Hazmat & Environment Notes Aug-Oct 2013

Hazmat & Environment Notes are prepared by:

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Hazardous Materials Consultant

Editor & Publisher

My approach is to provide a short, succinct note on each hazardous material issue, sufficient to allow you to make a decision of whether it is relevant to you. If you need more information contact details / website / etc are provided.

I encourage all readers to make comment on draft regulations, codes and standards.

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Hazardous Substances

- **NZ Workplace Exposure Standards (WES) & BEIs**

NZ Workplace Exposure Standards and Biological Exposure Indices. Effective from February 2013

Note: substances listed in the 6th Ed. that did not have assigned WES values have been removed from the 7th Ed.

– Workplace Exposure Standards and Biological Exposure Indices February 2013 [2.1 Mb pdf, 105 pages]

– Table of Workplace Exposure Standards [97 kb xls]

From: www.business.govt.nz/healthandsafetygroup/information-guidance/all-guidance-items/workplace-exposure-standards-and-biological-exposure-indices

- **High Flashpoint Fluid Flammable Mists: RR980**

"Generation of flammable mists from high flashpoint fluids: Literature review." UK HSE RR980, 2013.

Hazardous Area Classification (HAC) for explosive gas atmospheres is well established, with guidance published in various standards and industry codes of practice. However, the same situation is not currently the case for high flashpoint liquid releases that could give rise to an explosive mist atmosphere. There is a pressing need for clear guidance on mist hazards to allow operators to determine the extent of areas where flammable mists may be present and to select appropriate equipment for use in those areas.

This report provides a survey of the recent literature on flammable mists and pulls together information that will be useful in developing a HAC methodology for explosive mist atmospheres. It focuses on the three fundamental issues: mist flammability, mist generation and mitigation measures. The work provides an update to the substantial literature survey conducted previously by Eckhoff (1995).

Rather than provide a wide-ranging review of the whole field of mist formation, ignition and flammability of liquid fuels, the report concentrates on addressing two fundamental questions.

Firstly, when is a mist flammable? And secondly, how can a flammable mist be produced? In answering these questions, efforts are concentrated on the need to develop a relatively simple quantitative method for predicting the likelihood of the formation of a flammable mist in an industrial context.

The review also considers briefly some measures that can
be used to mitigate mist hazards. The severity and consequences of mist explosions are not examined in detail.

Report: www.hse.gov.uk/research/rrpdf/rr980.pdf [134 p]

From: www.hse.gov.uk/research/rrhtm/rr980.htm

- **Electroplating: Chromium, Nickel & Cadmium Exposure**

Exposure to hexavalent Chromium, Nickel and Cadmium compounds in the electroplating industry. UK HSE RR963, 2013.

This report describes a research project conducted by HSE in partnership with the Surface Engineering Association (SEA). The principal aim of the work was to investigate whether repeat biological monitoring (BM) over a period of time could be used to help drive sustainable improvements in exposure control.

Workers in the electroplating industry are potentially exposed to a range of toxic substances. Some of these are carcinogens, including Nickel, hexavalent Chromium (Chrome VI) and Cadmium compounds. HSE and industry agree that currently there are practical problems implementing substitution of these substances in some of the processes used and full process containment is not practicable. Consequently, there is reliance on good working practices, engineering controls and personal protective equipment (PPE) to control worker exposures.

Report: www.hse.gov.uk/research/rrpdf/rr963.pdf [46 p]

From: www.hse.gov.uk/research/rrhtm/rr963.htm

- **Genotoxicity of Nanomaterials: Screening Procedure**

Development of an automated high-throughput screening procedure for nanomaterials genotoxicity assessment.

The 27 Aug 2013 project report (undertaken by the University of South Australia, Flinders University and CSIRO) describes the successful development of an automated procedure for high-throughput genotoxicity assessment of different types of engineered nanomaterials.

From: www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/automated-high-throughput-screening

- **'Clean' Nuclear Power from Thorium: China**

Editor: I came across this article in the UK Telegraph from January 2013. Thorium reactors may be a possible solution.

"The Chinese are running away with Thorium energy, sharpening a global race for the prize of clean, cheap, and safe nuclear power."

"Princeling Jiang Mianheng, son of former leader Jiang Zemin, is spearheading a project for China's National Academy of Sciences with a start-up budget of $350m.

He has already recruited 140 PhD scientists, working full-time on Thorium power at the Shanghai Institute of Nuclear and Applied Physics. He will have 750 staff by 2015."

Jiang Mianheng's "mission is to do something about China's Achilles Heel very fast. The Shanghai team plans to build a tiny 2 MW plant using liquid Fluoride fuel by the end of the decade, before scaling up to commercially viable size over the 2020s. It is also working on a pebble-back reactor.

He estimates that China has enough Thorium to power its electricity needs for "20,000 years". So does the world. The radioactive mineral is scattered across Britain. The Americans have buried tonnes of it, a hazardous by-product of rare earth metal mining. "

From: www.telegraph.co.uk/finance/comment/ambroseevans_pritchard/9784044/China-blazes-trail-for-clean-nuclear-power-from-thorium.html

Also: www.ThoriumEnergyAlliance.com/

Also: http://www.itheo.org/ for the International Thorium Energy Organisation.

See "The Good Reactor" 5 min video documentary clip at: www.kickstarter.com/projects/1820052608/the-good-reactor-0

See an interesting 28 minute video "The Thorium Dream" from Motherboard TV, on the possible use of Thorium at: http://motherboard.vice.com/blog/china-is-taking-the-lead-on-thorium-reactor-development

- **Revised China Hazardous Chemicals Catalogue**

28 Sept 2013, The State Administration of Work Safety in China (China SAWS) has published the long-awaited draft edition of **revised Catalogue of Hazardous Chemicals** for public consultations. There are **2,936** chemicals (consisting of primarily substances and a few mixtures) in the draft Catalogue. Industry has been requested to submit their comments before **31 Oct 2013.**

Compared to the current Catalogue (available online: http://cciss.cirs-group.com/) which contains **3,834** chemicals, the new Catalogue has deleted a few mixtures and combined similar entries into one entry. Formulated products have also been deleted. Only active ingredients are kept in the new Catalogue.

Reference: www.chinasafety.gov.cn/newpage/Contents/Channel_5826/2013/0926/220588/content_220588.htm (which is in Mandarin).

CIRS also makes several comments about the changes at the bottom of this webpage. e.g. There is no harmonized classification for chemicals in the revised Catalogue and the Catalogue is not going to have significant impacts on GHS implementation in China.

From: http://www.cirs-reach.com/news/China_SAWS_Publishes_the_Revised_Catalogue%20of%20Hazardous_Chemicals_for_Consultations.html

- **CSB: Regulatory Coverage of Reactive Chemicals**

20 Aug 2013: In a new video safety message released today, USA Chemical Safety Board (CSB) Chairperson Rafael Moure-Eraso calls for regulatory coverage of reactive chemicals following the massive ammonium nitrate explosion that killed at least 14 people and devastated the town of West, Texas, on April 17, 2013. Reactive chemicals, like ammonium nitrate, can undergo potentially hazardous chemical reactions, such as violently detonating, if not managed properly.

In a 2002 study, the CSB called on USA OSHA and the USA EPA to expand their standards to include reactive chemicals and hazards, but to date neither agency has acted on the recommendations.

Safety Message: www.youtube.com/watch?v=cBB-Rks_uEk (5 minute video showing several reactive chemical incidents).

From: www.csb.gov/in-safety-message-csb-chairperson-rafael-moure-eraso-calls-for-regulatory-coverage-of-reactive-chemicals-following-the-west-fertilizer-explosion-and-fire-/

- **Bisphenol A (CAS 80-05-7): ECHA Consultation**

France has submitted a proposal to amend the current harmonised classification and labelling of Bisphenol A from reproductive toxicity category 2 (hazard statement code H361f) to reproductive toxicity Category 1B (hazard statement code H360F). The CLH proposal is focused on the adverse effects on sexual function and fertility. ECHA would like to stress that the public consultation is targeted at the adverse effects on sexual function and fertility only, not on developmental toxicity or other hazard classes than reproductive toxicity. The Consultation closed 11 Oct 2013.

http://echa.europa.eu/web/guest/harmonised-classification-and-labelling-previous-consultations

Bisphenol A: http://echa.europa.eu/harmonised-classification-and-labelling-previous-consultations/-/substance/179/search/+/term (137 pages)

From: http://echa.europa.eu/view-article/-/journal_content/title/public-consultation-launched-on-a-proposal-for-revision-of-the-harmonised-classification-and-labelling-on-bisphenol-a

- **Respirable Crystalline Silica: OSHA Proposal**

USA OSHA currently enforces 40-year-old Permissible Exposure Limits (PELs) for Respirable Crystalline Silica in general industry, construction and shipyards that are outdated, inconsistent between industries and do not adequately protect worker health. The proposed rule brings protections into the 21st century.

"Occupational Exposure to Respirable Crystalline Silica" from: https://www.federalregister.gov/articles/2013/09/12/2013-20997/occupational-exposure-to-respirable-crystalline-silica. Comment ends in mid November 2013.

This document proposes a new Permissible Exposure Limit, of 50 micrograms (8 hrs TWA) of Respirable Crystalline Silica per cubic meter of air (50 µg/m3).

USA OSHA also proposes other ancillary provisions for employee protection such as preferred methods for controlling exposure, respiratory protection, medical surveillance, hazard communication, and recordkeeping.

USA OSHA is proposing two separate tailored regulatory texts—one for General Industry and Maritime; and the other for Construction.

From: https://www.osha.gov/as/opa/quicktakes/qt09032013.html and https://www.osha.gov/silica/

- **USA OSHA Quick Takes e-News: Sept 2013**

I've scanned through the 3 Sept – 30 Sept 2013 e-News and listed items about Hazardous Substances / Chemicals.

3 Sept 2013: 1/ USA Dept of Labor's OSHA announces proposed rule to protect workers exposed to Respirable Crystalline Silica (see separate Note under Haz Subs for details); 2/ Texas cabinet manufacturer cited by OSHA for failing to remove hazardous levels of combustible dust.

16 Sept 2013: 1/ Notice of proposed rulemaking for Respirable Crystalline Silica published in USA Federal Register (see separate Note under Haz Subs for details).

30 Sept 2013: 1/ Study links Silica exposure with significant increase in lung cancer risk; 2/ USA OSHA cites Nebraska Cold Storage for Ammonia exposure, other serious safety violations; 3/

From: www.osha.gov/as/opa/quicktakes/

Chemical Management

- **Survey on the GHS & Exposure Standards**

Safe Work Australia is conducting an online survey on chemical safety in the workplace to assist in identifying areas of the workplace laws that could be improved to help business comply. SWA are looking for participants who:

- have some responsibility for preparing or approval of label or Safety Data Sheets (SDS) for chemicals manufactured or imported by the company before they are released onto the market
- use or handle chemicals in the workplace, or
- have some responsibility for managing work health and safety risks from use of chemicals in the business.

The survey is powered by SurveyMonkey®, and will take approximately 10 minutes to complete. It is completely confidential and anonymous – under NO circumstances will any follow up action be taken with your organisation as a result of participating in this survey. This survey is approved by the Australian Government Statistical Clearing House, Approval Number: 02346 – 01.

If you wish to participate in the survey, please click here or enter: https://www.surveymonkey.com/s/SWA-GHS-Survey to start. The survey finishes on 31 Oct 2013.

For any queries contact Safe Work Australia email: Elaine.Beale@swa.gov.au or ph: 02-6240-6997.

- **GHS for C&L of Chemicals: 5th Revised Edition**

GHS for Classification and Labelling Chemicals - 5th Rev Edition 2013 is now available

Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Fifth revised edition, United Nations, 2013. (536 pages).

Download from: www.unece.org/trans/danger/publi/ghs/ghs_rev05/05files_e.html

At the UN GHS Sub-Committee 6th session (14 Dec 2012), the Committee adopted a set amendments to the 4th revised edition of the GHS which include, *inter alia,* a new test method for oxidizing solids, miscellaneous provisions intended to further clarify the criteria for some hazard classes (skin corrosion / irritation, severe eye damage / irritation, and aerosols) and to complement the information to be included in the Safety Data Sheet; revised and simplified classification and labelling summary tables; a new codification system for hazard pictograms, and revised and further rationalized precautionary statements.

These amendments are in the (Secretariat) 24th Session (12-14 Dec 2012) Report ST/SG/AC.10/C.4/48/Add.1 (13 pages) at www.unece.org/trans/main/dgdb/dgsubc4/c4rep.html.

- **ECHA Draft Guidance: Compilation of SDSs**

ECHA Guidance on the Compilation of Safety Data Sheets. Draft Version 2.0, September 2013.

Editor: The unchanged part of the draft Guidance has a purple background behind the writing. The changes, which have a white background, are easy to find.

The updated 3.22 & 3.23 (pages 29-31) and Appendix 2 (pages 120-126), provides Guidance on how to include Exposure Scenario information in an SDS and on how to extend an SDS by attaching the Exposure Scenario. Updated guidance is provided on the correlation between the Exposure Scenario and SDS sections.

http://echa.europa.eu/documents/10162/13643/guidance_on_sds_to_caracal_201309_en.pdf (137 pages)

From: http://echa.europa.eu/web/guest/support/guidance-on-reach-and-clp-implementation/consultation-procedure

- **NZ HSNO Monitoring Report 2013**

Every year the NZ EPA looks at how effectively the Hazardous Substances and New Organisms (HSNO) Act 1996 is achieving its purpose, by assessing it against three outcomes:

- People are protected from harm
- The environment is protected from harm
- The operation of the HSNO system is efficient and cost-effective.

The new monitoring framework uses indicators to assess how well the outcomes of the Act are being achieved. A full set of indicators is still under development, so the report does have some gaps where data is not yet available.

The set of indicators are grouped into 5 categories:

1/ Incidents; 2/ Harm to people

3/ Harm to the environment; 4/ Compliance

5/ Efficiency of the regulatory regime

This report includes data up until the end of the 2011-12 financial year.

Monitoring the Effectiveness of the Hazardous Substances and New Organisms Act (HSNO) 1996 - June 2013 [pdf, 1.3mb, 82 pages]

Analysis of the indicator data identified the following recommendations for future work and/or investigations:

- advance development of indicators to better monitor harm to the environment from hazardous substances
- undertake a specific study looking at all available data on the rate of hospitalisation of young children for hazardous substance exposure against ethnicity
- analyse ACC data to get a better understanding of the proportion of workplace based injuries compared with domestic injuries
- develop data sources on chronic harm from hazardous substances
- repeat the business compliance survey within 2-3 years.

An overview of the results for each of the three HSNO outcome areas is provided in the Executive Summary.

Under Outcome 1: People are protected from harm.

Under Outcome 2: The environment is protected from harm.

Under Outcome 3: The operation of the HSNO system is efficient and cost effective.

From: www.epa.govt.nz/news/news/Pages/HSNO-Monitoring-Report-2013.aspx

- **Assigning a Product to an Existing NZ HSNO Approval**

Revised August 2013:

This document is aimed at importers and manufacturers of hazardous substances (products) to New Zealand. It leads the user through a process to 'assign' a product to an existing approval under the Hazardous Substances and New Organisms (HSNO) Act 1996, and provides examples and references throughout the document. It replaces Assigning a Hazardous Substance to a Group Standard, published by ERMA New Zealand in 2008.

Download: www.epa.govt.nz/Publications/hsnogen-gs-assigning.pdf (96 pages)

- **NZ Inventory of Chemicals (Monthly Updates)**

There are 97 new listings and 5 changed listings in the October 2013 NZIoC Update spreadsheet.

Note: the link only brings up the current monthly updates. You can opt to receive an email notifying you when there is an update to the inventory, at: www.epa.govt.nz/publications-resources/subscribe/Pages/Interested-parties-list.aspx

Update: www.epa.govt.nz/Publications/NZIoC-Update.xls

The NZIoC complete listing is searchable online at: http://www.epa.govt.nz/search-databases/Pages/nzioc-search.aspx

From: www.epa.govt.nz/hazardous-substances/approvals/group-standards/Pages/NZIoC.aspx

- **NZ WHS Reform - Hazardous Chemicals & MHFs**

From: Working Safer A Blueprint for Health & Safety at Work.

- **Creating a Clearer NZ Haz Substances Regime**

Recommendation 5a. [page 17]

For the significant majority of the estimated 150,000 New Zealand businesses using Hazardous Substances, the key difference is that they will only have to engage with one agency (i.e. WorkSafe), which will provide complete and integrated information of workplace health and safety requirements, including for the first time, Hazardous Substances. This will make it easier for businesses to understand their obligations and comply. The use of hazardous substances in the workplace will transfer to regulations under the new Health and Safety at Work Act, and will be administered by MBIE and enforced by WorkSafe.

Firms whose core business is the introduction of Hazardous Substances into the market will continue to deal with the HSNO regime for approvals and compliance. They will also interact with the Workplace Health and Safety regime to ensure the safety of workers.

The regulatory framework will keep the overarching responsibilities for hazardous substances with the NZ EPA, which is the agency most capable of classifying hazardous substances and determining base controls for safely managing them. The NZ EPA will also have a new focus on ensuring substances being introduced into the market comply with HSNO controls.

From: Working Safer Blueprint [378 kb pdf, 44 pages]

At: www.mbie.govt.nz/what-we-do/workplace-health-and-safety-reform

- **Regulating NZ Major Hazard Facilities**

Recommendation 8 [page 26]

Major Hazard Facilities where chemicals, harmful substances, or large quantities of fuel or chemical dust are stored, used or produced are not currently subject to the same scrutiny in NZ (as mining, petroleum production, geothermal activities and pipelines). Some of their activities are covered under other regimes such as the HSNO Act, but there is no consistent approach. Our early estimates suggest there may be around 60 higher-risk major hazard facilities in New Zealand not currently overseen by the High Hazards Unit.

Operators of Major Hazard Facilities which already have effective controls across plant, equipment, safety management systems, procedures, and people to prevent a major accident are expected to incur marginal compliance costs.

Operators of Major Hazard Facilities that need to carry out significant remedial work to improve the effectiveness of their controls are expected to incur more significant costs.

Regulatory changes will include a new regime where:

- A facility or proposed facility will automatically be a major hazard facility if quantities of particular dangerous substances are (or will be) processed, handled, or stored on site that exceed defined thresholds prescribed in the regulations.

- NZ WorkSafe may also carry out an assessment and designate a facility a major hazard facility if it meets certain criteria.

From: Working Safer Blueprint [378 kb pdf, 44 pages]

At: www.mbie.govt.nz/what-we-do/workplace-health-and-safety-reform

- **University of NSW Chemical Procedures etc**

This website contains all the University of NSW Chemical Procedures, Guidelines, Forms; Checklists and Information.

There are two March 2013 GHS Information Documents.
HS681 Fact Sheet on the GHS [5 pages]
HS682 GHS Hazard Classes Summary [7 pages]

From: www.ohs.unsw.edu.au/hs_procedures_forms/index.html#Chemical

- **Hazardous Chemical Properties Test Labs**

The list below is to help everyone find labs who can help them initially classify a product as a Hazardous Chemical or to verify whether a classification is correct on not in an SDS.

Note: The following Labs (in alphabetical order) are ones I am aware of, or colleagues have alerted to me. Each person needs to determine whether the Lab they choose will meet their needs, as the inclusion of these labs into these Notes should not been regarded as an endorsement of their ability to carry out the range of tests they offer.

- **Dermatest Pty Ltd (NSW):**

www.dermatest.com.au/Dermatest%20Irritection.html (near Rockdale Station in Sydney), ph: 02-9556-2601, email: info@dermatest.com.au.

These In Vitro tests may be employed to predict the In Vivo toxic effects of chemicals and formulations.

Corrositex®: In-Vitro Corrosivity Test for Transport - Class 8

Corrositex determines chemical corrosivity and permits assignment of Packing Group classification for Class 8 corrosives. This test replaces the rabbit test of dermal corrosivity by providing a reliable means of mimicking this test. U.N. Packing Group classification can be determined or marketing claims substantiated.

Occular Irritection Assay System in order to predict potential to cause eye irritation. Deramil Irritection Assay System in order to predict potential to cause skin irritation.

- **Ecotox Services Australasia Pty Ltd (NSW)**

www.ecotox.com.au/
Lane Cove, NSW 2066, ph: 02-9420-9481
Email: info@ecotox.com.au

Freshwater and Marine Test Fact Sheets (13) which outline the application and basic methodology used for each of our 'routine' toxicity tests.

Test Fact Sheets: www.ecotox.com.au/Toxicity_Tests/Test%20Fact%20Sheets.htm

Plus Plant, Earthworm and Honey Bee tests.

- **HRL Technology Pty Ltd (Victoria):**

www.hrlt.com.au Mulgrave, Vic 3170, ph: 03-9565-9888.

Contact either Dr. Janine Hulston, ph: 03-9565-9831,
email: jhulston@hrl.com.au, or Steve Marland, ph: 03-5132-1519, email: smarland@hrl.com.au.

Tests to classify Class 4 Dangerous Goods:
Div'n 4.1 Flammable Solids,
Div'n 4.2 Spontaneously Combustible (& Self Heating Solids)
Div'n 4.3 Dangerous When Wet (Substances in contact with water emit flammable gases).

HRL also consult with walk-through workplace audits related to Dust Explosibility and Self Heating Risks.

- **Intertek Laboratory Australia (Victoria)**

http://www.intertek.com/chemicals/
http://www.intertek.com/analytical-laboratories/a-to-z/
Intertek Lab Australia, Commodities Division
Port Melbourne, Vic 3012, ph: 03-9646-9299

Class 3 Flammable Liquid Flash Points, Viscosity

Intertek PROBE Laboratory Australia (Victoria) can also provide NICNAS Spectral & Physiochemical Tests.

- **ICP Firefly Pty Ltd**

www.icpfirefly.com.au/00_home.html
Alexandria NSW 2015, Australia.
Contact: Dr Isabelle Meyer-Carrive, ph:+ 61-2-9310-3899,
email: info@icpfirefly.com.au.

Div'n 6.1 Acute Toxicity & Class 8 Skin Corrosion Tests.

Acute Toxicology; Irritation/Sensitisation; Genetic Toxicology (*in vivo* & *in vitro*); Subacute/ Subchronic Toxicology; Neurotoxicology; Chronic Toxicology; Reproductive Toxicology / Toxicokinetics & Metabolism; Acute & Subacute Inhalation; Efficacy & Carcinogenicity studies.

- **Sharp & Howells Pty Ltd (Victoria)**

www.sharpandhowells.com.au.
BULLEEN, Victoria 3105 Australia, ph: +61-3-9850-9722
email: "John Francescini" Lab@sharpandhowells.com.au,

Physical Tests for Dangerous Goods:
Class 3 Flammable Liquid Flash Points, Viscosity & Sustains Combustion tests
Div'n 4.1 Flammable Solids test
Div'n 4.2 Spontaneously Combustible (Pyrophorics)
Div'n 4.3 Dangerous When Wet (Substances in contact with water emit flammable gases).
Class 8 Metal Corrosion tests

We have the equipment to set up for the following ADG and UN tests:

- **University of NSW Chemical Consulting Laboratory**

Mark Wainwright Analytical Centre, Chemical Consulting Laboratory, Terry Flynn, Manager, ph: 02-9313-7908.
email: T.Flynn@unsw.edu.au
http://research.unsw.edu.au/facilities/mark-wainwright-analytical-centre

Class 3 Flammable Liquid Flash Point tests
Div'n 4.1 Flammable Solids,
Div'n 4.2 Spontaneously Combustible (& Self Heating Solids)
Div'n 4.3 Dangerous When Wet (Substances in contact with water emit flammable gases).
Division 5.1 Classification of Oxidizing Solids (but not Oxidizing Liquids).
Class 8 Solids and Liquids Metal Corrosion tests.

Editor: If you are aware of other Laboratories that are set up to do Dangerous Goods & Hazardous Chemicals tests or tests needed for NICNAS applications, please let me know by emailing me at: Jeff.Simpson@haztech.com.au.

NATA at www.nata.asn.au is also a good place to start for labs to do general tests, such as Flash Point & Viscosity.

NICNAS (Industrial Chemicals)

- **Chemicals Assessments Scheduled for 2013–14**

NICNAS has identified the chemicals for which assessment will commence for human health or environment in 2013–14. These include (but are not limited to):

- Compounds of Cadmium, Nickel or Cobalt
- Fatty Amines
- Benzidine-Congener Dyes, and
- Petroleum Refinery Gases and Oils
- Cationic Surfactants
- a Subset of Hair-Dyes Restricted Overseas.

NICNAS welcomes, ASAP any information provided by introducers and users of the Stage One chemicals. You can use the template from our website to provide exposure information. Hazard or other relevant information can also be provided by stakeholders.

From: NICNAS Matters September 2013
www.nicnas.gov.au/communications/publications/nicnas-matters/nicnas-matters-september-13

- **The AICS Search Still Does Not Work Properly!**

The AICS search does not work correctly for the fields "Starts with" and "Equals" E.g. Alkyd Resins CAS 63148-69-6 still does not find this AICS Chemical Name. When doing a "Contains" search, it does find it in the 41 results, but being told there are 33 matches for both words, when there is only 1 match for these two words. Very strange! So be careful when you search and use the "Contains" field. Check all the results and don't rely on their so called matches for the words!

Editor's Comment: The situation in 1/ and 2/ above is not acceptable, as it makes it more difficult for companies worldwide to determine the CAS No. to use in the Australian AICS, where their specific CAS No. is not on the AICS.

Whilst NICNAS sorts its AICS search problem I still regard that they are obligated to reinstate the Old AICS search website as we have had this search functionality detail for over 10 years.

- **Response about the AICS from the Director NICNAS**

19 August 2013: Dr Brian Richards replied by email about my Note in the June-July-August 2013 Hazmat & Environment Notes issue titled: **Is Alkyd Resin a New Chemical or an Existing One?**

Mixtures of Chemicals with CAS No.s and Individual Chemicals in that Mixture are Now Available Separately:

"I note that the Industrial Chemicals (Notification and Assessment) Act 1989 (the Act) specifically (in section 6) defines a chemical as NOT including a mixture. The original nomination guidelines for the AICS also specifically stated that mixtures are NOT eligible for nomination. However, NICNAS is aware that a few mixtures (with CAS numbers) remain on the AICS. NICNAS does not concur with your view that any individual chemical in such a mixture may therefore be introduced without assessment, unless already separately listed on AICS."

Generic Chemical Names on the AICS:

"As you would be aware, generic CAS numbers could cover chemicals with significantly different toxicology; where a chemical that has a specific CAS number is being introduced, NICNAS expects to assess that particular chemical. This approach is entirely consistent with the Act and regulations (which you cited) that require each chemical in the inventory to be described by its CAS number and molecular formula.

This is also important in achieving the objects of the Act (s3), the principal of which is to aid in the protection of the Australian people and the environment by finding out the risks to occupational health and safety, to public health and to the environment that could be associated with the importation, manufacture or use of the chemicals.

I further note that CAS registry number 16068-46-5 was created to cover Potassium Salts of Phosphoric Acid not specified by stoichiometry - it is not intended to be a generic entry for all such salts. A similar situation relates to Alkyd Resins."

The NICNAS Director's Email on 14 Oct 2013 continues:

"As stated in the AICS nomination guidelines**, the fundamental purpose of the initial nomination process was to list chemical substances manufactured in or imported into Australia for commercial purposes between 1 January 1977 and 31 December 1990** - hence it is not appropriate to regard a specific chemical as having been nominated to the AICS if that specific chemical substance was not actually introduced in the period 1977 to 1990, whether or not a generic CAS number is currently on the Inventory.

The treatment of UVCBs was modelled on the USA and European processes (nominators were referred to those inventories to determine how UVCBs were named so as to nominate those specific names to the AICS) - the TSCA guidance (http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/policy.html) on the listing of complex mixtures notes that nominators face a critical choice in listing the components of complex mixtures either collectively, as a single UVCB entry comprising THE COMBINATION AS A WHOLE, or separately as the individual chemicals. Once nominated as a UVCB, all introducers either must identify their substance with a name that EXACTLY MATCHES that Inventory listing or must regard the substance as a new chemical; hence, having nominated a UVCB to the Inventory, only that UVCB can be introduced rather than an isolated individual component (unless that component was separately nominated to the Inventory);

The burden on businesses of notifying specific chemicals that are a part of complex mixtures has already been reduced through the adoption of the STATUTORY MIXTURES on AICS mirroring those that were created under the TSCA - these mixtures cover certain alloys, glasses, ceramics, frits and cements - the TSCA guidance on these mixtures notes that:

- statutory mixtures are PRODUCTS that are so complex that it would be very difficult to identify the components;
- the definition of each statutory mixture includes the range of elements and chemical substances that are used/formed in them;
- NOT ALL of the elements or substances will necessarily be present in any particular material that is covered by a statutory mixture; and
- the definition covering a particular statutory mixture may be subject to revision to reflect changes in the underlying technology – i.e. both new components not previously covered and old components no longer being used could be added/removed from the definition (my interpretation).

As its name implies, AICS is neither a chemical inventory nor a CAS number inventory, but rather is a CHEMICAL SUBSTANCES inventory – i.e. most fundamentally, SUBSTANCES, not individual chemicals therein, are to be introduced exactly as listed on the Inventory. Furthermore, regulators have recognised that where this approach would pose too great a compliance burden on businesses, specific exceptions by way of statutory mixtures were developed so that individual chemicals within the mixture could be introduced as that product (a glass, for example) without introducing the entire mixture, and that such exceptions could be revised to ensure they remained consistent with current practice."

From the 19 Aug & 14 Oct 2013 emails received in response to Jeff Simpson's Note published in June-Aug 2013 Edition.

- **NICNAS Nano Titanium Dioxide Fact & Info Sheets**

Note: The information is based on published reviews and journal articles (to July 2012). They are based predominantly on information from studies in rodents using various particle sizes and types. Therefore, available data may not represent human health effects of all TiO_2 Nanoparticles.

Titanium Dioxide (TiO_2) Nanoparticles exist in three forms: Rutile, Anatase and Brookite. Reported uses of TiO_2 nanoparticles in Australia are in cosmetics, sunscreens and surface coatings. There are no nanoparticle-specific regulatory requirements in place for TiO_2.

The July 2013 Fact Sheet briefly covers effects of Ingestion; Skin contact; Inhalation; Eye irritation; Reproductive effects; and Potential to cause cancer; and the specific uses of Cosmetics, Sunscreens; and Surface coatings.

From: www.nicnas.gov.au/communications/issues/nanomaterials-nanotechnology/nicnas-technical-activities-in-nanomaterials/nano-titanium-dioxide-human-health-hazard-review/titanium-dioxide-nanomaterial-factsheet

The Nano Titanium Dioxide Technical Information Sheet contains more detail on the conclusions of the human health hazard review.

From: www.nicnas.gov.au/communications/issues/nanomaterials-nanotechnology/nicnas-technical-activities-in-nanomaterials/nano-titanium-dioxide-human-health-hazard-review/nano-titanium-dioxide-technical-information-sheet

- **NICNAS Nano Silver Health Hazard Review**

Silver is known to have antibacterial properties. Silver nanoparticles are reported (in the USA) to be used in medical devices and wound dressings, food and hygiene products, household appliances, cosmetics and personal care products, shoes and textiles, paints & pigments, electronics, photography, & water filtration / purification products. There are no nanoparticle-specific regulatory requirements in place for silver.

Nano Silver Fact Sheet - provides a summary of NICNAS's conclusions from the review of relevant literature. July 2013.

Nano Silver Technical Information Sheet - contains more detail on the conclusions of the human health hazard review. The Appendix to this Technical Information Sheet provides the referenced toxicology information from the scientific literature on which conclusions have been based.

From: www.nicnas.gov.au/communications/issues/nanomaterials-nanotechnology/nicnas-technical-activities-in-nanomaterials/nano-silver-health-hazard-review

- **Update: 5th Tranche IMAP Assessments**

5th Tranche IMAP Assessments are now available.
Please comment by the 25th October.

Tier II—human health assessments (identified by Tranche Five in the tranche column, is the only Spreadsheet with Assessments where you can weblink to useful data.

Note: This spreadsheet includes all the Tranches.

Some of the 75 Chemicals in Tier II Tranche 5 that caught my attention are (with weblinks from the spreadsheet):

Acetic Acid	CAS	64-19-7	Ammonium Chloride ($(NH_4)Cl$)	CAS	12125-02-9
Arsenic Acid (H_3AsO_4), Disodium Salt	CAS	7778-43-0	Carbonic Acid, Lead$^{(2+)}$ Salt (1:1)	CAS	598-63-0
Chromic Acid (H_2CrO_4), Zinc Salt (1:1)	CAS	13530-65-9	Nitric Acid, Ammonium Salt	CAS	6484-52-2

For Information on IMAP ph: 02-8577-8870,
email: imap@nicnas.gov.au
From: www.nicnas.gov.au/chemical-information/imap-assessments/imap-assessments/public-comment

Scheduled Medicines & Poisons

- **Benzenediol (Catechol): proposed Schedule Poison**

The Chemicals Scheduling Delegate considered a proposal to include 1,2-Benzenediol for domestic use in Schedule 6 or Schedule 7 and preparations containing 1,2-Benzenediol for cosmetic use in Appendix C. This proposal also includes consideration of appropriate cut-offs for exemption from scheduling.

The delegate considered the NICNAS proposal for a new schedule entry for 1,2-Benzenediol in Schedule 7 on the basis of potential carcinogenicity.

Interim Decision - Proposed Schedule 6 New Entry

1,2-BENZENEDIOL

The implementation date of 1 Feb 2014 was agreed.

From: www.tga.gov.au/industry/scheduling-decisions-1307-interim-02-accs.htm#benze

- **3-Iodo-2-Propynyl Butyl Carbamate (Iodocarb)**

NICNAS under the IMAP process, recommended the scheduling delegate consider including preparations containing 3-Iodo-2-Propynyl Butyl Carbamate (Iodocarb) in Appendix C (of Such Danger to Health to Warrant Prohibition).

The Committee recommended amending the current Schedule 5 and 6 entries for 3-Iodo-2-Propynyl Butyl Carbamate to include cosmetic and personal care preparations containing 0.1 per cent or less of 3-Iodo-2-Propynyl Butyl Carbamate.

Application of S5/S6 controls does not 'ban' such uses, as achieved in the US and EU regulations, but the ACCS has supported S5/S6 scheduling as an appropriate level of control over use in cosmetics and personal care products.

The delegate added b/ to the S5 & S6 entries in the SUSMP.

b/. in cosmetic or personal care preparations (other than aerosolised preparations) containing 0.1 per cent or less of 3-Iodo-2-Propynyl Butyl Carbamate.

The implementation date of 1 Feb 2014 was agreed.

http://www.tga.gov.au/industry/scheduling-decisions-1307-interim-02-accs.htm#iodoc

- **Deltamethrin**

The OCS recommended the scheduling delegate consider amending the Schedule 5 listings of Deltamethrin to include ready-to-use mosquito nets containing 1 per cent or less Deltamethrin. Deltamethrin is listed in Schedules 5, 6 and 7.

The Delegate accepts the advice tendered by the ACCS meeting, and proposes that the Deltamethrin entries in S5, S6 and S7 be amended to exempt factory-prepared mosquito nets containing 1 per cent or less Deltamethrin.

Except: in factory prepared mosquito nets containing 1 per cent or less Deltamethrin

The implementation date of 1 Feb 2014 was agreed.

http://www.tga.gov.au/industry/scheduling-decisions-1307-interim-02-accs.htm#delta

- **Cocoyl Glycinate: Proposed Schedule Poison**

The Chemicals Scheduling Delegate considered a proposal to include Cocoyl Glycinate in Schedule 6 with lower concentration cut-offs for leave-on and rinse-off preparations. This proposal also includes consideration of whether an Appendix E listing (First Aid instructions for Poisons) is required for Cocoyl Glycinate.

Interim Decision - Proposed Schedule 6 New Entry

COCOYL GLYCINATE in cosmetic or personal care preparations **except**:

a/ in leave-on preparations containing 5 per cent or less of cocoyl glycinate; or

b/. in wash-off preparations containing 30 per cent or less of cocoyl glycinate and, when containing more than 5 per cent of cocoyl glycinate labelled with a warning to the following effect: "If in eyes wash out immediately with water."

An implementation date of 1 February 2015 was agreed,

From: www.tga.gov.au/industry/scheduling-decisions-1307-interim-02-accs.htm#cocoy

- **Hexyloxyethanol**

NICNAS under the IMAP process, recommended the Scheduling Delegate consider including it in Schedule 6.

The critical health effect of Hexyloxyethanol is corrosivity, with delayed skin effects occurring post dose.

The Chemicals Scheduling Delegate considered a proposal to create a separate Schedule 6 entry for Hexyloxyethanol to complement the generic entry for Ethylene Glycol Monoalkyl Ethers.

Schedule 6 - New entry

HEXYLOXYETHANOL **except** in preparations containing 10 per cent or less of Hexyloxyethanol.

The implementation date of 1 Feb 2014 was agreed.

From: www.tga.gov.au/industry/scheduling-decisions-1307-interim-02-accs.htm#ethan

- **Hydroquinone and Monobenzone**

This is a re-scheduling request with a long history of concern by former scheduling committees about the safety of products containing hydroquinone and its more potent methyl ether (Monobenzone) in therapeutic and cosmetic products, especially when used for skin whitening.

The Delegates accept the advice of the Joint ACCS/ACMS meeting, that cosmetic nail preparations containing ≤0.02% of Hydroquinone, Methylhydroquinone or Monobenzone should be exempted from current entries in Schedules 2 & 4 in the SUSMP.

The delegates added the exception to the S2 & S4 entries.

"Except: in cosmetic nail preparations containing 0.02 per cent or less of Hydroquinone."

From: www.tga.gov.au/industry/scheduling-decisions-1307-interim-03-accsacms.htm#hydro

- **Public Submission on some SUSMP Chemicals**

A Public Submission is available from Accord on **Catechol, Iodicarb, Cocoyl Glycinate, Hexyloxyethanol, Hydroquinone** and **Monobenzone.**

From: www.tga.gov.au/industry/scheduling-submissions-1307.htm

and: www.tga.gov.au/pdf/submissions/scheduling-submissions-1307.pdf

Food Chemical Issues

- **A1088: Sodium Hydrosulphite as a Food Additive**

This Application seeks to include Sodium Hydrosulphite (Sodium Dithionite) as a food additive to be used in the processing of canned Abalone.

Sodium Hydrosulphite is fully utilised in the preparation of Abalone prior to canning and that there is no evidence of residual Sodium Hydrosulphite in the canned product.

Sulphur Dioxide performs as an antioxidant in the final product and hence acting as a food additive. Sulphur Dioxide is approved for use by the Food Standards Code.

Executive Summary (pdf 9 kb) | (word 25 kb)

From: www.foodstandards.gov.au/code/applications/Pages/A1088.aspx

- **Irradiated Foods – NZ Labelling Requirements**

All NZ food that has been irradiated, or food that contains irradiated ingredients or components, must be labelled or have a label displayed on or close to it stating that it has been treated with ionising radiation.

From: www.foodsafety.govt.nz/elibrary/industry/labelling-irradiated-foods-info-food-business.pdf (July 2013, 2 pages)

Agricultural & Veterinary Chemicals

- **New Ag&Vet Legislation: Training & Support**

Information sessions across all capital cities in Australia during February and March 2014 to provide an overview of the legislative changes—register your interest

New regulatory content on the APVMA website in January 2014, followed by a consultation period to allow people to view the content and provide feedback.

Training sessions for regulatory affairs or similar people, covering the various topics of the regulatory content in detail.

Publish support materials like fact sheets and frequently asked questions on the APVMA website for additional information about the changes.

From: www.apvma.gov.au/news_media/newsletters/reg_update/2013/reg_update_179.php and

www.apvma.gov.au/about/work/better_regulation/index.php#info_sessions

- **APVMA Review of 2,4-D HVE Completed**

21 August 2013: As part of the ongoing review of 2,4-D, the APVMA cancelled the registration of 11 High Volatile Ester products (HVE) products and two active constituents.

On the basis of environmental concerns about off-target damage to nearby crops, vegetation and the environment due to its ability to easily evaporate and be carried long distances under certain conditions, the APVMA suspended registrations and label approvals of 2,4-D products containing High Volatile Ester forms in 2006.

The latest assessment of data from the Department of Sustainability, Environment, Water, Population and Communities (DSEWPAC) determined the risks of the use of 2,4-D HVE products under the suspended label instructions are unacceptable and cannot be mitigated (2,4-D review). The cancellation action completes the review for the High Volatile Ester forms of 2,4-D.

2,4-D is a herbicide used to control weeds in crops, commercial and industrial areas, turf, forestry and waterways. 220 2,4-D products continue to be registered in Australia, with sales representing about 7–8% of all herbicide sales.

From: www.apvma.gov.au/news_media/media_releases/2013/mr2013-03.php

- **Glyphosate: Roundup and Birth Defects**
  Is the Public being Kept in the Dark?

Glyphosate [N-(Phosphonomethyl)Glycine] is a broad-spectrum systemic herbicide used to kill weeds, especially annual broadleaf weeds and grasses known to compete with commercial crops grown around the globe.

Glyphosate is the most widely used herbicide worldwide in agriculture, the home garden, and industrial/commercial applications.

In 2011 Earth Open Source (EOS) published a review of Glyphosate titled *Roundup and birth defects: Is the public being kept in the dark?*

The APVMA contracted an external toxicology consultant to prepare a detailed review of the EOS report (PDF, 1Mb) | (RTF, 2.7Mb) and relevant recent studies.

APVMA: The toxicological studies reviewed do not indicate a need to revise the current Australian Acceptable daily Intake (ADI) of 0.3 mg/kg bw/d for Glyphosate. The available evidence suggests that there are very wide margins between the ADI and the actual intake of Glyphosate via food and from exposure while preparing and applying Glyphosate products.

From: www.apvma.gov.au/news_media/chemicals/glyphosate.php

- **Agricultural Chemical Usage Database: Australia**

The Agricultural Chemicals Usage Database contains certain information on the agricultural chemicals used in Australia from 1997 to 2006 by broadacre farmers. The database allows governments, chemical users and the community to view trends in the usage of chemicals over an entire decade. Important information about the limitations and interpretation of the data are on the webpage below. It is strongly recommended that you read this information before using the database.

Data are only available for certain set combinations: By year or aggregated years using pull-down menus.
By chemical name using text or using the search button.
By state using a pull-down menu.

Chemicals are listed by Active Ingredient. If you cannot find a specific chemical it may be because you are looking for the brand name.

Editor: The APVMA PubCris is useful for finding the Active Ingredient chemical names.

Search the Agricultural Chemical Usage Database at:
www.environment.gov.au/chmd_public/agriculturalDataSearch.do

From: www.environment.gov.au/settlements/chemicals/agriculture/index.html

- **New Agricultural Active Constituents (2)**

Guar Gum: Proposed Approval to Section 14A

The APVMA is proposing to add Guar Gum to the list of Active Constituents Not Requiring Evaluation. Guar gum has been evaluated and has met the criteria under Section 14A of the Agvet Code. It is intended to be listed as a modifier of viscosity with the identifier M(v).

Guar is a Galactomannan Polysaccharide that forms a viscous gel when placed in contact with water. It forms solutions that range from slightly acidic to neutral pH. Even at low concentrations (1% to 2%) Guar Gum forms gels in water. The viscosity of these gels is generally unaffected by the pH of the solution.

Scientific Name: Cyamopsis Tetragonolobus; CAS No. 9000-30-0; MW: 220,000 approx.

Please comment by Tuesday 5 Nov 2013 to:

APVMA Pesticides Contact Officer, Pesticides Program, ph: 02-6210-4748, email: Pesticides@apvma.gov.au

From: www.apvma.gov.au/consultation/public/2013/guar_gum.php and

From: www.apvma.gov.au/publications/gazette/2013/20/gazette_20131008.pdf (p15-16)

Cyantraniliprole:

Cyantraniliprole is for use as a broadacre foliar insecticide on canola and cotton, as a foliar insecticide for use in bulb vegetables and fruiting vegetables, and for control of Argentine Stem Weevil larvae, Scarab Beetle larvae and caterpillars (Armyworm and Cutworm) in established turf. Sulfoxaflor is to be used for the control of various insect pests in broadacre, vegetable and fruit crops.

Chemical Name: 3-Bromo-1-(3-Chloro-2-Pyridyl)-4'-Cyano-2'-Methyl-6'-(Methylcarbamoyl)Pyrazole-5-Carboxanilide;
CAS Number: 736994-63-1; Minimum Purity: 930 g/kg; Formula: $C_{19}H_{14}BrClN_6O_2$; MW: 473.7; Chemical Family: Anthranilic Diamide; Mode of Action: Activates insect Ryanodine receptors which results in depletion of intracellular Calcium stores followed by muscle paralysis and death.

Included in Schedule 5 of the SUSMP with no cut-off, and 1 Sept 2013 implementation date.

APVMA, The Chemistry Manager, Pesticide Program,
ph: 02-6210-4936, e: Chemistry@apvma.gov.au

From: www.apvma.gov.au/publications/gazette/2013/20/gazette_20131008.pdf (p17-19)

Dangerous Goods

- **UN DG Transport Model Regs – 18th Edition**

UN Dangerous Goods Transport Model Regulations - 18th Rev Edition became available at the start of October 2013.

UN Recommendations on the Transport of Dangerous Goods - Model Regulations, Eighteenth revised edition, 2013
www.unece.org/trans/danger/publi/unrec/rev18/18files_e.html

The UN No.s now go to UN 3526, with Adsorbed Gases of various types going from UN 3510 to UN 3526. Also UN 3509 PACKAGING DISCARDED, EMPTY, UNCLEANED Class 9, with the scope in new Special Provision SP374.

The files with changes in visible mode are also made available on a separate page (Track changes) (English only).

Alerted by Richard Greenwood via the UK CHCS free email forum.

- **Vic Dangerous Goods (S&H) Code of Practice**

11 October 2013, the Code of Practice for the Storage and Handling of Dangerous Goods 2013 (76 pages) came into effect. It replaces the old version of this Code (published 8 December 2000).

The new Code provides practical guidance on how to comply with the Dangerous Goods (Storage and Handling) Regulations 2012 (DG (S&H) Regulations 2012) for manufacturers, suppliers and occupiers. It should be read in conjunction with the Dangerous Goods Act 1985 and the DG (S&H) Regulations 2012.

Dangerous Goods Storage and Handling Code of Practice

Key changes to Dangerous Goods Storage and Handling requirements (3 pages).

e.g. Several practical examples and diagrams have been added as Appendices to help demonstrate what compliance looks like. The parts on Retailers' Duties and Minor Storages of dangerous goods have been removed. Separate additional guidance is being developed for retailers of Dangerous Goods.

Changes in the Code also reflect the aligning of the Vic Dangerous Goods Regulations with the Vic Occupational Health and Safety Regulations 2007.

From: www.worksafe.vic.gov.au/safety-and-prevention/health-and-safety-topics/dangerous-goods and select "Code of Practice"

Editor: Some errors have already been identified, as the final version sent to the Minister was not given a final check through by an industry Dangerous Goods (S&H) practitioner.

e.g. On page 45, the Bulk Placard for Anhydrous Ammonia (in Figure 8) is incorrect. Subrisk diamonds must display the Class number in accordance with the Australian Dangerous Gods Code 7. This differs from the previous Code of Practice.

e.g. On page 48 the Segregation Chart lists that Division 5.1 Oxidizing Agents are generally compatible with Division 5.1 Oxidizing Agents. In fact, Australian Standards and the Dangerous Goods Code specifically list many examples to the contrary. The ADG 7 "Incompatibility based on Classification" Table 9.1 identifies specific examples of incompatible Division 5.1 Oxidizing Agents in Table 9.2.

Editor: These two errors were alerted to me by a colleague.

- **Victoria: Environmentally Hazardous D. Goods (S&H)**

In Victoria, Environmentally Hazardous Substances where Special Provision AU01 applies to Road and Rail transport, are currently being interpreted by Worksafe Victoria to be Dangerous Goods for Storage and Handling.

I have disagreed with this interpretation, particularly since the Exemption for Dangerous Goods Labelled as Environmentally Hazardous Substances came into place at the start of 2012 made it clear that provided the Exemption was carried these DG labelled containers were not handled as Dangerous Goods. This reinforced the Vic DG(S&H) Regs picking up the definition of the Vic DG (Transport by Road 7 Rail) Regs which clearly invokes SP AU01.

IF the Worksafe Vic interpretation stands, there will be significant issues for products that classify as Environmentally Hazardous Substances Dangerous Goods, and which are, or are not labelled as such, and which are in Dangerous Goods stores and or are in non-Dangerous Goods stores.

Some Possible Examples: Agricultural chemicals (in particular herbicides) that are environmentally hazardous; also Diesel would now appear to be captured for storage and handling as well, as Class 9 Dangerous Goods as well as being captured as Combustible Liquids, as the SPAU02 clearly only relates to transport, so that these products, which are Environmentally Hazardous would need to be stored in accordance with the DG(S&H) Regs and both Combustible Liquid and Class 9 storage requirements.

At this stage I have passed the problem to the PACIA Industry Association to work with Worksafe Victoria to resolve this issue.

PACIA considers that the current Victorian provisions are restrictive and out of step with other jurisdictions. Under the model and jurisdictional uptake of the Work Health & Safety (WHS) laws, there are no provisions placed on environmentally hazardous substances - environmental hazards are out of scope of the WHS (or the GHS classification), therefore not regulated. Furthermore, having different applicability of what is defined as Dangerous Goods between Storage and Handling vs Transport with the same referenced definition within its laws, is contradictory.

- **Ignorance of Ammonium Nitrate Hazards Leads to Texas Explosion**

WA Safety Alert and Guidance
from the Sept 2013 WA Resources Safety Magazine.

At 7:50pm on 17 April 2013, 30 tonnes of Ammonium Nitrate exploded at the West Fertilizer Company storage in Texas. The explosion killed 12 fire fighters and two members of the public residing in a nearby apartment block, and injured more than 200 people.

If this explosion had occurred earlier in the day, many more people might have been killed or injured — two large schools were damaged beyond repair, but fortunately were unoccupied at the time.

Preliminary investigation findings from the US Chemical Safety Board are: The major cause of almost all uncontrolled ammonium nitrate explosions is an external fire. Ammonium nitrate does not burn and is a very stable substance unless heated above its melting point, when it can mix with fuels and contaminants and become explosion-sensitive, especially under confinement.

There has never been an accidental storage explosion in Australia despite the steeply increasing use of ammonium nitrate in the mining industry, which now consumes more than 2 million tonnes a year. There are many reasons for this fortunate record, including industry adherence to safety standards, greater awareness of the hazards of ammonium nitrate, and more rigorous regulatory oversight.

The WA Department of Mines and Petroleum recently published the third edition of its Code of Practice for the Safe Storage of Solid Ammonium Nitrate, which is Australia's most comprehensive and up-to-date safety code on Ammonium Nitrate storage.

From: www.dmp.wa.gov.au/documents/Magazine/RSM_Magazine_Sep13_SafetyAlertsGuidance.pdf (page 36)

Or:www.dmp.wa.gov.au/documents/Magazine/RSM_Magazine_Sep13_Full.pdf (5.6 Mb, 76 pages)

- **Chemical Advisory: Ammonium Nitrate – S&H**

Chemical Advisory: Safe Storage, Handling, and Management of Ammonium Nitrate, August 2013.

The USA Environmental Protection Agency (EPA), the USA Occupational Safety and Health Administration (OSHA), and the USA Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) are issuing this advisory1 as part of an ongoing federal effort to improve chemical risk management, and to advance safety and protect human health and the environment. This advisory contains

information on recent and past accidents involving AMMONIUM NITRATE (AN), on the hazards of AN, how to manage these hazards, and appropriate steps for community emergency planning and proper emergency response. It is focused primarily on safe handling and storage of higher density, solid AN pellets and prills used in fertilizers.

The information provided is not intended to cover all the hazards, safe practices or technical challenges associated with the manufacturing of AN; liquid fertilizers containing AN; manufacturing, storage or use of explosives or blasting agents containing AN; or the transportation of AN.

Guidance: www.epa.gov/osweroe1/docs/chem/AN_advisory.pdf [19 pages]

From USA EPA Risk Management Plan Rule Guidance: www.epa.gov/osweroe1/guidance.htm#rmp

- **Explosives & Fireworks: New NSW Regulation**

From 1 September 2013, the *Explosives Regulation 2013* replaces the *Explosives Regulation 2005*. The changes to licensing of explosives and fireworks are:

– you do not need a licence to learn blasting

– you do not need an explosives licence if you store up to 12kg of propellant powder for reloading purposes – and hold a licence under the *Firearms Act 1996*.

– you can get a single-use fireworks licence up to four times a year.

– there are changes to licence conditions (i.e. explosive licensing conditions and conditions applying to pyrotechnician and fireworks (single use) licences) licence fees have changed. Refer to the *WorkCover NSW fees schedule*.

– an unsupervised handling licence has been abolished and replaced with a security clearance.

Changes from 1 March 2014:

– you need a safety management plan to hold a manufacturing licence

– you must notify WorkCover at least seven days before using explosives (except for coal and mining workplaces).

Applicants and licence holders should refer to the *Guide for the secure and safe handling of explosives and security sensitive dangerous substances*.

WorkCover licences specific activities related to explosives, certain explosive precursors and fireworks.

Explosives Regulation 2013: www.legislation.nsw.gov.au/maintop/view/inforce/subordleg+476+2013+cd+0+N

From: www.workcover.nsw.gov.au/licensing/explosivesfireworks/Pages/default.aspx

- **Explosives: National Strategic Issues Group**

On behalf of the Select Council on Workplace Relations, Safe Work Australia is sponsoring a process to develop Model Explosives Safety Regulations and has established a Strategic Issues Group (SIG-Explosives) to steer this process. The group has representation from the Commonwealth, all States & Territories, industry and unions.

The initial focus of the group is to propose and consult on a number of strategic policy areas before any specific elements of the regulations are drafted.

Key topics of discussion include:

- the scope of the regulations (e.g. whether to include substances such as Ammonium Nitrate and other Oxidising Agents that are not Class 1 Dangerous Goods)
- licensing (e.g. what activities or persons need licensing)
- authorisations (e.g. whether explosives authorisations are necessary or could be done differently).

From: www.dmp.wa.gov.au/documents/Magazine/RSM_Magazine_Sep13_NationalNews.pdf (page 13)

Or: www.dmp.wa.gov.au/documents/Magazine/RSM_Magazine_Sep13_Full.pdf (5.6 Mb, 76 pages)

- **NSW Storage of Hazardous Chemicals Placarding**

NSW Workplaces using, storing and handling hazardous chemicals in tanks or in quantities exceeding prescribed quantities are required to be placarded under the *NSW Work Health and Safety Regulation 2011* (WHS Regulation). This guide provides information on how to identify when placarding is needed and the types of placards required.

Public'n: www.workcover.nsw.gov.au/formspublications/publications/Documents/placarding-for%20storage-of-hazardous-chemicals-4630.pdf (20 pages)

From: www.workcover.nsw.gov.au/formspublications/publications/Pages/placarding-for-storage-of-hazardous-chemicals.aspx

Editor: The Guide shows the correct placard for Combustible Liquids in the photos, but Figure 3: Placard for Category 4 Flammable Liquids & Figures 6: Placard for Combustible Liquids Combustible Liquids both incorrectly show as COMBUSTIBLE (min'm 100 mm lettering). However it is correct on the Front Page and Page 10!

- **Two Dangerous Goods Key Persons Retire**

Both Brendan Carney from the Dept of Infrastructure (who represented Australia at the UN Dangerous Goods Sub-Committee meetings) and Ben Piper from the National Transport Commission (who has been co-ordinating the update of the Australian Dangerous Goods Transport Regulations and Code) retired in the 2nd & 3rd quarter of 2013.

Editor: I would like to express our thanks for their work and in particular that Ben Piper delayed his retirement so that the current process to update the ADG Regs and Code would not be further delayed.

New contacts are:

Mr Asa Masterman
Dangerous Goods Policy Unit, Surface Transport Policy
Department of Infrastructure & Regional Development
Ph: 02-6274-6750, Asa.Masterman@infrastructure.gov.au

Mr Keith Ryan, Interim Project Director, Maintenance,
National Transport Commission
NTC's Transport of Dangerous Goods Maintenance Team
ph: 03-9236-5037, email: KRyan@ntc.gov.au, & Tania Wilson who also works for the NTC in Dangerous Goods.

- **Transport of Dangerous Goods Laws Proposal**

The finalised version of the **Explanation of Transport of Dangerous Goods Laws Amendment Package No. 2** and **Amendment Package No. 2** were submitted to members of the Transport and Infrastructure Senior Officials Committee (TISOC) for consideration at their meeting on 11 October 2013. As part of their consideration of the documents, those officials will consult with their counterparts who are responsible for Dangerous Goods land transport issues in their jurisdictions.

If TISOC is happy with the documents they will then be submitted to the Standing Council on Transport and Infrastructure (SCOTI) meeting that is to be held on 15 November 2013. SCOTI consists of transport and infrastructure ministers. Again, those ministers will consult with their ministerial counterparts who are responsible for dangerous goods land transport issues in their jurisdictions.

It SCOTI approves the documents, as mentioned the amendments in Package No. 2 will take effect on 1 July 2014 (voluntary compliance) and I July 2015 (mandatory compliance). However, those dates will only apply in the case of some jurisdictions if they pass enabling regulations before 1 July 2014.

Amongst the amendments is Schedule 2, which amends the *Model Subordinate Law on the Transport of Dangerous Goods by Road or Rail* in relation to such things as:

Adding a requirement to actually activate the Emergency Plan or follow emergency procedures set out in the plan if a dangerous situation does occur.

On becoming aware of a dangerous situation involving a placard load, the consignor, prime contractor or rail operator transporting the load must do everything that the Emergency Plan for the transport of the load requires the consignor, prime contractor or rail operator to do that is relevant to the situation.

Amongst the amendments is Schedule 4, which amends ADG7 to give effect to amendments made by the 16th and 17th editions of the UN Model Regulations.

These 16th & 17th Edition amdmts deal with matters such as:

– the transport of substances which are Toxic by Inhalation
– requirements for Metal Hydride storage systems
– fuel cell engines
– use of open Cryogenic receptacles
– classification criteria for environmentally Hazardous Substances
– chemicals under pressure
– Dangerous Goods used as coolants
– flexible bulk containers
– salvage pressure receptacles
– Lithium batteries.

For information contact: *National Transport Commission*
L 15/ 628 Bourke Street, Melbourne VIC 3000
Ph: 03-9236-5000, enquiries@ntc.gov.au, www.ntc.gov.au

From: National regulation of the transport of dangerous goods issues, September 2013 Update newsletter, received by email 20 Sept 3013.

- **Many Cootes Fuel Trucks Taken Off the Road**

"Trucks operated by the same company as a tanker that exploded on Sydney's northern beaches yesterday have been taken off the road.

Two men died when the tanker lost control on Mona Vale Road at Mona Vale about 3:40pm (AEST) yesterday.

Witnesses say there were multiple explosions after the tanker rolled onto its side, burst into flames and collided with several cars. Five people were injured in the crash, including the tanker's driver. Motorists say the section of road where the crash happened is notoriously dangerous.

Emergency crews worked through the night to clean up the petrol and debris left by the explosion, as well as the fire retardant chemicals used to put out the blaze. (ABC News)

Assistant Commissioner John Hartley says initial investigations suggest the crash was caused by problems with the tanker.

From: www.abc.net.au/news/2013-10-02/mechanical-failure-suspected-cause-of-tanker-explosion/4994502

- **WA: Dangerous Goods Transport Breaches**

From the Sept 2013 WA Resources Safety Magazine.

The Department of Mines and Petroleum continues to urge Dangerous Goods transport companies to adhere to high safety standards following a number of serious breaches of Dangerous Goods transport safety regulations.

Since September 2012, there have been 111 prosecution cases authorised, most involving multiple offences, against companies and individuals transporting Dangerous Goods in the Wheatbelt region of Western Australia. Of these, 34 have been determined in court.

The breaches were detected during joint Resources Safety and WA Police (Northam) operations that targeted the unsafe transportation of Dangerous Goods in the Wheatbelt, with Dangerous Goods vehicles inspected at various roadblocks.

The 34 prosecution cases include charges against 11 companies, with two of the trucking companies having more than one case against them. In some instances, multiple charges against a repeat offender were combined into a single case. The penalties for the 34 prosecutions total over $77,000, with individual penalties ranging from $1,500 for failing to provide proper Dangerous Goods documentation to $14,000 for a repeated offence involving safety equipment.

From: www.dmp.wa.gov.au/18848.aspx Divis'l News (p9).

Or: www.dmp.wa.gov.au/documents/Magazine/RSM_Magazine_Sep13_Full.pdf (5.6 Mb, 76 pages)

- **NT: Dangerous Goods Driver Training Course Changes**

NT WorkSafe News: 7 Oct 2013

A new nationally accredited course for dangerous goods driver training has been adopted by the Australian Skills Quality Authority (ASQA) and came into effect in the Northern Territory on Tuesday 8 October 2013.

The new course, *'TLILIC3013A – Preparation to Transport Dangerous Goods by Road'* replaces the course *'30744QLD – Transport of Dangerous Goods by Road'* as the required training to apply for a Dangerous Goods Driver Licence.

Several Registered Training Organisations are approved by NT WorkSafe to deliver the new training course.

From: www.worksafe.nt.gov.au/NewsRoom/Lists/Posts/Post.aspx?ID=73

- **Free Guide to Dangerous Goods AS Standards**

Sections include: General Information; Storing and Manufacturing General Dangerous Goods; Gases; Vehicle Gas Conversions; Laboratory and Medical Gases; Lubricants and Oils; Flammable and Combustible Liquids/Dusts; Substances; Tanks and Containers; Product Certification Schemes; Online Resources; Regulators.

Guide to Standards - Dangerous Goods [22 p Sept 2013]

From: http://infostore.saiglobal.com/store/getpage.aspx?path=/publishing/shop/productguides/dangerous.htm

Environmental Notes on Chemicals

- **NSW EPA: Proposed Risk-Based Licensing System**

The NSW EPA risk-based licensing system aims to ensure that all licensees receive an appropriate level of regulation, based on the level of risk they pose.

The NSW EPA will assess the site-specific risks posed by a licensed premises, and identify any environmental issues that a licensee needs to address and where the NSW EPA needs to focus its regulatory attention.

The risk assessments will consider three components:

- the day-to-day operations at the site, assessing the types of environmental media relevant to the premises (air, odour, water and noise emissions)
- the pollutant incident risk at the premises and the
- environmental management performance of the licensee.

Public consultation on the draft Regulation & the Risk-Based Licensing System is from 9 Sept to 1 Nov 2013.

Email: POEO.Consultation@epa.nsw.gov.au

From: www.epa.nsw.gov.au/resources/licensing/130677EMCPcol.pdf (15 pages)

At: www.epa.nsw.gov.au/licensing/licencereg.htm

- **Cougar Energy: Toxic Chemicals Release Fine**

AAP 28 Sept 2013 via the Herald Sun.

"COUGAR Energy has been fined $75,000 for releasing a cancer-causing chemical into groundwater at its Coal Seam Gas trial project in Queensland.

The company's $550 million underground coal gasification trial at Kingaroy was shut down by the Queensland government in January 2011 after the cancer-causing chemical Benzene was found in nearby bores.

Prosecutor Alan MacSporran, QC, told Brisbane Magistrates Court on Tuesday that Cougar had failed to install a production well in line with agreed environmental conditions and later released benzene into the local groundwater.

Mr MacSporran said Cougar also failed to notify authorities about the Benzene release as soon as reasonably practicable. Cougar pleaded guilty to three counts of contravening conditions of an environmental authority for a licence earlier in 2013."

From: www.heraldsun.com.au/news/national/cougar-fined-for-release-of-toxic-chemicals-into-groundwater/story-fnii5v70-1226728683065

- **NSW EPA Investigating Orica Ammonia Spill**

NSW EPA Media Release: 3 Sept 2013

On the 3rd Sept, Orica noticed a leak in a pipe after a power failure forced the plant to be shut down and restarted. Orica self reported the incident shortly after 7:00am.

NSW EPA and FRNSW officers were able to confirm quite early that the leak of ammonia did not leave the site. "As a precaution a technique called fogging, or water misting, was employed by Orica to control any atmospheric release of gas or odours.

The NSW EPA has requested a detailed report from Orica about the incident and will be conducting investigations.

www.epa.nsw.gov.au/epamedia/EPAMedia13090302.htm

- **Victorian Vehicle Emissions Regul'ns 2013: RIS**

This Regulatory Impact Statement (RIS) has been prepared to facilitate public consultation on the proposed Environment Protection (Vehicle Emissions) Regulations 2013. A copy of the proposed Regulations is attached to this RIS (131 pages). Consultation closed 23rd Sept 2013. The current regulations expire on 28 Jan 2014.

Vehicle Emissions Regulations Review, Policy and Regulation Unit, Vic EPA, email: veregs@epa.vic.gov.au

The two "clean air" objectives of the proposed Regul'ns are:

- prescribe air emission standards and standards of maximum permissible concentration for emissions from motor vehicles, other than new vehicles and heavy vehicles, to minimise the negative impacts of motor vehicle use on Victorians and the environment
- provide for offences relating to the supply of petrol to minimise the release of petrol vapours into the environment

The Vic EPA Aspire Spring 2013 newsletter informs:

- the introduction of a Hydrocarbon (HC) emission standard for petrol passenger vehicles, to ensure capture of grossly polluting vehicles;
- setting vapour pressure limits for ethanol-blended petrol to ensure such vapours are effectively and efficiently regulated.

RIS: www.epa.vic.gov.au/~/media/Publications/1543.pdf

From: www.epa.vic.gov.au/our-work/publications/publication/2013/august/1543 and

Spring 2013 edition of Vic EPA Aspire: www.vision6.com.au/em/message/email/view.php?id=1042537&u=23695

- **Environmental Chemical Monitoring Database**

The Chemical Monitoring Database provides a snapshot of chemical monitoring activities in Australia. The primary focus is on activities monitoring the **ambient environment**.

Several types of monitoring activities have been **excluded** from the database, including contaminated sites, point sources, industry or sewerage treatment monitoring.

The database does not cover information included in the National Pollutant Industry database which focuses on emissions of a specific set of pollutants.

The database enables improved access to chemical monitoring data for the community, industry and government. It does not contain actual monitoring results - instead, it is a list of monitoring activities across Australia which users can then follow up with the relevant organisation. Online links are included where available.

The database provides details of the monitoring activities (such as chemicals monitored, media/environments etc) and where the actual results/reports can be obtained.

The review and survey (conducted in 2007) focused on monitoring that occurred in the 10-year period from January 1998 to June 2007.

The database can be searched using different methods:

1/ By chemical name or Chemical Abstracts Number (CAS); 2/ By organisation; 3/ By location; 4/ By state/region; 5/ By river basin; and 6/ By media. Any combination of these search items can be used.

Search the Chemical Monitoring Database at:
www.environment.gov.au/chmd_public/

From: *www.environment.gov.au/settlements/chemicals/monitoring/index.html*

Standards & Codes

- **Stds – www.saiglobal.com/shop**

ISO 29904:2013: Fire chemistry - Generation and measurement of aerosols. It is intended to assist fire test designers and those making measurements at unwanted fires to choose and use appropriate methods for aerosol measurement for differing hazards to people and the environment. Fire-generated aerosols may present a direct risk of restricting escape from fire by obscuring an exit route, or they may produce chronic health and environmental hazards from chemical compounds contained in the aerosol. Published 23 August 2013, 72 pages, pdf $226.25, hardcopy $251.38, both $358.22.

ASTM E502-07(2013): Standard Test Method for Selection and Use of ASTM Standards for the Determination of Flash Point of Chemicals by Closed Cup Methods. Published 1 October 2013, 6 pages, pdf $52.62, hardcopy $52.62.

- **Drafts** – **www.saiglobal.com/shop**

ISO/DIS 3679: Determination of flash no-flash and flash point - Rapid equilibrium closed cup method. Published 22 August 2013, 20 pages, pdf $81.15, hardcopy $90.17

DR AS/NZS 1336: Occupational Eye and Face Protection. Published 23 Sept 2013, 37 pages, pdf free, hardcopy $32.66

https://www.hub.standards.org.au/hub/public/listOpenCommentingPublication.action

Note: Comment must be via Hub, any emails or forms sent to Standards Australia by fax or mail will not be considered by the Committee when it reviews the Public Comment received.

- **NFPA News (Codes Newsletter)**

NFPA 61: Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities.

The list of NFPA documents open for public comment are at:
www.nfpa.org/aboutthecodes/list_of_codes_and_standards.asp?list=publicinput plus checking the latest NFPA News. As part of its commitment to enhancing public safety, NFPA makes its codes & standards available for free online.

Codes Newsletter: www.nfpa.org/codes-and-standards/nfpa-news

Seminars, Conferences, Courses

- **Chemical Hazard Communication Network Report**

The CHCN met in Melbourne on Wed 2nd Oct 2013, with 17 very interested specialists attending. We discussed classification, SDS and Labelling issues.

We will meet again next year at Noel Arnold & Associates, at their East Kew meeting rooms, on Wed 5th March 2014

Please email your interest in attending or organizing a CHCN meeting: Jeff.Simpson@haztech.com.au.

- **Chemical Engineering for Non-Chemical Engineers**

Melbourne, 11-13 Nov 2013. An introduction to some of the main subject areas involved in chemical engineering disciplines, to broaden the technology base of participants, with a view to promote improved communication with chemical engineers.

Cost: Non-Members $2800, IChemE Members $2300.
Email: austcourses@icheme.org, ph: 03-9642-4494
Download the course flyer

From: https://www.icheme.org/shop/events.aspx and search on "Chemical Engineering for Non-Chemical Engineers"

Cont.

Lab Managers Conference 18-20 Nov 13, Brisbane

& Lab Design Conference 20-21 Nov 13, Brisbane

1/ Lab Managers topics include latest regulatory updates, handling scientific and technical staff, legislative changes and beneficial technologies. 2/ Lab Design covers understanding the latest in standards, services and design when designing, renovating or building a laboratory.

Brochure and Registration: www.labmanagers.org.au/storage/lmcand-ld13/LMC%20Brochure%202013.pdf

Lab Design: http://scienceindustry.com.au/storage/documents/lmcand-ld13/LDprogweb.pdf

Non-members: Managers Conference costs $1180 EB, $1395, both Conferences $1475 Early Bird (EB), $1920

From: www.labmanagers.org.au/

- **AIOH 2013 Sydney, 30th Nov-4th Dec 2013**

The program is based around the Four Pillars Theme: Anticipation, Recognition, Evaluation & Control. Plus a discussion panel on the future of Occupational Exposure Limits. Non-Member Full Delegate Std Cost $1760. Plus ½ and full day workshops on the Saturday and Sunday before.

From: www.aioh.org.au/conference.aspx

- **ICONN 2014: Nanoscience & Nanotechnology**

2-6 February 2014, Adelaide, SA, cost $1070.

ICONN 2014 brings together researchers, industry, students & early career scientists to discuss the latest discoveries in nanomaterials, Nanophotonics, Nanobiotechnology, Nanoelectronics, as well as to explore Nanoethics, Nanosafety and industry applications.

From: www.aomevents.com/ACMMICONN

- **Safety in Labs AS/NZS 2243 & AS/NZS 2982**

10-12 Feb 2014: CSIRO, Bayview Avenue, Clayton, VIC

For info: Dr Neale.Jackson@rmit.edu.au, cost $1650.

From: www.shortcourses.rmit.edu.au/course_page.php?course=S135001&cbs=2f87a4dbd5521714a87b8518ceef7bf8

- **Air Quality & Industrial Emissions Conference**

20-21 March 2014, Sydney, NSW, cost $2964.50 to 20 Dec.

From: www.informa.com.au/conferences/manufacturing-conference/air-quality-industrial-emissions-conference

- **HazMat 2014, Melbourne, 14-15th May 2014**
  "Achieving a Productive & Resilient Industry"

HazMat 2014 will be held in Melbourne (at the Darebin Arts Centre), on 14&15th May 2014. The HazMat 2014 Conference Exhibition Booth & Sponsorship brochure is available at: www.fpaa.com.au/events.

HazMat Conference Program becomes available in Dec 2013.

Please contact Events Department, FPAA,
ph: 03-9890-1544 Email: Events@fpaa.com.au.

- **Risk 2014 Conference, 28-30 May 2014, Brisbane**

Call for abstracts now open. Closing date: 15 Nov 2013

From:www.engineersaustralia.org.au/risk-2014-conference Contact:epadmin@engineersaustralia.org.au

Haztech Environmental: Chemical Hazard Classifications done & reviewed. SDSs prepared & reviewed. Labels prepared & reviewed. Chemical Control & Safety Regulatory Compliance: checked for NICNAS, TGA, FSANZ, TGA; prepared & reviewed for Dangerous Goods & Combustible Liquids, Workplace Hazardous Chemicals / Hazardous Substances, Environmentally Hazardous Substances, Scheduled Poisons, and other Chemical and Physical Hazards.

I can come and work in your office, which provides better access to data with improved security, plus good technical contact with relevant personnel. This allows the work to be done more quickly and comprehensively. *I also work from my home office*, in Ashburton, Victoria, where I maintain an extensive reference library, developed over 23 years whilst preparing these Notes.

Contact: Jeff Simpson, Hazardous Materials & Regulatory Affairs Consultant, Haztech Environmental, 18 Laurel St, Ashburton 3147, Australia, 61-(0)3-9885-1269, 61-(0)403-072-092, Jeff.Simpson@haztech.com.au

Hazmat & Environment Notes" publication times are approx: end March, early June, mid Aug, mid Oct, and early Dec. Renewals are notified with your last issue. The date of your last issue of your subscription will be given on the top right corner of the envelope label, e.g. Sept 14 or normally in the Subject of the Email in which you receive the Hazmat Notes pdf file.

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