

Review of
Head and Eye Protection:
A Guide for Those Who
Manufacture, Test, or
Use Explosives

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This Guide is the third in a series of four on the subject of personal protection for the explosives industry. Although this study encompasses the needs of other industries, the main focus is very relevant to the fireworks industry. Many of the detailed discussions of hazards considered in the Guide, cite hazards that fireworks manufacturers, as well as, pyrotechnicians are actually exposed to.

The first section discusses the details of British law as it relates to protective clothing and headgear. Although the laws of Britain do not specifically address head and eye protection, the Guide discusses some laws that might remotely apply. The similarity between US and British laws make this section quite valuable. Many states are reviewing their fireworks regulations, and the NFPA continues to develop guidelines that many state legislatures have adopted. Neither the US nor the UK has included specific standards for head and eye protection in their regulations.

After stressing the preference for avoiding the need for the protective gear, several detailed measurements describe protection from a variety of dangers. Many of the dangers described potentially might be encountered by pyrotechnicians—such as high speed particles the size of a large firework star or radiant heat as encountered by a fireworks manufacturer, and these are useful in developing standards for the protective gear needed.

The text emphasizes company training of workers and a company expectation that workers will use safety equipment and conduct themselves in a way to keep them safe. The Guide provides an outline of a training segment that easily could be included with general staff training.

The risk assessment in the appendix is an excellent Guide for fireworks companies to use when reviewing general safety in their warehouses and plants, as well as, outfitting and training their staff. The examples suggest ways to evaluate worker's risk in different activities and some of the responsibilities the worker and the company might have.

The Guide addresses the concerns from the users' perspective and considers the protection as well as the activities the user will have to perform while wearing the gear. They acknowledge that, regardless of any regulations that might be developed, protective clothing that is uncomfortable will distract the user and often will be removed. Several valuable suggestions are made regarding different methods for the protective equipment to protect the user, and how the user can work with the protective clothing to adapt it for the maximum comfort and effectiveness. This well thought out discussion shows that the writers understand the reality of the diverse activities conducted by the pyrotechnician and fireworks manufacturer, as well as the restrictions that can be created for the user with the wrong equipment.

The Guide suggests that there are several ways to address the worker's risk and does not make a specific recommendation as to the type of protection needed. The reader is guided to make their own decisions based on their needs. The Guide states that protective gear, specifically designed for the explosives industry, is not currently being sold. This could be a good opportunity for safety equipment manufacturers to develop something the explosives industry would want or need to buy. This Guide could also serve as a handbook for what needs to be considered in designing protective gear.

The bibliography includes studies done by other industries regarding protective equipment and chemical risk protection.