

The impact of  
legislation on  
health, safety and  
environmental  
aspects of surface  
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The Impact of Legislation on Health, Safety and Environmental Aspect of Surface Coatings The surface coating industry is facing myriad challenges brought about by the legal and standard guidelines set by the government and other concerned bodies. These regulations have substantially affected the raw materials and processes conventionally used in this industry. This paper provides a summary of the effects of standards and legislation on the environmental as well as health and safety aspects of surface coatings.

### Technical Standards

Standards are primarily set by bodies like the Comite European de Normalisation (CEN) and the International Standard Organization (ISO). Recently, the CEN Technical Board directed that the European standard work item should include assessment of the environmental aspect. The evaluation should be undertaken between Stage 11 (work allocated to Technical Body) and Stage 32 (working document circulated to Technical Body). This can be done by accomplishing a checklist provided by the CEN pertaining to environmental aspect. The checklist serves to ensure that the environmental aspects are in line with CEN directive seen in its system handbook guidelines. Similar to this, the ISO has come up with the ISO Guide 64 which calls for life cycle assessment to assess the environmental impact and recognized scientific technique used. (Wallstrom 2000)

In terms of standards for paints and varnishes, the environmental aspect involves the minimization of pigment concentration, dispersion, grinding time and method, and durability among others. Moreover, the use of volatile organic compounds is highlighted. In relation to this, standards set acknowledge the fact the use of VOC in this industry may not entirely be avoided. However, the use of less harmful substances is encouraged.

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(Wallstrom 2000)

The health and safety aspects concentrate on the use of reagents. The standards call for the substitution of aromatic compounds used for cleaning purposes whenever possible and the substitution of aliphatic solvent with vegetable ester with or without emulsifier. (Wallstrom 2000)

All in all, majority of the technical standards set by both CEN and ISO for paints or surface coatings are focused on the test methods. However, it should be noted that these standards under test methods do not include much about environmental aspect unlike the standards for products and processes. Standards for products especially have significant impact on the choice of system and strongly encourage compliance with local and international legislations implemented. (Wallstrom 2000)

#### Legislations

The environmental, health and safety legislations implemented significantly affect the paint products as well as the root of business development.

Legislations that are cited to have a direct impact to the surface coating industry are those classified under the Dangerous Substances Directive which is linked to the Dangerous Preparation Directive that regulates mixtures in particular paints, inks and adhesives. (Weaver 2000)

Within this directive is the Notification of New Substances Regulation which acts as the key control for the formulation of new products. The regulation primarily filters the new chemicals brought in the market. Procedure for the notification is deemed complex and costly, with cost implication amounting to £270, 000-320, 000 for Level 1 and £1million-1. 5million for Level 2.

(Weaver 2000)

There is also the Notification of New Polymers which becomes applicable <https://assignbuster.com/the-impact-of-legislation-on-healthsafty-and-environmental-aspects-of-surface-coatings/>

once the product contains more than 2% of new substance. The test package consists of normal test programme in accordance with existing guidelines. In addition, with this regulation, evaluation of existing chemicals registered is also done. It also introduces the Precautionary Principle wherein new chemicals may be phased out due to negative test results. (Weaver 2000)

In terms of new product development, several alternative lower VOC systems are currently considered by manufacturers. However, adoption of these systems may be problematic due to shortfall in technology and budget. (Weaver 2000)

Given these legislations, new product development is constrained. In order for the manufacturer to adopt, innovation in existing chemicals, process technology and chemistry is ideal. These innovations may include the acquiring of know-how to manufacture polymers exhibiting precise structure, morphology and composition. This will allow for the development of new hyperbranched polymers which are within the acceptable standards. To make this possible, manufacturers in the resin industry should forge partnerships with raw material suppliers. (Weaver 2000)

#### Cited Works

Wallstrom, E. (2000) Environmental Aspects of Technical Standards, OCCA Conference-Legislation and the Future of the Coating Industry, June 2000, Harrogate

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