extreme heat, asbestos has been widely used as a fire retardant (use as insulation against fire is now banned) and in the production of materials which have electrical and heat insulating properties. Some examples are insulation cements, fillers, and filters, brake linings, tiles, paint, paper, cloth, and clothing.

WHAT ILLNESSES OR EFFECTS ARE CAUSED BY EXPOSURE TO ASBESTOS?

It is generally recognized that inhalation of excessive levels of asbestos dust causes chronic lung disease, including several forms of cancer. As such, asbestos is classified as a "recognized human carcinogen" by regulatory and research organizations. Studies have demonstrated that persons exposed to asbestos fibers are at increased risk for lung cancer and mesothelioma, a rare, fatal cancer that originates from the chest or abdominal cavity. Cigarette smokers who have a history of exposure to asbestos have a much higher risk of developing lung cancer than non-smokers exposed to asbestos or smokers who have not been exposed to asbestos.

Recent evidence suggests that persons exposed to high levels of asbestos fibers may also be at increased risk for developing cancer in the gastrointestinal tract.

ARCO

The information herein was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness— August 26, 1988