

Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals

Sub-Committee of Experts on the Transport of Dangerous Goods

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Item 6 of the provisional agenda

Miscellaneous proposals of amendments to the Model Regulations on the Transport of Dangerous Goods

Work to establish a list of Very High Consequence Dangerous Goods

Transmitted by the expert from the United Kingdom

Introduction

1. The expert from the United Kingdom wishes to inform the UN Sub-Committee of Experts on the Transport of Dangerous Goods of the conclusion of a two year project to analyse the High Consequence Dangerous Goods List specified in the UN Model Regulations on the Transport of Dangerous Goods and to produce a short list of Very High Consequence Dangerous Goods. The results are set out in six technical reports covering classes 1-8 produced by Defence Science and Technology Limited (DSTL) on behalf of the UK Department for Transport. The project was designed for generic purposes and can be used to inform specific applications such as transport. As the reports are classified their distribution has to be limited but each request for copies will be considered on a case by case basis.

Background

2. There were two reasons to create a list of very high consequence dangerous goods. Firstly, the UK Department for Transport was considering what further security measures might be recommended to reduce the vulnerability of the most dangerous goods transported. Secondly, a UK Government Review of the Security of Hazardous Sites and Substances had recommended developing an impact-based list of chemicals of greatest concern. A single project to meet both of these requirements avoided duplication of effort.

VHCDG Project

3. Separate reports have been produced which cover Class 1 Explosives, Classes 2-5 (Gases, Flammable liquids and solids & Oxidizing substances & organic peroxides), Class 6.1 Toxic solids & liquids, Class 6.1 Biological Toxins & 6.2 Infectious Substances, Class 7 Radioactive materials and Class 8 Corrosives. Each report is summarised below:

4. The Class 1 Explosives and Classes 2-5 (Gases, Flammable liquids and solids & Oxidizing substances & organic peroxides) reports also analyses the explosives contained on the US Bureau of Alcohol, Tobacco, Firearms and Explosives database and materials contained in the US National Oceanographic & Atmospheric Administration CAMEO

database. The substances are analysed according to their respective properties. For explosives this is the detonation velocity, power index and sensitiveness/ sensitivity to initiation and for Classes 2-5 quantity sizes, packing groups, explosive limits and flash points are considered. These metrics are scored and the substances ranked.

5. Limitations for both reports include the inability to analyse all articles, mixtures and Not Otherwise Specified items where the constituents and/or quantities are unknown. Also, there is no analysis of the ease of manufacture or availability of these substances.

6. The Class 6.1 Toxic solids and liquids report analyses those materials on the HCDG list according to their long term toxicity and the boiling point of the substances to determine the exposure pathway where the available data allows. The Class 6.1 Biological toxins and 6.2 Infectious substances report summarises recent work undertaken by the UK Government which ranks or categorises pathogens and toxins according to the relative security risk of their acquisition and use by criminals.

7. The Class 7 Radioactive materials report analyses and summarises current legislation in place for the control of such materials. It explains the benefits and limitations of this approach and makes recommendations for the ranking of these substances (excluding fissile materials) according to their relative security risk, in relation to the HCDG list and based on existing legislation. This report has been overtaken by the work undertaken by the International Atomic Energy Agency.

8. The Class 8 Corrosives report investigates and assesses the available methods and data available to provide a quantitative measure of corrosivity. Further analysis is undertaken for selected chemicals using the TOXNET Hazardous Substance database.

9. Each class of dangerous good is scored independently and it is not possible to compare the scores across the different classes. For some classes, the physical, chemical and biological data for each substance enables a more rigorous technical scoring, whereas for others the scoring is based on more subjective criteria.

10. It is acknowledged that further work is needed and each report makes recommendations that will be considered in due course.

11. The UK Department for Transport will be using the reports as the start point for drawing up a short list of goods that are of most importance in the context of countering terrorism. We will keep the Sub-Committee informed of progress.
