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March 1, 1972

SUBJECT: OSHA Target Health Hazard Program

TO THE MEMBERS OF THE LEAD INDUSTRIES ASSOCIATION, INC.

Enclosed is a memo from Dr. Jerome F. Cole and Mr. Donald R. Lynam, on the OSHA Target Health Hazard Program. Lead is one of 5 "target" materials singled out by the Department of Labor and now subject to intensified inspection and compliance procedures by OSHA. The attached Fact Sheet on lead was produced by the Occupational Safety and Health Administration and is not our own.

Sincerely,

Jerome F. Smith/lm

JFS:lm
Enclosure

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Environmental Health Department

February 4, 1972

To: All Members of the Lead Industries Association, Inc.

From: J. F. Cole, Director, Environmental Health JFC
D. R. Lynam, Assistant Director, Environmental Health D.R.L

Subject: The Occupational Safety and Health Administration Target Health Hazard Program

Gentlemen:

The Department of Labor held meetings on January 26 and February 2 to discuss the Occupational Safety and Health Administration Target Health Hazard Program (THHP). Lead, asbestos, silica, cotton dust and carbon monoxide are the materials chosen as target health hazards by the Department of Labor. The criteria used in selecting the five listed materials from among all the possible employee exposures were the following:

1. Large numbers of employees exposed;
2. High National Institute of Occupational Safety and Health (NIOSH) priority;
3. Existing applicable standards;
4. Compliance feasibility.

Mr. George Guenther, Department of Labor, Assistant Secretary, Occupational Safety and Health, addressed himself to a description of the hazards presented by each of the materials. The context of the lead description is included in the attached target health hazard fact sheet. Mr. Guenther further emphasized that the five target health hazards will be the subjects for an accelerated inspection and compliance program by OSHA. Emphasis will be placed on industrial hygiene services in the industries where exposure to these materials is suspected.

Dr. Edward Fairchild, Associate Director of NIOSH at the January 26 meeting and Dr. Marcus Key, Director of NIOSH at the February 2 meeting, noted that separate evaluation of health hazards had produced a list quite similar to that of OSHA. NIOSH used various indices including relative toxicity, incidence and so on, and the same five substances appeared in the top of their list with the exception of asbestos. Asbestos was added because of the recent concern about this material.

Dr. Fairchild noted that criteria documents are now being prepared on a contract basis for NIOSH. The asbestos document is now completed and criteria documents for several other substances including lead and cadmium are among those now being developed. Mr. Fred Bischoff, Director of Compliance for OSHA, described the compliance approach for the target health hazard program. In substance, it does not differ from the inspection procedure which OSHA has been using up to this point with the exception that emphasis will be placed on the five target health hazards.

Detailed description of the sampling procedure and equipment which OSHA will use in its compliance program is as follows. The sample is collected by use of a Mine Safety Appliance Company Personnel Sampler operated at a flow rate of 1.2 liters/minute

on to 37 mm diameter filters, filter type AA (0.40 micron mean pore diameter). Although not brought out in the formal presentation, it was noted during the informal session that the filter is open-faced, but is covered by a plastic cover, and contains a plug. The plug is removed during the sampling period. Therefore, although the filter holder is referred to as open-faced, it does actually have a cover.

The sample is analyzed by atomic absorption with a lower limit of detection of 0.003 mg of lead/filter. Up to five pumps will be used by the Compliance Office and the sampling time will vary from 60 minutes to 8 hours and the possibility exists that periodic samples of 6 to 8 minutes per hour throughout the work period can be taken.

Attention is called to the fact sheet regarding approved levels of lead. American National Standards Institute Standard Z37.11-1969--Acceptable Concentrations of Lead and the Inorganic Compounds, is the applicable standard and the exposure limit is 0.20 mg/m^3. Levels above 0.6 mg/m^3 are considered a serious violation while levels of 0.2 to 0.6 are considered regular or non-serious violations. Imminent danger situations are not generally applicable.

In response to a question by Dr. Cole, Mr. Guenther noted that biological monitoring is being given consideration by NIOSH and it is likely that biological limit values will be established. However, until such limits are established, OSHA feels that it can do no other than to rigidly enforce the air quality standards.

It is certain that an advisory committee will be established under OSHA to advise on changes in the standard for lead. Mr. Guenther noted that many representatives on this committee are likely to be chosen from those present at the sessions. It was noted that OSHA welcomed the "input of industry into standards setting," and Dr. Fairchild, in response to a question, noted that NIOSH welcomed any data which industry may have for inclusion into criteria packages. Further, on criteria packages, Dr. Fairchild stated that prior to submission of their recommendations to OSHA for standards, these criteria packages would be subject to both internal (NIOSH) and external (industry) review. Mr. Guenther suggested that the Department of Labor prefers to work with industry trade associations because of their broad base of support and because they are directly representative of the various positions of their members.

An additional question concerned the Department of Labor's position on the use of respirators on a part-time or perhaps even a full-time basis so as to reduce the time-waited-average exposure to less than the Threshold Limit Value. It appeared that the possibility exists that no citation would be issued in an area where the exposure exceeded the Threshold Limit Value if respirators were being used by all employees in the area. However, the employer would be required to abate the condition by engineering means.

The THHP has a very high priority in the Department of Labor list of inspection schedules. The greatest priority includes inspections of exposures involving fatalities and inspections originating due to complaints is next in line of priorities. The THHP follows in priority.

In view of this high priority for the THHP, it is believed that all of the facilities which have exposures due to lead can expect to be inspected. If additional information or assistance is needed, please do not hesitate to contact us.

cb:
Enc.

Target Health Hazard Fact Sheet

LEAD

WHAT IS IT? Lead is a soft, dense, malleable, heavy metal with a low melting point. It is gray in color and, because of its characteristics, has a wide application of uses.

WHERE IS IT? Lead is used to make printing type and plumbing, shield telephone and power cables and to protect against radiation hazards. As an alloy, lead mixed with steel makes excellent bearings. As solder, lead alloy is vital in the electrical and electronic industries. Lead compounds are used to make paints and ammunition, and lead oxides are used in car batteries.

WHAT IS THE HAZARD? More than 1.6 million employees in nearly every industrial manufacturing process and in many service industries are exposed to the poisoning effect of lead. Lead can enter the body by inhalation, absorption through the skin or by ingestion. In sufficient quantities, the result is the same -- severe gastrointestinal, blood and central nervous system disorders. Inhalation of lead dust or fumes is the most frequent means of entry and results in most of the industrial health problems involving this metal. Lead is a cumulative poison. A part of a small daily dose is not eliminated, but is stored in the body. Eventually, a point is reached where symptoms and disability -- even death -- occur.

HOW IS IT CONTROLLED? Since the primary route of industrial lead poisoning is inhalation, enclosure and local exhaust ventilation are the principal means of control. Daily wet or vacuum cleaning of all lead dust, personal hygiene, prohibition of food and beverages in the work area and use of U.S. Bureau of Mines-approved respirators are other means that can help control exposure.

WHAT ARE APPROVED LEVELS? OSHA's permissible level is 0.2 milligrams per cubic meter of air for an eight-hour, time-weighted, average airborne concentration. Imminent danger situations are not generally applicable. Any exposure above 0.6 milligrams per cubic meter of air for an eight-hour, time-weighted average is considered a serious violation. Levels above 0.2 and less than 0.6 are considered regular or nonserious violations.

HOW IS IT MEASURED? The atmosphere is sampled with personal sampling pumps and filters for a minimum of 60 minutes.