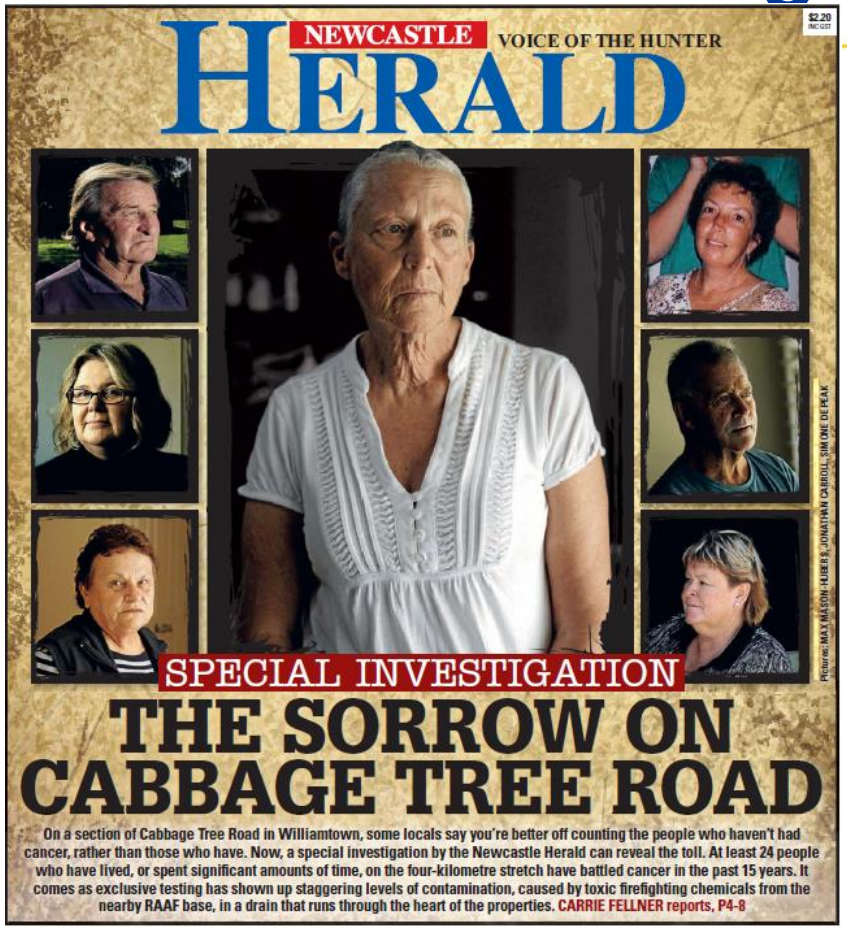
Occupational cancers – where to?

Terry Slevin, Chair, Occupational and Environmental Cancer Committee.
Cancer Council Australia

Cancer Council
Western Australia

This issue is not going away


NEWCASTLE VOICE OF THE HUNTER
HERALD
$2.20 INC GST
SPECIAL INVESTIGATION
THE SORROW ON CABBAGE TREE ROAD
On a section of Cabbage Tree Road in Williamtown, some locals say you're better off counting the people who haven't had cancer, rather than those who have. Now, a special investigation by the Newcastle Herald can reveal the toll. At least 24 people who have lived, or spent significant amounts of time, on the four-kilometre stretch have battled cancer in the past 15 years. It comes as exclusive testing has shown up staggering levels of contamination, caused by toxic firefighting chemicals from the nearby RAAF base, in a drain that runs through the heart of the properties. CARRIE FELLNER reports, P4-8
Pictures: MAX MASON-HUBER & JONATHAN CARROLL, SIMONE DE PEAK

Saturday 9 July 2017

- Suspected “Cancer Cluster” linked to residents of a road adjoining Williamtown Airforce base outside Newcastle
- Suspected exposure – Firefighting foams
- This story is “environmental” affecting residents
- There is also action relating to Occupational exposures to the same chemicals

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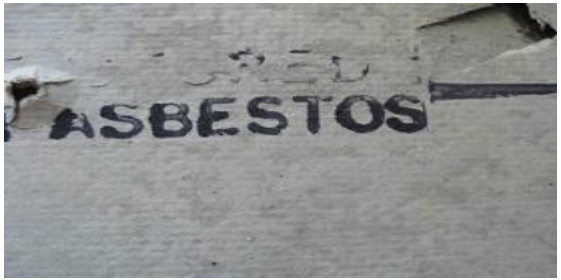
Cancer risks in the workplace



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Environ tobacco smoke – Going Smokefree

Evaluation of the weight of evidence for the effectiveness of smokefree legislation

	Sufficient evidence	Strong evidence
Smokefree policies do not cause a decline in the business activities of the restaurant and bar industry (Ch 4)	X	
Implementation of smokefree policies leads to a substantial decline in exposure to SHS (Ch 6)	X	
Implementation of smokefree legislation reduces social inequalities in SHS exposure at work (Ch 6)		X
Implementation of smokefree legislation causes a decline in heart disease morbidity (Ch 6)		X
Implementation of smokefree legislation decreases respiratory symptoms in workers (Ch 6)	X	
Smokefree workplaces lead to reduced cigarette consumption among continuing smokers (Ch 7)	X	
Smokefree workplaces lead to increased successful cessation among smokers (Ch 7)		X
Smokefree homes policies reduce tobacco use among youth (Ch 7)		X
Smokefree home policies reduce exposure to children to SHS (Ch 8)	X	
Smokefree home policies reduce adult smoking (Ch 8)	X	
Smokefree homes policies reduce youth smoking (Ch 8)		X

Source: International Agency for Research on Cancer 2009 [1] refer to table p260.

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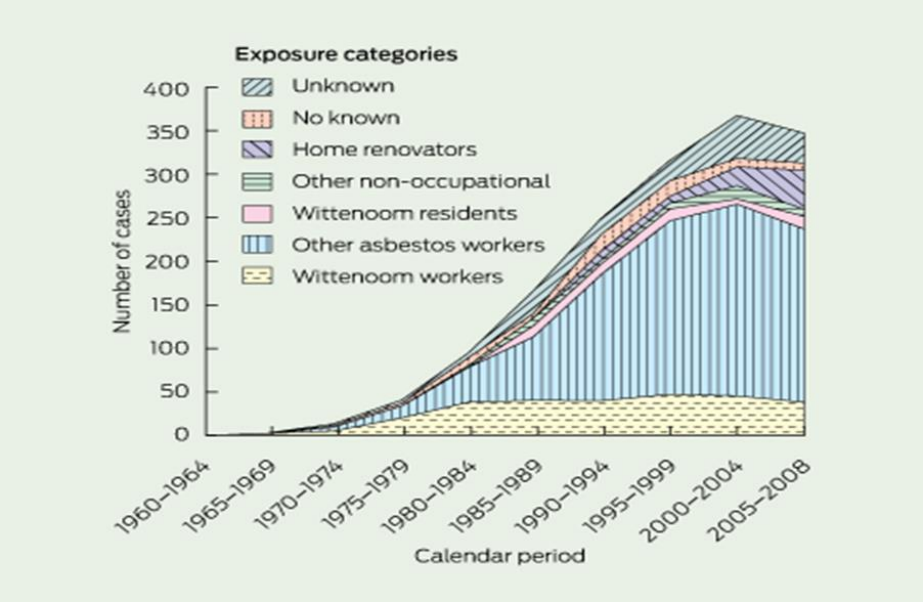
Asbestos



Mesothelioma in Western Australia by Exposure Category

(Olsen N et al Med J Aust 2011; 195 (5): 271-274).

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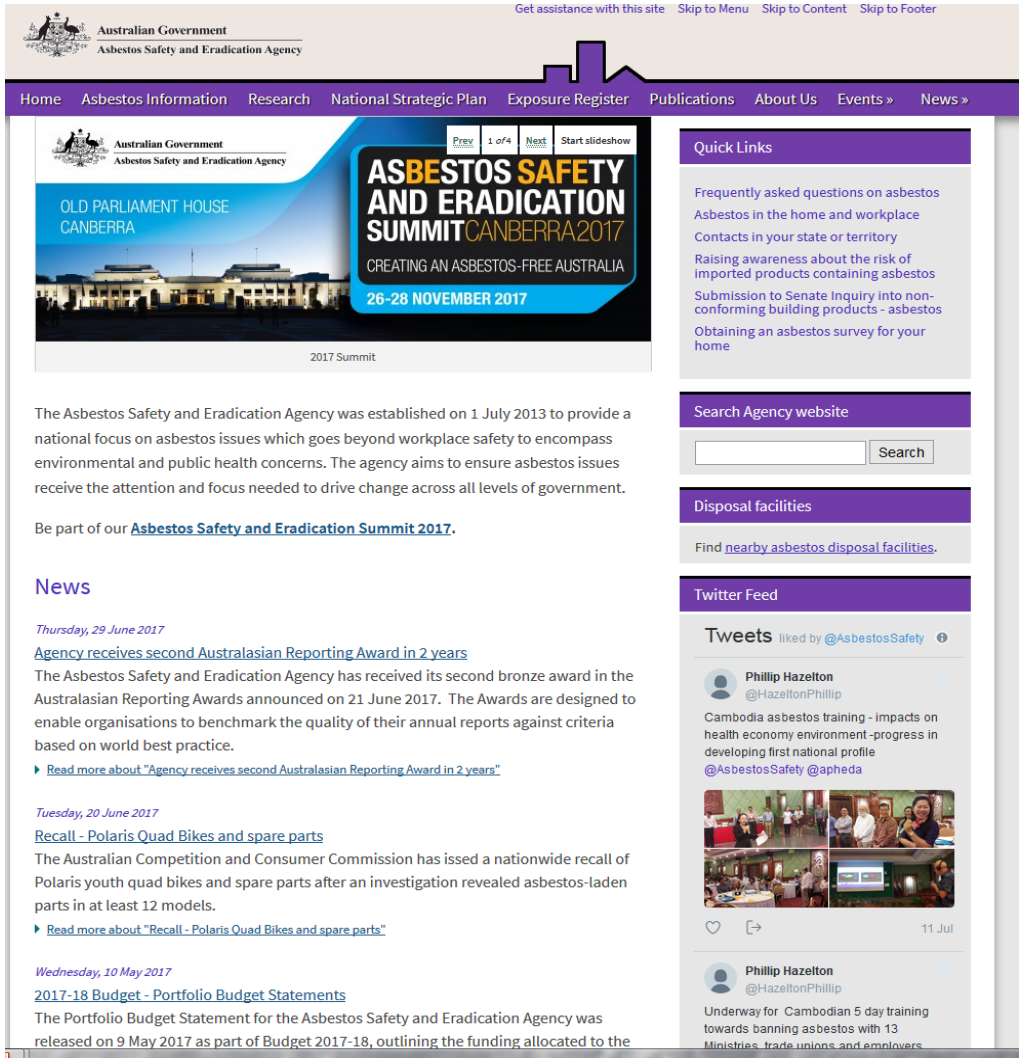
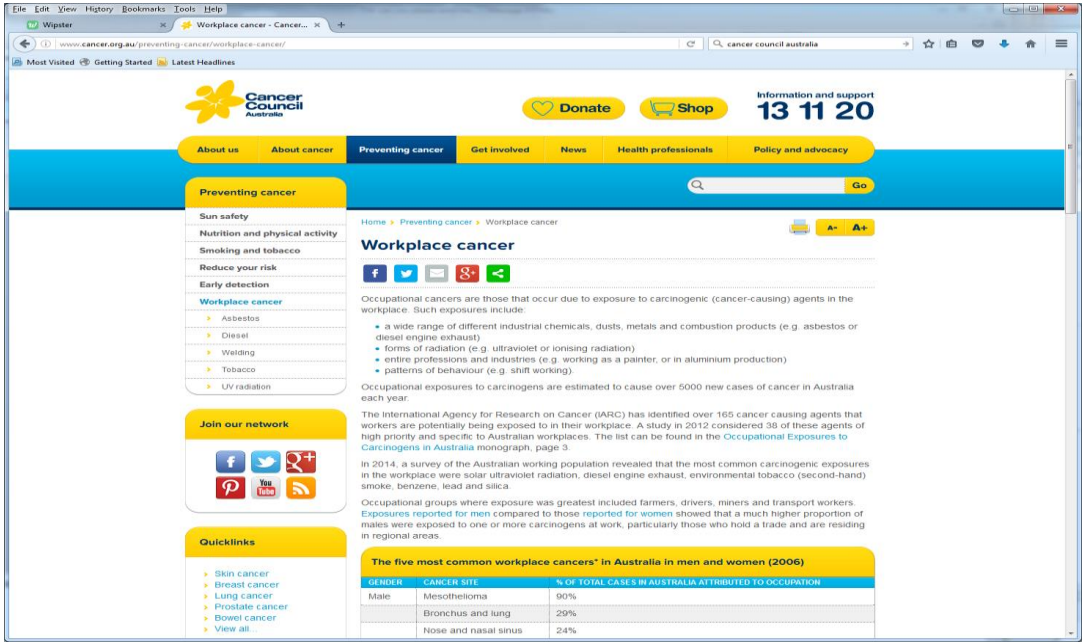


Action on Asbestos in Australia

No one pretends it is perfect but now someone has the job of doing it

Occupational Cancer webpages on Cancer Council Australia website



Launched 4 October 2016

Houses OEC factsheets

www.cancer.org.au/preventing-cancer/workplace-cancer/

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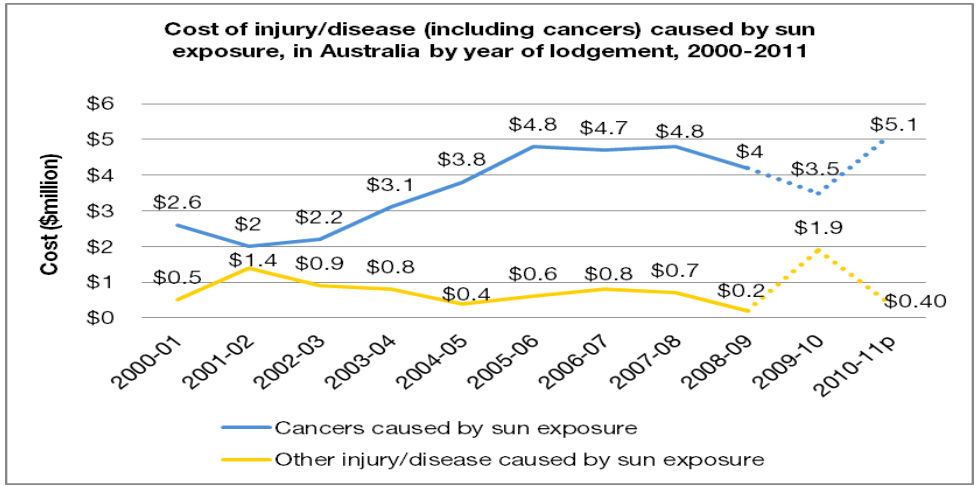
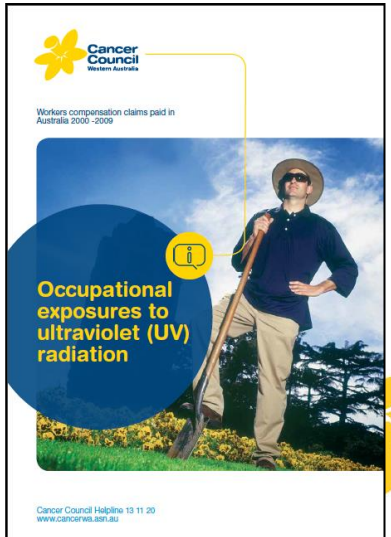
Sun exposure in the workplace

- Each year in Australia, about 200 melanomas and 34 000 non-melanomas are caused by being exposed to solar UVR at work.
- A total of $38.4 million has been paid for sun related workers' compensation claims in Australia from 2000-2009. (cancers = $32.1million; other sun related injury $6.3 million)
- Data from 2009-10 and 2010-11 shows the costs are continuing to increase.





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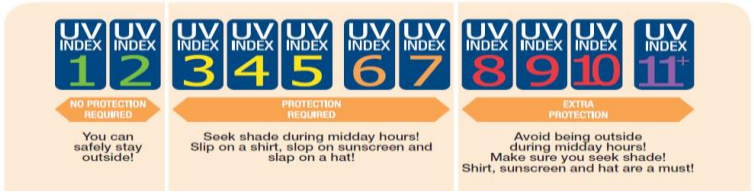
WORKING OUTDOORS

Only one in five workers (21%) who worked in direct sunlight undertook their work outside of peak UV hours to reduce sun exposure.

Close to a fifth of workers (17%) who worked in direct sunlight reported that they or their employer did nothing to prevent health problems caused by exposure to direct sunlight or sunburn.[7]

Source: Australian Safety and Compensation Council. *National hazard exposure worker surveillance (NHEWS) survey: 2008 results.* Canberra, Australia; 2008 Available from: http://www.safeworkaustralia.gov.au/sites/swa/research/hazard-surveillance/pages/hazard-surveillance.

The UV Index

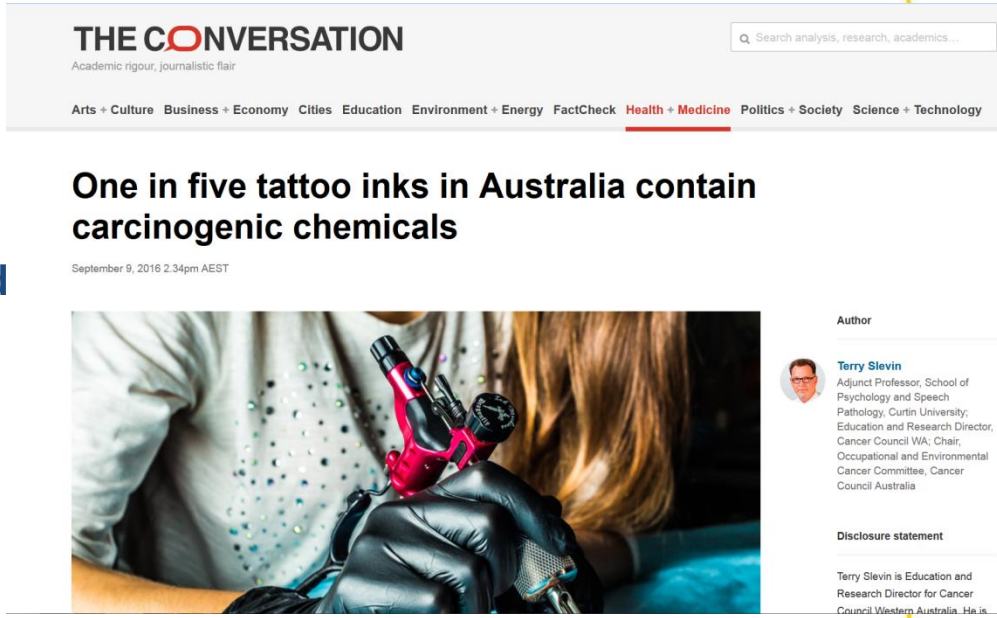


WHO's UV Index and related sun protection behaviours

Live UV Readings in recreational and occupational settings

Case study: Tattoo Inks

- 49 inks tested by NICNAS, only four complied with European standards.
- Polycyclic aromatic hydrocarbons (PAHs) found in 1/5 of all samples and 83% of black inks.
- Non-compliant components found; including barium, copper, mercury, amines and various colourants.
- In some inks, there was a mismatch between the content and the labelling.
- Not caught by our regulatory system.



THE CONVERSATION

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One in five tattoo inks in Australia contain carcinogenic chemicals

September 9, 2016 2.34pm AEST

Author

Terry Slevin

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Disclosure statement

Terry Slevin is Education and Research Director for Cancer Council Western Australia. He is

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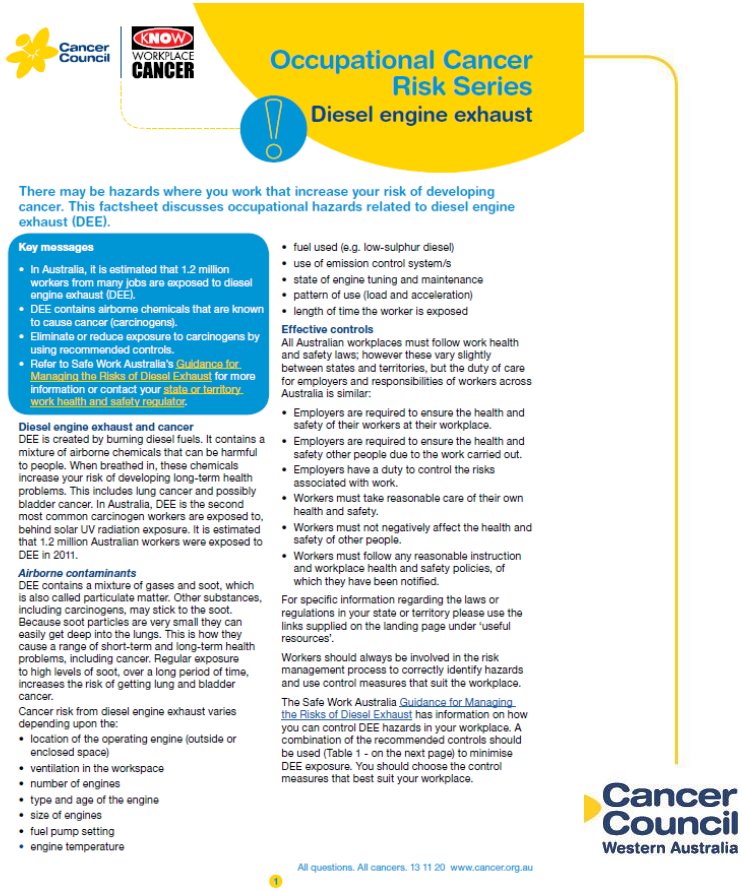
Focusing our efforts: diesel engine exhaust

- Estimated 1.2 million Australian workers were exposed in 2011, second to solar UVR.
- About 1.6% of all lung cancer in persons 15 years or older are estimated to be due to occupational exposure to diesel engine exhaust.
- The estimate of 1.6% was explained in my letter of 13/10/16
- There were 11,114 people diagnosed with lung cancer in 2012 in Australia
- This comes from the AIHW data (http://www.aihw.gov.au/acim-books/)

0.012 (Conservative estimate) * 11,114 = 133



Cancer Council | KNOW WORKPLACE CANCER

Occupational Cancer Risk Series

Diesel engine exhaust

There may be hazards where you work that increase your risk of developing cancer. This factsheet discusses occupational hazards related to diesel engine exhaust (DEE).

Key messages

- In Australia, it is estimated that 1.2 million workers from many jobs are exposed to diesel engine exhaust (DEE).
- DEE contains airborne chemicals that are known to cause cancer (carcinogens).
- Eliminate or reduce exposure to carcinogens by using recommended controls.
- Refer to Safe Work Australia's Guidance for Managing the Risks of Diesel Exhaust for more information or contact your state or territory work health and safety regulator.

Diesel engine exhaust and cancer

DEE is created by burning diesel fuels. It contains a mixture of airborne chemicals that can be harmful to people. When breathed in, these chemicals increase your risk of developing long-term health problems. This includes lung cancer and possibly bladder cancer. In Australia, DEE is the second most common carcinogen workers are exposed to, behind solar UV radiation exposure. It is estimated that 1.2 million Australian workers were exposed to DEE in 2011.

Airborne contaminants

DEE contains a mixture of gases and soot, which is also called particulate matter. Other substances, including carcinogens, may stick to the soot. Because soot particles are very small they can easily get deep into the lungs. This is how they cause a range of short-term and long-term health problems, including cancer. Regular exposure to high levels of soot, over a long period of time, increases the risk of getting lung and bladder cancer.

Cancer risk from diesel engine exhaust varies depending upon the:

- location of the operating engine (outside or enclosed space)
- ventilation in the workspace
- number of engines
- type and age of the engine
- size of engines
- fuel pump setting
- engine temperature
- fuel used (e.g. low-sulphur diesel)
- use of emission control system/s
- state of engine tuning and maintenance
- pattern of use (load and acceleration)
- length of time the worker is exposed

Effective controls

All Australian workplaces must follow work health and safety laws; however these vary slightly between states and territories, but the duty of care for employers and responsibilities of workers across Australia is similar:

- Employers are required to ensure the health and safety of their workers at their workplace.
- Employers are required to ensure the health and safety other people due to the work carried out.
- Employers have a duty to control the risks associated with work.
- Workers must take reasonable care of their own health and safety.
- Workers must not negatively affect the health and safety of other people.
- Workers must follow any reasonable instruction and workplace health and safety policies, of which they have been notified.

For specific information regarding the laws or regulations in your state or territory please use the links supplied on the landing page under 'useful resources'.

Workers should always be involved in the risk management process to correctly identify hazards and use control measures that suit the workplace.

The Safe Work Australia Guidance for Managing the Risks of Diesel Exhaust has information on how you can control DEE hazards in your workplace. A combination of the recommended controls should be used (Table 1 - on the next page) to minimise DEE exposure. You should choose the control measures that best suit your workplace.

All questions. All cancers. 13 11 20 www.cancer.org.au

1

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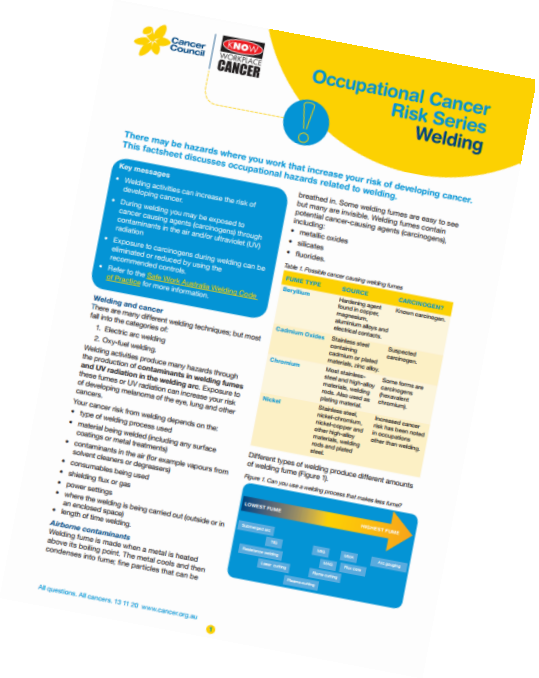
What's new: welding fumes

- April 2017 – Group 2B carcinogen → Group 1 carcinogen.



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KNOW YOUR CANCER

Occupational Cancer Risk Series
Welding

There may be hazards where you work that increase your risk of developing cancer. This factsheet discusses occupational hazards related to welding.

Key messages

- Welding activities can increase the risk of developing cancer.
- During welding you may be exposed to cancer causing agents (carcinogens) through contaminants in the air and/or ultraviolet (UV) radiation.
- Exposure to carcinogens during welding can be eliminated or reduced by using the recommended controls.
- Refer to the Safe Work Australia Welding Code of Practice for more information.

Welding and cancer

There are many different welding techniques; but most fall into the categories of:

1. Electric arc welding
2. Oxy-fuel welding.

Welding activities produce many hazards through the production of **contaminants in welding fumes** and **UV radiation in the welding arc**. Exposure to these fumes or UV radiation can increase your risk of developing melanoma of the eye, lung and other cancers.

Your cancer risk from welding depends on the:

- type of welding process used
- material being welded (including any surface coatings or metal treatments)
- contaminants in the air (for example vapours from solvent cleaners or degreasers)
- consumables being used
- shielding flux or gas
- power settings
- where the welding is being carried out (outside or in an enclosed space)
- length of time welding.

Airborne contaminants

Welding fume is made when a metal is heated above its boiling point. The metal cools and then condenses into fume; fine particles that can be breathed in. Some welding fumes are easy to see but many are invisible. Welding fumes contain potential cancer-causing agents (carcinogens), including:

- metallic oxides
- silicates
- fluorides.

Table 1. Possible cancer causing welding fumes

FUME TYPE	SOURCE	CARCINOGENT
Beryllium	Hardening agent found in nickel, magnesium, aluminium alloys and electrical contacts.	Known carcinogen.
Cadmium Oxides	Stainless steel containing cadmium or plated materials, zinc alloy.	Suspected carcinogen.
Chromium	Most stainless-steel and high-alloy materials, welding rods. Also used as plating material.	Some forms are carcinogens (hexavalent chromium).
Nickel	Stainless steel, nickel-chromium, nickel-copper and other high-alloy materials, welding rods and plated steel.	Increased cancer risk has been noted in occupations other than welding.

Different types of welding produce different amounts of welding fume (Figure 1).

Figure 1. Can you rate a welding process that makes less fume?

All questions. All cancers. 13 11 20 www.cancer.org.au

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Respirable crystalline silica (RCS)

Next cab off the rank

- Group 1 carcinogen.
- Current exposure standard in Australia for RSC is 0.1mg/m3.
- ACGIH in 2010 recommended a level of 0.025mg/m3.

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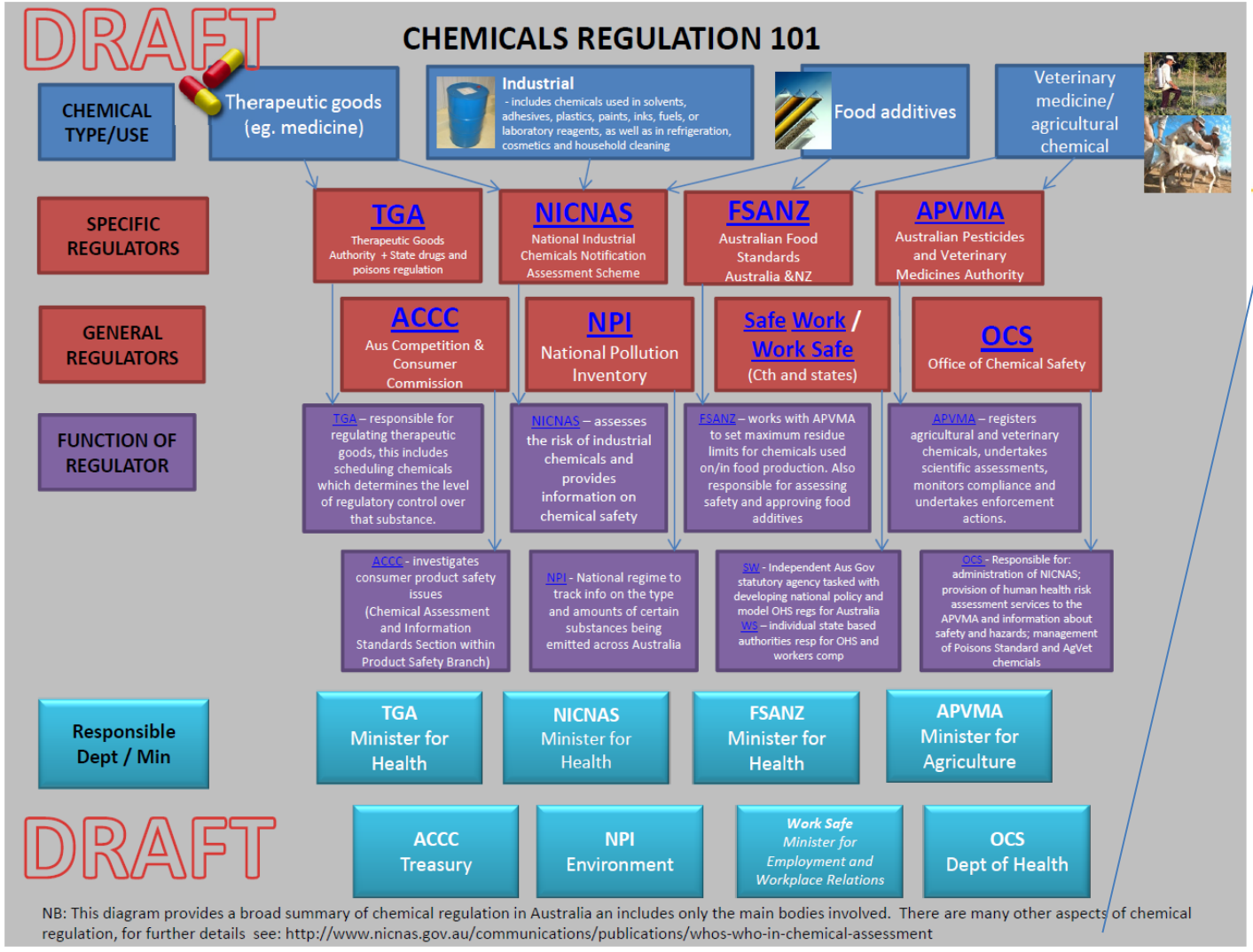

NB: This diagram provides a broad summary of chemical regulation in Australia an includes only the main bodies involved. There are many other aspects of chemical regulation, for further details see: http://www.nicnas.gov.au/communications/publications/whos-who-in-chemical-assessment

"This diagram provides a broad summary of chemical regulation in Australia and includes only the main bodies. There are many other aspects of chemical regulation….." !!!!

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NICNAS – under review

- There is new legislation at an advanced stage of review fro the National Industrial Chemicals Notification and Assessment Scheme (NICNAS).
- A Senate enquiry is currently underway

- Positives: increased power for minister and Director
- Negatives: risk to the IMAP project, lack of public record of exempted chemicals and small quantities.

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What next?

- Cancer Council is looking to engage more in this issue via our **kNOw Workplace cancer project**
- **Outside the workplace**: raising the profile of the prevention of occupational cancer as a priority issue.
- **Government lobbying** and ‘the system’: further development of legislative, regulatory and policy processes – adopting international best practice.
- State and national opportunities
- **We welcome input, partners and opportunities to do so**