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Interoffice Communication

To Corporate Safety and Industrial Hygiene Advisory Council

From Mary Ann Chance

Date July 25, 1983

Subject OCCUPATIONAL EXPOSURE TO BENZENE

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OSHA has published an expedited schedule for reviewing and possibly lowering the standard for occupational exposure to benzene. A request has been made for information on effectiveness, costs, and other issues concerning achieving exposure limits of 5 ppm, 1 ppm and 0.5 ppm. The schedule includes a completed proposal by November, 1983, and a final rule by July 1984.

An outline and a copy of the Federal Register "Request for Information" is attached. Please review these two documents and determine whether you have an interest in submitting data and/or comments to OSHA in the areas of information requested. Industrial Hygiene and Toxicology, along with Legal, will coordinate comments for submittal to OSHA by Conoco.

Comments are due to OSHA by August 22; please contact me by August 3 if you will participate in this effort. We will ask for comments to then be submitted by August 15 for drafting and submittal to OSHA.

Mary Ann Chance
Mary Ann Chance
Coordinator
Hazard Communication Program

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"OCCUPATIONAL EXPOSURE TO BENZENE"

July 8, 1983 - Federal Register "Request for Information, Regulatory Schedule"

Comments due: August 22, 1983

Schedule for reviewing standard:

October 1983 - Placed on Regulatory Agenda
November 1983 - Proposal
February 1983 - Hearings
June 1984 - Final rule

April 14, 1983 - OSHA was petitioned to issue an Emergency Temporary Standard (ETS) reducing exposures to benzene. Petition includes references to various risk assessments.

July 1, 1983 - Petition denied, but expedited consideration of new schedule of review..

Risk assessments:

OSHA has performed two qualitative cancer risk assessments; a third is under contract.

IARC (International Agency for research on Cancer) has performed one.

Other Sources: Requested by OSHA.

Results: Estimate an excess leukemia risk from lifetime occupational exposure to 10 ppm benzene ranging from 14-207 deaths per 1,000 workers.

Regulatory analysis is being performed on technical and economic feasibility of a new standard.

Telephone survey by JRB Associates, Inc.

Data collection on compliance with current standard.

Completion date - September 1983.

Data submitted by - August 22, 1983.

OSHA requests for information include:

1. Medical reports and epidemiologic and toxicologic studies (inhalation or absorption) completed since 1977.

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2. Information on current 8-hour TWA and peak level benzene exposures by occupational categories (in detail).
3. Results of quantitative risk assessments performed on the basis of epidemiologic or experimental study results. Comment on risk assessments currently published.
4. What engineering and work practice controls are available to reduce exposures and to what levels? Are there conditions where exposures cannot be reduced through engineering controls?
5. What other methods for reduction of benzene exposure are available (other than engineering controls, work practices, and substitutes)?
6. What respiratory protection is available?
7. What is current practice for respirator use?
8. In areas of respiratory use, could engineering controls be installed?
9. Has benzene exposure decreased since 1977?
10. Are there existing OSHA standards concerning engineering controls which reduce exposure?
11. What is level of benzene in toluene, xylene, petroleum naptha, and other solvents in use?
12. Discuss airborne exposures to benzene in solvents for exclusion purposes.
13. Should some time interval elapse before monitoring and medical surveillance becomes effective?
14. Are there situations concerning solvents when monitoring could be kept to a minimum or eliminated?
15. Compare percent of absorption between solvents and pure benzene.
16. Discuss current use of protective clothing.
17. Discuss substitutes to benzene.
18. Discuss analytical methods for measuring below 1.0 ppm, include costs and frequency of measurements.
19. What exposure and medical monitoring should be imposed at oil and gas production sites?
20. Describe site similarity sampling results.

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21. What are appropriate provisions for medical surveillance of exposed workers; frequency of medical examinations? Should provisions vary with exposure levels; how? What is the current medical surveillance provided for workers exposed?
22. Describe appropriate standard provision for respirators, protective clothing and equipment, hygiene facilities and practices, regulated areas, maintaining records, housekeeping, employee information and training, labels, and signs. What form should such provisions take in a proposal? What are provisions currently employed and costs?
23. Discuss effectiveness and costs of achieving exposure limits of 5 ppm, 1 ppm, and 0.5 ppm.