

lab lines

Newsletter of the Laboratory Technicians' Branch of STAV

P.O. Box 40 Coburg 3058

Print Post Approved - Print Post Publication Number PP 381667/ 00311

ISSN Number 0819-0879



VOLUME 25 Number 2 June 2007

EDITOR: Svetlana Marchouba

President's report Term 2 2007

A great deal has been happening since the last issue of lablines.

We have gained a secretary and lost a treasurer. Stuart Withers has resigned due to considerations of his time commitments and I would take the opportunity to thank Stu for the work he has done under often difficult circumstances.

Dianne Davey has taken on the Treasurer's role. There are some vacancies on the committee at this time and if there is anyone among the membership that would be prepared to put in a small time commitment towards the running of our organization it would be greatly appreciated.

As you will have seen we now have a website and while there have been some problems with keeping it up to date, mostly due to permissions issues, we are hoping that it will become a useful resource for all.

In time we hope to have the current issue of lablines available on that site as a PDF file and those who wish to receive their lablines in electronic form will be able to download it from that page, and moving towards an electronic format will greatly reduce our operating costs.

I am pleased to announce that we have again engaged Professional Conference Services to manage LAB-CON on our behalf and that event will be held at the

venue as last year, the Moorabbin campus of Holmesglen college of TAFE on the 29-30 of November.

We have received one nomination for the Susannah Larratt Award but unfortunately the letter did not include the details of the person making the nomination. It would be a great help if that person would contact me as soon as possible. Similarly if there are any other nominations please get them to me as soon as possible.

As I write this Jason Griffiths is collating the results of the staffing and conditions survey and I would like to thank all those who responded. This survey will have a great impact, we believe in the future of our profession and conditions we work under.



The subcommittee that is working on that policy review will next be meeting towards the end of May but if any members have views on the conditions we work under, staffing levels and the establishing of a career structure please forward to them to me so that your views can be a part of the process.

They say, "When the going gets tough. The tough get going" but in a laboratory one might say, "When the going gets tough. The tough get out of the technician's way"

Geoff Gleadall
president

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www.sciencevictoria.com.au/labtech.html

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Editorial

Despite their reputation for madness, one thing is for sure: astronomers are never bored...
They keep discovering new planets, etc.

Astronomers just announced the discovery of the largest object in the solar system since Pluto was named the ninth planet in 1930. The object is half the size of Pluto, composed primarily of rock and ice, and circles the sun once every 288 years.

Named Quaoar (pronounced KWAH-o-ar), the object resides in the Kuiper belt, a region of the sky beyond the orbit of Pluto and about 6.5 billion kilometers from Earth.

Svetlana Marchouba Lab lines Editor

DID YOU KNOW...?

The Labtech List-serv processed approximately 1.4 MILLION messages in the last 100 days. This translates to 12 Gigabytes of space.

We are certainly a busy lot of techies!

From Anne Edwards

Lab lines deadlines for 2007

20 August 2007 for September 2007

20 October 2007 for November 2007

COPYRIGHT REMINDER

Just a reminder that all articles submitted to *Lab Lines* should not have been published elsewhere unless you can provide us with a signed clearance for re-publication. This also applies to any published material quoted in your article.

REGIONAL MEETINGS CAN LAST A LIFETIME.

Robyn Morrison



On Tuesday 27th March, 9 retired and nearly retired Lab. Techs from the Eastern/Maroondah region Gathered for a lovely night of wining, dining and the sharing of memories. A few of these ladies were involved in the early years of the Laboratory Technician's Branch of STAV and have loads of information and stories to reveal. Those of us nearing retirement have greatly benefited from the knowledge the "older" Lab. Tech's have shared with us. The working conditions may have changed slightly but our work remains very similar. It really is a very special network we are part of and beneficial to everyone. If any Lab. Tech's would like to be included in any future dinners, please email Robyn Morrison at morrison.robyn.r@edumail.vic.gov.au. When we do get around to organising one, it is held at the Manhattan Hotel, Mitcham.



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- 1) To attempt to confuse the user into thinking they are purchasing the genuine, properly engineered and electrically safe Australian made products ...AND / OR
- 2) The perpetrator, presumably bereft of ideas, could not imagine any way of improving the appearance of our equipment

JOKES ASIDE, PLEASE BE VERY CAREFUL The internals are a different story We have examined one of the copies of our low voltage power supply

MOUNTING MEDIUM FOR PRESERVED SPECIMENS.

MIX TOGETHER:

- 1 2.5 LITRES OF DISTILLED WATER
- 2 625 ML OF GLYCEROL
- 3 250G OF SODIUM ACETATE
- 4 12.5 ML OF FORMALIN.

1.FILTER THROUGH NO.1 FILTER PAPER. (NOTE: FORMALIN IS HAZARDOUS, USE FUME CUPBOARD AND APPROPRIATE PPE SEE MSDS.)

2.DRAIN OFF OLD FLUIDS (TREAT AS HAZARDOUS AND DISPOSE OF APPROPRIATELY)

3.WASH THE SPECIMENS A COUPLE OF TIMES IN NORMAL SALINE TO REMOVE ANY RESIDUAL GUNK AND DISCOLORATION. (ALSO TREAT THE WASHINGS AS HAZARDOUS WASTE).

4.REMOUNT IN NEW FLUID AND RESEAL CONTAINERS.

HANDY HINT FROM LISTSERVE

HOW DO YOU SOFTEN PLASTICINE?

Plasticine is found to be made with motor oil. Knead it with some paraffin oil and it becomes smooth again. Put it in the microwave to soften. Take it slowly though!! Or place in incubator on low temperature(30°C) for a few hours. When soft and pliable store in resealable sandwich bags.

The Spatula (The Laboratory Managers Association of S.A.Inc.)

PVA as in the glue is actually Poly Vinyl Acetate. PVA as in the powder or clear solution available through chemical suppliers [should really be called PVA_{lc} or PVOH] is Poly Vinyl Alcohol.

HANDY HINT FROM LISTSERVE

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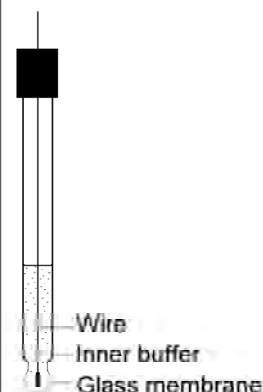
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pH Electrode

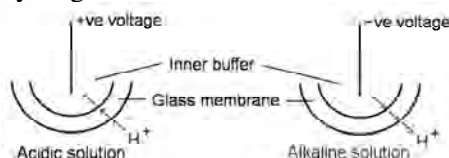
By Peter Henderson, pHentron, 2007

The standard glass pH electrode is a combination of 2 separate electrodes;

a) Glass electrode



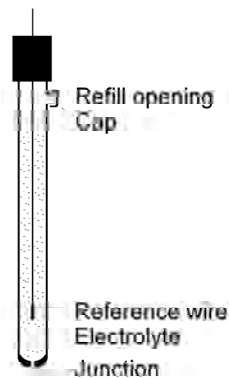
Glass membranes (made of a special glass) are permeable to hydrogen ions, thus;



Many manufacturers coat the glass membrane with a gel layer to improve its permeability – thus the membrane should not be wiped with tissues, etc – for cleaning it

should only be flushed with the relevant solution or distilled water. Always follow the manufacturer's recommendations.

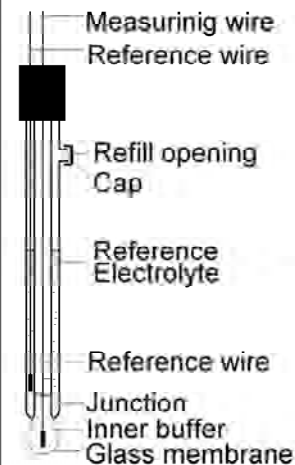
b) Reference electrode (often silver/silver chloride)



When a reference electrode is in use, there should be a minute flow (but so small, it can not be measured!) of electrolyte out of the electrode. Thus the cap on the refilling opening should be removed and the electrode must not be immersed deeper into the test

solution than the level of the electrolyte in the probe.

Combined Glass pH electrode – a combination of both above



When in use, a voltage is produced (across the 2 wires) which is proportional to the pH of the solution being measured.

Because of the high impedance of the glass membrane, the "volt" meter used to measure this potential must have extremely high internal impedance (ie > 10¹² Ω, a typical digital multimeter is only 10⁷Ω).

This potential is expressed by the Nernst Equation:
$$E = E^{\circ} + \frac{RT}{nF} \ln [H^+]$$

At 25°C this becomes E (in mV) = constant – 59.16 x pH.

Thus pH 6 = 59.16 mV, pH 7 = 0.0, pH 8 = -59.16, pH 9 = -118.32, etc

The voltage from a pH electrode will vary depending on its age & condition.

pH meters are calibrated in pH units (some can also display mV), they have an adjustment for temperature variations and can also vary the calibration (ie slope & offset).

Test for Unsaturation

HANDY HINT FROM LISTSERVE

Dissolve about 0.1g of the substance in absolute alcohol and add 2 drops of 1% potassium permanganate solution. The rapid appearance of a brown colour or precipitate indicates that a double bond is present in the compound (Baeyer's Test)

Cleaning pH Electrodes

By Peter Henderson, pHentron, 2007

Wash electrode after every measurement with distilled water, a hard stream of water from a wash bottle is good for stubborn dirt. NEVER WIPE THE MEMBRANE WITH TISSUES, etc as they will damage/remove the membrane coating (membrane coating rejuvenation solutions are available commercially).

Dirty glass membranes usually give a sluggish response & reduced slope:

- 95 – 100% (ie -56.2 – -59.2 mV/pH) good condition
- 85 – 90% (-50.3 – -53.2 mV/pH) electrode needs cleaning
- < 85% (less negative than -50.3 mV/pH) electrode needs conditioning or replacing
- > 100% (<-60 mV/pH) check the buffers, they are probably old or contaminated

Blocked junction (often coloured black) is usually caused by sulphide contamination of a Ag/AgCl reference, soak in a thiourea/HCl cleaning solution (available commercially). Contamination of the junction or contamination of the reference electrolyte, usually affects the offset of measurements. The electrode should be replaced if the offset exceeds ± 30 mV.

Contamination of the electrodes reference electrolyte can also give a large offset – drain the electrolyte, flush & then re-fill with the manufactures recommended electrolyte (normally 3M KCl but this solution may also be saturated with AgCl).

Proteins (such as milk, meat, blood, etc) are bad for electrodes, use commercial pepsin/HCl electrode cleaner.

Oils & greases – try to remove with ethanol (usually not effective), my next choice is iso-propanol. If you have to use longer chain hydrocarbons, I then remove the hydrocarbon by washing with ethanol or iso-propanol & then give the electrode a long soak in its storage solution.

Damage to the electrodes lead or dirt in its plug (or the meters socket) will lower the impedance & can cause drifting of results – this is more obvious with low & high pH readings.

In next edition of Lab Lines – Calibrating pH Meter

DO IT YOURSELF

Please send in
your ideas.



Your old slide containers could be cut into the smaller pieces to accommodate the colored slides for the Hudson light boxes. It is easy to check any missing cards at the end of the class.



TALKING SAFETY

By Bron Duncan
Safety Information Officer

Here is a selection of safety topics that I and other technicians have addressed on the List Serve lately. My thanks to Janet, Jacki, Terri, Leanne, Ross, Judy, Sue and others for their contributions to the discussion.

MATERIAL SAFETY DATA SHEETS

Q. Where can I access MSDSs for my chemicals?

A. You can access Merck, Ajax, ChemSupply and BDH from the Web, or those at government schools can also access the Chemwatch website. You will need to know your Edumail user name and password.

Useful links for MSDSs

From the BioLab site - [Ajax](#), [BDH](#), [JT Baker](#), [Mallinckrodt](#) <http://www.biolabgroup.com/bu.asp?c=aus&u=lab&mid=aus/lab/downloads/chemicals/decon/index.htm>

Ajax Finechem

<http://www.msdsonline.com.au/ajax/>

Merck Australia

<http://203.221.251.46/>

ChemSupply

<http://www.chemsupply.com.au/>

Chemwatch

<http://www.eduweb.vic.gov.au/intranet/health/chemwatch.htm>

Q. Do I need to keep hard copies of MSDSs?

A. Work Safe and several of their publications have indicated that electronic access is acceptable. (An inspector has mentioned access within 10 minutes). All employees using chemicals must have easy access to MSDSs. It may be prudent to have one set of hard copies for chemicals currently in use in case of power failure or computer network outage.

Q. What happens if I can't get an up to date MSDS from a company?

A. It is the company's responsibility to provide you with an up to date MSDS. You can keep the last MSDS provided by them on file. This can be backed up by another current MSDS from Chemwatch or another company's MSDS for the same chemical as an interim measure.

Q. Can I use an overseas MSDS for a chemical?

A. To be compliant to Australian Standards, an MSDS it must be written in a particular format and it must contain safety and emergency information pertaining to Australia. It would not be practical for example, to try and call an overseas phone number in an emergency.

Q. Do I need to keep a copy of my MSDSs at the front office for the Fire Brigade's information in case of an emergency?

A. I can't say with 100% surety on this one. I would think that you should have a copy of your Registers of Hazardous Substances and Dangerous Goods which should highlight chemical class, quantity and location. If you have over placarding quantities of chemicals then you need a manifest literally at the front gate of the school but I shouldn't think any school would be in this situation.

My personal feeling is that the Registers would be sufficient information for the Fire Brigade.

CHEMICAL DISPOSAL

Q. I was told that because I had a Trade waste agreement and a grease trap I could throw everything down the sink. Is this right?

A. The Trade waste agreement may allow you to put some chemicals down the sink (expressed as ppm or mg per litre of tap water) but certainly not flammables, acid/base solutions outside the pH range of 4 - 9, toxics and environmentally harmful chemicals. Take care not to mistake a grease trap for an acid trap and be aware that an acid trap will only neutralize acids and not any other class of chemical.

SPILL KITS

Q. I would be interested to hear all about spill kits and their correct usages.

A. the first thing to do is identify what possible spills may occur in your different labs. There are commercial kits available or you can make a spill kit cheaply yourself. A plastic tote box or bucket could contain the following items :- safety glasses (to protect eyes) rubber gloves (to protect hands) dust mask (in case of harmful chemical dust generated by sweeping solid spill), paper towel (final mop up or non hazardous spill) Vermiculite, other absorbent or spill barriers (to contain spills) brush pan and shovel, plastic bags and/or small bucket (to remove spilled material) sodium carbonate (to neutralise acid spills) weak acid (boric or citric acid to neutralise alkaline spills) maybe spray bottles of sodium thiosulphate (for iodine); bleach (blood); acetone/alcohol (indicators/stains). It is also a good idea to have written instructions of what to do and what product to use for each of the chemical type. The kit should be kept in an accessible location.

Q. Can you use Kitty Litter as an absorbent for chemical spills?

A. The Litter must be made of an inert material, some brands are not. Note that it is not one of the manufacturer's intended uses. A commercial product may be a better choice.

Q. Is Acetic Anhydride on the restricted list?

A. No it is not restricted. However, it is a chemical that could be used to make illicit drugs and therefore is on a list that documents its sale to schools, universities and businesses. You may still buy it, if you have an account with the supplier, but you will be asked to sign an "End User Declaration". This will make you responsible for the security of the chemical.

Information regarding chemicals and equipment used in illicit drug manufacture can be found in the "Code of Practice for Supply Diversion into Illicit Drug Manufacture"
<http://www.pacia.org.au/index.cfm?menuaction=mem&mmid=007&mid=007.053>

Acetic anhydride is probably the only chemical on the list to be found in schools but there are other chemicals that, although an end user declaration is not required, are common enough in school labs. It also lists glassware and equipment that may be used to manufacture illicit substances. It is well worth downloading this document as you may wish to upgrade the security of some chemicals and equipment.

Q. We've had one of the girls come out in a severe rash every time she's in a lab where the class has just done a prac about relating physical properties of different substances to their bonding. They used iodine, various metals, naphthalene, copper sulphate, sucrose, sulphur powder, NaCl and carbon graphite. Everything has been put away. What could it be?

A. Send this girl to the Doctor so she can be referred to an allergy specialist and tested. She could be allergic to any of those substances or a combination or have developed a sensitivity to a substance over time. This is also the sort of anecdotal evidence that should be documented with your risk assessment for future reference.

NO-200



© Never lend a geologist money. They consider a million years ago to be recent.

Philip Clarke

© A chemist walks into a pharmacy and asks the pharmacist:

"Do you have any acetylsalicylic acid?"
 "You mean aspirin?" asked the pharmacist.
 "That's it, I can never remember that word."

© In the period that Einstein was active as a professor, one of his students came to him and said: "The questions of this year's exam are the same as the last years!" "True," Einstein said, "but this year all answers are different."

From Ian P Kemp

© The story is that Albert Einstein's driver used to sit at the back of the hall during each of his lectures, and after a period of time, remarked to AE that he could probably give the lecture himself, having heard it several times. So at the next stop on the tour, AE and the driver switched places, with AE sitting at the back, in driver's uniform. The driver gave the lecture, flawlessly. At the end, a member of the audience asked a detailed question about some of the subject matter, upon which the lecturer replied: "well, the answer to that question is quite simple, I bet that my driver, sitting at the back, there, could answer it...".

© A small piece of ice which lived in a test tube fell in love with a Bunsen burner. "Bunsen! my flame! I melt whenever I see you" said the ice. The Bunsen burner replied: "It is just a phase you are going through!"

www.coolsience/cooljokes

HANDY HINT FROM LISTSERVE

To avoid condensation forming when pouring agar plates, cool agar down to about 55 - 60 degrees. When set, invert the petri dishes and incubate over night at 37degrees.



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Technicians from the Waikato and Bay of Plenty Regions in New Zealand invite you to join them for the biennial School Science Technicians' Conference.

SCITECH 2007



Why should you be at SCITECH 2007?



- ✦ **STANZ**- Attend the first national AGM of the Science Technicians Association of New Zealand. This is your chance to support your association and vote on the election of officers.
- ✦ **Informative Speakers**- Keep up to date on issues important to science education.
- ✦ **Professional Development**- Increase your skills with a wide range of workshops chosen by technicians for technicians.
- ✦ **Network and Socialize**- Conference dinner with a twist. Catch up with old friends, meet new people and develop valuable support networks.
- ✦ **Fieldtrips**- To showcase the beautiful Waikato and provide ideas to support educational trips in your own area.

Mark these dates on your calendar- we hope to see you for an enjoyable, informative time. More information and registration cost will be posted on the STANZ website and Scitech talk as soon as possible to help with your budgeting. If you would like to contact us post a note on Scitech talk or email the conference conveners:
RLec@stjohns-hamilton.school.nz NLec@hillcrest-high.school.nz

A Method of Determining the Concentration of a Coloured Solution.

(Or “The Poor Man’s Colorimeter)

By Ian Burrows Loreto College Ballarat

Introduction.

When viewed from above and within limitations the colour intensity of a solution is directly related to its concentration and depth. This simple relationship and the eye’s remarkable ability to discern shades of colour is the basis of the technique.

Method.

Copper Sulfate was used in a class trial of this procedure. A standard solution and an unknown were supplied, plus flat bottomed glass vials, rulers and dropping pipettes.

A small amount of the unknown is placed in one vial and its depth is measured. It is then placed on a white sheet of paper next to the other (empty) vial. The standard solution is added to the other vial, drop wise, until the solutions appear to be the same colour. The depth of the standard solution is then measured.

This procedure could be repeated several times to obtain an average.

Calculation.

Let C = concentration, D = depth and the subscripts u & s mean the unknown and standard respectively, then

$$C_u \times D_u = C_s \times D_s$$

$$C_u = C_s D_s / D_u$$

Discussion.

The Year 11 class found the procedure easy to follow and obtained consistent results to within 0.1 M on their first attempt.

Because the Juniors would not understand the concentrations written in molarity, simply substitute percentage by w/v

Extensions.

Solutions may require diluting at first to enable some colour to be seen and compared. So the C_u value would have to be multiplied by the dilution factor to obtain the original concentration. (e.g testing to see how much the ice dilutes a coke drink)

The technique depends on the solutions that maintain their spectral properties over a range of concentrations. An investigation of say CoCl_2 or CuCl_2 may raise some interesting discussions for the seniors.

Conclusion.

In the world of technophiles the simple procedures are often overlooked, and yet it is the simple procedures which illustrate the basics in a way that kids can see and easily manipulate the variables to enhance their understanding.

Bibliography.

I'm not sure where I first came across this idea, but it was probably in my old text. So I refer you to Ch XLI (or 41 for you post decimal people!) pp613 – 627 of

“Textbook of Quantitative Inorganic Analysis”

I.M. Kolthoff & E.B. Sandell

3rd Edition 1952

Macmillan.

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What's on

LTB-STAV 2007 Conference

29-30 November

National Science Week 2007

18-26 August

SCITECH 2007 CONFERENCE NEW ZEALAND

3-5 October

**AGENDA FOR EASTERN/MAROONDAH REGION MEETING
23rd MAY 2007**

Wendy Hurle

Welcome was extended to 35 Lab Tech's and thank you passed on to Janet, Alison, Gavin and Tintern staff for inviting us, providing morning tea and organising a tour of the farm. A formal thank you will be sent to Gavin, Farm Manager, on LTB letterhead.

Another reminder was given to those people not yet re-registered for this year, but nearly all in this region have done so.

Darlene Pentland updated us on the Animal Ethics Committee reviews. Information should be compiled and sent to all school Principals and Heads of Science soon.

Pam Delahunt offered to forward some information on PD available to us other than LABCON sessions.

Our next meeting will be at Mt. Lilydale College on Friday 27th July, 2nd week of term 3.

Planning has started for another all day excursion, this time to the Royal Botanical Gardens in Melbourne. Branch will be contacted to see if they will be prepared to cover costs of the sessions which are \$9/head/session.

Sessions proposed are:

Behind the Scenes and Poisons & Potions (a year 9-10 program)

Possible dates:

week of 10th – 14th September (late term 3)

week of 15th – 19th October (early term 4)

Any other business

Other outing venues for future consideration: Coroner's Lab & Forensic Labs, McLeod

A card for retiring Lab Tech, Jill Richards, Mullauna College, was handed around for anyone to sign and wish her well when she leaves at the end of this term. Jill was unable to attend the meeting so the card will be posted this week.

Kim Todd, Wesley College, thanked everyone and branch for all the assistance she has received while being a school Lab Tech. She is moving on to other employment.

The meeting was then open for discussion to share ideas, hints & techniques relevant to our jobs. Some very useful ideas were exchanged with a copy of one idea for using multimeters attached. This idea was from Whitefriars College and has been very useful for junior classes. Laminated copies of the setups are handed out to each class with the equipment so they can see by the photo how to connect correctly.

Morning tea of scones, jam and cream was enjoyed by everyone before our tour of the Tintern farm. Gavin enlightened us on aspects of composting and farm management and explained how the farm is used by the school.

The meeting concluded with a tour of the magnificent Laboratory Preparation Area and classrooms.

Fake blood:

8 teaspoons of corn starch dissolve in 1L water (stir and mix well) and bring to the boil. Simmer 20 min.

When cold add 30ml of red food color+1 drop of green.

Put the dropper 10 cm above paper and drop one drop of blood. Measure the diameter of the spot in cm. Write it down. Repeat with 20cm to 2000cm

HANDY HINT FROM LISTSERVE

Did you know?

Don't waste detergent: it is expensive and making it generates about a third of a kilogram of greenhouse gas per wash for top-loaders, front-loaders use half as much. Using more than the recommended amount of detergent doesn't make clothes cleaner.

SSCERC

Animal Ethics – What’s It All About?

By Darlene Pentland

In 2005 the Department of Education and Training (DE&T), the Catholic Education Commission of Victoria (CECV), and the Association of Independent Schools of Victoria (AISV) signed a ‘Memorandum of Understanding’ to bring schools into line with the *Prevention of Cruelty to Animals Act (1986)*, *Prevention of Cruelty to Animals Regulations (1997)* and the *Australian Code of Practice for the Care and Use of Animals for Scientific Purposes (2004)*. Under this legislation, schools wishing to use living, vertebrate animals (and cephalods such as squid/octopus) to teach scientific concepts are required to have a Scientific Procedures Premises Licence (SPPL) and must seek approval from an Animal Ethics Committee for this use of animals.



The Victorian Schools Animal Ethics Committee (VSAEC) was established in December 2005. The VSAEC provides advice and guidelines to schools on how to comply with Prevention of Cruelty to Animals legislation. The VSAEC is comprised of representatives from all 3 school sectors, a Veterinarian, teachers from science and agriculture backgrounds, a science laboratory representative, representatives from animal welfare organisations (RSPCA & Wildlife Australia), and independent ‘lay people’. The VSAEC meets several times each year to assess applications. The remaining VSAEC meeting dates for 2007 are: 29 June, 24 August, and 12 October. Enquiries email: animalethics@edumail.vic.gov.au

Before seeking approval of an activity involving animals, schools are required to have a Scientific Procedures Premises Licence. All Department of Education schools are already covered by one Licence (SPPL 285 valid until 30/6/2009). Catholic and Independent schools will be required to apply for their own individual SPPL. Licence application forms are available from the Department of Primary Industries (<http://www.dpi.vic.gov.au>). SPPLs are priced according to how many people are ‘conducting scientific procedures’ and how many years you wish to purchase a licence for (up to 3 years). Prices range from \$409.60 to \$1,844.70. Multi-campus Independent and Catholic schools can purchase one licence to cover for all sites (provided they are all ‘governed’ by one school board/committee etc).

Once a SPPL is in place, schools can seek approval for teaching activities involving the use of animals from the VSAEC. The VSAEC has established a web site to assist schools with compliance and approval. The web site has 2 main parts:

- information on relevant legislation and policy, species notes, FAQs and approval details and an online reporting system for schools.

Approval may be as simple as completing a 'Notice of Intent' via the VSAEC website (if the activity is 'pre-approved') or by completing an 'Application for Approval' (if the activity is outside the pre-approved range). The VSAEC will compile annual reports of animal use in Victorian schools and provide this information to the Bureau of Animal Welfare (in accordance with legislation).

2007 has been deemed a 'roll out year' for compliance. Information about animal ethics and compliance will be made available to all schools, Principals, Heads of Department, etc via DE&T memos. By 2008, all schools that have learning outcomes associated with the use of animals will be required to have a SPPL and VSAEC approval of the activity.

Darlene Pentland
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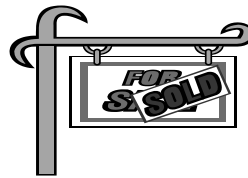
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Please contact the editor,
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Mount Clear Vic 3350
Tel: 5330 1500 Fax: 53302670
HWH@mtclearsc.vic.edu.au

Dandenong Region

Wendy Hurlle
Narre Warren South P-12 College
Amberly Park Drive cnr Ormond Rd
Narre Warren South, 3805
Ph: 9704 3374 Fax: 9704 3334
Hurlle.wendy.a@edumail.vic.gov.au

Eastern/Maroondah Region

Robyn Morrison
Warrandyte High School
Cnr Alexander & Warrandyte Rds
Warrandyte 3113
Ph: 9844 6114 Fax: 9844 1813
morrison.robyn.r@edumail.vic.gov.au

Geelong Region

Yvonne Billows
Matthew Flinders GSC
PO Box 1285
Geelong 3220
ph 5221 8288
email yb@mfgsc.vic.edu.au

Gippsland Region

Sue Webbs

Hume Region

Janet Butt
Wodonga Senior Secondary College
69 Woodland Street
Wodonga 3690
Tel: (02) 6043 7500 Fax: (02) 6024 2937
butt.janet.r@edumail.vic.gov.au
butj@wssc.vic.edu.au

Wimmera/Horsham

Jenny Gaulke
Horsham college
PO box 508
Horsham 3400
Ph 53820499
jeenyg@horshamcollege.vic.edu.au

Kew Region

Loddon/Campaspe/

Mallee Region

Anne Yarwood
Flora Hill Secondary College
Bendigo 3550
Tel: 5443 4522
ayarwood@florahill.vic.edu.au

Mornington Region

Val Bookless
Laboratory manager Woodleigh School
Tel: 5971 1108 Fax: 5971 1010

Nillumbik/Banyule Region

Lois O'Meara,
Eltham College, Main Road, Research 3095
Tel: 9437 1421 Fax: 9437 0038
lomeara@elthamcollege.vic.edu.au

Margaret leGrys,
Diamond Valley College,
Hurstbridge Road, Diamond Creek, 3089
Tel: 9438 1411 Fax: 9438 1523
legrys.margaret.m@edumail.vic.gov.au

North Metro Region

Thecla Polizzi
Essendon Keilor College,
Senior Campus
286 Buckley Street, Essendon, 3040
Ph: 9319 1308 Fax: 9337 7975
tpo@ekc.vic.edu.au

Julie Parry
Thornbury High School
Tel: 9458 6164
parry.julie.j@edumail.vic.gov.au

North/West Metro Region

Glenn Condon
Westbourne Grammar School
Tel: 9731 9444
condog@westbourne.vic.edu.au

South Yarra/Moorabbin Region

Nanda Joglekai
Korowa Anglican Girls School
Ranfurlie Crs, Glen Iris, 3146
Ph: 988 50336 Fax: 9885 8378
njoglekar@korowa.vic.edu.au

Rebeca Day
Glen Eira Secondary College
Ph: 9571 7838
rda@ges.vic.edu.au

Sunraysia Region

Narelle Divola
Irymple Secondary College
Karadoc Ave, Irymple Vic 3498
Tel: 5024 5407 Fax: 50246631
divola.narelle.n@edumail.vic.gov.au

Warrnambool Region

Leanne Baxter
Hamilton & Alexandra College
P O Box 286, Hamilton 3300
Tel: 5572 1355 Fax: 5572 4998
lbaxter@hamiltoncollege.vic.edu.au

Laboratory Technicians' Branch of S.T.A.V. 2007 Committee

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Tel: 8591 2200
gleadallg@brightongrammar.vic.edu.au

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willie.mary.lj@edumail.vic.gov.au

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Southwood BGS
Tel: 98702855
dpentland@southwood.vic.edu.au

TREASURER

DIANNE DAVEY
Marist Sion College
Tel: 56226215
ddavey@mscw.vic.edu.au

GOVERNMENT SCHOOL REPRESENTATIVES

HEMRAJ ANOOP
Cheltenham Secondary College
Anoop.hemraj.h@edumail.vic.gov.au

ANDY BAFUL
Copperfield College
Delahey Campus
Tel: 9307 5520
baful.andy.a@edumail.vic.gov.au

JUDY HASSE
Sunbury College
30 Racecourse Rd, Sunbury, 3429
Ph: 9744 1066
Fax: 9744 7695
hasse.judith.a@edumail.vic.gov.au

NON-GOVERNMENT SCHOOL REPRESENTATIVES

GLENN CONDON
Westbourne Grammar School
Tel: 9731 9444
condog@westbourne.vic.edu.au

SVETLANA MARCHOUBA
LAB LINES EDITOR
Camberwell Grammar School
Tel: 9835 1777
Email: sm@cgs.vic.edu.au

DALE CARROLL
**NATIONAL NETWORK
CO-ORDINATOR**
Geelong College
Tel: 5226 3136
dcarroll@geelongcollege.vic.edu.au

GENERAL COMMITTEE POSITIONS

DEREK FERNANDEZ
Haileybury College
(Senior campus)
Ph: 9213 3222
dfernandez@haileybury.vic.edu.au

JANET THOMAS
Ivanhoe Girls Grammar
Tel: 9490 6270
Fax: 9490 6200
jthomas@ivanhoegirls.vic.edu.au

**EX - OFFICIO COMMITTEE
POSITIONS**
LTB-STAV PUBLICATIONS OFFICER
DANUTA KASINSKA-TESSARI
Our Lady of Sion College
Tel: 9890 9097
dkasinska@sion.melb.catholic.edu.au

REGIONAL LIAISON OFFICER

WENDY HURLE
Ph: 9704 3374
Fax: 9704 3334
Hurle.wendy.a@edumail.vic.gov.au

REGISTRATION OFFICER

BEVERLY HUNTLEY
rhuntley@optusnet.com.au

SAFETY INFORMATION OFFICERS

BRONWYN DUNCAN
Victoria University
Tel: 9919 8715
Bronwyn.Duncan@vu.edu.au

HELEN WHATMAN
Mount Clear College
Tel: 5330 1500
Fax: 5330 2670
hwh@mtclearsc.vic.edu.au

AILEEN LITTLE
Caulfield Grammar School
(Wheelers Hill Campus)
Ph: 8562 5300

ANIMAL WELFARE OFFICERS

DARLENE PENTLAND
(VSAEC representative)
Southwood BGS
Tel: 98702855
dpentland@southwood.vic.edu.au

WEBMASTER

ANNE EDWARDS
Korowa AGS
Ph: 9885 0336
aedwards@korowa.vic.edu.au

*Please feel free to contact any member of your committee with any queries or concerns.
Members are welcome at committee meetings. Contact The Secretary for more information.*

LTB-STAV Committee Meeting Dates 2007.

Committee will meet at 5 Munro Street, Coburg from 6:30 – 9:30 p.m. on the following dates:

7 August, 11 September, 7 November

All members are most welcome to attend.