

COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS AND ON THE GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS

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EXPLOSIVES AND RELATED MATTERS

Criteria for excluding articles from Class 1

Transmitted by the Expert from United Kingdom

Introduction

1. The expert from the United States has proposed criteria for classifying an article as non-explosive under the general guidance provided in Section 2.1.1.1(b) of the Model Regulations (ST/SG/AC.10/C.3/2008/54). This section allows explosive devices "*containing explosives substances in such quantity or of such a character that their inadvertent or accidental ignition or initiation during transport shall not cause any effect external to the device either by propagation, fire, smoke, heat or loud noise*".

Discussion

2. The USA has proposed four criteria for heat, projection, noise and smoke but there is no criteria for the first part of the definition "devices containing substances in such quantity or of such character...".

3. The United Kingdom's Ministry of Defence have criteria set down in their Explosives Regulations, Joint Services Publication JSP 482 for items excluded from Class 1 and the relevant section is reproduced below. This section also addresses the criteria for quantity of explosives contained in the article. We believe that a number of other NATO members have based their classifications on this document.

"6.5 Items Excluded from Class 1

6.5.1 When an item contains explosive material in such small quantity that it is considered by ESTC to present no significant hazard from explosion it may be excluded from Class 1. It is given an ESTC Item Number prefixed by 'N', (e.g. N 0001), and the applicant informed as such. Such items are listed in the ESTC Classification Data Base.

6.5.2 *In general ESTC are prepared to accept devices such as retractors, protractors and small guillotines as excluded from Class 1, subject to their compliance with the following criteria based on guidelines laid down by the HSE:*

- (1) *When operated the device must not cause any effect external to the device either by fire, smoke, heat or loud noise. All material formed by burning or explosion of the contents of the device concerned must be retained within the body of the device and no part of the exterior of the device must fracture.*
- (2) *Any mechanical movement, external to the device itself, must not exceed 1.5cm.*
- (3) *Where the device can give rise to a shearing action, the shearing section must be so designed as to deny access to any circular rod with a diameter of greater than 0.5cm.*
- (4) *The total explosives content of any individual device must not exceed 2.5g.*
- (5) *Each device shall be designed for electrical initiation and shall contain no explosives external to the device itself.*

6.5.3 *Application for classification of such items will be by submission to ESTC on a MOD Form 1655 with packaging details and supporting evidence as per para 6.2.2.*

6.5.4 *While the above should deal with the majority of excluded items, some devices (e.g. thermal batteries) may be considered for exemption from Class 1 even though they are not covered by this method. Such items will be considered on a case-by-case basis.*

6.2.2 *The information required to complete a MOD Form 1655 and to enable the classification to be made is detailed in Annex C. It is the responsibility of the applicant to provide the relevant information in order that the classification can be completed. If classified by HSE, a copy of the HSE Certification should be forwarded with the MOD Form 1655. When foreign explosives are to be imported they may have the nation's Competent Authority classification, which should be submitted to ESTC with the MOD Form 1655 application as supporting evidence."*

4. Finally the expert from the United Kingdom notes that the USA's proposal details noise measurements " *exceeding 150 decibels when measured with an ANSI Type 1 Sound Level meter*" but does not give the ISO noise measurement value.

Proposal

5. The UK's MOD JSP 482 criteria may be useful as a further contribution to discussions on the criteria for excluding devices outside Class 1. The expert from United Kingdom recognises that thermal batteries may need their own separate criteria because of the temperatures needed to melt the electrolyte when activated.
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