



Safety Bulletin

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www.cshwsa.org.au

A WORD FROM THE CHAIR

Welcome to the second Safety Bulletin for 2018.

As many of you would be aware Catholic Safety Health & Welfare SA (CSHW SA) have been busy auditing during the first half of 2018. These audits have provided good learnings for the worksites who have participated and also for the organisation.

Whilst several Non-Conformance Reports (NCR's) have been issued, the most important thing is that the worksites acknowledge the gaps identified and ensure that corrective actions are implemented and the NCR's are closed out in a 3 month period. Remember to utilise the services of the CSHW SA WHS Consultant allocated to your site to guide you with the actions required.

The main gaps identified during audits conducted to date are the lack of, or failure to review risk assessments and elements of Plant and Chemical Management. Gaps were also identified with Emergency Management and confusion has been noted between this and a Recovery or Business Continuity Plan.

The CSHW SA Unit has commenced a focus on slips, trips and falls during the

winter months. This mechanism of injury is the main causation of injury in our worksites. Posters have been developed and are being distributed to worksites and additional resources are being placed on the CSHW SA website www.cshwsa.org.au.

Some tips about helping us all to stop falling would be to improve the general housekeeping at our workplaces. It's easy to forget about the bags and cords on the floor, or the leaf litter and uneven pavers outside ... they all too often contribute to slips, trips and falls. Take time to investigate any incidents in this category too (or any category!), as looking for the causation will, in the long term, reduce injuries. Sounds simple ... but so are the causes of falls.

Rug up and keep warm as we enjoy the winter months and as always if you have any safety issues you wish to raise I can be contacted at dpwest@centacare.org.au

Dale P West
Chairperson SIGC

Health and Wellbeing—General Health

Bridge is the consumer magazine of the Continence Foundation of Australia. This free magazine is written for people with incontinence, both men and women, their family, friends or carers, and provides easy to read and simple to understand information about:

- incontinence and other bladder and bowel problems
- how to take the first step in seeking help
- where to get help, and
- living a healthy and happy life with incontinence.

Please refer to the CSHW SA website for further information (<http://www.cshwsa.org.au/general-health/>).

Incident Database: Incident Type

Although incidents happen in many different ways, they can be classified into a selection of broad groups. By accurately recording the incident type in the Incident Database, worksites will be able to determine the sorts of issues that are happening at their site and put in place controls to prevent minor issues from becoming major injuries.

If a worker is injured then the type should always be Physical Injury or Psychological Injury (whichever is relevant).

Where a student, client or resident injury happens then Student Injury or Client/Resident Injury incident type should be used to record the injury. Client/Resident No Injury is available to record incidents that do not result in an injury but may be important for the site to keep track of.

Bullying is a sensitive issue and when recorded in the Incident Database, care must be taken to ensure fairness and safety for those involved. Bullying not involving the manager is reported as normal for your worksite except a modified distribution list will be displayed when completing the incident. Bullying involving manager must be reported using a different worksite (Step 6, Location Details). Instead of putting your usual worksite, select Undisclosed Location in the Sector dropdown.

For further guidance on entering incidents or if you are unsure how to classify the incident, call CSHW SA on 8215 6850.

Lithium Polymer Batteries

Lithium Polymer (LiPo) batteries have become the most common high performance remote control (R/C) battery and are used in R/C cars, boats, planes, drones and more. However, if charged, discharged, stored, maintained, or handled improperly, they can become extremely dangerous. If you are using LiPo batteries at your workplace, a risk assessment must be completed and if applicable, a SOP developed and implemented.

Follow these basic safety rules:

- Batteries should NEVER be left unattended while charging.
- Be absolutely sure that the LiPo charger settings are correct for the battery pack being charged – both voltage and current settings.
- LiPo must be CHARGED and STORED in a fire-safe container like a LiPo sack.
- Do not charge batteries near flammable items or liquids.
- Keep a fire extinguisher nearby.
- Never charge inside an automobile, even when parked.
- KEEP BATTERIES AWAY from children and pets at ALL times.



Always follow the manufacturer's safety instructions and charging guidelines for lithium polymer battery packs. These are there for not only the longevity of the battery pack, but also your safety. Should you need to dispose of your LiPo battery, check with your local council or EPA.



For further information on LiPo battery safety, check out the following websites:

<https://allaroundoz.com.au/2016/05/11/lipo-battery-safety/>

<http://thedronegirl.com/2015/02/07/lipo-battery/>

<https://www.icharger.co.nz/buying/resources-faq/lipo-lithium-battery-safety-guide/>

Additions to Website

If you haven't been on the Catholic Safety Health and Welfare website recently, check it out. Many new risk assessments have been added. They include various items of plant; working in isolation; and occupational violence. These documents are intended as a guide. It is expected you will download them and modify them to meet your site's specific needs. You can find them at: <http://www.cshwsa.org.au/resources/risk-assessment-samples/>

Also, a new Safe Operating Procedure has been developed and uploaded for Handling Blood and other Body Substances. If you don't have procedures in place at your workplace, then it is worth considering downloading this SOP and modifying it for your site: <http://www.cshwsa.org.au/download/2928/>

Talkin' Safety

Are there hazards using 3D Printers?

In recent times, CSHW SA WHS Consultants have observed an increase in the popularity of 3D printers at many of the worksites. This has raised the question of whether sites are fully aware of the hazards relating to these items of plant.

There are obvious visible hazards and some hidden hazards related to this type of equipment. The well-known hazards are electricity and the potential for a person to receive an electric shock or be electrocuted, the mechanical hazard relating to the movement of the printer head and the potential for a person to receive a laceration or be pinched from the head unit moving, heat generated by the hot element/head unit and the potential for burns from touching the components.

One hazard that is gaining increased attention is the invisible fumes generated from the melting of Acrylonitrile Butadiene Styrene (ABS) and Polylactic Acid (PLA) filament used in 3D printers. Most users of 3D printers would be aware of the unpleasant odor from ABS filament and that it may not be healthy to breathe in.

Not only ABS, but also PLA, may release toxic fumes known as VOCs (Volatile Organic Carbon). Not all VOCs are actually toxic, but some may be, especially for younger users.

Research conducted in the early 90's demonstrated that during the fusion and processing of plastic materials, several toxic particles are released as gases, including ammonia, cyanidric acid, phenol, and benzene, among others.

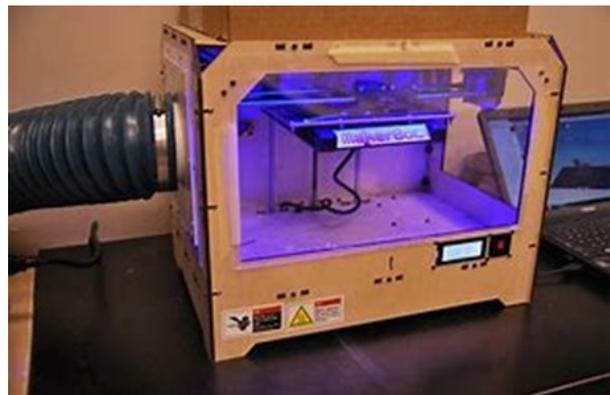
Laboratory testing showed that ABS is significantly more toxic than PLA, but that the corn-based polymer is not exempt from dangerous emissions, especially if extruded at temperatures higher than 200°C. Furthermore, the same material spools, when acquired from different suppliers, release very different quantities of VOCs, even if used in the same 3D printer and under the same parameters of speed and temperature.

A second critical aspect relates to the emission of nanoparticles, that is, particles with a diameter smaller than 0.1 micron, which can be absorbed directly by the pulmonary alveolus and the epidermis. In this case, the emissions, when using ABS, vary from 3 to 30 times those that occur when using PLA filament.

Among the effects that the absorption of toxic VOC's and nanoparticles can cause to humans, the most common are pulmonary pathologies, such as bronchitis, tracheitis, and asthma. In some cases, these substances can also cause certain types of cancers, which is not something to be taken lightly.

Certainly this does not mean we should all just stop using 3D printers!
So, what can be done?

- Sites need to ensure their 3D printers are operated in well ventilated rooms with good air flow.
- Check if current 3D printers have any form of internal/ external carbon filter attached.
- If present, ensure carbon filters are maintained in accordance with the manufacturers requirement.
- Consider the installation of a localised exhaust tube/ducting from the cabinet of the printer to the outside atmosphere.
- Consider limiting the amount of 3D printing happening all at the same time.
- Ensure printers are tested and tagged for electrical compliance.
- Ensure 3D printers are covered with a protective hood/ cabinet, fitted with an interlocking switch to prevent it being opened when in operation.



Remember, if you need any advice or want to discuss any issues relating to WHS, please contact your CSHW SA Consultant.

Reference: <https://3dprintingindustry.com/news/toxic-abs-pla-fumes-3dsafety-org-inquires-vocs-60796/>

Slips, Trips and Falls

The previous bulletin discussed building and design in order to prevent slips, trips and falls. Now, let's look at identifying slip and trip hazards.

Common slips hazards include:

- Spills of liquids or solid material.
- Wet cleaning methods.
- Wind driven rain through doorways.
- A sudden change in floor surface, for example joins between carpet and polished timber.
- Change to wet dry surfaces.
- Dusty and sandy surfaces.
- The incline of a ramp.
- Loose or bumpy flooring.
- Low light levels.
- Use of unsuitable footwear.

Common trip hazards include:

- Ridges in floors or carpets.
- Worn floor coverings or broken tiles.
- Potholes and cracks in floors.
- Changes in floor levels.
- Thresholds and doorstops.
- Floor sockets and phone jacks.
- Cables from power extension units.
- Loads that obstruct vision.
- Obstacles in traffic areas.

Ways to eliminate or minimise slipping hazards due to liquid and waste from machinery include:

- Modify the machinery to prevent leakage.
- Install exhaust systems to remove dusts or that would otherwise settle on floors.
- Use tray to collect liquid or waste.

Ways to eliminate or minimise slipping hazards due to rainy days include:

- Have absorbent flooring materials at entrances.
- Provide facilities for leaving umbrellas at entrances.
- Provide easy access to equipment and materials for cleaning up water on the floor.

Ways to eliminate or minimise slipping hazards due to accidental spills include:

- Clean up water or oily spills immediately – use absorbent paper or powder for cleaning up oily residues.
- Thoroughly dry floors after cleaning.
- Erect warning signs at areas with high risk of spills.

Reference: Safe Work Australia.

Floor Type	Characteristics
Concrete	Rounded aggregate can be slippery when concrete wears. Interior surface is often sealed to prevent dusting and absorption of liquids – this can increase slipperiness.
Terrazzo	Gives good appearance and wears well but can be slippery when wet, when excess polish is in use or when dusty.
Quarry tiles, ceramic tiles	Low water absorption and good resistance to chemicals. Slippery in wet conditions if smooth, but can be moulded with aggregate or profiles to improve slip resistance – special cleaning equipment may then be required.
Glazed ceramic tiles	Slippery when wet, particularly with soapy water. Some slip resistance treatments available, but preferable not to install these tiles on floors.
Vinyl tiles and sheets	Easy to clean. Use sheet form where frequent washing is required to avoid water getting under the tiles. Slippery when wet, particularly if polished, however slip resistant vinyls are available. These have aggregates moulded in. Thicker and softer vinyls are more slip resistant than hard ones.
Cork	Must be sealed to prevent absorption of oil and water, but may then be slippery when wet.
Steel plate	Tends to be slippery when wet or oily, particularly when worn.
Rubber	Less effective in wet conditions. Must be fixed down well at the edges and joints or will cause a trip hazard.
Plastic matting	Interlocking PVC extrusions give good drainage and slip resistance. Hose down or steam clean.
Carpet	Carpet has a shorter life than other hard floor surfaces, but it can be a cost effective solution. Installations should be wall to wall, to avoid the hazard of a trip on edges. When used in small local areas, such as entrances, it should be installed in a recess in the floor. Alternatively, it should be rubber backed and with hard wearing tapered edges. Trolleys can be harder to push on carpet, but if larger wheels are fitted and the carpet does not have a deep pile, this is not a serious problem.
Fibreglass gratings	This product can have grit particles moulded into upper surface to provide very good slip resistance. Fluids are quickly drained away.