

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 Globally Harmonized System of Classification and Labelling of Chemicals

Nineteenth session

Geneva, 30 June–2 July 2010

Item 2 (d), of the provisional agenda

Updating of the third revised edition of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS): Annexes

Status of deliberations on the proposal regarding the use of precautionary statement P410 for common gases in gas cylinders under pressure

**Transmitted by the Responsible Packaging Management Association of
Southern Africa (RPMASA) on behalf of the Southern African
Compressed Gas Association and the informal correspondence group
on the improvement of Annexes 1, 2 and 3**

I. Introduction

1. At the 16th session (December 2008) the Sub-Committee approved the programme of work for the biennium 2009-2010 to include revision of Annexes 1, 2 and 3 of the GHS for precautionary statements.
2. INF.14 presented at the 17th session by the United Kingdom on behalf of the informal correspondence group made several proposals for amendments to the precautionary statements including a proposal regarding P410 “Protect from sunlight” for gases under pressure.
3. At the 18th session (December 2009) the RPMASA presented a proposal in UN/SCEGHS/19/INF.9 on behalf of the Southern African Compressed Gas Association (SA CGA), to consider removal of precautionary statement P410 “protect from sunlight” for gases under pressure.
4. The proposal attracted considerable support having been raised previously by the United Kingdom although it was suggested that conditions of use should be specified. The USA Compressed Gas Association (USA CGA) expressed concern that they had had incidents in the 1990’s which had been exacerbated by outside storage and high temperatures, prompting a tighter Standard than the UN Model Regulations P200 and ISO Standards for use in North America for temperatures.
5. Most experts were of the opinion that this issue fell within the scope of the correspondence group on rationalization of precautionary statements. The United Kingdom as convenor of the correspondence group on revision of Annexes 1, 2 and 3 agreed to include this in their deliberations, and the representative from the RPMASA undertook to contact members of the Sub-Committee to request information on any incidents or accidents that had occurred in their countries as a result of storage of cylinders in sunlight.

6. An email request was sent to all members of the correspondence group as well as representatives of Australia and the Australian and New Zealand Gas Association (Anziga) in late January, to request information on any incidents or accidents that had been recorded anywhere in the world as a direct result of sunlight.
7. Responses were received from a number of correspondents, each advising no recorded incidents except for the United States of America confirming the incidents cited at the December meeting.
8. Anziga pointed out that very nature of gas cylinders precluded UV degradation, and that the filling conditions specified by UN Model Regulations and ISO globally, require developed pressure at 65° C to be considered when determining quantity of gas to be filled into a cylinder. It should also be noted that cylinders are extensively transported and used in sunlight, and in very high temperatures with no recorded incidents in their region, and that the GHS is inconsistent in its application of precautionary statements with P410 being used for gases under pressure, but not for flammable or oxidising gases, which could be considered to be of greater concern.
9. Two teleconferences were held with the corresponding group on 11th and 25th March. It was noted that no data existed regarding temperatures reached on the exterior of cylinders exposed to sunlight in high ambient temperatures, thus the SA CGA undertook to implement experiments, and to take measurements on the surface near the top and bottom of a black cylinder standing on a white concrete base to increase reflected sunlight, on some of the hottest days in March i.e. Johannesburg summer. The test data, results and photographs of the test equipment were circulated to the correspondence group and explained by the technical director of the SA CGA to the group during the second teleconference on the 25 March.
10. Comments received on the experimental test data were noted, and following further correspondence a proposal was circulated to add to P410 under conditions of use that this is “not necessary for common industrial and medical gases in transportable gas cylinders that are not subject to (slow) decomposition or polymerisation”.
11. The Occupational and Safety Health Administration of the United States of America (USA OSHA) and CGA were not comfortable with this as their standard is based on filling cylinders at 130° F – 54.4° C whereas the UN Model Regulations P200 and ISO used by most countries are based on 65° C.
12. Following further discussion between the experts from the SA GCA and the USA CGA it was noted that manufacture design was different in the USA, hence the lower fill temperature, but that ISO ones are now being introduced. It was also noted that the USA incidents were due to incorrect relief valves being fitted to propylene cylinders, not caused by sunlight, and that once this had been resolved by the USA CGA no further incident had been experienced since those of 1996.
13. It should be considered that P410 is “protect from sunlight” NOT temperature, thus impact on a sunny day in the mountains or arctic regions with sub zero temperatures would be the same as at higher temperatures in terms of sunlight, and the construction of gas cylinders is such that they are not affected or degraded by UV or sunlight.

II. Follow-up

14. Representatives from USA OHSA and RPMASA intend meeting together with others from the corresponding group during the 19th session to resolve this issue.
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