

October, 2016

NANOSAFE



AUSA NanoSafety Group Newsletter

Welcome!

Dear AUSA NanoSafe Group members,

Welcome to the 3rd NanoSafe newsletter! While this issue supposed to come out in September, due to personal health issues, Xin was not able to get it out in September. In this issue, Julie has developed a risk assessment questionnaire for identifying, handling and assessing the risk of engineered nanomaterials within staff and students teaching or research activities. There are also other resources for nanomaterials risk assessment and safety manage.

If you develop new hazard management approaches towards these chemicals, we’d love to hear as well! Enjoy reading!

Xin, Julie and Maria

Group News

In September, we welcome a new member to the group. Please join us to welcome [Steve Marker](#), Work Health & Safety Advisor, The University of Sydney.

For group membership enquiry, please contact [Xin](#) directly.

Nanomaterials Health Risk Assessment

As we discussed in the first newsletter back in July, a health risk assessment tool by SafeWork has been included. [Access the SafeWork NMs health assessment tool...](#)

Julie has modified the tool to be suitable for University uses. The document has text and populated drop down boxes for ease of use. Julie gathered several ideas from the Safework document and from various universities including RMIT to bring together this document.

Access the Curtin University [risk assessment tool on nanomaterials](#). (In AUSA NanoSafety Group under documents folder “NanoSafety Newsletter October 2016”)

Useful Resources

1. For members who are interested in the risk management of nanomaterials, the [Laboratory Safety Colloquium](#), jointly run by Environmental Health and Safety and the Office of Research and Economic Development at the University of Nebraska-Lincoln, has an extensive series of videos. In 2013 they hosted NIOSH Workshop: Building a Risk Management Program for Nanomaterials. Below are the five parts of the workshop (1 hour each video).

- ◆ [Part 1 — Building a Risk Management Program for Nanomaterials](#)
- ◆ [Part 2 — Nanotechnology Research Center Active in the Lab and in the Field](#)
- ◆ [Part 3 — Risk Assessment Approach for Nanomaterials](#)
- ◆ [Part 4 — A Exposure Assessment Strategy for Nanoparticles](#)
- ◆ [Part 5 — Control Banding](#)

2. Also on the risk management aspect of nanomaterials, in August 2016, a journal, *Risk Analysis*, published a special issue on nanomaterials. The issue covered discussions on risk analysis strategies, alternative testing approach as well as a framework of evaluating nanomaterials exposure data. It appears the 4 articles have all approached the quantitative risk analysis methodology. [Access the special series](#).

3. Workplace Health and Safety Queensland has a proforma for control banding for NMs. [Access...](#) Thanks to Dr Peter McGarry for contribution.

4. There may be fears to nanomaterials in a workplace. Most of the time, this is caused by workers not understanding what nanomaterials are. It may be interesting to pass this [four-minute video into what nanotechnology is](#), to concerned workers to familiarise them with the terminology.

5. For facility managers/advisors, some of the United States Universities have published specific protocols for nanomaterials research facility. [Read more on GoodNanoGuide Blog](#).

- ◆ Stanford Linear Accelerator Center — [Nanomaterial Safety Plan](#) (Updated August 2016)
- ◆ The California Nanosafety Consortium of Higher Education — [Nanotoolkit](#) (Updated 2012)

6. The Royal Society of Chemicals Toxicology Group recently announced the winner for their Toxicology Award. The talks have a nanotechnology theme. Some interesting talks below.

- ◆ [Nanomaterial Toxicology — Finding the Best Way Forward](#) by Prof. Vicki Stone, Professor of Toxicology, Heriot-Watt University
- ◆ [Ecotoxicology of Nanomaterials — Finding the Best Way Forward](#) by Prof. Teresa F. Fernandes, Professor of Environmental Science, Heriot-Watt University

7. From the topic above, have you ever thought about nanomaterials being released into the workplace environment by laser printers? In 2010, SafeWork Australia published a report on [Nanoparticles from Printer Emissions in Workplace Environments](#). It may be interesting for safety managers, especially those focuse on low risk areas.

Discussion Topic: Labelling of Nanomaterials



GHS transitional arrangements will end soon — less than 2 months left now. However, SafeWork Australia has not given a clear guide on what information must be included. Code of Practice: Labelling of Workplace Hazardous Chemicals 3.10 recommended 2 phrases to be included for products containing nanomaterials with hazards not fully characterised as an interim arrangement.

- ◆ Contains engineered/manufactured nanomaterials. Caution: Hazards unknown.
- ◆ Contains engineered/manufactured nanomaterials. Caution: Hazards not fully characterised.

The Code also specified that ‘manufacturer has a duty to correctly classify the chemical and include information on known hazards on the label in accordance with the WHS Regulations’. Sigma Aldrich has started using pictograms on its labels for nanomaterials but provided no risk phrases and indicated some nanomaterials are non-hazardous.

The above-mentioned 2 phrases are certainly useful for any NMs but would also limit on the amount of information on possible hazards.

GHS actually provided a good systematic approach for labelling NMs. The main hazards associated with NMs so far are cytotoxicity, genotoxicity, fertility hazards, target organ toxicity. These hazards all fall under either the health hazards pictogram OR exclamation mark pictogram. Hence, is it possible for the GHS label to use the following approach? Of course, researchers need to search on current literatures of any suspected hazards.

- ◆ The label includes either OR both the health hazards  and exclamation mark pictogram 
- ◆ The label includes the hazard statements associated with currently suspected hazards—always ‘Warning’ as the signal word.
- ◆ The label ALSO includes the phrases as recommended by SafeWork above
- ◆ The NAME of the chemical contains “nanopowder” “nanosized particle” “nanotube” “nanofiber” or other words to indicate the nature of the NMs
- ◆ The label ALSO includes the NMs nano-size in nanometers (nm) if known.

Discussion

If you have feedback to the discussion topic, please circulate within the group email list OR email your suggestion/contribution to [Xin](#), [Maria](#) or [Julie](#) to circulate.

