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Storage of copper powder

Posted by Anonymous on Wed, 2015-09-09 08:13

Storage of copper powder: Could you please advice me how and where to keep this copper powder (Chem Supply) as in the SDS it has been marked as a DG 4.1 PGII?

Voting:



No votes yet

Year Level:

9

10

Senior Secondary

Laboratory Technicians:

Laboratory Technicians

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copper powder msds

Submitted by on 26 September 2015

Answer updated 27 February 2023

Storage of copper powder

In general, chemicals should be stored segregated or isolated from incompatible chemicals to avoid hazardous reactions from occurring. This can be achieved by storing according to their Dangerous Goods classification, giving consideration to further incompatibilities within their Dangerous Goods Class.1

The classification of a chemical sometimes differs between manufacturers due to variations in the composition, concentration and/or form of the product. Not all metal powder products will meet the criteria for classification as a Class 4.1 Flammable Solid, as the reactivity of a metal powder will depend on factors such as the nature of the metal, the particle size and the method of production (e.g., whether there is a protective oxide coating on the particles, which would reduce the reactivity).

If the SDS of your copper powder classifies the copper powder as a Class 4.1 Flammable Solid, then the product should be segregated from other chemicals by storage in a labelled cupboard or cabinet, or on a shelf, which is dedicated to Class 4.1 Dangerous Goods.

If, according to the SDS, your copper powder has been classified as not hazardous and not a dangerous good, then this product should be kept in a cool dry place, away from incompatible substances, which can be found in Section 10 of the SDS: 'Stability and reactivity'.

Science ASSIST has developed more specific guidelines for chemical storage which are provided in our Chemical Management Handbook.²

Hazards of copper powder

Powders of metals and other materials, whilst stable when stored under recommended conditions, have particular hazards associated with them due to their particle size. Finely divided metal powders can ignite easily and can form explosive mixtures with air (see the SDS, Section 5: 'Fire-fighting measures').³

It is important not to breathe the dust of copper powder as it is toxic by inhalation (see the SDS, Section 11: 'Toxicological information').

Given the hazards of metal powders, if copper powder is not required in the curriculum, we suggest that you consider disposing of it. **We would recommend purchasing copper turnings rather than copper powder, due to the additional hazards associated with metal powders.**

References and further information

1 Victoria Department of Education (2018, July 10), *Guidance Sheet 1: Chemical storage*, Victoria Department of Education website, <https://www.education.vic.gov.au/hrweb/safetyhw/Pages/chemicalmgt.aspx>

2 Science ASSIST, 2018, Chemical Management Handbook for Australian Schools – Edition 3, Science ASSIST website, <https://assist.asta.edu.au/resource/4193/chemical-management-handbook-au...>

3 Canadian Centre for Occupational Health and Safety, *OSH Answers Fact Sheets: Combustible dust*, CCOHS website. https://www.ccohs.ca/oshanswers/chemicals/combustible_dust.html

ChemSupply Australia (2023), *Safety Data Sheet: Copper metal powder*. Please search the product information page on the website for the current SDS for Copper metal powder <https://shop.chemsupply.com.au/>

University of Nebraska-Lincoln, Environmental Health and Safety, *Safe Operating Procedure: Flammable Solids Hazards and Risk Minimisation*, (2013), Safe Operating Procedures | Environmental Health & Safety | Nebraska (unl.edu)

copper powder msds

Submitted by on 18 September 2015

Not sure but I looked up the Chem Supply SDS for Copper Powder Issue Date April 2014 (<https://www.chemsupply.com.au/documents/CL0511CHHL.pdf>) and it does not say anything about the Dangerous Goods Class or Packaging Group as it is not classified as hazardous. Hope this helps Andrew

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