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Proposals for amendments to Annexes A and B of ADR:

miscellaneous proposals

25 April 2014

Comments on ECE/TRANS/WP15/2014/6: Marking of tank-vehicles transporting fuel

Transmitted by the Government of Spain

Spain thanks France for forwarding document ECE/TRANS/WP15/2014/6 and presenting for discussion the topic of marking of tank vehicles according to 5.3.2.1.3 also for UN 3475 ETHANOL AND PETROL MIXTURE, with more than 10% of ethanol. Also in Spain the use of this fuel mixture is steadily increasing, and therefore it would be a welcomed simplification to be able to apply the provisions on marking established in 5.3.2.1.3.

However, in regards to the extinguishing agents that can be used for ethanol and gasoline mixtures and for conventional fuels, some of these extinguishing agents can be used for both kinds of fuels, but not all of them.

For extinction of these substances, usually different foams are used.

Class A foams are designed for extinction of wildfires and solids in general, while class B foams are designed for fires involving flammable liquids.

Class B foams include, among others, AFFF and AR-AFFF foams.

AFFF foam (aquos film forming foam) is a water based foam, which contains hydrocarbon-based surfactants such as sodium alkyl sulphate, and fluorosurfactants such as fluorotelomers, perfluorooctanoic acid or perfluorooctanesulfonic acid. They have the ability to spread over the surface of hydrocarbon-based liquids.

A variation of these foams, the AR-AFFF (alcohol-resistant aquos film forming foam) are foams resistant to the action of alcohols, specially designed to be able to form a protective film when alcohols are present. AR-AFFF foams are more specific and more expensive than AFFF foams.

Even so, AFFF foams can also be used for extinction of fires involving alcohols, but with a smaller efficiency. In some of the AFFF foams, increasing the dosage of the foam-forming agent, the efficiency for polar liquids (which include alcohols) is improved.

Class A foams are much less expensive foams used for extinguishing fires involving different kinds of solid fires. When the dosage of the foam-forming agent is increased from 0,2% to 1,5%, these foams form a stable foam which could be used for fires of hydrocarbon fuels (even though with a quiet low efficiency), but not for alcohol mixtures.

In Spain, those fire-fighting services consulted conventionally use AFFF foams for extinction of all kind of liquid fires. AR-AFFF foams, as they are more specific and more expensive, are not readily available. Class A foams are not used for liquid fires. Therefore, the indication that alcohol is present in the mixture is not strictly needed. But this indication would be useful to:

- Be able to increase the dosage of the foam-forming agent in AFFF foams, to be able to better extinguish mixtures containing alcohol

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- Be able to choose between AFFF and AR-AFFF foams, if both are available
- It cannot be excluded that in other countries class A foams may be used to extinguishing fuel fires. In that case, the efficiency for mixtures containing alcohols is very low, and they should be made aware of this circumstance

Therefore, it would perhaps be necessary to carry out a thorough consultation in the different countries on which is the current practice relating to extinguishing agents before introducing the provisions on marking established in 5.3.2.1.3 also for UN 3475 ETHANOL AND PETROL MIXTURE.
