

LAB LINES

Magazine of the Laboratory Technicians' Association of Victoria

Editor: James Cutting

June 2022

MOULD

*The culture of science and
how it made medicine*

RAMPS

The ups and downs.

HAZARDS

They're waiting to happen

CHEMICAL WASTE

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AND NOT JUST ON A SCREEN!



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Vol 42. 1

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LABLINES

President's Report

Geoff Gleadall

First things first, this issue of Lablines is a bit late. This is due to a number of factors, finding and placing a new editor, delays and communication problems that were mostly caused by the pandemic and changes from this. For all of this, we apologise profusely!

I would like to welcome everyone whom is reading, to our first edition of 2022 and I am excited for the articles in this edition and some of the prospective articles that are due to be published throughout this year.

This is also the last Lablines you will receive, unless you have renewed your membership for this year (2022). The membership year is from the 1st of January to the 31st of December 2022. We allow you until the 31st of December to pay, but please note that you are considered non-financial after that date. Please note you can submit a mailed membership form that is printed back at the of this Magazine or you can use the QR code to take you directly to our online membership renewal page!

I heard recently of a conversation that occurred at a regional meeting in which two of our colleagues who were not members were asked why it's worth being a paid member. Their concerns were along the lines of *"since we get the list server for free and do not have to be members to attend LABCON, why should we pay?"*.

Let me break it down, so that if you come across this questioning, you too can respond accordingly. Firstly, the list serve is available, as a service to our profession; to all technicians as a constant support and vital assistance. It is not actually free to run; it costs the LTAV money to operate and our moderator kindly spares her time and energy.

Secondly, while one can attend LABCON as a non member, you must pay a higher fee and the difference is actually greater than the membership fee. Please note that whilst being a member, Lablines will be distributed to you and the vital information that it includes; such as industry knowledge, LTAV connections and associations and updates, not to mention great articles.

Thirdly, regional meetings and personal development are for members. Please note that only paid members may attend these meetings.

Additionally, the LTAV does offer a mentorship program for those who feel they need it. It is a professional mentorship and is also included in your paid membership. Members who are facing financial difficulties may speak to our welfare officer, whom will do what they can to assist.

Please spread the word and sing the praises that the LTAV is a voluntary organization. Sadly, we do not receive government funding, so what we do ask is that our members pay the annual fee of \$50 to be inclusive in all of our services. If the school you represent is willing to pay for your membership, please notify them that they will receive reduced personal development costs and alas, you will receive the benefits of a member. Please note that you can claim your LTAV membership as a taxable deduction as a member of a professional association.

Finally, this year we will be able to attend LABCON in the flesh and that is extremely exciting. Read ahead to find the inclusions about Labcon and what is in store! I'm sure it will be a wonderful time for us all to get together, after having spent the last few years in digital company!



From the Editor

James Cutting

Welcome everyone to the first edition of Lablines for 2022. My deepest apologies for the delay in this edition. But finally, it's here! The transition we all underwent from being in lockdowns, to commencing back at school or only going back a few days a week, to even maybe isolating; has caused us all to simply not make too many plans when it comes to our profession and the plans for the months ahead, both personally and scholastically.

This year has been a strange reality of transition, but we do have so much to look forward to. Lab technicians are the go-to essential of all STEM departments and because we are so competent in working 'on the fly', this has allowed us to mold into whatever shape possible for these changing times and assimilate to the digital age.

Initially, I'd like to thank you for the opportunity to edit Lablines, modify it and hopefully, you will all enjoy it. I am left with the huge task of taking over from Samantha Gunning, whom most competently, kept us in the loop and has left me with an abundance of information, so that I can hopefully give you all something to be fond of. I would also like to thank my co-editor Claudia Sorace, whom is highly proficient in design and has helped me greatly with this undertaking (I cannot claim any of the graphic design or formatting is my own) and whom is a real journalist, so I have a tangible print master to discuss articles and inclusions with.

A little about me? Let's keep it short and sweet. I love being a laboratory technician at Southern Cross Grammar, this week I spent my time with my fellow physics teachers and information tech staff adapting and testing 3D printed cars and launching them with CO2 canisters across the oval. And boy, did they move! I'm currently studying my Masters in Biochemistry and I spent much of my time in lockdown building a 3D printer from scratch. I am an enthusiastic 'cat dad' of my beloved rescues and I hope I can be a great editor for Lablines as a platform to represent our incredible contributions as lab technicians.

This issue we have a great report by the wonderful William Hardman, the prospectus for Labcon (can you believe we will actually get to attend in person this year?) and a new segment called 'Integral Discoveries'. It will detail some of the weird and wonderful ways scientists and lab technicians have contributed to our big picture.

You will see the inclusion of some QR codes, which you can scan with your smart phone and find more information on some of the topics covered in Lablines. I hope you will find this a helpful device, but let's face it, you wouldn't all be lab technicians without an insatiable thirst to know it all!

I hope you enjoy this issue and please feel free to email any new contributions to:
jamescuttinglablines@gmail.com



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Conditionaire Manufacturing Pty Ltd, can provide 'the *Chemtrap*' which is an apparatus, to suit current chemical storage cabinets on the market and can also suit older chemical storage cabinets through modifications. This includes 'the *Chemtrap*' having the ability to sit directly above the chemical storage cabinet, which allows easy direct installation into the ventholes of the chemical cabinet. An advantage of 'the *Chemtrap*' is that once it is installed, it can be uninstalled and reinstalled on another chemical storage cabinet. 'The *Chemtrap*' units are highly cost effective and far more affordable, saving energy due to the simplicity of the unit being a plug in the wall socket.

But why?

The prices of new products that include extensive roof construction through internal roof installation commence from 4K to medium costs of 6k. This not inclusive of roof access, acquiring permits for extensive works, not to mention the ongoing maintenance of ducted roof ventilation systems.

What makes 'Chemtrap' so appealing?

The simplicity and ease of 'the *Chemtrap Midcap*' is that all your ventilation and potential maintenance is included in the space above the chemical storage cabinet. Our units don't require expensive add-ons such the sampling port, detection kit or a filter alarm. Our filtering and ventilation systems will run on a continuous and uninterrupted chemical cabinet filtration system, only requiring to be changed around the 12–18-month mark and because of this the Conditionaire Manufacturing 'the *Chemtrap Midcap*' simply doesn't require what other more invasive systems require. Our total set up cost is a fraction of full unit roof ventilation systems. Usually 'Chemtrap' can be installed for a straight forward set up of under 2.5k (plus GST). Travel costs outside of Melbourne will be incurred.

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Conditionaire Manufacturing also retail all current chemical storage cabinets that are on the market. We also offer the option of manufacturing custom made poly corrosive cabinets to our clients to whatever their requested size.

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Chris Simm - Service Manager/Business Development
Conditionaire Manufacturing Pty Ltd
50 Glenbarry Road, Campbellfield, VIC 3061
Ph: 03 9308 7022 **Mob:** 0408 383 719
Email: chris.conairmfg@bigpond.com



Chemtrap Midcap

Standalone filtration system for chemical storage cabinets

Erlab's innovative technology keeps you safe

With the Chemtrap Midcap filtration system, you can avoid to duct out your chemicals storage cabinets, install them anywhere you want as it just needs an electrical socket to vent the cabinet 24 hours and filter 100% of the noxious chemicals from chemical containers placed inside. You will save an average of 1,700,000 m³ of expensive aircon air per cabinet and per year if the cabinet was ducted out.

With the Chemtrap Midcap, the installation is quick, unlike the complicated ducted systems: just place it on the top of your cabinet, connect the stainless steel tube between the exhaust port of the cabinet and the inlet port of the Chemtrap, plug-in to an electrical socket and that's done!

High filtration efficiency

Low energy consumption

Low noise

Easy maintenance and ergonomic access to filters.

Handles for easy transport and installations

Erlab's unique filtration technology allows for the use of carbon and HEPA filters for the filtration of gases and particles

Chemtrap Midcap: a widely used filtration system for chemical storage cabinets!



Hazards

They are waiting to happen!

Geoff Gleadall

As a profession, we face many workplace considerations on a regular basis. However, today I am speaking about something other than the health and safety of students and teachers, our usual concern, with an inward focus on what we often overlook; yourselves.

Mostly, as lab technicians we are isolated to our own little corners, locked away to aid when we are needed, often working alone with our solutions, glassware and stock inventory. Those who think they have some understanding of our positions, often have an unrealistic take on our occupations and thus, never truly understand what we do. It's often solitary, but we have heeded the calling and most times, we love our vocation as the necessary and very much needed lab rats.



Due to this occupational isolation, our mental health can often become frayed from daily stresses and workplace seclusion and it is vital, that firstly as individuals, we form important friendships inside and outside the workplace.

Discussions surrounding mental health have previously held stigmatic perceptions, however workplaces and our society are rapidly ensuring that mental health is key, for workplace satisfaction and daily contentment. We as laboratory technicians need to be open about our struggles, so we can actively assist in changing perceptions concerning mental health and most importantly, seek help if we find ourselves struggling. Applications such a 'smiling mind', 'headspace' and 'calm' are great tools if you would like some digital mindfulness. But remember, don't skip on your daily cup of coffee and socialization in the staff room, as this interaction is most imperative to our mindset.

Another hazard we face is spending long periods of time standing still on concrete floors.



The potential perils due to repetitive stationary standing are that the joints in the spine, hips, knees and feet can become temporarily immobilized or locked. After many years of repetitive exposure to immobility, this can later lead to rheumatic diseases, due to degenerative damage to the tendons and ligaments. So, it is vital you take precautions against this.

There are a few solutions to this problem and the first is that daily, we attempt to wear proper shock absorbing work shoes or boots. They need not be hard toe, but should give decent support and should be well suited to your specific needs. These are often tax deductible. Daily stretching and setting a daily 'step' goal is important, so that we keep our bodies moving. Exercise is imperative to good health and wellbeing and we know all too well from the textbooks that endorphins, endocannabinoids, and dopamine are released when we move, making us happier and more mentally content.

Safety isn't expensive, it's priceless.
-Unknown

Anti-fatigue matting in places that we stand for long periods; such as the sink or at the bench where we prepare our solutions, will allow less shock to the joints and assist in day-to-day comfort.

Your normal personal protective equipment is fundamental, however guarantee that the safety glasses you wear are either prescription or properly fitted and ensure your lab coat is formfitting, so that you can wear it throughout the entire day.

Often, sitting at a desk chair that isn't ergonomically designed may see you bent out of shape, so next time you dare to sit down, ensure you're resting your posterior on something that won't see you requiring ongoing physiotherapy!

Now, I know that the standard answer to these issues is going to be "*we cannot afford it*". The answer, nevertheless is, it is far cheaper than extended leave, when we cannot work because of a workplace injury. And simply put, you cannot put a price on good health and safety! Alas, by ensuring such safeguards now, they may keep you from having to take out extensive extras cover in the future and let's be honest, we are essential to the well-oiled machine that are our school STEM departments!



“Ramp it up... if you feel so inclined”

Physics experiments investigating gravitational force can involve measuring the motion of a wheeled cart (or a ball) as it moves down an inclined plane. A precise slope is created using an inclined plane apparatus. ‘Slope’ is achieved by propping the inclined plane (or ramp) up on handy objects such as table or a chair or any other inanimate object that you could use. Some commercial inclined plane apparatuses have an adjustable prop. The angle of inclination can be precisely measured using a protractor or a digital angle finder.

I finally got sick of looking at the motley pack of warped and saggy planks, all of different widths and lengths, which we at Newstead laughingly called our ‘inclined planes’. Something had to be done about it. I started by assessing essential qualities. Inclined planes must be smooth, straight, stiff, sufficiently long, durable, and not excessively heavy.

Hardwood is the traditional material for inclined planes. Research into the present-day high cost of straight and strong hardwood timber (and factoring in all finishing work involved) prompted me to look at alternative materials.

Hardwood, pre-primed pine planking, melamine coated MDF, plastic moulding, formed steel section and formed aluminium section, were assessed for suitability and cost effectiveness. Although a functional ramp could be fabricated from any of those materials I ultimately chose 200 mm wide aluminium rectangular hollow section because of comparable cost, minimal construction effort, superior strength and stiffness, and a suitably smooth finish which would require no maintenance.

My merchant cut two 6.5 m lengths of aluminium RHS, each into three equal sections, giving six pieces 2165 mm long. There was minimal work for me to do. All of the cut edges were filed smooth. Bulbous rubber strip was pushed onto the bottom edge of each open beam end.

Soft bulbous rubber gives a superb grip on all surfaces. Any desired angle of inclination can be held with complete confidence.

Laboratory Manager
Newstead College



“Ramp it up... if you feel so inclined”

One meter runs are typical for this kind of experiment but having extra ramp length allows useful space for setting up digital devices to record acceleration and/or elapsed time. In finished form each aluminium inclined plane weighs 7.9 kg.

Now, anyone who has ever been in a billy cart knows the importance of stopping the thing at some point. Expensive dynamics carts have delicate low-friction wheels which don't survive collision with hard solid objects at all well. In what was almost a case of gilding the lily, I purchased six zippered cushion covers. These I filled with a 50:50 mixture of dried lentils and dried haricot beans. Three kg in a cover was about right for an efficient crash barrier at the foot of a ramp. Carts were pulled up smartly without any visible damage.

So now we have six lovely straight, stiff, smooth, long “planks”. Stored upright they take up little space. Two stolen milk crates house the six bean bag buffers neatly (apologies to the milkman).

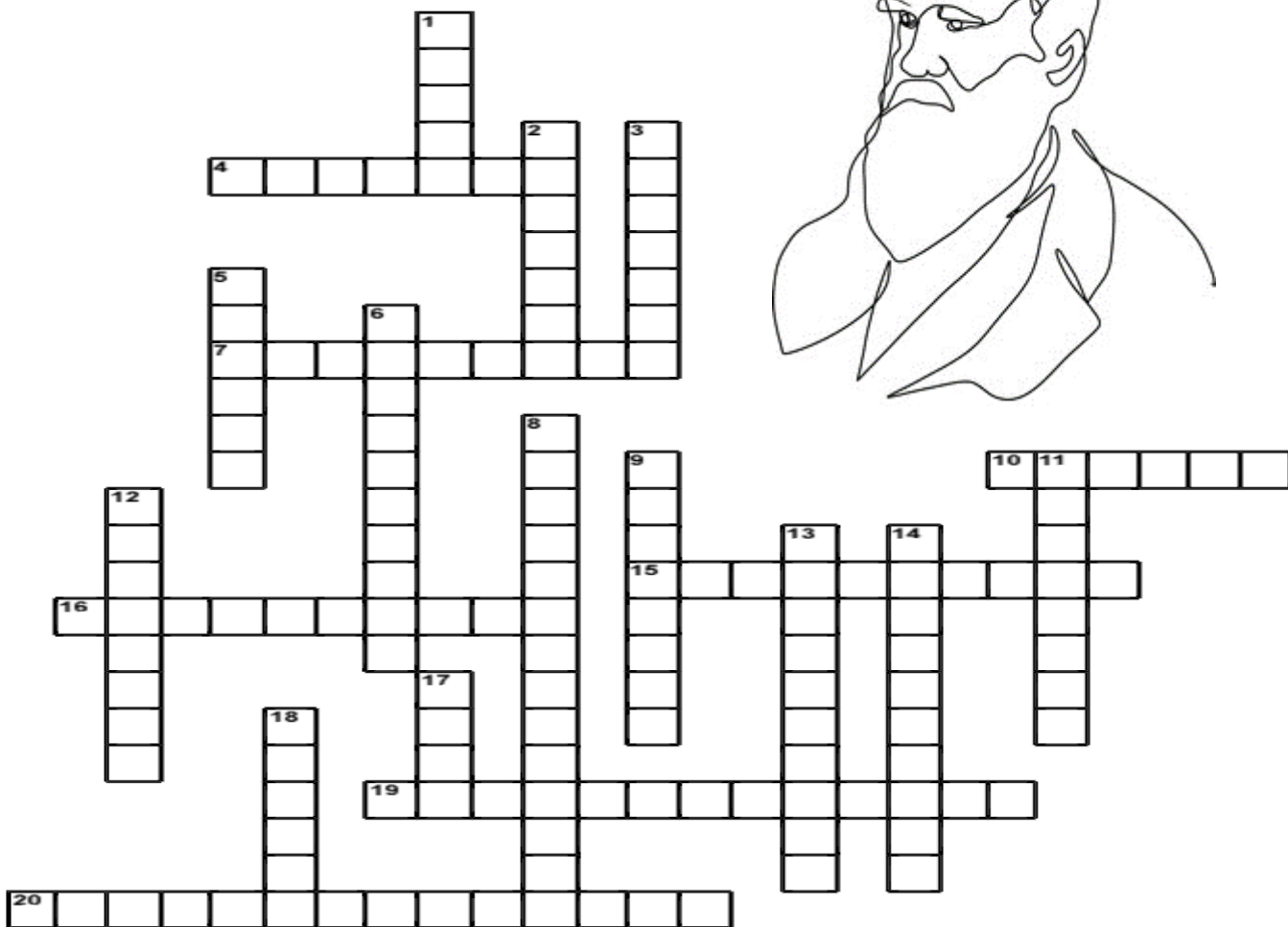
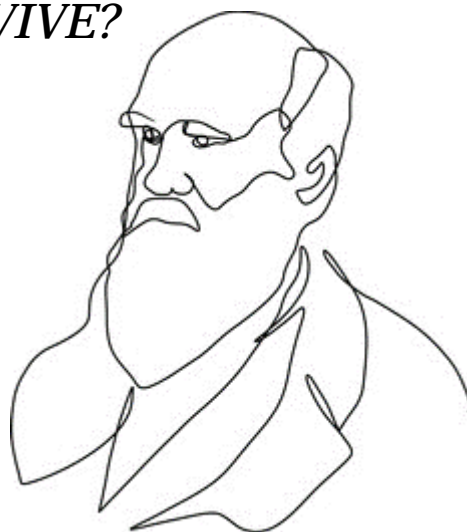
Ulrich Aluminium catalogue	UA6464 606OT5 6.5 REC HOLLOW 200 X 50 X 3 MILL FINISH X 2
Thomas Parker Rare Spares	Pinchweld Schlegel Cage with Top Bulb X 2400 mm
Bunnings	300 mm Digital Angle Finder
Spotlight	Diamond Jacquard Cushion Cover 45 cm X 45 cm X 6
The Grain Grocer	Chick peas X 9 kg, Haricot beans X 9 kg
Milkman	White plastic milk crate X 2

Should anyone feel inclined to ramp it up then this is one good way to go!



THE NATURAL SELECTION CROSSWORD

WILL YOU SURVIVE?



Down:

1. a single-cell organism that is used to make bread.
2. a substance or mixture for use in chemical analysis or other reactions.
3. a special type of funnel used for gravimetric analysis.
5. to preserve from decay, originally with spices and now usually by arterial injection of a preservative.
6. a large dark mature mushroom noted for its meaty texture that is of the same variety of button mushroom.
8. the essential oil found in cinnamon.
9. a primary alcohol consisting of three carbons.
11. the type of reaction of a halogen to an alkene.
12. a type of local ventilation device that is designed to limit exposure to hazardous or toxic chemicals.
13. an optical instrument used for viewing very small objects, such as mineral samples or animal samples.
14. the dismembering of the body of a deceased animal or plant to study its anatomical structure.
17. the medium used to culture bacterium in petri dishes.
18. the seventh planet from the sun.

Across:

4. a slender tube attached to or incorporating a bulb, for transferring or measuring out small quantities of liquid, especially in a laboratory.
7. a scientific instrument that is used to measure air pressure in a certain environment.
10. the annual conference for laboratory technicians in Victoria.
15. an antibiotic or group of antibiotics produced naturally by certain blue moulds, now usually prepared synthetically.
16. the part of the brain at the back of the skull, which coordinates and regulates muscular activity.
19. a person who studies human history and prehistory through the excavation of sites and the analysis of artefacts.
20. the process by which green plants and some other organisms use sunlight to synthesize nutrients from carbon dioxide and water.

BRAIN BOOST



Let's start with some cerebral stretches to get our brains accustomed to new thoughts and ways of thinking. So, limber up your hippocampus (your brain's memory center), activate your left hemisphere and whip your cerebral cortex into shape with these juicy facts:

Hippopotamuses don't sweat; instead, they excrete a pink liquid which acts as a natural sunblock.

The first modern bra was made of two handkerchiefs.

Dead skin cells are a main ingredient in household dust (*gross!*).

The white coating on the outside of a blueberry is called 'bloom' and helps to protect the berries from sun or frost damage.

There's enough gold inside Earth to coat the planet.

There is only one Chobe black rhinoceros left in the world, 3 other subspecies of black rhinoceros have already become extinct in the last 150 years and poachers are doing their best to kill off the rest.

The human stomach produces a new mucus lining for itself every two weeks, if it didn't it would digest itself.

The brand name Spam is a combination of 'spice' and 'ham'.

Scientists voiced concern in 2012 about how radiation may be affecting humans after a recent finding of mutant butterflies in Japan with abnormal legs, eyes, wings and other mutations were discovered. The mutations were caused by radiation from the Fukushima nuclear accident.

It takes a drop of water 90 days to travel the entire Mississippi River

And finally, the fear of butterflies is called *Lepidopterophobia*.

There actually aren't "57 varieties" of Heinz ketchup, and never were. Company founder H.J. Heinz thought his product should have a number and he liked 57.

The original name for the search engine Google was Backrub. It was renamed Google after the googol, which is the number one followed by 100 zeros.

Octopuses have three hearts.

Psycho was the first movie to show a toilet flushing.

The longest fingernails ever were over 28 feet in total. American Lee Redmond started growing them in 1979 and set the record in 2008.

An aerial night view of the Melbourne skyline, showing numerous skyscrapers illuminated with lights, reflecting on the water below. The sky is a mix of blue and orange, suggesting dusk or dawn. The city lights are vibrant, with various colors like blue, yellow, and red. The water in the foreground is dark, with reflections of the city lights.

LABCON 2022

This year hosted in attendance at the *Crown Promenade, Melbourne*.

Date: Thursday 10th and Friday 11th of November 2022.

Sponsorship and Exhibition: openings are still available, with an opportunity to meet with decision making Labtechs, display professional goods and services. Don't miss this opportunity!

Lab technicians save the date now. The registration brochure including the program and registration fees will be distributed the first week in August. Be quick to ensure you are booked into the workshops of your choice.

Should you require further information about becoming a vendor or the program, contact *Labcon Conference Manager Marg Scarlett* by email pcs@cogroup.com.au



Great news: Science ASSIST is back

Thanks to temporary funding from the Australian Government, ASTA is able to bring back Science ASSIST, the only school science safety advisory service in Australia, but we need your help to ensure its future.

We invite you to subscribe to Science ASSIST to keep the service operational and give yourself access to new resources and to the ability to 'ASK A QUESTION'.

Subscriptions are for the calendar year, so will run from now until the end of December 2022. As it is not a full year, the fee for 2022 has been reduced to just \$100 (+GST).

You can subscribe by following the instructions on the ASTA webpage, see <https://www.asta.edu.au/science-safety/science-assist/>. Click on the 'Subscribe Now' button and then select the button for Australian Schools and complete and submit the online form.

You will have the option to request an invoice or pay using a credit card. If your school needs you to use a purchase order, after submitting your online form, simply send your purchase order number through to accounts@asta.edu.au.

Don't delay, please subscribe now and help us to sustain this important service.

Thank you in advance for your ongoing support.

Integral Discoveries: Mould and Alexander Fleming

James Cutting



Often the most brilliant, strange and life altering events occur by accident. Some may call it serendipity, but we call it science, or maybe 'an act of science' is more appropriate. Whatever it was, on an Autumn Day in London in 1928 Alexander Fleming awoke to something that would change the face of science and medicine forever. It all started with a humble petri dish of staphylococcal bacteria. Now, mould is everywhere and we can't really hide from it. From the unsuspecting orange that you've left too long in the fruit bowl to that delicious cheese you didn't get around to eating at your Sunday luncheon (and not the good, regulated mouldy kind) that is now sitting at the back of your fridge multiplying its microorganisms (thank goodness for Tupperware). Side note, the 'blue mould' in your store-bought Blue Costello is called penicillium, fitting right?

Absolutely! Let's get back to that petri dish. Fleming had gone to bed the night before that fateful morning and had left the petri dish holding the staphylococcal bacteria unexposed. And the humble spores of some penicillium mould found it's way into that same petri dish. Alas, the next morning when Fleming returned, he found that the bacterium in close proximity next to the mould spores was rapidly dissipating. The agar gel that was surrounding the bacteria was also dissolving. However, it was Fleming's observations that the mould itself was not killing the bacteria, but rather the 'mould juice' that was being produced. Fleming aptly named the 'mould potion' penicillin. Penicillin attacks Gram-positive pathogens, which are responsible for diseases such as scarlet fever, pneumonia, gonorrhoea, meningitis and diphtheria.

Fleming was quoted saying "*I did not invent penicillin. Nature did that. I only discovered it by accident*". And, how very lucky he did, humble he may have been, he did realise what had transpired that morning in the laboratory. Nevertheless, it took Fleming's coworkers a very long time to meet the same level of excitement over the discovery, that Fleming originally demonstrated. The findings of the 'mould potion' were noted in The British Journal of Experimental Pathology in 1929. It wasn't, however until Fleming, who was nearing retirement in 1940, that two scientists Howard Florey and Ernst Chain, became interested in penicillin. In time, they were able to mass-produce it for wide use during World War II.

Nonetheless, it was an integral discovery to both medical and veterinarian sciences. Fleming was a receiver of some thirty honorary degrees and in 1945, he won the most prestigious award, the Nobel Prize in Physiology and Medicine. Fleming was further honored by receiving a Knighthood by King George VI. Time Magazine also concluded that Fleming one of the 100 most important people of the 20th century. In Fleming's own words, "*When I woke up just after dawn on September 28, 1928, I certainly didn't plan to revolutionize all medicine by discovering the world's first antibiotic, or bacteria killer. But I suppose that was exactly what I did.*" Oh, humble mould spores, how we thank thee (and Fleming of course!).

“Don't worry, we've seen worse!”



The envirostore.com.au website has a special “For Schools” section where you will find some handy downloadable materials addressing spills, banned chemicals, the GHS and more and you can enter details of your chemical waste online for a disposal quote. Michael Pola’s LABCON and STAV presentations from 2019 are also available.

Don't forget, we can supply compliant containers for consolidating your liquid chemical wastes, and we pack all the chemicals for disposal ourselves and we will take everything. We are happy to have a look at your lab, prep room and store and offer suggestions on compliance and good lab practices – this is a free service for our customers.

We also supply economical and effective spill kits and free chemical advice.

Contact us on (03) 9308 6636

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**envirostore chemical
consulting** pty ltd



Contact us for a disposal quote, download the manifest form or complete online on our website. We do collections anywhere in Victoria.

The Wonderful World of Waste and the School Laboratory

Mike Pola for *Envirostore Chemical Consulting*

Over the past twelve months or so, we have noticed a trend in the inquiries we receive. These are most commonly 'how to get rid of chemical waste from schools?'. The inquiries are in coming of course, from the trusty lab technicians and hopefully, such questions will be answered in this article.

This piece, therefore will go over the steps required to arrange for chemicals to be disposed of, from your laboratories. The EPA waste tracker requirements will also be touched on because your 'school' is a disposer of reportable priority waste (RPW) which was formerly known as prescribed industrial waste (PIW). Now, you're about to learn a thing or two!

What is the 'waste tracker' system is a commonly asked question.

The EPA waste tracker system has replaced the old, five-part paper EPA certificates fast disappearing from our memories or the electronic one's lab technicians used to be required to fill out. The school needs to register as a waste disposer on the EPA portal, which is to be found on their web site. *Envirostore Chemical Consulting* encourage all lab technicians to attempt registration. It is incumbent on disposers including schools, to complete the waste tracker, granting the transporter and or disposer can do the tracker on your behalf if for some reason the school can't register or prepare the tracker. It is a legal requirement for any *reportable priority waste (RPW)* movement to be tracked from disposer; you, via the transporter; us, to the disposal site. A tracker number is produced for each waste movement and this will appear on our collection receipt, a copy of which is supplied to you.

Additionally, here is a short summary of what may constitute as chemical wastes:

- Out of date and surplus lab chemicals; bottles of chemicals without a label
- Redundant chemicals no longer used in practicals & wastes that have accumulated from practicals
- Chemical spills that have been cleaned up, such as broken and empty glassware, old petri plates containing media used to grow microorganisms with or without any bacterial growth, mercury thermometers broken and intact
- Radioactive sources or minerals
- Asbestos or suspected asbestos containing materials
- Chemicals deemed too dangerous to be used in schools (which we hope are not on site)

When recording waste prepare a thorough list or manifest and send this onto the waste disposal company for a collection and disposal quote. Our web site for example, allows you to do this online or you may just download the blank manifest form, fill it in and email it back to us (we will then commence correspondence). This preparation of a manifest is common among all waste companies or certainly should be.

The information required on the manifest must commence with the name of the chemical. If the label has been disposed of or if there is some doubt as to the identity, then simply mark the bottle as 'chemical unknown'. The size of the container is also required to be listed as these bottles, as have to be packed for safe transport and we need to know sizes and number of containers for stock inventory and safe transport.

The Wonderful World of Waste and the School Laboratory

Mike Pola for *Envirostore Chemical Consulting*

A typical compliant entry, will be for example:

Name of chemical: *hydrochloric acid* **Container size:** 2.5L, **Number of containers:** 2. *Some manifests will have the name as hydrochloric acid 5 litres (2 x 2.5 litre bottles, not 1 x 5 litres).*

Any further relevant comments should be listed such as 'solidified' or 'contains floaties' or 'predominately empty' or similar. It is urged that the comments area on the manifest is filled in as much detail as possible; the more information, the better.

The manifest is primarily used to work out your disposal and collection costs, so don't forget to list all relevant information. Please don't forget to include important aspects or details, such as 'no cap', 'cracked bottle', 'in a vinegar bottle' or 'leaking' etc.

If the quote is approved by school management, then it is best to advance a purchase order. The waste company in question will be in contact to arrange a mutually suitable time for the collection to be completed. All of the chemicals for collection should be set out in a designated area such on a trolley or in a special location. Take it from us, the waste company of your choice does not want to be searching the shelves for each item on the manifest. If there are extra items that were missed on the original manifest don't worry. Most waste companies are happy to take extras items, but note; there may be an extra cost to the original quote.

Envirostore Chemical Consulting do not require safety data sheets. However, other waste companies may require them. *Envirostore Chemical Consulting* prefer to not accept chemical wastes that are packed in non-chemical containers such as vinegar bottles or similar. Moreso, we usually will not decant liquids from a bottle or container you wish to retain on hand (although the *Envirostore* staff many of you have encountered are very friendly and will try to help). So, instead of using the non-chemical domestic containers you may have on hand, please request so and we will supply you with 10 litre dangerous goods approved stackable carboys containers. They are not too heavy to lift and fit nicely in the lab. *Envirostore Chemical Consulting* don't charge for supply, just for the disposal of the full ones. How many the lab will need is dependable for every school, but a minimum of three is a decent starting number.

Envirostore Chemical Consulting ensure the packing of the chemicals, so don't fret about this. You just need to have all the disposing chemicals out ready for when our team member arrives for collection.

As always please contact us for any waste tracker inquiries or for any question about disposing of your chemicals and the preparation of same. We are here to help!

If there are any topics in future articles you would like reported, please contact your editor.

Past instalments of this series in Lablines have touched in more detail on many of these waste types and you can also access past articles on the *Envirostore* web site (sighted in the 'For Schools' section).

mike@envirostore.com.au

Minutes of Nillumbik & Banyule Lab tech Meeting

Term 2 Meeting: Diamond Valley College & Community Bank Stadium

Present: Jackie Hamlet, Jenny Kelly, Cath Whelan, Davorka Vodopija, Betty Nikolov, Daniela Tosevska, Melanie Armitage, Michelle Ramsay, Nima Reddy, Robyn Roberts, Amany Shafik, Loukia Andrews, Marg Le Grys, Jenny Gersh, Susan Key (15 members in total).

Meeting opened at 1:00 p.m., our 1st meeting for 2022. New members were welcomed.

Ian Culbard, the Sustainability Officer, from the Nillumbik Shire Council (the green wedge shire) was welcomed to talk to us about the Stadium which is a shared venture between the council, YMCA and the Education Department. It opened in 2012 and as well as providing sporting facilities, a café, community meeting, gymnastics & performing arts spaces, plus a public electric vehicle charging station, it is also the *Emergency Relief Centre* for the council in a fire prone region. Upgrades to the stadium mean that they now have a 'stand-alone' energy supply that can be independent of the grid. They have 100kW roof top solar, utilising 12 single phase inverters and a 100kWhr 120V DC battery bank. It is expected to generate around 131,000 kWhrs of electricity per year. It enables the council to reduce greenhouse gas emissions, lower the running cost of the facility. Saving a total of \$640,000 over the next 10 years.

More upgrades are planned for the future, including replacing more lights with LEDs and replacing the gas-powered equipment in the stadium. Ian also showed us the electric car that the council has in its fleet. Interestingly, advances in storage batteries now mean that any spare car battery power at the end of the day, can be redirected into the home energy system.

After a tour of the stadium, Ian was thanked and we had a quick cuppa then went on a tour of Diamond Valley College's Science facilities, the old and the new. Jackie showed us the old Science area & prep room with lots of storage and well-planned spaces. The original laboratories were lacking natural light though and when compared with the new ones, everyone will have noticed a huge improvement in the learning, teaching and preparation spaces.



Minutes of Nillumbik & Banyule Lab tech Meeting

Jackie now has four shiny new laboratories and a very large prep area with a separate chemical store and storage room. There are however, still challenges with the new area: not enough suitable bench space, sink area, power points, space for trolleys, lab coats, fridge access, wall surfaces etc. Advice to anyone attaining new Science facilities, be prepared and plan thoroughly; it must be functional.

The meeting ended at 3:30pm and thanks again to Jackie for organising Ian Culbard to come and talk to us and show us around. Everyone enjoyed the incidental chat along the way.

Term 2

STAV (Science Teacher's Association of Victoria) have postponed their STEM regional and Lab Tech Conference in Wangaratta from last year and hope to hold it this year. For further details see the QR code below.

They also hope to host STAVCON (a conference just for Labtechs) this year. You can go onto the STAV website and join for free. This way you'll be advised in advance

Term 3

Depending on these other events, we may still hold a meeting this term. It could be a PD offered by Southern Biological but need a Labtech to volunteer a school venue. I will contact them about this. If you would like to volunteer your school, please contact myself or Jackie.

Term 4

We don't usually have a meeting in Term 4, due to LABCON which is usually in November or December.



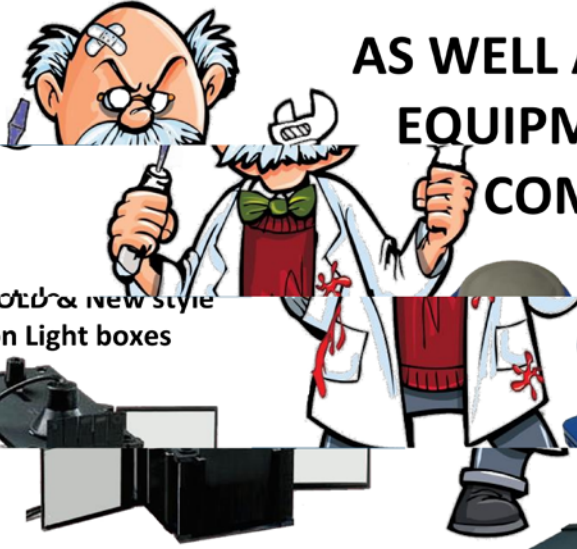
For information on STAVCON (Science Teacher's Association of Victoria) Laboratory Technician Convention, hold your smart phone to the QR code.



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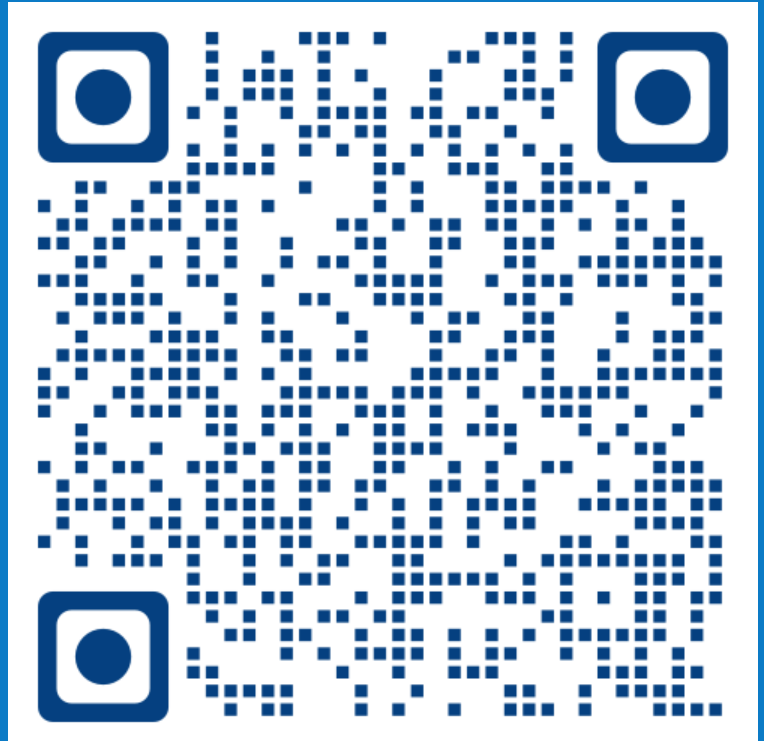
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