Chemical storage and labelling

Posted by Anonymous on Thu, 2016-04-28 15:15

Chemical storage and labelling: We are sorting through our toxic chemicals ADG class 6 and are not sure how we should now label and store them according to the GHS. For example, lead acetate which is toxic and a marine pollutant under the ADG still retains the environmental pictogram under the GHS but also now has the chronic health hazard pictogram and the general health hazard pictogram (exclamation mark). Barium carbonate, previously ADG class 6, under the GHS is now regarded as a general health hazard as too is sodium chloride! If we place the GHS labels on our old bottles, then how would you advise that we store these chemicals in our chemical store considering that we use ADG Code class labels for placarding?

Voting:
Average: 5 (1 vote)

Year Level:
7
8
9
10
Senior Secondary
Laboratory Technicians:
Laboratory Technicians

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Submitted by sat on 03 June 2016

Answer reviewed 28 February 2023

The labelling and storage of chemicals is complex. Transitioning to the GHS and the existence of other labelling requirements has added to this complexity.

Labelling[1]

Under the GHS, toxic chemicals are identified with the pictograms GHS06 (skull and crossbones), GHS08 (health hazard) and GHS07 (exclamation mark) according to the nature and degree of the hazard presented. As there is not a perfect correlation of the GHS classifications with Dangerous Goods (DG) class 6.1, the DG skull and crossbones diamond cannot be applied to the labels of all toxic chemicals. It can only replace the GHS06 (skull and crossbones) pictogram.

Storage

Toxic chemicals should be stored securely and segregated from incompatible chemicals so as to prevent dangerous reactions. All chemicals used for science in schools should be stored in a secure chemical storeroom; with this arrangement in place, there is no additional requirement for further security. Science ASSIST recommends that toxic chemicals be stored along with general (hazardous and non-hazardous) chemicals on shelves in the chemical storeroom, taking into consideration any further DG classification.

A toxic chemical with Class 6.1 as the primary DG class may also have a subsidiary risk of one of the DG Classes 3, 4, 5 or 8. Or it may be the case that a chemical has another primary DG class, with Class 6.1 as the subsidiary risk.

DG Class 6.1, no other DG classification: If a chemical is classified as DG Class 6.1 as its only DG class, then it may be stored with general inorganic or organic chemicals. For example:

- barium chloride, DG Class 6.1: may be stored with general inorganic chemicals
- methyl orange, DG Class 6.1: we recommend storage with other indicators and dyes

DG Class 6.1 and another DG classification: If a chemical belongs to a DG Class additional to Class 6.1, either as the primary or a subsidiary class, then this classification needs to be considered.

For example:

- methanol, DG class 3(6.1): store with Class 3 Flammable liquids
- iodine, DG class 8(6.1): store with Class 8 Corrosives (solids)
- potassium dichromate, DG class 6.1(5.1): store with Class 5.1 Oxidising substances
- sebacoyl chloride, DG class 8(6.1): store with Class 8 Corrosives (liquids)

Segregation of toxic chemicals: Schools are unlikely to have sufficient quantities of toxic chemicals to require segregation of them in a designated toxic substances cabinet. However, if the chemicals are not stored securely and can be accessed by students or unauthorised staff, then we recommend storing the toxic substances in a separate lockable cabinet.

Lead acetate: This chemical is not included in our List of recommended chemicals.[2] If your school chooses to have this chemical, then as it is classified as DG class 6.1, it may be stored with general inorganic chemicals.

Barium carbonate: In the Australian Dangerous Goods (ADG) Code,[3] barium carbonate is not listed specifically. It is classified in the generic category of Barium compounds N.O.S. ('Not Otherwise Specified'). The ADG Code is designed to ensure the safe transport of chemicals, whereas the GHS classification of chemicals is concerned with the safe handling of chemicals. Therefore, although barium carbonate may be classified as DG Class 6.1, under the GHS classification, which is specific for the individual chemical, barium carbonate does not meet the criteria for Acute toxicity Category 1 or 2, which would require it to be labelled with the GHS06 pictogram. Note that it is a scheduled poison S6, but as barium carbonate does not have any other DG classification, it therefore can be stored with general inorganic chemicals.

Sodium chloride: This chemical has no DG classification and should be stored with general inorganic chemicals.

References and further information

[1] Safe Work Australia, *Model Code of Practice: Labelling of workplace hazardous chemicals*. Safe Work Australia website. https://www.safeworkaustralia.gov.au/safety-topic/hazards/chemicals/labe...

[2] Science ASSIST, 2021, *List of recommended chemicals for science in Australian Schools,* Science ASSIST website, https://assist.asta.edu.au/resource/4669/list-recommended-chemicals-scie...

[3] National Transport Commission, 2023, *The Australian Code for the Transport of Dangerous by Road and Rail, Edition 7.8*, NTC website, https://www.ntc.gov.au/codes-and-guidelines/australian-dangerous-goods-code

Chem Supply Australia, (2023), *Safety Data Sheet: Lead acetate,* Chem Supply website, Please search the product information page on the website for the current SDS for Lead acetate https://shop.chemsupply.com.au/

Chem Supply Australia, (2023), *Safety Data Sheet: Barium carbonate,* Chem Supply website, Please search the product information page on the website for the current SDS for Barium carbonate https://shop.chemsupply.com.au/

Chem Supply Australia, (2023), *Safety Data Sheet: Sodium chloride,* Chem Supply website, Please search the product information page on the website for the current SDS for Sodium chloride https://shop.chemsupply.com.au/

Science ASSIST, 2023, *Science ASSIST Information Sheet: Chemical Labels*, Science ASSIST website: https://assist.asta.edu.au/resource/2455/science-assist-information-shee...

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Submitted by WA006 on 26 July 2024

It is helpful to remember that the ADG diamonds relate to transport and storage and therefore still relevant for storage. Section 14 of the SDS of whichever substance you are storing will tell you where to store that substance by its ADG classification in that section. Follow that for storage.

GHS diamonds are aimed at the end user, not storage.

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Submitted by on 29 April 2016

Hi Kategi,

It is a very good question and we need to find out the answer from the experts.

I had the same question and I tried to find the answer and one close answer (but not complete and clear about the storage) found on safe work australia on http://www.safeworkaustralia.gov.au/sites/swa/whs-information/hazardous-...

on this page 4th question says-

Does the GHS replace the ADG Code?

No. You must continue to comply with the ADG Code and relevant state and territory transport laws for the transport of dangerous goods by road and rail. When in the workplace however, dangerous goods must meet the labelling requirements prescribed under the WHS Regulations. See further information on labelling.

Expert answer from ASSIST will be definitely helpful to all users looking for this answer.

With regards

Nehal Trivedi
