



THE SOCIETY OF THE PLASTICS INDUSTRY, INC.

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HOW THE NEW OSHA STANDARD
AFFECTS POLYVINYL CHLORIDE RESIN FABRICATORS

At the outset, all recipients of this memorandum are urged to recognize that each individual fabricator must evaluate his own operations with respect to compliance with the OSHA Standard for occupational exposure to vinyl chloride since operations can vary significantly from company to company. Each plant has its own problems and no general statements can be applicable to all. For this reason, the comments which follow must be considered as nothing more than guidelines and not a set of directions or instructions. Another point to be borne in mind is that OSHA's action in adopting the Standard is now before the U.S. Court of Appeals for the Second Circuit for formal review. Thus, the effective date of the Standard could eventually be stayed, or the entire matter remanded to OSHA for reconsideration. For the immediate future, however, we hope that the following comments will be useful to you in indicating steps that should be taken by fabricators to bring themselves and their plants into compliance with OSHA Standard S1910.93q Vinyl Chloride, assuming it remains as is and becomes effective on January 1, 1975.

The first point to be noted is that the Standard applies (S1910.93q(a)(2)) to the manufacture, reaction, packaging, re-packaging, storage, handling or use of vinyl chloride or polyvinyl chloride, but does not apply to the handling or use of fabricated products made of polyvinyl chloride. Still further, fabricated products is defined to mean ((b) (6)) a product made wholly or partly from polyvinyl chloride and which does not require further processing at temperatures, and for times, sufficient to cause mass melting of the polyvinyl chloride, resulting in the release of vinyl chloride. In other words, those who use polyvinyl chloride either in the form of powder for subsequent formulating, dry blend, or pellets and who melt the polyvinyl chloride so as to form it into useful shapes, must comply with the Standard. We believe, however, that those who only heat-seal polyvinyl chloride film and sheet or thermoform sheet such that mass melting does not occur need not be concerned with the Standard.

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For those who must comply, the first requirement is that they monitor and measure each establishment in order to determine whether there is any employee exposed, without regard to the use of respirators, in excess of 0.5 parts per million vinyl chloride in the air. In making these measurements, it should be noted that the important consideration is employee exposure. Levels of vinyl chloride inside processing equipment or in areas of the plant where employees do not normally go (such as inside a storage silo) need not be considered in determining whether any employee is exposed to vinyl chloride above the 0.5 parts per million level, now called the "action level". If no employees are exposed above this level, except with respect to "Training" which will be discussed subsequently) nothing further need be done by the employer unless and until there is a change in production, processing or control which may result in an increase in the release of vinyl chloride.

If any employees are exposed over the "action level", the employer must determine from the monitoring data whether the employee is exposed above the permissible exposure limit. The permissible exposure limit is set at 1 part per million averaged over an eight hour period with the further restriction that the concentration may not exceed 5 parts per million averaged over any fifteen minute period. If employees are exposed above the permissible limit, respiratory protection must be provided. Use of respirators is optional for the employees from January 1, 1975 to January 1, 1976 provided exposure does not exceed 25 parts per million averaged over any fifteen minute period, and is mandatory thereafter. The type of respirator required is shown in the table which forms a portion of paragraph (g) of the Standard.

If levels in excess of the permissible exposure limit are found, the areas where this occurs shall be set aside as Regulated Areas and access to such areas must be limited to authorized persons only. A daily roster must be kept of authorized persons who enter the Regulated Areas.

Based upon the information we have received, we believe that most fabricators will find levels for most of their employees below the "action level". Still further, we believe that it will seldom be found that employees are exposed above the permissible exposure limit. However, if employees are exposed above the permissible exposure limit, the Standard requires that feasible engineering and work practice controls be instituted immediately.

These may include changes such as improving ventilation in storage areas, or enclosing and ventilating mixing areas. In any event, if the controls which can be immediately instituted are not effective in reducing exposure levels, without regard to the use of respirators, to the permissible exposure limit or below, written plans for a program to reduce exposures to the greatest extent feasible must be developed. These plans will have to be furnished to OSHA if a written request is made. Still further, these plans must be updated every six months.

If exposures above the "action level" are found, a program for determining the exposure of every employee should be established. The program should be repeated at least monthly where an employee is exposed above the permissible exposure limit, and should be repeated quarterly where employees are exposed above the "action level" but within the permissible exposure limit. Finally, if two consecutive monitoring determinations made not less than five working days apart show exposures for an employee at or below the "action level", monitoring for that employee may be discontinued. In other words, if on the initial monitoring "go around" you find some employees exposed above the "action level" and you institute engineering controls or changes in work practices that reduce employee exposure to vinyl chloride so that the employees' exposure goes below and remains below the "action level", these employees then fall in the same class as those found below the "action level" on the first monitoring.

In addition to setting up Regulated Areas where exposures are above the permissible level and providing the required respiratory protection, fabricators must also institute a program of medical surveillance for employees exposed above the "action level". Employees exposed above the "action level" initially, but whose exposure level is reduced below the "action level" as a result of engineering changes, need not be subjected to medical follow-ups according to the current thinking most widely held; this is an ambiguous point, however, which may need further clarification.

The section of the Standard that deals with signs and labels requires careful attention. Many of the requirements set forth in this Standard may not be applicable to most fabricators but this will depend in part on the results found by monitoring and the nature of the operations being conducted. More specifically,

if the fabricator finds that he must set up Regulated Areas, entrances to those areas must have legible signs as shown in paragraph (1) (1). Since it is highly unlikely that any fabricator will have any hazardous operation going on, the hazardous operation area labelling may not be required. Containers of polyvinyl chloride fabrication waste, such as trimmings and the like; are, in our opinion, fabricated products and such containers need not be labelled as being contaminated with vinyl chloride. On the other hand, containers of polyvinyl chloride received for processing will be labelled as required by subparagraph (1) (4), but if PVC is stored in "in plant" containers, these containers of polyvinyl chloride waiting to be processed should carry the same label. Finally, we believe the labelling required on vinyl chloride monomer containers is not applicable to fabricators' plants.

Perhaps the last general requirement is that all employees engaged in polyvinyl chloride operations shall be provided training in a program relating to the hazards of vinyl chloride and precautions for its safe use. The details of the program, some of which are not really applicable to fabricators' plants, are set forth in the Standard under paragraph (j).

We hope this outline will be useful in indicating how fabricators can move to bring themselves into compliance with the new Standard. Again, the most important point we feel must be emphasized is that each employer should carefully read the Standard and interpret it in terms of his own operations. The second point is that monitoring may indicate that, for most employees, the Standard is not applicable except with respect to the training program. Finally, for those operations where employees are exposed above the "action level", we believe that engineering changes, particularly in the storage and mixing areas, will probably be found sufficient to bring most employees below the "action level" and all employees below the permissible exposure limit.

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