A proposal for a new federal regulation on noisy toys.

Tony Leroux and Chantal Laroche
Sonométric Inc., 5757 Decelles Ave., Suite 514, Montréal (Québec) H3S 2C3

1. Introduction

The Federal Act prohibiting sale of hazardous products limits the sound level emitted by toys to 100 dB [1]. A review of the literature shows that this criteria is not safe for children regarding the risk of developing hearing loss [2]. Based on a world wide accepted safe limit of 75 dBA [3], more than 85 % of the toys available on the canadian market are not safe and may induce hearing loss and other adverse effects on the long term [4]. This needless risk for children health could be avoided by having a more adequate federal regulation.

2. Inefficiency of the actual regulation

Two factors can explain the inefficiency of the current law.

The actual limit for sound level is too lax. The literature tends to demonstrate that children's inner ears are more sensitive to noise exposure and may develop hearing loss with noise dose that are safe for adults [5,6,7,8]. In the light of those findings the current limit of 100 decibels appears to be by far too high.

Toys emitting noise from explosive source (firecrackers and cap gun for example), can be very harmful to hearing after one short exposure [9]. These toys are beyond the scope of the current Act and are covered by the federal Act on Explosives which equally regulates industrial explosives.

On the other hand, the federal regulation does not include a precise and specific method for determining the sound level produce by a given toy. The actual legal text does not precise the frequency weighting to be used for dB nor any other technical specifications for determining the sound level, for instance:

a) type of experimental room,
b) type of noise produced by the toy and
c) nature of the toy

Morever, actually there is no systematic way to test a toy manufactured in Canada or entering into this country. In fact, the actual Act authorizes the sale of hazardous noisy toys that may induce to some extent hearing loss in our young population.

3. Proposal of a new regulation

The actual proposal is to lower the limit to 75 dBA for continous noise source at the distance which the toy is usually used and to limit the level at 95 dB peak for toys producing impulsive noise. Every toy should be controlled under the same experimental conditions in the manner edicted by CSA Z107.71- 1981 Standard on Consumers Small Appliances [10].

This existing Standard, already approuved by federal government and manufacturers, could be applied to sound emitted by toys. In addition, this method can be easily implemented technically and economically for both, toy manufacturers and federal responsible agency. This method of determining sound level produced by a given toy insures a uniform application and should be adopted and be part of the regulation.

Furthermore, because of the high level of risk for noise-induced hearing loss even after one single exposure, toys emitting noise from explosive source should be banned. This specific point must be included in the federal Act on hazardous products as also suggested by others reseachers in scandinavian countries [11].

Every toy sold in Canada must be tested to insure a safe noise level in the same manner the lead toxicity of toy's paint is tested by industry and government agency.

4. Conclusion

This proposal intends to reach a better achievement in protecting children's hearing integrity when it comes to noisy toys. The numerous failures identified in the actual Act should be corrected easily using a well documented safe noise level and a precise method of determining it as proposed above. These suggested legislative modifications will not impose a large economical load on federal government nor on toy manufacturers.

5. References

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