

Talk: Dangerous Chemicals Safety Advisors are Needed in Australia as Dangerous Chemicals Situations Must be Avoided

- My name is Jeff Simpson. I work in the area of chemical management & have written and published my industry newsletter "Hazmat & Environment Notes" since 1985.
- I have worked as a specialist sole trader under my business name Haztech Environmental in the area of supporting businesses to meet Chemical Regulations since 1991, and I also continue to prepare Safety Data Sheets for pure chemicals and product formulations for businesses.
- I want to alert you to a major problem in Australia and in most of the world (except in the EU & UK), that exists because of poor chemical management.
- Dangerous Chemicals Situations, that lead to Dangerous Chemicals incidents, are not understood by many Senior Managers in businesses, and now also not by Government Authorities, due their backgrounds. (Except under the Australian Major Hazard Facility Regulations, which don't cover smaller chemical operations)
- This means we just keep waiting for the next Dangerous Chemicals Situation, that then causes a dangerous chemical incident management problem which can put workers and the community at risk.

Dangerous Chemicals Situations are a Danger to our Community

- Australia's chemical management systems fail to properly protect Workers, the Community and the Environment since we changed from Licensing Dangerous Goods in the 1990s to a Performance Based approach this Century

Thus we need: • A national approach to management of chemicals that must be aligned with program objectives focusing on Dangerous Chemicals Situations

We need: • Qualified and knowledgeable people controlling chemicals and avoiding possible Dangerous Chemicals Situations

We need: • Controlling bodies supporting and regulating industry to recognise how critical this technical knowledge is. Those at the top of an organisation need to be fully aware, so everything is in place to avoid Dangerous Chemicals Situations occurring.

We need: • Nationally recognised education focusing on chemical management, risks, and Dangerous Chemicals Situations

We need: • a Role like an Accountant's role who has to show they are current at least every 3 years. We need Dangerous Chemicals Safety Advisors.

Once in place this means:

- Safer workplaces and safer homes
- Reduction in Environmental Impact
- Reduction in overall cost to the community & business

The Main Issue is the Deficit of Dangerous Chemicals Knowledge

- People managing and using Dangerous Chemicals are not required to have specific knowledge on the situations where chemicals are used, nor to demonstrate they know the issues.
- Existing Acts, Standards and Regulations fail to provide sufficient controls to minimise the risks associated with Dangerous Chemicals. These regulatory documents have a requirement to provide a safe workplace, but do not address how to achieve this specifically, in a manner that is easily able to be understood by today's Senior Managers.
- Thus, preventable Dangerous Chemicals incidents are occurring in chemical facilities, recycling centres, warehouses and during transport.

For example:

Chemical spills are impacting our waterways and bays
Chemical Injuries and health hazards that impact on employees
Chemical plumes and smoke spread over our communities

- Australia now has too few experienced specialists who fully understand the potential for all the Dangerous Chemicals Situations.
- While educational institutions offer the basics, none offer a comprehensive course in Chemical Classifications, Risk Management and Dangerous Chemicals Situations

Causes of the Deficit in Dangerous Chemicals Management

- Acts, Regulations and Standards are now often drafted without sufficient input from experienced chemicals management specialists, simply due to lack of such specialist knowledge.
- This lack of in-depth input may lead to Dangerous Chemicals management gaps
- There were three University courses prior to 2010, dealing with chemical hazards & chemical management. Now there are none.
- Because there are no comprehensive courses, now businesses self regulate and provide training internally or on the job. This can create problems where the so-called "responsible" person in a business does not know nor understand the chemical dangers.
- Our existing abilities to train employees, is limited by our own experience in the Dangerous Chemicals management knowledge.
- Because of limited experience, this may lead to overlooking potential chemical hazards and potential Dangerous Chemical Situations.

This is the main reason why I run seven Dangerous Goods and Chemical Hazards online evening Zoom meetings a year, where those who are interested can meet and discuss the issues and learn from each other. I alert to these online meetings from 2 weeks before. They are free to take part in.

The Implications of not Knowing about Dangerous Chemicals Situations are:

• Dangerous Chemicals Incidents

For example:

1/ Whilst drilling into incorrectly identified “empty” fuel / solvent tanks, ignitions have occurred, causing fires where workers have suffered burn injuries and have died.

2/ 200 & 1000 litre containers that leak, with inadequate spill containment, near ignition sources, with inadequate or no fire protection, can also catch fire or cause pollution.

3/ During flammable liquid transfers with no grounding & bonding 2 workers died in Melbourne in late 2023. One business with a death in Derrimut (west of Melbourne), had a major chemical fire in mid July 2024.

4/ Hazardous atmospheres inside Shipping Containers from fumigation chemicals; and when cleaning with solvents in Confined Spaces, potentially leads to illness or death. These spaces need to be fully aired out prior to entry (which is a simple procedure).

5/ Hazardous chemicals released during curing but without good ventilation.

e.g. Silicone Resins as they cure release 2-Butanone Oxime, which is a cancer inhalation hazard.

These Silicone Sealants we use domestically in Australia are **banned domestically** in the EU because of this. In the EU they are only allowed to be used by businesses where adequate protection for workers must be in place.

6/ Lithium Battery charging of low quality e-scooters may cause dangerous electrical discharging with high heat, & then serious fires or explosions. This is now a major cause of house fires across Australia.

Fire Rescue NSW has many incidents on its website, including one where two persons died as they could not escape their home!

7/ Working with Engineered Stone is now banned, as many Senior Managers in residential house construction businesses did not ensure that the direct workers or surrounding persons were protected from the Respirable Crystalline Silica, and many will now die from Silicosis in their lungs in around ten years time.

8/ Even chemicals that are not themselves classified as hazardous under the GHS regulations or as dangerous under the DG regulations, when one is spilt and the other is used to absorb the spill, IF left in a pile at the end of a day, can start heating up like a compost heap or a damp haystack from Air Oxidation, catch fire and then burn down a warehouse.

The Starting Point is Knowledge and Training

Australia needs:

- A national approach to the management of chemicals through alignment of Dangerous Chemicals Situations knowledge and training program objectives

- We need Regulation to require people managing & handling Dangerous Chemicals to be qualified, and demonstrate continuing knowledge (e.g. 3 yearly like an Accountant)
- We need to setup tertiary level education courses for Dangerous Chemicals Safety Advisors; and also for Senior Managers, covering the statutory requirements, chemical risks, dangerous chemicals situations, & the control mechanisms
- Add elements into undergraduate Science, Engineering, and Management degrees to give all people managing chemicals the basics of Dangerous Chemicals Situations; or more, such as Chemistry courses, where graduates must be competent to prepare SDSs for chemicals applicable to their study area
- Develop short courses about Dangerous Chemicals Situations and encourage relevant employees to engage in the same way we require for other areas of Quality, Health & Safety.
- Engage Universities who were previously active in the Chemical Management knowledge space to recover archived course information e.g. Deakin Uni and Vic Uni of Technology which had such courses up to 2005
- Re-activate retired & near retirement experienced tertiary education specialists, with the scope & depth of Chemical Management knowledge that is needed to enable courses to include Dangerous Chemicals Situations. We are missing this knowledge in manufacturing as we now mainly only formulate chemical products in Australia.

The Final Aim is for Industry to Know the Dangerous Chemicals Issues

Technical, Professional and Industry Associations need to create, maintain and share bodies of chemical management knowledge covering Dangerous Chemicals Situations and disseminate this through relevant Federal, State & Territory Authorities.

1. Industry, Technical & Professional Associations, and Unions need to share the full range of Dangerous Chemicals Situations with their members and the public
2. Federal, State, Territory Authorities, (such as Safe Work, EPAs, Health & Agriculture, Emergency Services) need to link with Associations to educate inspectors & managers
3. Authorities must also be positioned to better inform Associations, Businesses, Media, Unions and the public when chemical issues arise, & are promptly investigated, & when finally resolved
4. Emergency Response Organisations will be better equipped to respond to Dangerous Chemicals Incidents when they have formal mechanisms to share with industry. E.g. A national Dangerous Chemicals Incidents website. Currently only Fire Rescue NSW provides a good summary of chemical incidents.
5. The Media would be equipped to report on emerging Dangerous Chemicals issues. For example managing the hazards of Lithium Batteries being carried by aircraft has been a key discussion issue since I joined the Australian Dangerous Goods Air Transport Council a decade ago. Lithium Batteries are also a big problem for the Waste Industry!
6. Education & Industry Training Providers could utilise this knowledge to maximise course relevance for future Dangerous Chemicals Safety Advisers
7. The increased spread of knowledge and having an adequate number of competent Dangerous Chemicals Advisor specialists, would better protect the public and workers from incidents

My Outcome is to Recommend a Dangerous Chemicals Safety Advisor role

- To ensure industry has the knowledge to mitigate Dangerous Chemicals risks
- In the EU & UK Dangerous Goods Safety Advisors are a key Management role
- The EU International Carriage of Dangerous Goods by Road Agreement, which requires businesses responsible for consigning or the carriage of Dangerous Goods by Road to appoint Dangerous Goods Safety Advisors to minimize risks to persons, property and the environment.
- **Australia needs to Expand on this EU & UK Dangerous Goods role** for all businesses handling Dangerous Chemicals that can cause Dangerous Chemicals Situations.
- Create a Dangerous Chemicals Safety Advisor role** in Australia, as even a mixture of non hazardous chemicals can burn down a warehouse when they react like a compost heap from Air Oxidation which then catches fire.
- Dangerous Chemicals Safety Advisors would be required to maintain and build their knowledge and contribute to developing systems at their site including:
 1. Chemical Safety Assessment program utilising Risk Management
 2. Training and information dissemination to ensure all persons potentially exposed are aware of the Chemical Risks, Dangerous Situations and Controls
 3. Having a Reporting System to ensure incidents are reported both internally and within the wider industry to help with continual improvement
 4. Having a management system to ensure records are maintained and accessible to all stakeholders in every chemical business
- Post graduate elective units in Dangerous Chemicals Management are needed to ensure all Senior Managers in Businesses, Authorities, Associations, Unions understand their obligations and their need for working with Dangerous Chemicals Safety Advisors.

So in Conclusion:

- “The Australian Community needs Dangerous Chemicals Safety Advisors & Senior Managers in Industry & in Authorities who **must know** about their potential Dangerous Chemicals Situations” so they can safely manage them.
- **Please Share the Need** for a **Dangerous Chemicals Safety Advisor role** with:
 1. Federal, State & Territory Authorities and Politicians
 2. Emergency Response Organisations
 3. Industry; Technical & Professional & Community Associations; and Unions
 4. Universities & TAFEs
 5. Industry Training Providers (particularly for Senior Managers)
 6. The Media (such as the News Information, TV & Radio News, Current Affairs, and on Internet Forums)

Thankyou.

With support from an industry colleague, particularly to have the separate Appendices

There is a pdf of this Talk Presentation with a pdf of the Powerpoint Presentation and supporting Appendices, available to download from my website www.haztech.com.au. The following Link is to my 19min30sec spoken Presentation on 3CR Community Radio (starts at 2min in) and the Q&A after at: <https://omny.fm/shows/unitarian-half-hour/unitarian-half-hour-10-august-2024>

Contact Details: Email: Jeff.Simpson@haztech.com.au Phone: 61-3-9885-1269 Mobile: 61-403-072-02