Hazmat & Environment Notes Oct-Dec 2017

A Happy Christmas and New Year to everyone.

Hazmat & Environment Notes are prepared by:

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Editor & Publisher

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

I encourage all readers to network and make comment on Draft Regulations, Codes, Standards and Guides.

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Hazardous Chemicals

• Risk for Acute Respiratory Toxicity: Some Coatings

RR1112 - Summary of Evidence – Solvent-Based Hydrophobic Coatings & Risks for Acute Respiratory Toxicity

Full Report (40 page pdf). Some of the Key Messages follow:

- Evidence from published research supports concerns that some solvent-based 'water-repellent' coatings are hazardous to the lung and that applying these coatings in fine sprays increases the risk for inhalation.
- These coatings are applied to glass windows as well as other materials to enhance water repellency and to reduce dirt sticking to surfaces.
- There is consistent published evidence from many countries that inhalation in fine mists of some water-repellent coatings can cause an acute inflammation of the lung. Hundreds of cases of acute illness have been reported, and some fatalities involving consumers, since these products were first introduced over thirty years ago.
- The most severe cases were associated with spraying the coatings in confined spaces with poor ventilation.
- Experimental studies showed that water repellent coatings applied with spray-misting devices, or propellant cans, created large numbers of particles sufficiently small to enter the lung.
- The acute inflammation of the lung is likely to be caused by the combined toxic effects from water repellent chemicals and their solvents.
- These chemicals are thought to disrupt the fluid ('surfactant') lining that protects the delicate gas exchange surfaces of the lung leading to an acute inflammation.
- Appropriate measures need to be implemented to minimise the risk for occupational exposure by inhalation to hydrophobic coatings.

From: www.hse.gov.uk/research/rrhtm/rr1112.htm (July 2017)

• Safework NSW: New Rural Asbestos Guide

16 Oct 2017: A new Guide to help protect people living and working in rural and regional NSW from the dangers of naturally occurring Asbestos was launched by the NSW Government. It will assist property owners to prevent and minimise exposure to naturally occurring Asbestos on their properties and farms.

Naturally occurring Asbestos can be found in rocks, sediments and soils in parts of regional NSW. In its natural state, Asbestos presents the same health risks as Asbestos contained in building products.

The Guide provides step-by-step instructions on how to determine if a property is located in a region where naturally occurring Asbestos may be present. It also contains information on how to conduct a risk assessment, testing, training requirements for workers, safe work procedures and control measures, and disposal.

While only one percent of land in NSW is believed to contain naturally occurring Asbestos, it was vital that those living and working where it has been identified take appropriate precautions to ensure their safety. Under Work Health and Safety laws, property owners, managers and workers must take appropriate precautions to ensure naturally occurring Asbestos is identified and managed safely.

Download a copy of the Naturally Occurring Asbestos – Asbestos Management Plan Guide (23 pages) from the Asbestos Awareness Download website. at:
http://asbestosawareness.com.au/noa/noa-downloads/

From: www.safework.nsw.gov.au/news/media-release/new-asbestos-guide-to-protect-rural-and-regional-residents

• Vic: Asbestos in Workplaces Compliance Codes

Worksafe Victoria proposed two compliance codes that align to the Occupational Health and Safety Regulations 2017 (OHS Regulations).

Managing Asbestos in Workplaces Compliance Code (122p pdf)

Removing Asbestos in Workplaces Compliance Code (145p pdf)

A comprehensive summary of changes to the two Codes is at:
http://consultation.worksafe.vic.gov.au/Compliance-Codes/faqs

Comments closed on **Wed, 6 Dec 2017**.

From: www.worksafe.vic.gov.au/news/notices/asbestos-compliance-codes-now-available-for-public-comment and
http://consultation.worksafe.vic.gov.au/Compliance-Codes

• WA: Asbestos found in Imported Friction Wear Plates

16 Nov 2017: Asbestos has recently been found in friction wear plates in the suspension systems of rail carriages. The new rail carriages were purchased for WA between 2007 and 2014 and were imported from China. They were thought to be Asbestos-Free and the wear plates have not needed replacing since the carriages were acquired. Testing by a National Association of Testing Authorities (NATA) accredited laboratory in Australia has found that the wear plates contain Chrysotile (White) Asbestos.

Asbestos has also recently been found in a range of imported building products across Australia, including fibre cement boards, Expanded Polystyrene panels and gaskets in various forms of plant.

All forms of Asbestos containing materials have been prohibited imports in Australia since 31 December 2003.

Contributing factors:

- Some countries still manufacture products that contain asbestos, and may classify goods as "asbestos free" even when they contain a proportion of asbestos.
- Certification provided to importers from overseas manufacturers that goods are asbestos free has sometimes been proven incorrect or unreliable.

02/2017 Asbestos found in imported friction wear plates in rail carriages (2 page pdf)

From: www.commerce.wa.gov.au/publications/02-2017-asbestos-found-imported-friction-wear-plates-rail-carriages

• WA: Asbestos Removal Presentations

23 Oct 2017: In May 2017 presenters from both WorkSafe and the Health Department delivered an information session on Asbestos health risks, the relevant legislation, and some common issues that arise in relation to Asbestos removal.

Part One - Asbestos removal - WorkSafe requirements - Sally North – WorkSafe WA. Includes a 14m29s Video.

Part Two - Asbestos removal - WorkSafe audit requirements - Denise Rowling – WorkSafe WA. Includes a 10m41s Video.

Part Three - Asbestos removal & disposal & public health - Pierina Otness - Dept of Health WA Includes a 20m09s Video.

From: www.commerce.wa.gov.au/publications/asbestos-removalists-presentation

• Rotterdam & Stockholm Conventions: 5 Chemicals

October 2017: Three more chemicals are recommended for inclusion in the Rotterdam Convention, whilst two more are recommended for inclusion in the Stockholm Convention.

The 13th meeting of the Chemical Review Committee (CRC) of the **Rotterdam Convention**, recommended to the COP the listing of Phorate, Acetochlor and Hexabromocyclododecane in Annex III of the Convention.

Acetochlor, a selective herbicide, has been used on maize in Sahelian west African countries. It poses a high risk to aquatic organisms as well as long-term risks to herbivorous birds and to humans.

Phorate, a pesticide, has been used for example in Brazil as an insecticide in cotton, potato, coffee, beans and corn and is considered one of the most toxic Organophosphate AChE inhibitors.

Hexabromocyclododecane - is a Brominated Flame Retardant already listed in the Stockholm Convention in Annex A and used as a flame retardant additive to provide fire protection during the service life of vehicles, buildings or articles, as well as protection while stored and in selected electronic products.

The 13th meeting of the **Stockholm Convention's** Persistent Organic Pollutants Review Committee (POPRC) recommended listing by the next COP of two highly toxic chemicals, namely Dicofol, and PFOA, its salts & PFOA-related compounds, in respectively, Annex A and Annex A or B to the Convention.

Dicofol is an organochlorine pesticide structurally similar to DDT. Often used as a foliar spray on agricultural crops and ornamentals, and in or around agricultural and domestic buildings for mite control.

PFOA - or Pentadecafluorooctanoic Acid, its Salts and PFOA-related compounds are used in a wide variety of applications and consumer products across many sectors, e.g. semiconductor industry, imaging and printing industry, textiles, fire-fighting foam, and medical devices.

From: www.brsmeas.org/Implementation/MediaResources/PressReleases/Listingof5morechemicals/tabid/6159/language/en-US/Default.aspx

• Worksafe Vic: Spray Painting Firm Fined $25,000 after a Vacuum Cleaner Triggered an Explosion

3 Nov 2017: A Wodonga, Vic spray painting company has been convicted and fined $25,000 after a vacuum cleaner being used to clean up flammable liquid triggered an explosion in a confined space and burned a worker. It was also ordered to pay $3430 costs.

The court heard that on 8 July 2016, a worker who was employed as a manager entered a large, open-topped electrical transformer tank to prepare it for painting.

After applying a flammable solvent to wipe down the interior of the transformer, the manager used a wet/dry vacuum cleaner to remove excess liquid from the base. About an hour into the task the worker restarted the vacuum and triggered an explosion.

The man received superficial burns to his face and neck, and deep tissue burns to both hands and was airlifted to Melbourne for treatment.

From: http://worksafenews.com.au/news/item/598-spray-painting-firm-fined-$25,000-after-vacuum-cleaner-triggers-explosion.html

• ECHA: Tattoo Inks & Permanent Make-Up Proposal

25 Oct 2017: Proposal to Restrict Hazardous Substances in Tattoo Inks and Permanent Make-Up. Together with the competent authorities of Denmark, Italy and Norway, ECHA has prepared a restriction proposal to reduce the risks caused by hazardous substances contained in some tattoo inks. These include some substances already banned in cosmetics but also additional substances.

The aim of the Proposal is not to ban tattoo inks or tattooing. Instead, the aim is to regulate specific hazardous substances present in tattoo inks so that they are safe for people.

The Proposal suggests to restrict the intentional use or concentration limit of approximately 4 000 substances when contained in tattoo inks. These include those substances already banned in cosmetic products or subject to certain harmonised classifications, such as carcinogens or skin sensitisers. Only some of these substances have been found in tattoo inks, but they are included in the proposal to prevent their potential use as substitutes in the future.

It is expected that the restriction will significantly reduce the potential health risks for people getting new tattoos, such as allergic reactions to tattoo inks and possible long-term effects from exposure to hazardous substances injected under the skin.

ECHA plans to launch a six-month public consultation on the proposed restriction in mid-December 2017. Stakeholders and the public at large are invited to provide comments on the proposal and its anticipated impacts.

ECHA Restriction Proposal Dossier. Report Oct 2017 (91 page pdf); Report Appendix with Substances (149 page pdf)

See also: https://echa.europa.eu/chemicals-in-our-life/hot-topics/tattoo-inks

https://echa.europa.eu/-/proposal-to-restrict-hazardous-substances-in-tattoo-inks-and-permanent-make-up

• Victorian Cladding Audit Interim Report, Nov 2017

On 1 Dec 2017, the Victorian Cladding Taskforce issued an Interim Report (Nov 2017 40 page pdf) regarding the use of non-compliant wall cladding in Victoria.

The Victorian Cladding Taskforce has found systems failures have led to major safety risks and widespread non-compliant use of combustible cladding in the building industry across the State.

The extent of non-compliance has been supported by the findings of the Victorian Building Authority (VBA) audit after the Lacrosse apartment fire.

We found the failings identified by the VBA in 2015 were not merely administrative, or paper-based, but were significant public safety issues, which are symptomatic of broader non-compliance across a range of areas within the industry.

The problem of widespread non-compliant cladding can be attributed to three factors: the supply and marketing of inappropriate building materials, a poor culture of compliance in the industry, and the failure of the regulatory system to deal with these issues.

Recommended fire safety actions for residents, building owners, owners' corporations and facilities managers are outlined in a Taskforce Advisory Note "Fire Safety Actions for Residents, Building Owners" (28 Sept 2017 4 page pdf),

The Taskforce has identified approximately 1400 buildings to be reviewed by the Victorian Building Authority as a matter of priority. Buildings constructed after March 1997 that fall in Class 2 buildings of 3 storeys or above (Apartments); Class 3 buildings of 3 storeys or above (Hotels, Motels, Student Accommodation); and Class 9 buildings of 2 storeys or above (Hospitals, Schools, Aged Care Facilities)..

From: www.vba.vic.gov.au/cladding

Chemical Management

• ECHA GHS CLP Guidance: 4 July 2017 Updates

Editor: Several European Chemical Authority documents GHS Classification, Labelling & Packaging (CLP) guidance were updated on 4 July 2017:

The objective of these documents is to facilitate the implementation of GHS CLP by describing good practice on how to fulfil the obligations.

The key ones able to be used in Australia & New Zealand, (which have updated their content following the 8th Adaptation to Technical Progress to the CLP Regulation), are:

Guidance on the Application of the CLP Criteria

This Guidance is a comprehensive technical and scientific document on the application of Regulation (EC) No 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP). The objective of this document is to provide detailed guidance on the application of the CLP criteria for physical, health and environmental hazards.

Download the full pdf document (V5.0 4 July 2017, 647 pages)

Guidance on Labelling and Packaging in accord with CLP

This document provides Guidance on how to label and package substances and mixtures in accordance with the CLP Regulation (EC) 1272/2008.

Download the full pdf document (V3.0 4 July 2017, 200 pages)

Editor: The main difference is that AU & NZ on require English.

From: https://echa.europa.eu/guidance-documents/guidance-on-clp

CLP guidance documents," Guidance on labelling and packaging in accordance with Regulation (EC) No 1272/2008", and I noticed it has just been updated; July 2017 to version 3.

The changes are largely due to alignment with the 8th ATP to the CLP Regulation.

If you want to stay up to date, get it here:

https://echa.europa.eu/documents/10162/23036412/clp_labelling_en.pdf

• OECD Guidelines for the Testing of Chemicals

9 Oct 2017:The OECD released 17 new, updated, corrected or deleted Test Guidelines accepted internationally as standard methods for safety testing. These Test Guidelines are regularly updated to reflect scientific & technical progress.

They cover safety testing of chemicals in its broadest sense with respect to physical-chemical properties, effects on biotic systems (ecotoxicity), environmental fate (degradation/accumulation), health effects (toxicity), and other areas such as pesticide residue chemistry and efficacy testing of biocides.

List of Adopted Test Guidelines Including Dates of Revisions
(Oct 2017, 16 pages, docx file)

e.g. OECD Guidelines for the Testing of Chemicals,
Section 4, Health Effects Methods
www.oecd-ilibrary.org/environment/oecd-guidelines-for-the-testing-of-chemicals-section-4-health-effects_20745788

From: www.oecd.org/chemicalsafety/oecdguidelinesforthetestingofchemicals.htm

• Replacing Animal Tests under EU Chemicals Laws

22 Nov 2017: ECHA's Report states there is progress regarding alternatives to animal testing on the lower tier properties of substances, but a full replacement of chemical toxicity testing by non-animal approaches is not yet foreseeable. Further dialogue between research and regulatory communities is needed to put scientific developments faster to regulatory use.

For lower tier endpoints such as skin corrosion/irritation, serious eye damage/eye irritation and skin sensitisation, companies already use in vitro tests as the default method. But for more complex endpoints, for example repeated dose toxicity or reproductive toxicity, non-animal approaches are not yet foreseeable. Methods such as grouping and read-across or weight of evidence use existing test data to predict toxicity of substances and can therefore reduce the need for new tests on animals. These alternative methods can be supported by in vitro tests and in silico predictions. New approaches, such as in vitro microsystems and high-throughput/high-content methods, are under development.

Some extracts from the Forward to the Report:

"Non-animal approaches for investigating hazardous properties of substances are increasingly used and promoted. Vertebrate animal testing should be the last resort, only used after all other scientifically reliable methods have been exhaustively explored."

"To further improve understanding on how the non-animal approaches can be used to meet the legal requirements, we describe in this report the main types of relevant non-animal approaches and adaptation rules (Part A – General considerations) and the information requirements and needs for relevant (eco)toxicological properties (Part B – Specific considerations). In Part B, we describe for each relevant information requirement the potential approaches utilising non-animal approaches, the challenges to achieving this and future perspectives, including those approaches that could be close to regulatory applicability."

ECHA's Report on Regulatory Applicability of Non-Animal Approaches under the REACH, CLP and Biocidal Products EU Regulations [163 page pdf]

From: https://echa.europa.eu/-/more-progress-needed-to-replace-animal-tests-under-eu-chemicals-laws

• Safework NSW: Escape Breathing Device Warning

20 Oct 2017: Warning about an Emergency Escape Breathing Device (EEBD), due to serious safety concerns.

EEBDs provide wearers with a short-term supply of oxygen so they can escape situations where the air has been contaminated by gas, smoke or chemicals.

Recent testing of one device – the HFZY30 EEBD model – found it does not provide sufficient breathable air, putting users at risk of asphyxiation from carbon dioxide.

This device claims to deliver clean air for up to 30 minutes, but recent testing has shown that users would not be able to breathe normally after **just four minutes**.

The unit also exceeded acceptable levels of Carbon Dioxide, so rather than being a life- saver in an emergency situation, it could very well have an opposite and tragic outcome. This is absolutely unacceptable and poses a serious risk to workers' safety.

Workplaces should replace HFZY30 EEBD with a device that is compliant with the relevant Australian Standard (AS/NZS 1716 Respiratory protection devices).

Safety Alert webpage: www.safework.nsw.gov.au/news/safety-alert/removal-of-unsafe-emergency-escape-breathing-devices-from-vehicles-and-workplaces

- Immediately remove all HFZY30 EEBD units from workplaces, including from road vehicles.
- Instruct workers that the HFZY30 EEBD is not to be used, even in an emergency.
- Replace the HFZY30 EEBD with an AS/NZS 1716 compliant device as per the list of design registered breathing apparatus provided by the NSW Resources Regulator under "Breathing Apparatus" to Assist Escape.

From: www.safework.nsw.gov.au/news/media-release/nsw-workplaces-warned-about-dodgy-breathing-apparatus

• Safe Work Aust: Review of the model WHS laws

3 Nov 2017: The review will explore how the model WHS laws are working in practice and it is part of the original plan to review the model WHS laws regularly and ensure they continue operating effectively.

The Review Terms of Reference have been set by *WHS* Ministers. Public Consultation will begin in 2018.

Marie Boland who was the Executive Director of SafeWork SA from 2015 to 2017, will lead the review.

From: www.safeworkaustralia.gov.au/law-and-regulation/model-whs-laws/review-model-whs-laws

• Safework NSW: Workplace Chemicals Plan

24 Oct 2017: The NSW Government launched a five-year project to help protect workers against injuries and diseases from dangerous chemicals in the workplace.

NSW Minister for Better Regulation Matt Kean said Crystalline Silica and Formaldehyde have been given top priority by the government as those of greatest risk to NSW workers.

"More than 10,000 businesses will be visited over the next five years in a concerted effort to eliminate injuries and disease associated with these substances."

"Tragically between 2012 and 2015, eight workers died, 6,000 were injured, and 250 were permanently disabled in incidents involving hazardous chemicals."

NSW Hazardous Chemicals website:
www.safework.nsw.gov.au/health-and-safety/safety-topics-a-z/hazardous-chemical

From: www.safework.nsw.gov.au/news/media-release/nsw-government-launches-plan-to-protect-workers-from-dangerous-workplace-chemicals

• Updated NZ EPA Website *(from 11 Dec 2017)*

The main changes you will see are:

Menus and navigation are on the left-hand side of the screen, not at the top; and the HSNO applications databases, CCID, NZIoC, and the Controls database, the EEZ and Nationally Significant Proposals (RMA) databases can all be reached from a **Quick Link in the Footer**, and from a **special search bar at the bottom of the Home Page**.

For Database Search: www.epa.govt.nz/database-search/

The general site search function will now also find information and documents in the databases.

From: www.epa.govt.nz/news-and-alerts/latest-news/new-epa-website-launched/

• TSCA Inventory Notification (Active-Inactive) Req'ts

Summary from the USA Federal Register website:

The 2016 amendments to the USA Toxic Substances Control Act (TSCA) require the USA EPA to designate chemical substances on the TSCA Chemical Substance Inventory as either "active" or "inactive" in USA commerce.

To accomplish that, the USA EPA is establishing a retrospective electronic notification of chemical substances on the TSCA Inventory that were manufactured (including imported) for nonexempt commercial purposes during the 10-year time period ending on June 21, 2016, with provision to also allow notification by processors.

The USA EPA will use these notifications to distinguish active substances from inactive substances. The USA EPA will include the active & inactive designations on the TSCA Inventory & as part of its regular publications of the Inventory.

The USA EPA is also establishing procedures for forward-looking electronic notification of chemical substances on the TSCA Inventory that are designated as inactive, if and when the manufacturing or processing of such chemical substances for nonexempt commercial purposes is expected to resume.

On receiving forward-looking notification, the USA EPA will change the designation of the pertinent chemical substance on the TSCA Inventory from inactive to active.

The USA EPA is establishing the procedures regarding the manner in which such retrospective and forward-looking activity notifications must be submitted, the details of the notification requirements, exemptions from such requirements, and procedures for handling claims of confidentiality.

Manufacturers must report to the USA EPA not later than 180 days after the final rule is published in the Federal Register. This report by dates are the 7 Feb 2018 and 5 Oct 2018 for Processors.

The TSCA Inventory is at www.epa.gov/tsca-inventory

For Technical Information contact: Myrta R. Christian, Chemistry, Economics, and Sustainable Strategies Division, USA EPA, email: Christian.Myrta@epa.gov

For General Information email: TSCA-Hotline@epa.gov

From USA Federal Register 11 Aug 2017:
www.federalregister.gov/documents/2017/08/11/2017-15736/tsca-inventory-notification-active-inactive-requirements

Supporting Information: TSCA Inventory Notification (Active-Inactive) Rule on the USA EPA TSCA Inventory website.

The Toxic Substances Control Act (TSCA), as amended by the Frank R. Lautenberg Chemical Safety for the 21st Century Act, requires the USA EPA to designate chemical substances on the TSCA Chemical Substance Inventory as either "active" or "inactive" in USA commerce. To accomplish that, the USA EPA finalized a rule requiring industry reporting of chemicals manufactured (including imported) or processed in the USA over the past 10 years, ending on 21 June 2016. This reporting will be used to identify which chemical substances on the TSCA Inventory are active in USA commerce and will help inform the prioritization of chemicals for risk evaluation.

The reporting period for Manufacturers (includes Importers) ends on 7 February 2018, and the reporting period for Processors ends on 5 October 2018.

Additionally, active and inactive designations for each chemical substance will be included as part of the Agency's regular publications of the TSCA Inventory.

Download the List of Substances Reported in a NOA Form A

https://www.epa.gov/tsca-inventory/tsca-inventory-notification-active-inactive-rule

• List of Active Substances Exempt from TSCA Inventory Notifications (Active-Inactive) Rule

The USA EPA has developed a list of active chemical substances that are exempt from reporting under the TSCA Inventory Notifications (Active-Inactive) rule. The Exemption List of Active Substances includes chemical substances reported under the 2012 and 2016 Chemical Data Reporting (CDR) rule, and in Notices of Commencement received since June 21, 2006.

Download the Exemption List of Active Substances
(xlsx file with 13229 Active Substances). Also a csv file.

From: www.epa.gov/tsca-inventory/list-active-substances-exempt-tsca-inventory-notifications-active-inactive-rule

• Chemical Safety under USA TSCA: Post-Trump

From an ECHA Sept 2017 Newsletter Article:

"We met with Jim Jones, the former Assistant Administrator for Chemical Safety at the USA EPA, to discuss the political changes in the USA, the reform of the Toxic Substances Control Act (TSCA) and the future for chemical safety.

The TSCA reform in summer 2016 – its first for nearly 40 years – was supported by both the Republicans and Democrats. The new law says that the government is obliged to examine chemicals in priority order according to strict deadlines and clear safety standards. This makes the law stronger and more efficient than the previous version. "If the basic principles of the law are not met, the government can and will be challenged in court. If it hasn't taken care of its duties as the law states, it will lose, because the deadlines are really quite clear," Mr Jones explains."

"If you listen to the rhetoric of the Trump administration, they are not interested in regulating. But under TSCA, you are required to regulate if you find a chemical that doesn't meet the safety standards. So, it will be interesting to see how they manage that reality when their aspirations run counter to what is required by law".

Nevertheless, he believes that the TSCA reform will be a success and will do what it was designed to do – to improve chemical safety. "One of the things I am pleased about is that the law was written well enough so that it will survive whether its purposeful wrong-doing on the part of the executive branch or just early struggles to get things started. It has clear enough deadlines with clear enough standards that it will ultimately survive this time and be effective," Mr Jones says.

From: https://newsletter.echa.europa.eu/home/-/newsletter/entry/chemical-safety-post-trump-

• ECHA Newsletters: Web Links

16 Nov 2017: 1/ REACH 2018 and Poison Centres – what's new? We are six and a half months away from the third and final REACH Registration Deadline. 2/ Tattoos (un)covered. 3/ Authorisation - an impetus for substituting harmful chemicals and reducing risks. 4/ Authorisation - an impetus for substituting harmful chemicals and reducing risks. 5/ How are SIN (Substitute It Now) List substances being addressed? 6/ Harmonising biocides enforcement - what to expect? 7/ PIC: Are you trading hazardous chemicals with non-EU countries? 8/ Guest column: Are REACH data appropriate for hazard identification and risk assessment? 9/ Guest column: Fighting fire with safer foams.

All articles as a 24 page pdf

https://newsletter.echa.europa.eu/home/-/newsletter/4/2017

14 Sept 2017: *1/* Four important developments on biocides still this year. 2/ What happens with potential chemicals of concern? 3/ Murano: removing arsenic brings benefits to health and the environment. 4/ Biocides: In situ generated active substances notified in 2016 – deadlines approaching.
5/ Too many companies are not updating their REACH and CLP data. 6/ Guest column: Chemicals in the food chain – what do you need to know? 7/ Guest column: Chemicals in the food chain – what do you need to know? 8/ Human biomonitoring: which unexpected chemicals are in our bodies? 9/ Guest column: Change of mindset needed to increase use of non-animal methodologies for safety assessment.

All articles as a 20 page pdf

https://newsletter.echa.europa.eu/home/-/newsletter/3/2017

From: https://newsletter.echa.europa.eu/

• USA OSHA Quick Takes e-News: Oct-Dec 2017

17 Oct 2017: **1/** Silica Webpage Updated: Information on silica hazards and related USA OSHA Standards are now in one location on USA OSHA's website.

2 Nov 2017: **1/** Hawaii Cites Company for Safety and Health Violations after an uncontrolled anhydrous Ammonia Release. The company lacked procedures to isolate the chemical while workers were servicing refrigeration equipment; and failed to conduct in-house inspections, provide portable monitoring devices to detect leaks, and train workers.

15 Nov 2017: **1/** Contractors in Montana Cited After Worker Suffers Severe Burns. An employee suffered third-degree burns when Compressed Oxygen inside an underground duct caused a fire.

1 Dec 2017: **1/** Wisconsin Corn Milling Facility Fined over USA $1.8M after a Fatal Grain Dust Explosion; **2/** Two Florida Companies cited following a Hazardous Chemical Release (Anhydrous Ammonia refrigerant).

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

NICNAS (Industrial Chemicals)

• NICNAS Reforms: Track&Manage Exempted Chemicals?

Editor: The NICNAS Reforms have been held up in the Parliament and were not agreed to by the Dec 2017 close.

The next sitting of the Federal Parliament will commence on the 5 Feb 2018. There are two issues holding up the Reforms.

1/ The change to the proposed legislation to both track exempt category "low & non-hazardous" chemicals specifically against each Introducer and to report their quantities annually to the Industrial Chemicals Authority; and

2/ To have tighter Australian requirements around chemicals used in cosmetics, to not allow any animal testing.

I have previously made my suggestion about how issue **1/** can be handled to reasonable satisfaction by the community, unions and industry by an annual specific chemical tracking against each Introducer; with the Industrial Chemicals Authority to specifically track these chemicals using their high level chemical database access, and then alert the Introducers to increases in hazards and audits those of possible concern. This would then enable Introducers to no longer need to annually keep track of the chemical databases for increases in hazards (except for very specific situations). No quantities would be reported as this adds very considerable dollar costs to achieve..

Note: The "early harvest" reforms for Polymers of Low Concern introductions are also held up by issue 1/.

For issue **2/** I regard this is more problematic, as the Australian proposed legislation has just mirrored the EU approach on animal testing for cosmetics. Maybe there is Australian Guidance that could be developed, so that it is very clear to businesses in Australia where chemical testing is going, so that no animal testing is used for cosmetics, with an agreed cut-off date for the Australian provisions to be in place, to enable the EU provisions time to be aligned.

• Final Secondary Notification Assessment Report:

α-D-Glucopyranoside, β-D-Fructofuranosyl, Octadecanoate

8 Nov 2017: The Secondary Notification assessment of CAS No. 37318-31-3 (a UVCB substance consisting of C18 Mono, Di, Tri & Poly Esters of Sucrose) has been completed under the Industrial Chemicals (Notification & Assessment) Act 1989.

Secondary Notification Assessment Report (37 page docx)

It was originally notified to and assessed by NICNAS in 2010 as an ingredient of imported, finished ink cartridges.

NICNAS was informed of an intended new use of the Notified Chemical in cosmetics, reformulation of the imported chemical into cosmetic products in Australia, the availability of new data on the human health hazards of the notified chemical and a proposed significantly increased introduction volume of the Notified Chemical to that previously assessed.

Note: Secondary Notification requirements for the chemical still apply where Manufacturers and Importers of the chemical must advise NICNAS of the changes in circumstances.

If you have queries or would like to request a copy of the report please contact the Targeted Assessment Program: 1800 638 528, targetedassessments.enquiries@nicnas.gov.au

From: www.nicnas.gov.au/news-and-events/chemical-gazette/numbers/2017/no.c-11,-november-2017/final-secondary-notification-assessment-report-d-glucopyranoside,-d-fructofuranosyl,-octadecanoate

• Secondary Notification of CAS 157905-74-3

Ethanaminium, 2-Hydroxy-N,N-bis(2-Hydroxyethyl)-N-Methyl-, Esters with C16-18 and C18-Unsatd. Fatty Acids, Me Sulfates (Salts)

The chemical (CAS No. 157905-74-3), which is of Unknown or Variable Composition (a UVCB), consisting of C16-18 and C18 Unsaturated Mono, Di and Tri Esters of Triethanolamine, Quaternised with Dimethyl Sulfate, may also be known as:

- 2-Hydroxy-N,N-bis(2-Hydroxyethyl)-N-Methylethanaminium Esters with (C16-18) and (C18)-Unsat'd. Fatty Acids, Me Sulfates (Salts)
- Dioleoylethyl Hydroxyethylammonium Methosulfate
- Fatty Acids, C16-18 and C18 Unsat'd. Reaction Products with Triethanol Amine, Dimethyl Sulfate-Quarternized
- TEA Esterquat & - Triethanolamine Esterquat.

The original assessment (STD/1258), completed in Dec 2007, assessed the use of this chemical in fabric softeners and cosmetic facial cleansers.

Secondary Notification is required as the introduction volume and concentration in fabric softeners significantly exceed those previously assessed. Thus, there may be increased risk of adverse effects to the environment and to users of these end-use products. New toxicity data are also available, which warrant a review of the Hazard Classification of the chemical.

Secondary Notification by Introducers was required by the 5 Dec 2017 to: TargetedAssessments.enquiries@nicnas.gov.au

From: www.nicnas.gov.au/news-and-events/chemical-gazette/numbers/2017/no.c-11,-november-2017

https://www.nicnas.gov.au/news-and-events/chemical-gazette/numbers/2017/no.c-11,-november-2017/secondary-notification-of-ethanaminium,-2-hydroxy-n,n-bis2-hydroxyethyl-n-methyl-,-esters-with-c16-18-and-c18-unsatd.-fatty-acids,-me-sulfates-salts

• IMAP Tranche 22 Assessments: *Comment by 12/1*

27 Oct 2017: Tranche 22 of the **I**nventory **M**ulti-tiered **A**ssessment and **P**rioritisation (IMAP) framework are open for public comments until **12 Jan 2018.** Tranche 22 includes Azo-Based Substances and Excluded Use Chemicals (see below).

196 Chemicals with Tier II Health Assessments at:
https://www.nicnas.gov.au/__data/assets/excel_doc/0014/40820/Tier-II-HH-summary-all-tranches-published-27-Oct-2017.XLSX

- 160 HCIS Classifications are proposed to be amended:

There were 16 Group Assessments proposed to be amended.

1,2-Benzenediamine, 4-Nitro- and its Dihydrochloride salt	(2)
1,4-Benzenediamine, 2-Methyl-, Sulfate	(2)
Aliphatic Allyl Esters	(14)
Damascones	(11)
Dibutyltin Dicarboxylate Salts	(15)
Iodic Acid and Selected Salts	(7)
Ionones	(23)
Isomers of Octahydro Tetramethyl Naphthalenyl Ethanone	(4)
Nonylphenol & Octylphenol Ethoxylates & Related Cpds	(53)
Nonylphenols	(11)
Periodic Acid and its Salts	(4)
Pulegone and Related Substances	(2)
Salts of 2,6-Toluenediamine	(2)

- 15 Chemicals have proposed changes for the SUSMP:

91-56-5 1H-Indole-2,3-Dione GHS Cat. 1 Skin Sensitiser

14 Various CAS Aliphatic Allyl Esters At present, as derivatives, the chemicals fall within the scope of the listing of 'Allyl Alcohol' in Schedule 7 of the SUSMP. It is recommended that Allyl Esters are Exempted from the Schedule 7 entry,

- Tier II Health Assessments may be needed for Tier III assessment (3 off).

107-02-8 2-Propenal

121-57-3 & 515-74-2 Sulfanilic Acid and its Sodium Salt

19 Chemicals with Tier II Environment Assessments because the Tier I Assessment indicated further investigation:

Note: No further assessment is currently required for these.

128-37-0 Phenol, 2,6-bis(1,1-Dimethylethyl)-4-Methyl- (BHT)

BHT is degradable, has moderate to high bioaccumulation potential, and has high aquatic toxicity. However, the concentrations of this chemical likely to be present in surface waters in Australia are not expected to pose a significant risk to the environment. BHT is not a PBT substance according to domestic environmental hazard criteria.

Parabens 18 CAS No.s: 99-76-3, 5026-62-0, 26112-07-2, 120-47-8, 35285-68-8, 36457-19-9, 4191-73-5, 94-13-3, 35285-69-9, 84930-16-5, 4247-02-3, 94-18-8, 94-26-8, 36457-20-2, 1085-12-7, 5153-25-3, 1219-38-1, 2664-60-0.

The Short Chain Parabens are readily biodegradable, have low bioaccumulation potential, and have moderate acute aquatic toxicity. Benzyl Paraben and the Long-Chain Parabens are likely to degrade rapidly in the environment and have high aquatic toxicity.

There are No Chemicals with a Tier III Health Assessment

From: www.nicnas.gov.au/chemical-information/imap-assessments/imap-assessments

• Screening & Categorising Azo-Based Substances

27 Oct 2017: IMAP pre-prioritisation work includes screening and categorising about 3,000 unassessed Azo-Based Substances listed in the Australian Inventory of Chemical Substances (AICS).

Azo-Based Substances are a group of Aromatic and Aliphatic substances with the general chemical structure in the form of 'R1-N=N-R2' (Aliphatic when R1 and R2 are Alkyl; Aromatic if one or more of R1 or R2 are Aryl). Azo Substances are generally large molecules that are poorly absorbed.

The Azo linkage is usually the most labile portion of an Azo Substance and may easily undergo Enzymatic reduction to release Aromatic Amines from Aromatic Azo Substances. The released Aromatic Amines are much more readily absorbed across biological membranes compared with the Azo Substance itself. These Aromatic Amines may potentially cause human health effects related to skin sensitisation, mutagenicity and carcinogenicity (Aromatic Amines of concern).

Azo-Based Substances not considered as low concern for human health under this methodology will be further evaluated.

From: www.nicnas.gov.au/chemical-information/imap-assessments/how-chemicals-are-assessed/screening-and-categorising-azo-based-substances

• Excluded (Non-Industrial) Use Chemicals on AICS

27 Oct 2017: In Stage 2 of the IMAP Framework, NICNAS are screening the AICS for chemicals that are used exclusively, or suspected of being used exclusively, in applications that are **not "industrial" uses** (that is, they only have 'excluded uses' under the Industrial Chemicals (Notification & Assessment) Act 1989). These include:

a/ Therapeutic b/ Agricultural c/ Veterinary, or d/ Food Use.

1030 Schedule Poison Therapeutic Chemicals Spreadsheet.

Chemicals used in these ways are not considered to be Industrial Chemicals (despite being listed on the AICS), and so do not need Tier II IMAP assessment.

This work will help to identify Higher Risk Industrial Chemicals that require assessment.

Please advise NICNAS if you are aware of any Industrial Uses of these chemicals in Australia.

NICNAS will publish further lists of 'Excluded Use Chemicals' during 2018. NICNAS will aim to identify and publish lists of Therapeutic Compounds that are used internationally but not approved for use in Australia. They will also aim to identify chemicals in less prescriptive schedules of the Poisons Standard (Schedules 2 and 3) that have No Industrial Uses in Australia, but are listed on the AICS.

From: www.nicnas.gov.au/chemical-information/imap-assessments/how-chemicals-are-assessed/excluded-non-industrial-use-chemicals-on-aics

• Tattoo and Permanent Make-Up Inks used in AU

9 Nov 2017: NICNAS Report on the composition and use of Permanent Make-Up (PMU) inks in Australia.

Permanent Make-Up (PMU) or cosmetic tattooing, is a specialised form of tattooing used to impart a Semi-Permanent cosmetic effect to the body.

Tattoo inks may include multiple colourants to achieve a certain colour, as well as other chemicals such as Water, Glycerol, Isopropyl Alcohol, Witch Hazel, Preservatives, Resins and Contaminants. The Colourants used include both Pigments (that are insoluble in water) and Dyes (that are soluble in water); however, Pigments represent the vast majority of Colourants used in Tattoo Inks.

Chemicals used in tattoo and PMU inks are classified as industrial chemicals in Australia. Importers and Manufacturers (known as Introducers) of Industrial Chemicals must be registered with NICNAS. If a chemical used in a Tattoo or PMU Ink is listed on the AICS, then in general the chemical can be imported into or manufactured (introduced) in Australia without notifying NICNAS. However, if the chemical is not on the AICS, or is listed on the AICS with specific conditions, it must be assessed by NICNAS before it can be introduced.

State and Territory Authorities are responsible for regulating tattoo parlours and the safety of tattoo inks, including product labelling and restrictions on their use in tattooing.

From: www.nicnas.gov.au/news-and-events/Topics-of-interest/subjects/tattoo-inks-used-in-Australia

• AICS Trade Name Annexe: Request for Info

7 Mar 2017 (reiterated in the Dec 2017 Chemical Gazette): The Director, NICNAS requests that he be provided with information on each industrial chemical making up each product listed in the Trade Names Annex (TNA) section of the Australian Inventory of Chemical Substances (AICS).

https://www.nicnas.gov.au/news-and-events/chemical-gazette/numbers/2017/no.-c-03,-07-march-2017/Request-for-information-about-products-in-the-Trade-Name-Annex-of-the-Australian-Inventory-of-Chemical-Substances

For each industrial chemical making up a trade name product listed in the TNA of the AICS as at 7 March 2017, the following information on the chemical identity is required:

- Chemical Abstracts Service (CAS) name
- CAS number
- Molecular formula.

Where a product's name has changed and differs to that in the TNA, but the product has the same chemical ingredients as the product listed in the TNA, please provide the chemical composition of the rebranded product and details of when the product was rebranded.

Please submit the required information

- *by email to tna.aics@nicnas.gov.au*
- *completion of the TNA online submission form*
- *by post to AICS Manager NICNAS GPO Box 58 Sydney NSW 2001*

Notice must be given by 9 March 2018.

From: Request for Information at

www.nicnas.gov.au/have-your-say/current-consultations/aics-trade-name-annex-information

Editor: The Trade Name Annexe came about because of AEROSHA, which I am still an original member of. The aerospace manufacturing industry, airline maintenance operators in Australia, and the Dept of Defence (RAAF) were all part of AEROSHA. None had the ability to obtain the formulation chemical details. So even though Trade Names were not allowed, I said the only way to protect our aerospace industry was for our trade products to be submitted, from which the Trade Name Annexe was created.

NOTE: As many of these aerospace industry formulations were leading edge chemistry, it is highly likely that there will be many ingredients, including trace additives, that could be highly beneficial for Australian industry to put the effort in to have checked, and then have added as a Secondary Notification for the current use to the AICS.

Scheduled Medicines & Poisons

• Scheduling Delegate's FINAL Decisions: 31 Oct 2017

31 Oct 2017: Final decisions and reasons for New Chemical Entities (NCEs), medicines and chemicals referred to the March and July 2017 Scheduling meetings of the Joint ACCS-ACMS#15 and #16 respectively; and July 2017 Scheduling meetings of the ACCS #20 & ACMS #21

I've only included the specific decisions for chemicals below:

For Information:
Schedule 10 (previously Appendix C): Substances of such danger to health as to warrant prohibition of sale, supply & use

– **1** Summary of Delegate's Final Decisions

– 1.6 Butyl Benzyl Phthalate for cosmetic use. New S10 entry

– 1.7 Basic Red 76 Amend the S7 entry + New S6 entry

- **3** Summary of Delegate's Final Decisions

- 3.2 Quinine and its Salts New S6 entry
In rinse-off hair preparations at >0.5%
In leave-on hair preparations at >0.2%

- 3.5 Vinyl Acetate Monomer (Also see the separate Note)
New S6 entry
In preparations for domestic use containing >1%
In preparations containing >0.01%
as residual monomer in a polymer.

- 3.6 Methylisothiazolinone Amend the S6 entry
In rinse-off cosmetic or therapeutic preparations at >0.0015%
In other prepar'ns not intended for direct skin applic'n at >0.1%

- 3.8 Chloroacetamide New S6 entry

- **4** Summary of Delegate's Final Decisions

- 4.1 Benzyl Salicylate Decision deferred

- 4.2 Cinnamaldehyde Decision deferred

- 4.3 Anise Alcohol Decision deferred

- 4.4 Resorcinol New S6 entry
- 4.5 Trans-Anethole Decision deferred

From: www.tga.gov.au/scheduling-decision-final/scheduling-delegates-final-decisions-october-2017

• Polymers with Vinyl Acetate 0.01-0.1%: S6 Poisons?

Schedule 6 – New Entry VINYL ACETATE MONOMER (excluding its derivatives), from 1 Oct 2018, except:

a/ in preparations for therapeutic use; or

b/ in preparations for domestic use containing 1 per cent or less of Vinyl Acetate; or

c/ in preparations containing 0.01 per cent or less of Vinyl Acetate as residual monomer in a polymer.

When Vinyl Acetate *(at >1%)* is used in domestic products, the potential for respiratory irritation, mutagenicity and carcinogenicity from vapours clearly presents a risk. The risk can be controlled by imposing concentration restrictions and warning labels for domestic uses.

From: www.tga.gov.au/book-page/35-vinyl-acetate

Editor: Point b/ was intended to just capture cosmetic use polymers, but also captures water base copolymers with Vinyl Acetate for Paints and Adhesives, as S6 Poisons.

Typically water based Copolymers that contain Vinyl Acetate will have a residual impurity level in the 0.01-0.1% range. Dry powder Copolymers that contain Vinyl Acetate will have a residual impurity level at <0.01% due to its volatility, so are not caught.

I submitted comment (via a customer) by the 10 Nov 2017 deadline about this unintended consequence, to the Joint Advisory Committee on Chemicals and Medicines Scheduling, so I expect this should be resolved at the 13-15 March 2018 meeting (prior to the proposed implementation date of 1 October 2018). I am aware an industry association also submitted comment.

• TGA: Codeine Information Hub

8 Dec 2017: Changes to patient access for medicines containing Codeine.

From 1 Feb 2018, medicines containing Codeine will no longer be available without a prescription.

Codeine is an Opioid drug closely related to Morphine and, like Morphine, is derived from Opium Poppies.

Research shows that current over-the-counter low-dose (<30 mg) medicines containing Codeine for pain relief offer very little additional benefit when compared to similar medicines without Codeine. The use of such medicines however, is associated with high health risks.

Codeine can cause Opioid tolerance, dependence, addiction, poisoning and in high doses, even death. Regular use of medicines containing Codeine, for example for chronic pain, has led to some consumers becoming addicted to Codeine without realising it.

From: www.tga.gov.au/codeine-info-hub

• Consultation: Evaluation of Herbal Component Names

17 Nov 2017: The TGA is seeking comments from interested parties on a proposal to discontinue the process for the pre-market evaluation of Herbal Component Names (HCNs) which are used in relation to listed complementary medicines.

Issues: At present the process for the pre-market evaluation of HCNs requires significant TGA resources, is not underpinned by legislation and, importantly, does not provide consumers with an assurance that HCNs are applied consistently across products. The TGA are proposing to discontinue the receipt and pre-market evaluation of HCN applications.

Option 1: Maintain the status quo. Consistent with the cost recovery arrangements in place, a fee for such applications may be considered in the future.

Option 2: Industry and the TGA to work together to produce a workable mechanism that allows for discontinuing pre-market evaluation of HCN applications.

Consultation: Discontinuing Pre-Market Evaluation of Herbal Component Names (HCNs) Oct 2017 – 12 pages (pdf) (docx)

Please respond by close of business Friday, 12 Jan 2018.

From: www.tga.gov.au/consultation/consultation-discontinuing-pre-market-evaluation-herbal-component-names-hcns

Food Chemical Issues

• A1153: Endo Xylananse T. Reesei Processing Aid

2 Nov 2017: Application A1153 seeks to amend Schedule 18 of the ANZ Food Standards Code to include a genetically modified strain of Trichoderma Reesei as permitted source for Endo-1,4 (3) - ß -Xylanase (E.C.3.2.1.8).

The Enzyme will be used in baking processes and other cereal based products (e.g. pasta, noodles), brewing, grain processing, distilling and brewing.

AB Enzymes Executive Summary (8 page pdf)

The food Enzyme is a biological isolate of variable composition, containing the Enzyme Protein, as well as organic and inorganic material derived from the microorganism and fermentation process.

The main activity of the food Enzyme is Endo-1,4-ß-Xylanase (IUB 3.2.1.8). The food Enzyme catalyses the Hydrolysis of Xylosidic linkages in an Arabinoxylan backbone (and other ß-1,4-linked XYLANS) resulting in depolymerisation of the Arabinoxylan into smaller Oligosaccharides.

From: www.foodstandards.gov.au/code/applications/Pages/A1153.aspx

• A1127: Four Processing Aids for Wine -Approved

27 October 2017: The purpose of this Application was to seek permission for the use of four processing aids, Silver Chloride, Ammonium Bisulphite, Chitin-Glucan and PVI/PVP as processing aids for wine.

Approval Report (21 Aug 2017) – 18 pages (pdf) (docx)

Supporting Document 1 (26 April 2017): Safety Assessment (at Approval) - 46 pages (pdf) (docx)

The European Union (EU) already permits these processing aids and has formally requested Australia to authorise them. The Winemakers' Federation of Australia (WFA), submitted this Application to enable Australia to fulfil its treaty obligations.

FSANZ noted that sulphur dioxide (SO_2) is likely to be produced during the breakdown of ammonium Bisulphite. Ammonium Bisulphite is mostly used as a yeast nutrient. Ammonium Bisulphite used as a yeast nutrient to produce wine might result in an incidental function as a preservative. If Sulphites are present in concentrations of 10 mg/kg or more in the wine for sale, mandatory declaration is required.

FSANZ's assessment was to approve permitting these four substances in wine manufacture as this would provide a net benefit to the community.

a/ Silver Chloride: For use to remove fermentation and storage-related odours. **b/** Ammonium Bisulphite: For use as a microbial nutrient and microbial nutrient adjunct. **c/** Chitin-Glucan: For use as a decolourant, clarifying, filtration and absorbent agent. **d/** Polyvinylimidazole–Polyvinylpyrrolidone Co-Polymers: For use as a decolourant, clarifying, filtration and absorbent agent.

From: www.foodstandards.gov.au/code/applications/Pages/A1127-ProcessingAidsForWine.aspx

• A1130: Triacylglycerol Lipase - Use Approved

2 Nov 2017: The purpose of this Application was to permit the use of Triacylglycerol Lipase from Candida Cylindracea as a Processing Aid in baking, dairy foods processing and fats and oils processing.

Approval Report (2 Nov 2017) – 19 pages (pdf) (docx)

Supporting Document 1 (2 Nov 2017): Safety Assessment (at Approval) - 12 pages (pdf) (docx)

Triacylglycerol lipase (EC 3.1.1.3, CAS number 9001-62-1) is an enzyme which hydrolyses Lipids (Triglycerides) into Fatty Acids and Mono-, Di-Glycerides or finally Glycerol. It is intended for use in baking, milk and dairy processing, and fats and oil processing. Triacylglycerol lipase is proposed for use as a processing aid in food productions at levels up to 0.082%.

The FSANZ Board has approved a draft variation to permit the Enzyme, Lipase, Triacylglycerol (EC 3.1.1.3) sourced from Candida Cylindracea in the table to subsection S18—9(3) (Permitted Processing Aids—various technological purposes).

From: www.foodstandards.gov.au/code/applications/Pages/A1130-Triacylglycerol-Lipase-as-a-PA.aspx

• A1131: Aqualysin 1 (Protease) - Use Approved

2 Nov 2017: The purpose of the Application was to permit the use of Aqualysin 1 sourced from *Bacillus Subtilis* containing the Aqualysin 1 Gene from *Thermus Aquaticus* for use as a new Genetically Modified Enzyme as a processing aid.in the manufacture of bakery products.

Approval Report (2 Nov 2017) – 18 pages (no pdf) (docx)

Supporting Document 1 (2 Nov 2017): Safety Assessment (at Approval) - 12 pages (pdf) (docx)

The Enzyme preparation meets international purity specifications. B. Subtilis is not pathogenic nor toxigenic, and has a well - established history of use for production of Enzymes used as food processing aids. Aqualysin 1 is in use as a food Processing Aid in France, Canada and the USA.

The FSANZ Board has approved a draft variation to permit the Enzyme, Aqualysin 1 (3.4.21.111) sourced from *Bacillus Subtilis* containing the Aqualysin 1 gene from *Thermus Aquaticus* as a Processing Aid in the table to subsection S18—9(3) (Permitted Processing Aids—various technological purposes). The permitted technological purpose is for use in the manufacture of bakery products. The maximum permitted level is good manufacturing practice (GMP).

From: www.foodstandards.gov.au/code/applications/Pages/A1131%20Aqualysin%201%20protease%20as%20a%20PA.aspx

Agricultural & Veterinary Chemicals

• APVMA Annual Report 2016–17

27 Oct 2017: APVMA Annual Report 2016–17 published.

Download a full version of the 2016–17 APVMA Annual Report (140 page pdf)

VISION: Australians have confidence that agricultural and veterinary chemicals are safe to use.

MISSION: To protect the health and safety of Australia—its people, animals and environment—and support Australian agriculture by taking a scientific and risk‑based approach to regulating agricultural and veterinary chemicals.

Some Excerpts from the **Summary and Outlook 2016–17** by Dr Chris Parker, APVMA Interim Chief Executive Officer

"A key deliverable in 2016–17 was the release of the APVMA in Armidale: relocation strategy, which outlines the forward activities that will enable the transition of the agency's regulatory operations to Armidale by 2019."

"Despite fluctuations in our performance, the APVMA finalised 2453 applications for new actives, products and permits in 2016–17, providing Australian farmers and veterinarians with access to additional products that bring new chemicals and innovative crop protection and vet medicines to Australia."

Aligning Regulatory Burden with Risk

"This year we operationalised strategies that reduce the regulatory burden for industry and better align our regulatory effort with risk. Several applications seeking to repack an existing product were fast-tracked through the registration process under a pilot program that streamlines the current application requirements and internal process."

"We published new guidance on the use of international assessments that will support the use of data and scientific assessments from comparable overseas regulators and further work in this area will streamline registration for applicants wanting to invest in the Australian market. We trialed a new approach to efficacy assessments that reflects a more commercial mindset and expanded the list of notifiable variations, allowing clients to make simple administrative changes to their registration particulars for active constituents, products and labels without the need for a formal application."

"A proactive approach to compliance and monitoring has seen the agency work with industry to manage potential risk in the market, disrupting the flow of unregistered veterinary chemical products and responding to industry concerns through a sampling and testing regime for agricultural chemicals to verify that products supplied in Australia continue to meet the conditions of registration.

From: https://apvma.gov.au/node/11031

• Progress on APVMA Permanent Armidale Office

28 November 2017: The APVMA has made further progress towards establishing a permanent presence in Armidale, New South Wales, following the appointment of a local engineering firm, JNC Group, who will contribute to the design and fit-out of the regulator's new office.

"JNC Group is an Indigenous business based in Armidale with capabilities across building, commercial fit-out, civil construction, infrastructure, signage, security fencing and commercial landscaping." "Partnering with other local architects, JNC Group will provide the necessary expertise and a valuable perspective that will complement our permanent local setting in Armidale."

For more information on the APVMA relocation go to www.apvma.gov.au/relocation.

From: https://apvma.gov.au/node/27976

• Accensi Pty Ltd now has an Enforceable Undertaking

13 Oct 2017: Accensi Pty Ltd has entered a formal agreement with the APVMA (on 29 Sept 2017) to improve its chemical control practices and ensure that manufactured herbicides comply with Australian Agricultural and Veterinary chemical laws.

Accensi has entered into an enforceable undertaking for one year, during which time the company must take a number of set actions to bring its practices up to the standard expected by the regulator.

Accensi have been given "until 31 August 2018 to take specific actions and show that it is manufacturing and supplying products according to the registered formulation,"

"Requirements of the agreement include testing for a list of identified contaminants during its manufacturing processes."

"The company must also conduct an independent audit within six months, improve any identified areas of non-compliance and provide a report to the APVMA. It must also make any associated records and documents available to the APVMA upon request."

A copy of the Enforceable Undertaking (EU) is available on the APVMA Enforceable Undertakings website. (4 page EU pdf)

From: https://apvma.gov.au/node/27656

• FAISD Handbook Updated 30 Sept 2017

The Handbook of **F**irst **A**id **I**nstructions, **S**afety **Di**rections, Warning Statements and General Safety Precautions for Agricultural and Veterinary Chemicals (FAISD Handbook) has been updated.

Webpage for the pdf version of the handbook (165 page pdf)

You can view full details of Amendments made to the FAISD Handbook from September 2017 on the APVMA website. There are amendments to, or addition of, 60 substances.

Amendments should be reflected in the labelling of Agricultural and Veterinary Chemical products as soon as possible. Revised labels need to be approved by the APVMA.

From: https://apvma.gov.au/node/26586

• APVMA Industry Information & Education Videos

17 Oct 2017 Reg Update #260: On the 13th & 14th Sept 2017 the APVMA Industry & Education Session was held in Canberra

A full day was dedicated to science, providing insight on the opportunities and challenges for regulatory science, technology and innovation.

The second day focused on key areas of the APVMA's current and future work.

Videos and transcripts for 8 presentations are available on the website at the end of this Note.

Two presentations caught the Editor's general attention:

1/ The APVMA's Regulatory Framework and what the Future Holds: Dr Phil Reeves, Chief Scientist, APVMA

Transcript (prints out on 5 pages); Video (YouTube 34 min). Start at the 3rd part of the presentation for the "Future".

2/ Ecological Risk Assessment of Nano-Enabled Pesticides: Dr Rai Kookana, CSIRO Land and Water / University of Adelaide, Waite Campus, Adelaide

Transcript (prints out on 5 pages); Video (YouTube 29 min)

The other 6 Presentations are more specific in focus.

From: https://apvma.gov.au/node/27661

• 2 Tailored APVMA Guidance Modules for Applicants

4 Sept 2017: The APVMA are improving their Guidance material, tailoring it to the information businesses need to lodge the right Application, with the right Data and supporting Evidence to meet APVMA criteria.

The **first two Modules** of Tailored Guidance Material are **available now**, to vary a product pack size or the sites of product manufacture.

- I want to vary a product pack size
- I want to vary the sites of manufacture.

The tailored guidance materials are an alternative pathway to the existing Decision Tree which is still available.

The APVMA will be gradually making more guidance materials available, including:

- I want to vary my product
- I want to register a new product

From: https://apvma.gov.au/node/27441

• PubCris - Mobile Browser now Fully Supported

27 Oct 2017 Reg Update #260:

The *PubCris Database* has been updated to optimise mobile-friendly searches for all devices and screen sizes.

This Update means that you can now access PubCris through the web browser on your mobile device, without having to use the Apple mobile application.

From: https://apvma.gov.au/node/27826

• APVMA Chief Scientist Blog, 30 Oct 2017

10 Nov 2017 Reg Update #261. The 30 Oct 2017 APVMA Chief Scientist blog summarises how changes in science, technology and innovation impact APVMA regulation.

"Regulatory Science is very different to Conventional Science, where we don't generate new lines of enquiry to answer questions, instead we rely on available information to make a decision. It is therefore vital that the APVMA continues to engage with innovation and new discoveries in Conventional Science. As AgVet science evolves so must our Regulation."

From: https://apvma.gov.au/node/27866

• APVMA Chief Scientist Blog, 15 Nov 2017

Recently Phil Reeves, APVMA Chief Scientist, had the opportunity to strengthen the APVMA's ties with international counterparts, meeting with other government, industry, and academic and research scientific experts to discuss and exchange knowledge on regulatory science issues at the annual *Global Summit on Regulatory Science (GSRS2017)* in Brazil.

Topics such as *Nanotechnology,* Imaging, Omics (for those who don't know, 'omics' is a suffix, and it depends on whether you're working on the Genome, in which case it's Genomics, or if you're working on Proteins it would become Proteomics) for translational science and personalised medicine featured heavily.

A report developed by the APVMA, Nanotechnologies For Pesticides And Veterinary Medicines: Regulatory Considerations (published in July 2015 & re-published 27 July 2017, 250 page pdf) was well received by delegates.

From: https://apvma.gov.au/node/27896

• APVMA: Innovative Technologies in Toxicity Testing

7 Dec 2017: Phil Reeves, Chief Scientist: In a previous post I talked about some of the emerging methodologies with potential for use in predicting chemical toxicity being watched by regulatory scientists around the globe.

Here I will go into more detail about some of those of particular interest to the APVMA's work – Toxicogenomics; In Silico, and Organ-On-a-Chip.

Toxicogenomics: Animal testing has previously allowed great advances in the improvement of human health, however the notion of using test animals has become ethically unacceptable to increasing numbers of people. This has led to the emergence of alternative testing methodologies like Toxicogenomics.

Toxicogenomics is a discipline that specialises in gathering, researching and understanding information about how Genes in a particular cell or tissue of an organism respond to toxic substances.

In a process called "High Through Put Screening" (HTPS), Toxicogenomics can be used in robotic systems to test thousands and thousands of samples daily, replacing the need to conduct large numbers of experiments on animals.

Before this novel methodology can be used and become best practice in Regulatory environments, it must first be validated.

In Silico: Another area is the development of In Silico (computational) models and read-across (read-across is the ability to extrapolate assessment data from one chemical to the assessment of other chemicals with similar structures) approaches to chemical toxicity screening.

The new technology is appealing because, as our understanding of the toxicity of chemicals of known structure increases, we can apply that knowledge to consider Quantitative Structure-Activity Relationships (QSARs) and adopt Read-Across methodologies. Despite good progress made, barriers remain to this technology's adoption for regulatory assessments.

Organ-On-a-Chip: This involves attaching live cells from human organs to a computer-monitored transparent polymer microchip allowing scientists to observe how Living Biological Mechanisms react to chemicals in real time.

Human Organ-On-a-Chip technology allows us e.g. to use things that mimic peristalsis in the gut or the inflation/deflation of lungs using various vacuum operated systems.

Before the technology can be adopted, standard procedures need to be developed, validated and become widely accepted.

From: https://apvma.gov.au/node/28056

• APVMA Archive Content Decommissioning Dec 2017

10 Nov 2017 Reg Update #261. The APVMA intend to decommission the APVMA Archive Site in December 2017. As an exception, Application Summaries will remain accessible online.

The APVMA invited you to provide feedback and outline any concerns you might have with our plans. If you would like the APVMA to consider specific content that you believe is of value, please submit your feedback with the URL address of the content and a rationale as to why that content should be kept. Appropriate content will be migrated to the current APVMA website.

Please email your feedback to:
Communications@apvma.gov.au

From: https://apvma.gov.au/node/27866

• Procymidone: Human Health Risk Assessment

30 Oct 2017: Reconsideration of Procymidone: Human Health Risk Assessment Report (including Toxicology and Work Health Safety).

Procymidone is a Dicarboximide Fungicide used for the control of fungal disease on food and non-food crops.
It is widely used in horticulture, either as a seed dressing, pre-harvest spray or post-harvest dip.

Procymidone was nominated for Review because of concerns relating to human health, namely worker exposure and public exposure to residues in food, as well as its potential to cause sexual development in laboratory animals.

The current Report consolidates an unpublished 2007 Toxicological Assessment conducted by the Office of Chemical Safety (OCS), Dept of Health, based primarily on data submitted by the main approval holder, together with Supplementary Studies published since 2007.

The Report concludes that there is no objection on human health grounds to the continued registration of existing Procymidone products in Australia and identified some additions and amendments to the existing First Aid Instructions and Safety Directions (FAISD).

From: https://apvma.gov.au/node/27621

• APVMA Ag Active Constituent: Isofetamid

14 Nov 2017: New agricultural active constituent Isofetamid (for use as a broad-spectrum fungicide).

Common Name: Isofetamid; IUPAC Name: 3-methyl-N-{2-methyl-1-[2-methyl-4-(propan-2-yloxy)phenyl]-1-oxopropan-2-yl}thiophene-2-carboxamide; CAS No: 875915-78-9; Formula: $C_{20}H_{25}NO_3S$; MW: 359.48; Chemical Family: Carboxamides; Mode of Action: Succinate dehydrogenase inhibitor.

The APVMA has considered the toxicological aspects of Isofetamid, and concluded that there are no toxicological concerns regarding the approval of this active constituent. An Acceptable Daily Intake (ADI) for Isofetamid was established at 0.05 mg/kg bw/day; The ARfD for Isofetamid was established at 3 mg/kg bw.

The APVMA is satisfied that Isofetamid would not be an undue toxicological hazard to people.

Submissions: Director Chemistry and Manufacture, Scientific Assessments and Chemical Review Program, APVMA. Phone: 02 6210 4701, Email: Enquiries@apvma.gov.au

From: Ag&Vet Gazette, 14 Nov 2017 p23-24
https://apvma.gov.au/node/27876

• APVMA Active Constituent: Cocamidopropyl Betaine

14 Nov 17: New active constituent, Cocamidopropyl Betaine, for use as a spray adjuvant in agricultural chemical products.

Common Name Cocamidopropyl betaine; IUPAC Name: {[3-(Cocamido)propyl](dimethyl)ammonio}acetate (mixture with 8 chemicals listed); CAS Number: 61789-40-0; Molecular Formulae: list 9 different Fatty Acid side chains to these 8 chemicals (with the main ones being Lauric Acid 44-52% and Myristic Acid 13-19%); Chemical Family:Betaines, a Zwitterionic class of compounds containing both a Quaternary Ammonium functional group and a Carboxylic Acid functional group.

The APVMA has considered the toxicological aspects of Cocamidopropyl Betaine, and concluded that there are no toxicological concerns to the approval of this active constituent. An ADI and an ARfD have not been established for Cocamidopropyl Betaine as a result of its low acute toxicity.

Amidopropyl Betaine compounds (covering Cocamidopropyl Betaine) are already included in Schedule 6 of the Poison Standard for preparations other than cosmetic wash-off or leave-on preparations except when present at 30% or less (and when present at 5% or more, are labelled). The APVMA is satisfied that Cocamidopropyl Betaine would not be an undue toxicological hazard to people.

Submissions: Director Chemistry and Manufacture, Scientific Assessments and Chemical Review Program, APVMA. Phone: 02 6210 4701, Email: Enquiries@apvma.gov.au

From: Ag&Vet Gazette, 14 Nov 2017 p25-28
https://apvma.gov.au/node/27876

• APVMA Ag Active Constituent: Cyclaniliprole

14 Nov 2017: New agricultural active constituent cyclaniliprole (for use as an insecticide in agricultural products).

Common Name: Cyclaniliprole; IUPAC Name: 2',3-Dibromo-4'-Chloro-1-(3-Chloro-2-Pyridyl)-6'-{[(1RS)-1-Cyclopropylethyl]Carbamoyl}pyrazole-5-Carboxanilide; CAS No: 1031756-98-5; Formula: $C_{21}H_{17}Br_2Cl_2N_5O_2$; MW: 602.11; Chemical Family: Diamide, Pyridylpyrazole; Mode of Action: Broad spectrum systemic insecticide.

The APVMA has considered the toxicological aspects of Isofetamid, and concluded that there are no toxicological concerns regarding the approval of this active constituent. An Acceptable Daily Intake (ADI) for Isofetamid was established at 0.04 mg/kg bw/day; The establishment of an ARfD for Cyclaniliprole was not necessary, as Cyclaniliprole is of low acute toxicity, and did not demonstrate evidence of genotoxicity, neurotoxicity, or reproductive / genetic toxicity after a single dose.

The Delegate of the Secretary of the Department of Health has published the final scheduling decision to list Cyclaniliprole in Appendix B of the SUSMP (Substances Considered Not to Require Control by Scheduling) when used as an insecticide, based on its low toxicity, with an implementation date of 1 October 2016.

The APVMA is satisfied that the proposed importation and use of Cyclaniliprole would not be an undue toxicological hazard to the safety of people exposed to it during its handling and use.

Submissions: Director Chemistry and Manufacture, Scientific Assessments and Chemical Review Program, APVMA. Phone: 02 6210 4701, Email: Enquiries@apvma.gov.au

From: Ag&Vet Gazette, 14 Nov 2017 p31-32
https://apvma.gov.au/node/27876

• Macrolide Antibiotics: Proposed Reg'n Decisions

30 Nov 2017: The APVMA has concluded that the use of Macrolide Antibiotics (Kitasamycin, Oleandomycin and Tylocin) according to their current instructions for use does not meet the safety criteria listed in sections 5A of the Agvet Code for continued registration and approval.

The Macrolide Antibiotics Proposed Regulatory Decisions (PRD) Report (https://apvma.gov.au/node/27956, 42 page docx or pdf) was published on 30 Nov 2017 for a 3 month consultation period until Wed 28 Feb 2018.

The 1st Regulatory Action APVMA proposes is to:

Vary Label Approvals of selected products to:

- delete product claims and associated use instructions for growth promotion and improved feed conversion efficiency (in pigs)
- add the following restraint statement relating to prudent use of antimicrobials:

"Prior to prescribing [Name of Product] investigate the use of non-antibiotic options. If [Name of Product] is indicated and selected for use, prudent prescribing practices (appropriate dose, duration and frequency to minimise treatment failure while minimising the emergence of antimicrobial resistance) must be adhered to. NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL."

Submissions: Director Chemical Review, APVMA. Phone: 02 6210 4749, Email: ChemicalReview@apvma.gov.au

From: https://apvma.gov.au/node/27951

• Recall Notice for Zinsser Mould Stop Primer

On 10 October 2016, the APVMA issued a recall notice to Rust-Oleum Australia Pty Ltd (Rust-Oleum) pursuant to Section 101 of the Agvet Code in relation to the product: Zinsser Mould Stop Primer (Containing: 4,5-Dichloro-2-N-Octyl-3(2h)-Isothiazolone, 1.23 g/L) The product is not a registered agricultural chemical product.

Between 21 Oct 2016 and 10 Nov 2017, the operation or implementation of the obligation was stayed by orders of the Administrative Appeals Tribunal (AAT) pending the determination of an application by Rust-Oleum for review of APVMA's decision of 10 October 2016. On 10 Nov 2017, the AAT affirmed the decision. The new date for compliance with the Recall Notice is 5 December 2017.

From: Ag&Vet Gazette, 28 Nov 2017 p39
https://apvma.gov.au/node/27966

Editor: On the Rust-Oleum website on the 4 Dec 2017 there was no recall notice information for users or potential purchasers:
www.rustoleum.com.au/product-catalog/consumer-brands/zinsser/primer-sealers/mold-killing-primer

Dangerous Goods

• Marine Order 41 (Carriage of Dangerous Goods) 2017

15 Nov 2017: AMSA Marine Order 41 will be updated on 1 January 2018. It replaces the 2009 Order. This Marine Order provides information about keeping Dangerous Goods safe covering:

- carriage of Dangerous Goods in packaged form
- special requirements for the carriage of packaged irradiated nuclear fuel, plutonium and high-level radioactive wastes on board vessels
- notice of intention to ship Dangerous Goods in vessels
- incidents at sea involving Dangerous Goods.

This Order incorporates by reference parts of:

- Marine Order 1 (Administration) 2013
- Explosives Act 1961
- IMDG Code *(see following Note)*
- INF Code *(**International** Code for the Safe Carriage of Packaged Irradiated **Nuclear Fuel**, Plutonium and High-Level Radioactive Wastes on board Ships)*
- SOLAS *(see following Note)*
- IMO/ILO/UNECE Code of Practice for Packing of Cargo Transport Units (current edition Jan 2014, 127 page pdf)
- AS 1210—2010 Pressure vessels
- ISO 16528-1:2007 Boilers and pressure vessels

Legislative Instrument (14 page) pdf docx

Explanatory Statement (8 page) pdf docx

From: www.legislation.gov.au/Details/F2017L01578

• Conventions underpinning AMSA Marine Orders

Editor: The AMSA website below contains links to the Convention references in Marine Order 41 (Carriage of Dangerous Goods) 2017.

e.g. **International Maritime Dangerous Goods Code**

Resolution MSC.328(90) as amended by MSC.372(93). *

A consolidated copy of the IMDG Code can be purchased from IMO or thru specialist Maritime Book outlets in Australia.

To borrow a copy of the IMDG Code from a library in Australia, search for the title of the book on the Australian Libraries Gateway.

The Recommendations on the Safe Use of Pesticides in Ships are also reproduced in the Supplement to the IMDG Code.

* MSC.328(90) (Amdmt 36-12, 2012, 880 page pdf)

* MSC.372(93) (Amdmt, May 2014, 216 page pdf)

e.g. **International Convention for the Safety of Life at Sea (SOLAS)**

Search for this convention on the Australian Treaties database * or Australian Treaties library.

A consolidated copy of the SOLAS Convention can be purchased from IMO or through specialist maritime book outlets in Australia.

To borrow a consolidated copy of SOLAS from a library in Australia search the title on the Australian Libraries Gateway.

* *www.info.dfat.gov.au/Info/Treaties/treaties.nsf/AllDocIDs/93895119024A6D17CA257F1600163041 which points to the June 2015 amendments on the www.austlii.edu.au website.*

Find the Resolution you want, then select Download for a pdf.

From: www.amsa.gov.au/vessels-operators/regulations-and-standards-vessels/conventions-underpinning-marine-orders

• IATA DGR Manual 59th Edition 2018

The 59th Edition of the IATA Dangerous Goods Regulations incorporates all amendments made by the IATA Dangerous Goods Board and includes addenda issued by ICAO to the 2017–2018 edition of the Technical Instructions.

Order on-line via IATA: Regular Bound Manual USA$328; Spiral Bound Manual USA$339; + Shipping USA$43 (est.).

www.iata.org/publications/store/Pages/dgr-print-manuals.aspx

In Australia order via Marair Dangerous Goods Specialists P/L for AU$545 (incl. GST) +$17.50 delivery:
www.marair.com.au, email: Admin@marair.com.au
Melbourne ph: 1800-677-721 or 03-8318-4500.

• IATA DGR 58th Edition 2017: Significant Changes

Significant Changes and Amendments to the 59th Edition (2018) of the IATA *Dangerous Goods Regulations* can be downloaded from:

http://www.iata.org/whatwedo/cargo/dgr/Documents/dgr-59-significant-changes.pdf (x pages)

There is a 4 minute Video about the IATA 59th DGR 2018 where http://knowyourdgr.iata.org/ is referred to.

The changes that caught this Notes Editor's attention are:

2—Limitations: 2.3—Dangerous Goods Carried by Passengers or Crew: 2.3.5.9: Limitations have been adopted on the number of Portable Electronic Devices (PED) and the number of spare batteries for the PED that may be carried by passengers or crew. The limit is a maximum of 15 PED and a maximum of 20 spare batteries. These maximums may be exceeded with the approval of the operator. Table 2.3.A has also been revised to reflect these limits.

3—Classification: 3.9.2: This subsection has been restructured to bring in all substances and articles that are assigned to Class 9 with their respective UN numbers and proper shipping names. The substances & articles have then been grouped according to the hazard they pose in transport.

5—Packing: 5.0.1.5.1: Has been revised to include new restrictions on packages containing Lithium batteries, UN 3090 and UN 3480 only, being placed into an overpack with packages containing dangerous goods classified in Class 1 other than Division 1.4S, Division 2.1, Class 3, Division 4.1 or Division 5.1.

5.0.2.11: An additional note has been added to identify that lithium batteries, UN 3090 and UN 3480 only, are not permitted in the same outer packaging with Dangerous Goods classified in Class 1 other than Division 1.4S, Division 2.1, Class 3, Division 4.1 or Division 5.1.

Packing Instructions: PI 965 and **PI 968:** Text has been added to identify the restrictions on packing Lithium batteries (UN 3480 and UN 3090 only) in the same outer packaging with Dangerous Goods classified in Class 1 other than Division 1.4S, Division 2.1, Class 3, Division 4.1 or Division 5.1.

There are also restriction on placing packages containing Lithium batteries (UN 3090 and UN 3480 only) into an overpack with packages containing Dangerous Goods classified in Class 1 other than Division 1.4S, Division 2.1, Class 3, Division 4.1 or Division 5.1. These restrictions apply to Section IA and IB. For Section II, cells and batteries must not be packed in the same outer packaging with other Dangerous Goods.

7—Marking & Labelling: 7.1.5.5.2: Text has been added recommending that the UN number(s) on the lithium battery mark be of a minimum size.

9—Handling: 9.3.2: Table 9.3.A and the provisions of 9.3.2 have been revised to introduce segregation requirements for lithium batteries (UN 3480 and UN 3090 only) and dangerous goods classified in Class 1 other than Division 1.4S, Division 2.1, Class 3, Division 4.1 or Division 5.1.

Appendix B: In Appendix B.2.2.4 new Cargo IMP codes have been added for UN 3090, Section IA and IB of PI 968—RBM and UN 3480, Section IA and IB of PI 965—RBI. These two new IMP codes facilitate the differentiation of fully regulated lithium batteries (UN 3090 and UN 3480) from those packed with equipment or contained in equipment (UN 3091 and UN 3481), which are currently assigned to RLM and RLI respectively.

Appendix I—A new appendix has been added to this edition of the DGR to provide the detail of the changes that will come into effect as of 1 January 2019 based on the adoption of the changes arising from the 20th revised edition of the UN Model Regulations as well as the changes that have been agreed to date by the ICAO Dangerous Goods Panel for inclusion into the 2019–2020 edition of the Technical Instructions. These changes include:

- replacement of most instances of the word “risk” by the word “hazard”. The changes reflects the increasing use of safety management systems where “risk” is the likelihood of an event combined with the severity of the outcome, whereas hazard is used to identify the inherent properties. So, for example a substance may have a “subsidiary hazard”, not a “subsidiary risk”.
- significant changes to the provisions for the classification of corrosive substances. These changes reflect the work of the UN Subcommittee with the GHS Subcommittee to better align the classification provisions for transport for Class 8 substances with those for supply and use.
- a new requirement for manufacturers and subsequent distributors of lithium cells or batteries to make available a summary of the UN 38.3 tests.
- new provisions for the classification of articles containing Dangerous Goods, N.O.S. This includes twelve new UN numbers, UN 3537 to UN 3548, that have been assigned to articles containing dangerous goods in Classes 2, 3, 4, 5, 8 and 9 and Division 6.1. The details of the provisions that will come into effect in 2019 for air transport have still to be finalised by the ICAO dangerous Goods Panel.
- a number of new and modified special provisions.
- removal of the lithium battery handling label (7.2.4.7). As of 1 January 2019 only the lithium battery mark (7.1.5.5) will be permitted on packages of lithium batteries prepared in accordance with Section IB of PI 965 or PI 968, or Section II of PI 965 to PI 970.

F:www.iata.org/whatwedo/cargo/dgr/Pages/download.aspx

• Suitability of Dry Chemical Powder Fire Extinguishers when Transporting Explosives & Other Dangerous Goods

22 Nov 2017: WA Dangerous Goods Safety Bulletin No. 0517

There have been two incidents in Western Australia in the past two years where Dry Chemical Powder (DCP) fire extinguishers have not effectively extinguished a brake or tyre fire on a vehicle transporting Ammonium Nitrate (AN).

In both cases, these were the only type of fire extinguisher carried and the fire reignited shortly afterwards. The vehicles involved had been regularly serviced and well maintained.

In light of these recent incidents, the WA Department of Mines, Industry Regulation and Safety has recommended to the National Transport Commission (NTC) that vehicles transporting Security Sensitive Ammonium Nitrate (SSAN) carry water-based fire extinguishers in conjunction with DCP fire extinguishers.

Safety Bulletin 0517: www.dmp.wa.gov.au/Documents/Dangerous-Goods/DGS_SB_0517.pdf (2 page pdf)

From: www.dmp.wa.gov.au/Safety/Dangerous-goods-safety-alerts-13195.aspx

• WA 2017 Dangerous Goods Rail Safety Forum

Held Tuesday 17 October. 2017: The forum focussed on risk management and control of dangerous goods transportation by rail and also aims to improve industry’s understanding of emergency response planning, management and capabilities within Western Australia.

From: www.dmp.wa.gov.au/News/Rail-safety-focus-for-Forum-22984.aspx

***WA Dangerous Goods: 6 Toolbox Presentations** (Powerpoint) from the 17 Oct 2017 Forum, plus a further 11 from 2013 & 2014.*

An operator's perspective (2017) - 5 Mb (13 sl)

Dangerous Goods - a rail safety perspective (2017) 1Mb (8 sl)

Response to Dang. Goods rails accidents (2017) 7 Mb (24sl)

Risky business - making sense of SFAIRP and Assurance in rail industry (2017) - 4 Mb (24 sl)

Safe transfer of dangerous goods on rail (2017) - 8 Mb (24 sl)

WA Dangerous Goods rail transfer observations and an overview of the Julia Creek incident (2017) - 17 Mb (58 sl)

From: www.dmp.wa.gov.au/Safety/Toolbox-presentations-16211.aspx Alerted by: Don Johnston DangerousGoods@yahoogroups.com

• Worker burned in a trace Acid leak at Vic Refinery

4 Dec 2017: A worker at a Victorian oil refinery has suffered a vapour burn during a highly corrosive acid leak *(with trace amounts of HF).*

Firefighters were called to the Viva Energy refinery at Corio, near Geelong, on Monday afternoon & found Hydrofluoric Acid *(at trace amounts in the hydrocarbons)* leaking from a unit at the complex, a CFA spokesman said.

An employee suffered a suspected vapour burn was taken to Geelong hospital for treatment, while the spill was quickly contained and the refinery resumed operation.

Editor: I added the comments in *(brackets)* after I spoke with a specialist colleague at the CFA, to moderate any concerns.

From: https://au.news.yahoo.com/vic/a/38143044/worker-burned-in-acid-leak-at-vic-refinery/ Alerted by: Don Johnston DangerousGoods@yahoogroups.com

• EPA NSW: Business fined after Workplace Explosion

17 Nov 2017: A Wagga Wagga business and its director have been fined $200,000 after a man suffered severe burns in an explosion at a Tatton, NSW property.

The 47-year-old victim's injuries meant he had to undergo extensive medical treatment, had experienced difficulty walking, and had lost movement in his hands, Sydney District Court was told.

The victim approached Jay Jenkins from a neighbouring property just as Jenkins was using a handheld LPG gas torch to soften bitumen. The bitumen was contained in a vehicle being used to seal a driveway, but an investigation by SafeWork NSW found Jenkins had modified the vehicle and made it unsafe, which led to an explosion and fireball.

From: www.safework.nsw.gov.au/news/media-release/business-cops-fine-after-workplace-explosion

• RR1113: Review of Vapour Cloud Explosion Incidents

Prepared by the UK Health and Safety Executive (July 2017).

Following the Buncefield explosion, a large body of published research has improved scientific understanding of the release event, the flammable cloud formation and the explosion. This report describes work done by HSE with US safety regulators to consolidate previous research and to incorporate recently published analysis into a single, systematic review of historical incidents.

Important new conclusions have been reached that a high proportion of large vapour cloud explosions occur at nil or very low wind speeds. In these conditions, the dispersion from large and medium scale releases will be gravity-driven and the vapour cloud will continue to grow as long as it remains undetected. Large vapour clouds will almost always ignite, the probability of a severe explosion event is very high, especially for gasoline.

These findings have important implications for safety practitioners considering installations where such releases of flammable substances can occur. They reinforce the importance of the main risk control measures of overfill prevention and maintaining plant integrity; but they also suggest that the value of mitigation measures such as vapour detectors and vapour barriers should be reviewed.

Full Report (326 page pdf)

From: http://www.hse.gov.uk/research/rrhtm/rr1113.htm

• RR1122 - The Deepwater Horizon Incident: *Fire and Explosion Issues*

Prepared by the UK Health and Safety Executive (2017).

The loss of life & serious environmental damage from the blow out incident on the semi-submersible drilling rig Deepwater Horizon in 2010 in the USA sector of the Gulf of Mexico has forced a reappraisal of the risks associated with drilling.

It is important for HSE to stimulate and inform consideration of fire and explosion risks amongst the designers and operators of drilling rigs.

This Report deals with the minimisation of risks from fire and explosions if blowout does occur and also deals with some issues such as options for ignition frequency reduction and fire and blast mitigation that have not been adequately covered elsewhere.

The Report presents findings to inform fire and explosion risk assessment and aid the development of suitable risk control measures. Drilling rig designers and operators should note that some of the changes suggested as a result of the Deepwater Horizon incident can only be implemented at the stage of rig design or major overhaul.

Full Report (46 page pdf prepared 2014, published 2017)

From: http://www.hse.gov.uk/research/rrhtm/rr1122.htm

UK HSE Research News: www.hse.gov.uk/research/news.htm

Environmental Notes on Chemicals

• Consultation on the RIS: National Phase Out of PFOS

23 Oct 2017: The Federal Dept of the Environment and Energy has released a Regulation Impact Statement (RIS) on options for a national phase out of Perfluorooctane Sulfonic Acid (PFOS) and related chemicals, including its salts and Perfluorooctane Sulfonyl Fluoride (PFOSF).

One of the key areas of focus for this consultation will be what additional data and information can be provided to refine and improve the assumptions in the RIS regarding ongoing uses of PFOS, stockpiles, destruction, and waste management capacity.

Related issues, such as existing contamination and decontamination, and the management of other Per- and Poly-Fluorinated Alkyl Substances (PFASs) more broadly, are outside the scope of this RIS which reflects the requirements of the Stockholm Convention

Consultation on the RIS closes on Monday 26 February 2018.

The Federal Dept of the Environment and Energy held public consultation sessions in each State and Territory capital city in November 2017.

"Regulation Impact Statement for Consultation on a National Phase Out of PFOS – Ratification of the Stockholm Convention Amendment on PFOS" (157 pages, updated 8 November 2017) (Docx - 2.64 Mb; or pdf - 1.22 Mb) -

From: www.environment.gov.au/protection/chemical-management/pfas/ris-phase-out-pfos-consultation

Editor: I suggest we register our interest to attend further sessions in the first half of February 2018, as the end of year period is very difficult for most businesses & persons.

The RIS is a very important discussion that all the interested and affected parties need to have.

Send an e-mail to: PFASstandards@environment.gov.au

Editor: I have arranged an additional Melbourne consultation session on Thurs 15th Feb 2018 6.15-8.18pm, MFB Burnley..

• PFAS NSW Expert Panel revises Investigation Area

19 Nov 2017: The NSW PFAS Expert Panel has reviewed the Federal Dept of Defence draft updated Human Health Risk Assessment (HHRA) and recommended changes to the Williamtown NSW investigation area to better reflect the level of potential exposure of residents to contamination in certain areas.

The Management Area has been divided it into three new zones, based on the levels of PFAS detected:

- Primary Management Zone: PFAS has been detected – including at levels significantly above drinking water guidelines
- Secondary Management Zone: PFAS is likely to be present – potentially above drinking water guidelines
- Broader Management Zone: Limited sampling has revealed some PFAS in small amounts; however, given the topography and hydrology, more contamination might be found in the future

Some properties in Fullerton Cove NSW and Salt Ash NSW have been included in the Management Area for the first time after new modelling revealed the potential for PFAS in certain areas.

A map of the Management Area and tailored advice can be found on the EPA NSW's website at:
www.epa.nsw.gov.au/MediaInformation/williamtown.htm

From: www.epa.nsw.gov.au/news/media-releases/2017/epamedia17111913-expert-panel-revises-williamtown-investigation-area-based-on-new-data

• Federal: Expert Health Panel for PFA Substances

1 November 2017: An Expert Health Panel (the Panel) for Per- and Poly-Fluoroalkyl Substances (PFAS) has been established to review the current literature on potential health effects of PFAS exposure and identify priority areas for research.

The Expert Health Panel will advise the Australian Government on the potential health impacts associated with PFAS exposure and identify priority areas for further research, related to the health effects of PFAS.

It is expected that the Expert Health Panel will provide its advice to the Minister for Health, the Hon Greg Hunt MP, after the close of consultation on 26 February 2018. The Expert Health Panel's advice will be released publicly in March.

Panel Members: Professor Nick Buckley (Chair); Professor Malcolm Sim; Dr Ki Douglas; Professor Alison Jones; Professor Helen Håkansson (International Representative).

For more information on PFAS and Panel:
phone 1800 941 180 or email Health.PFAS@health.gov.au

A brief Public consultation was from 1 Nov to 19 Nov 2017.

From: www.health.gov.au/internet/main/publishing.nsf/Content/mr-yr17-dept-dept015.htm

Panel Information: www.health.gov.au/internet/main/publishing.nsf/Content/ohp-pfas-expert-panel.htm

PFAS Information: www.health.gov.au/internet/main/publishing.nsf/Content/ohp-pfas.htm

• Inquiry into Hydraulic Fracture Stimulation in WA

On 5 Sept 2017 the Western Australian Government announced an independent scientific panel inquiry into the effects on the environment of the process of hydraulic fracture stimulation, known as fracking.

This scientific inquiry follows a commitment by the WA Government to ban fracking in the Perth metropolitan, Peel and South-West regions of Western Australia and impose a moratorium on the remainder of the State until recommendations from the inquiry can inform future policy.

The Panel will assess and report on the potential impacts arising from the use of hydraulic fracture stimulation (fracking) to develop onshore gas resources in regions currently under moratorium.

We will call for written submissions following the publication of a Background and Issues Paper. Please register your interest in staying informed about the inquiry and opportunities for feedback by leaving your email address here (https://frackinginquiry.wa.gov.au/register-updates)

Submissions to the Inquiry are open until 19th March 2018.

Background Papers

WA Hydraulic Fracturing Policy Statement, 5 Sept 17 (1p pdf)

The WA State Govt has stopped the use of hydraulic fracture stimulation (fracking) for onshore petroleum exploration or development in Western Australia.

Also: www.dmp.wa.gov.au/Petroleum/Hydraulic-fracture-stimulation-20018.aspx

From: https://frackinginquiry.wa.gov.au/

• EPA Vic: e-Waste Recycling Works Approval

27 Oct 2017: EPA Victoria has issued a Works Approval to a Campbellfield company for a facility on Sydney Road that will allow it to recycle electronic waste (e-waste).

MRI (Aust) Pty Ltd was granted the works approval to manually disassemble e-waste, including nickel-cadmium (NiCad) batteries, into raw materials for resale.

EPA Development Assessments Manager Tim Faragher said the e-waste stream is growing up to three times faster than general municipal waste in Australia.

Over 90% of e-waste and batteries received by the site would be recycled with any residual waste sent to a facility licensed to receive it.

From: www.epa.vic.gov.au/about-us/news-centre/news-and-updates/news/2017/october/27/epa-issues-works-approval-to-allow-e-waste-to-be-recycled

• Victoria: Single-Use Plastic Shopping Bags Ban

18 Oct 2017: The Andrews Labor Victorian Government will ban single-use, lightweight plastic shopping bags in Victoria.

Minister for Environment Lily D'Ambrosio said the Labor Government would consult closely with businesses and the community on how best to implement the policy.

Experience in other jurisdictions shows that banning lightweight plastics ban can lead to undesirable results, including increased use of heavier duty plastics, which can have an even greater environmental impact.

That is why the Labor Government will work with the community on how to best manage plastic pollution, and deliver a workable scheme that doesn't unfairly impact on consumers, retailers, industry or the environment.

Plastics in the environment break up into smaller and smaller pieces over time, becoming increasingly difficult to manage. They can end up in our waterways, lakes and oceans — contributing to litter and posing a significant hazard to our marine life.

For information & comment (by 25 Jan 2018) visit:
www.engage.vic.gov.au/waste/plastic-pollution.

From: www.premier.vic.gov.au/banning-single-use-plastic-shopping-bags/

• CSIRO Oil Spill Monitoring Handbook, Oct 2016

A new handbook on monitoring oil spills offers Shipping Companies guidance on how to respond to an oil spill and assess any environmental damage.

As of the 6 Nov 2018 this handbook is now freely available as pdf to download.

https://publications.csiro.au/rpr/pub?list=SEA&pid=csiro:EP158596&sb=RECENT&expert=false&n=1&rpp=25&page=1&tr=17&q=oil%20spill&dr=all

Manuscript (2016, 285 page pdf)

From: https://blogs.csiro.au/ecos/oil-spill/

Alerted by:
Don Johnston DangerousGoods@yahoogroups.com

Standards & Codes

• Aged Standards Review: Comment by 18 Dec 17

Standards Australia are currently seeking public input on the proposed withdrawal of the following Aged Standards - the consultation period ends on Monday 18 December 2017:

Active*/Inactive/Disbanded Technical Committees
(Excel Spreadsheet with 111 Standard entries at 11 Dec 2017)

Standards & Handbooks relevant to Hazardous Chemicals:	AS 4775-2007	Emergency eyewash & shower equipment
AS/NZS 1020-1995 The control of undesirable static electricity	HB 13-2007	Electrical equipment for hazardous areas

From: www.standards.org.au/StandardsDevelopment/Developing_Standards/Pages/Withdrawing-Standards.aspx

Standards – https://infostore.saiglobal.com/

https://infostore.saiglobal.com/en-au/Search/Standard/?searchTerm=standard&productFamily=STANDARD

Good Management Practice - Risk Management Set: 2017

The Set includes: 1/ AS/NZS ISO 31000:2009 Risk management - Principles and guidelines; 2/ SA/SNZ HB 436:2013 Risk management guidelines - Companion to AS/NZS ISO 31000:2009; 3/ SA/SNZ HB 89:2013 Risk management – Guidelines on risk assessment techniques; 4/ HB 327:2010 Communicating and consulting about risk (Companion to AS/NZS ISO 31000:2009)

SAI Global includes a free copy of the Good Management Practice Guide. Published 6 Nov 2017, 310 pages, pdf (Copy/Paste & Print Once): $859.29; Hardcopy: $615.25.

Good Management Practice - Quality Management Set: 2017

The Set includes: 1/ AS/NZS ISO 9001:2016 Quality management systems – Requirements; 2/ SA HB 90.1:2017 The Small Enterprises Handbook - Guide to ISO 9001:2015: What to do; 3/ AS/NZS ISO 9000:2016 Quality management systems – Fundamentals and vocabulary; 4/ AS/NZS ISO 9004:2011 Managing for the sustained success of an organization - A quality management approach.

SAI Global includes a free copy of the Good Management Practice Guide. Published 6 Nov 2017, 353 pages, pdf (Copy/Paste & Print Once): $1102.41; Hardcopy: $790.25.

ASTM F1461-17: Standard Practice for Chemical Protective Clothing Program. It is intended to promote the proper selection, use, maintenance, and understanding of the limitations of chemical protective clothing (CPC) by users, employers, employees, and other persons involved in programs requiring CPC, thereby limiting potentially harmful and unnecessary skin exposures.

Published 1 Nov 2017, 10 pages, pdf (NO Copy/Paste. Print Once): $73.58; Hardcopy: $73.58.

• Drafts – https://infostore.saiglobal.com/

https://infostore.saiglobal.com/en-au/Search/Standard/?searchTerm=standard&productFamily=STANDARD

Editor: No relevant Draft Standards were found.

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

Note: Comment must be via the 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)

Newly Published NFPA Codes	No new NFPA Codes on chemical management.
NFPA News November 2017 (10 page pdf)	**NFPA News** December 2017 (9 page pdf)

Contamination Control. More on this new NFPA Project.

It is anticipated that contamination control will consist of removing products of combustion, carcinogens, chemical toxicants and ultrafine particles which have the potential to result in harm either immediately or over sustained exposures and time. If standards development is approved by the Standards Council, the standard may additionally call for effective contamination control of other foreign matter residue.

The NFPA is currently soliciting comments to gauge whether support exists for standards development addressing effective contamination control of PPE, accessories, and equipment.

All NFPA documents are at: www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards

Those open for input / comment are found at NFPA News: www.nfpa.org/codes-and-standards/resources/nfpa-news

Standards Seeking Public Input

For a complete listing of NFPA standards accepting Public Input, please go to www.nfpa.org/publicinput

Standards Seeking Public Comment *For a complete listing of NFPA standards accepting Public Comment, please go to www.nfpa.org/publiccomment*

Both of the above take you to the various Committees: e.g. Fall 2017 Second Draft Reports e.g. Annual 2018 First Draft Report

As part of its commitment to enhancing public safety, NFPA makes its codes & standards available for ***free online****.*

Seminars, Conferences, Courses

• DGAG Meeting, Port Melbourne, Feb 2018, Melb

Dangerous Goods Advisory Group meeting, **Wed 7th Feb 2018**, 5.30pm for 6pm - 8.15pm meeting at Sandridge Trugo Community Centre (Port Melbourne). Corner Albert & Poolman Streets. $3-$5 cost to attendees (depending on numbers). There will be tea / coffee & biscuits, and those interested, go for a meal after.

For those who would like to be added to my Dangerous Advisory Group / Chemical Hazard Communication Network email meeting issues list, please email me at: Jeff.Simpson@haztech.com.au. You don't have to be in Melbourne, to be on this email meetings & issues alert list.

• National Phase Out of PFOS: RIS, Feb 2018 Melb

5.45pm for 6.15pm - 8.15pm meeting at MFB Burnley Complex on **either Tues 13th or Thurs 15th Feb 2018.** Consultation on the RIS: National Phase Out of PFOS. The PFAS Standards Section, Aust Govt Dept of the Environment and Energy will be presenting & discussing.

We will hear about & discuss the draft Regulation Impact Statement (RIS) on options for a national phase out of Perfluorooctane Sulfonic Acid (PFOS) & related chemicals, including Salts & Perfluorooctane Sulfonyl Fluoride (PFOSF).

At the MFB there is No Cost to attendees. There will be tea / coffee & biscuits, & for those interested, go for a meal after.

Email me in the 2 weeks before for the meeting date, & if needed, the Sandridge Trugo Community Centre, Port Melb.

For those who would like to be added to my Dangerous Advisory Group / Chemical Hazard Communication Network email meeting issues list, please email me at: Jeff.Simpson@haztech.com.au. You don't have to be in Melbourne, to be on this email meetings & issues alert list.

• CHCN Meeting, Port Melbourne, Mar 2018 Melb

Chemical Hazard Communication Network meeting, **Wed 7th March 2018,** 5.30pm for 6pm - 8.15pm meeting at Sandridge Trugo Community Centre (Port Melbourne). Cost $4 each if 15 come. Corner Albert & Poolman Streets. There will be tea / coffee and biscuits and those interested, go for a meal after.

For those who would like to be added to my Dangerous Advisory Group / Chemical Hazard Communication Network email meeting issues list, please email me at: Jeff.Simpson@haztech.com.au. You don't have to be in Melbourne, to be on this email meeting alert & issues list.

• Dangerous Goods Operations, 19-21 Mar 18, Melb

Achieving maximum incident prevention by ensuring workplace compliance, advanced safety measures while minimising the operational risk of Dangerous Goods.

Delegate Cost: AU$3000 (estimated)

Consultants & Solution Providers Cost: AU$3600 (estimated)

From: www.marcusevans-conferences-australian.com/events.asp

• Fundamentals of Process Safety, April 2018, Perth

Perth, 9-13 April, 2018: Benefit staff at all levels in an organisation keen to develop or improve their knowledge of process safety, hazards, risk and their management.

Also Brisbane, 28 May–1 June 2018.

Cost: Non-Members $3990, IChemE Members $3465. Email: austcourses@icheme.org, ph: 03-9642-4494

From: www.icheme.org and search on "Perth" or "Brisbane"

• HAZOP Leadership & Mgmt , May 2018, Melb

Melbourne, 8-10 May, 2018: Explores best practice in HAZOP Leadership and Management. Learn about the application of the technique and how to plan and manage study programmes more effectively. Learn how best to lead study teams to ensure maximum effectiveness and successful project execution..

Cost: Non-Members $3990, IChemE Members $3465. Email: austcourses@icheme.org, ph: 03-9642-4494

From: www.icheme.org and search on "Melbourne"

• Hazards Australasia 2018, Perth, 26-27 June 2018

Process Safety, building resilience. How to respond to these challenges and maintain safe production show the level of resilience achieved. Leadership across knowledge and competence, engineering and design, systems and procedures, assurance, human factors and culture are fundamental to managing process safety.

From: www.icheme.org/events/conferences/hazards-australasia-2018.aspx

Haztech Environmental: Chemical Hazard Classifications done & reviewed. SDSs prepared & reviewed. Labels prepared & reviewed. Chemical Management & Safety Regulatory Compliance: checked for NICNAS, APVMA, 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 26 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, Website: www.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. Nov 18 or normally in the Subject of the Email in which you receive the Hazmat Notes pdf file.

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