



RiskAssess User Guide

<http://www.riskassess.com.au> in Australia

<http://www.riskassess.ca> in Canada

<http://www.riskassess.co.nz> in New Zealand

Background

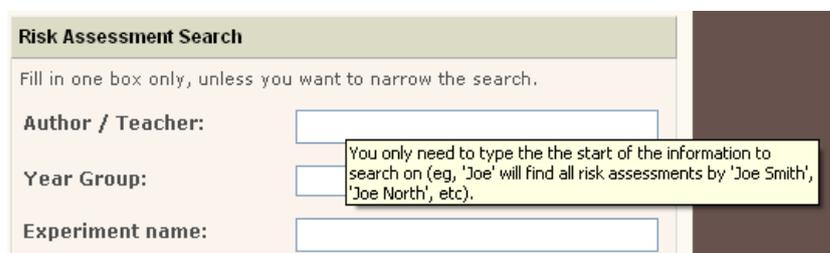
Schools are legally required to conduct a risk assessment before each laboratory experiment. Each person is required to carry out a risk assessment for the actual tasks that they are going to do. A teacher assesses the risks for the experiment in the classroom; a laboratory technician assesses the risks for preparing the package of equipment and chemicals for the class, and then for disposing of these items afterwards, as required. It is not possible to do a risk assessment for another person.

RiskAssess provides a convenient and rapid method to meet these legal obligations. It also helps avoid accidents with up-to-date safety information on equipment, chemicals and living things. RiskAssess saves time for teachers and laboratory technicians by providing a risk assessment template, automatic equipment ordering and laboratory scheduling. It also saves paper and filing, by using electronic documents and electronic signatures. RiskAssess can be used on computers, iPads (and other tablets) and on smart phones (iPhone, Android, etc). RiskAssess can be accessed from home or from any location with an internet connection.

This Guide and On-Screen Help Within RiskAssess

This guide will help you get started with RiskAssess. It also provides hints and suggestions for getting the most out of RiskAssess.

The RiskAssess system is easy to use, and has help information on-screen next to fields and buttons. Further help is available by leaving your mouse pointer over boxes and buttons – often you will see further information appearing in a yellow box.



Risk Assessment Search

Fill in one box only, unless you want to narrow the search.

Author / Teacher:

Year Group:

Experiment name:

You only need to type the the start of the information to search on (eg, 'Joe' will find all risk assessments by 'Joe Smith', 'Joe North', etc).

Login and Home Page

The RiskAssess login (user name and password) relates specifically to your school campus. Any number of science staff from your school campus can use RiskAssess at the same time. Staff can log into RiskAssess from any internet connection, whether it be at home, at school or elsewhere. Staff can use ipads and smart phones as well as computers and laptops to log in, as long as they are connected to the internet. Staff

from other schools cannot view the risk assessments generated by your school campus.

When you first log in to RiskAssess, you will see the home page for your school campus.

RISKASSESS
Risk Assessments For Schools

EcoSolve High School Home Page [Settings](#) [Log out](#)

Blank Risk Assessment

[Start Blank Risk Assessment >](#)

Alternatively, to copy an existing risk assessment, find it with the search box on the right.

Laboratory Scheduling

View the laboratory schedule for:

[Today](#) | [Tomorrow](#) | [1 Week](#) | [4 Weeks](#) | [Any Dates](#)

Recent Risk Assessments

- [Making hydrogen](#) for Jerry Jones (4 hours and 22 mins ago)
- [Crystal growing](#) for Eva Crisp (17/1/16)
- [Making hydrogen](#) for Phillip Crisp (17/1/16)
- [Acids and Bases](#) for Bron (16/1/16)
- [Making hydrogen gas](#) for Phillip Crisp (31/12/15)

[See more...](#)

Risk Assessment Search

Fill in one box only, unless you want to narrow the search.

Author / Teacher:

Year Group:

Experiment name:

Procedure / Reference:

Date:

Chemicals / Equipment / Living things used: For example: burette, sodium hydroxide

Or list: [All](#) | [Deleted](#)

Safety Information Search

Safety information without doing a risk assessment.

Labelling

For chemicals

RiskAssess News [Download the User Guide for RiskAssess](#)

29 May 2016 - Labelling is now available!

The much-awaited GHS labelling feature is now available from your homepage. Thank you to all those who provided feedback! You can now print 4 different-sized labels for either pure chemicals or solutions. If you choose a solution, the words and pictograms are automatically calculated based on the concentration you enter. You can print on sticky labels or plain paper. The labels comply with the Code of Practice, and pictograms and text automatically rearrange for best appearance. At this stage, you will need to print a full sheet of the same label. However, in the future, we will include the ability to print partial sheets, plus the option of including additional information on the labels (eg, year group colours, MW etc). Please try out the new labelling system and let us know if it works for you!

[Read more...](#)

You can return to the home page at any time by clicking anywhere in the photo area.

Each risk assessment you perform will be saved on the RiskAssess system. The last five risk assessments performed at your school are shown in the “**Recent Risk Assessments**” box. The name of the teacher is shown next to the name of each experiment. If you would like to see the Author's name or more than the five recent risk assessments shown on the home page, click the “**See more...**” link in the “**Recent Risk Assessments**” box. You can also find risk assessments performed at your school using keywords in the “**Risk Assessment Search**” box on the right. See later section on *Searching for Previous Risk Assessments* for more details.

The “**Laboratory Scheduling**” provides a day-by-day view of experiments in your school, and is particularly useful for scheduling experiment preparation and for communicating between teachers and laboratory technicians. Future and past experiments can be viewed. See later section on *Laboratory Scheduling* for more details.

The “**Safety Information Search**” lets you do a quick search on any item in the database (eg chemical, equipment or living things) to find out safety information about it, without generating a risk assessment.

“**Labelling**” allows you to print labels for pure chemicals and solutions. See later section on *Labelling* for more details.

“**Settings**” allows you to check when your school’s RiskAssess subscription expires and to download your invoice to renew your school’s subscription. You can also update the contact person details at your school. If you have Student RiskAssess, you can link your RiskAssess account to your Student RiskAssess account, so that you can use Student RiskAssess for assessment purposes.

“**RiskAssess News**” keeps you up-to-date on the latest new features and improvements in the RiskAssess system.

“**Log Out**” allows you to leave the RiskAssess website.

Your First Risk Assessment

Click the “**Start Blank Risk Assessment >**” button, and you will be presented with the risk assessment form. Either a teacher or a laboratory technician can initiate a risk assessment for an experiment.

First, fill in general information about the risk assessment:

Risk Assessment and Practical Order	
School:	EcoSolve High School
Author:	<input type="text" value="Jo Smith"/>
Experiment name:	<input type="text" value="Acids and Bases"/>
Text reference: (or procedure) Can include web links. Eg, http://www.example.com	<input http:="" type="text" value="Science World p52
Detailed procedure at
 www.scienceexperiment.com.au"/>

For the “**Text reference: (or procedure)**”, you can include links for the school intranet or to the world wide web (such as <http://intranet/lab.pdf> or www.example.com/lab.pdf), and they will be automatically turned into clickable hotlinks in the resulting risk assessment (you may need to contact your IT Department to find out the correct format for intranet links at your school). Each link will open in a new window when clicked. This is helpful if you are referring to experiments, (M)SDSs etc on the web, or on your school intranet. Alternatively, you can write out a procedure in detail, refer to one of your standard procedures by name, or simply provide a reference to a text. You can also copy and paste text from another document into the box. You may wish to divide the procedure into two sections: procedure for

the classroom experiment, and procedures for preparation (before) and cleanup (after). This is to distinguish the activities of the teacher and the laboratory technician.

Next, you enter information about classes and preparation:

Classes for Which Experiment is Required

Teacher:

Year group:

Chemical user codes: [Explanation of codes](#)
 Teacher: Lab Tech:

Scheduling: Room: Period: Date (d/m/yy):
 You can leave off the year for classes in 2015

[More classes...](#)

Scheduling notes: Additional scheduling notes for the laboratory technician

Equipment / chemicals to be prepared by laboratory technician:
 For example
 10 groups of:
 3 x Mg ribbon, 2cm long
 1 x 50mL 1M HCl bottle

Qty	x	Item (or groups)
8	groups of	
2x		Magnesium ribbon, 2 cm long
1x		1M HCl

“**Chemical user codes**” are compulsory in NSW Government schools and are listed in the NSW CSIS package. The RiskAssess team recommends their use in all schools. If you click the “**Explanation of codes**” link, you will get further details about these codes. If you enter numbers into the boxes for the codes, RiskAssess will automatically check the user codes of chemicals against those of the users. Further information about certain chemicals has become available since the release of the NSW CSIS package in 1999, so RiskAssess has made changes to some of these codes and the changed codes are shown in brackets. If you do not want to use this feature, do not enter any numbers in the boxes for the codes.

The “**Scheduling**” section allows you to specify when and where the experiment will take place. Filling in these fields allows you to use the automatic laboratory scheduling system (see later section on *Laboratory Scheduling*).

The “**Equipment/chemicals to be prepared by laboratory technician**” and “**Scheduling notes**” allow communication of requirements between teacher and laboratory technician (see later section on *Ways to Use RiskAssess at Your School* for more details).

Choose the equipment, chemicals and living things for the experiment. Type each item in the appropriate box and either click the “**Search and Add**” button or press the “**return**” key to locate it in the database. It is important to enter ‘**Chemicals Produced**’ as well as ‘**Chemicals Used**’, as sometimes the chemicals produced may pose a major risk.

Equipment, Chemicals & Living Organisms for Risk Assessment

For each section below, enter one or more words to search on and then click 'Search & Add'. If a match is found, it will be added to your risk assessment. For example, in the 'Chemicals Used' section, enter 'iron oxide', click the button, and it will be added to your risk assessment. You can also search by chemical formula (eg, 'CH₃COOH'), and incomplete words (eg, 'ir ox' will find iron oxide).

Equipment

matches, box [Remove](#)

 Search & Add

Chemicals Used

magnesium, ribbon [Remove](#)

 Search & Add

Chemicals Produced

hydrogen, gas generated during experiment [Remove](#)

 Search & Add

Living Organisms

 Search & Add

Other items:

Include potential hazards & standard handling procedure

Multiple results found. Click one below, or search again.

- [test tube, side arm](#)
- [test tube, small \(~75 x 8 mm\), soda glass](#)
- [test tube, small \(~75 x 8 mm\), borosilicate \("pyrex"\)](#)
- [test tube, sidearm](#)
- [test tube, semimicro, soda glass](#)
- [test tube, plastic](#)
- [test tube, ignition, large \(~150 x 25 mm\)](#)
- [test tube, ignition, medium \(~150 x 15 mm\)](#)
- [test tube, ignition, small \(~75 x 8 mm\)](#)
- [test tube, large \(>10 cm x >2 cm\), soda glass](#)
- [test tube, large \(~150 x 25 mm\), borosilicate \("pyrex"\)](#)
- [test tube, medium \(~150 x 15 mm\), borosilicate \("pyrex"\)](#)

When searching, you can enter the first part of a word. For example, if you enter 'spat' and click the **"Search and Add"** button, 'spatula' will be automatically entered. If there are several options that match the letters you have entered in the text box, a list will come up and you can click the appropriate option to be automatically entered. You may need to click a category of chemicals, to be able to see the list of chemicals within it.

Multiple results found. Click one below, or search again.

- [potassium bromide...](#)
- [potassium bromide, solid](#)
- [potassium bromide >1.7 M \(>20% wt/wt\)](#)
- [potassium bromide 0.84-1.7 M \(10-20% wt/wt\)](#)
- [potassium bromide 0.084-0.84 M \(1-10% wt/wt\)](#)
- [potassium bromide <0.084 M \(<1% wt/wt\)](#)
- [potassium bromate](#)

You can also search using a lower-case chemical formula. For example, 'h₂so₄' will find 'sulphuric acid' at its various concentrations. Remember to include brackets, if required in the formula.

If you cannot find an item of equipment, a chemical or a living organism in the database, enter it in the **"Other Items"** text box at the end, along with any known potential hazards and standard handling procedures.

Other items:

Include potential hazards & standard handling procedure

antibiotic disk - only place on agar

By running 'Generate Risk Assessment' you accept the [Conditions of Use](#) for the RiskAssess website.

Generate Risk Assessment >

When you have completed the form, read the “**Conditions of Use**” and click “**Generate Risk Assessment >**”. You will then see the resulting risk assessment form with information on equipment, chemicals and living things incorporated from the RiskAssess databases. The next image is abbreviated to save space in the guide - it has further sections.

RISK ASSESSMENT		EcoSolve High School	
Making hydrogen gas			
Written by: Phillip Crisp	Commenced on: 31 Dec 2015	Expires: 31 Mar 2017	
Classes for which experiment is required			
Teacher: Phillip Crisp (user code 1)	Year Group: 12 Senior Science	Room	Period
		3	4
			Date Thu 31/12/15
Items to be prepared by laboratory technician (user code 1)			
6 kits of: Mg ribbon, 1M hydrochloric acid			
Procedure or reference, including variations			
S&B p112			
Equipment to be used			
box of matches			
<i>Potential hazards</i> Box burns violently if ignited.		<i>Standard handling procedures</i> Keep dry. Used matches should never be returned to the box. Count boxes out and in.	
Chemicals to be used and produced			
hydrochloric acid <3 M (<10% wt/wt)			HCl(aq)
Class: nc	PG: none	7-12	Users: (1,2,3,4,5) CAS: 7647-01-0
<i>GHS data:</i> Not classified as a hazardous chemical.			
<i>Potential hazards</i> Higher concentrations irritate eyes, lungs and skin.		<i>Standard handling procedures</i> Avoid inhalation of vapour.	
hydrogen, gas generated during experiment			H₂
Class: 2.1	PG: none	7-12	Users: 1,2,5 UN: 1049 CAS: 1333-74-0
<i>GHS data:</i>			
DANGER		Extremely flammable gas	
<i>Potential hazards</i> EXTREMELY FLAMMABLE GAS. Forms dangerously explosive mixtures with air. Not toxic, but can act as asphyxiant; hydrogen/air mixture in lungs can explode if ignited. Detonation ("popping") of small volume of hydrogen/air mixture in sturdy test tube by ignition with match or wooden taper is generally safe; breakage of test tube is possible.		<i>Standard handling procedures</i> Generate hydrogen only in small volumes (<1 mL). Detonate hydrogen/air mixtures only in small undamaged test tubes (<8 cm; <5 mL). Use borosilicate ("pyrex") test tubes; do not use thin-walled soda glass test tubes. Protect against flying broken glass from breakage of test tubes.	

On 1 January 2016, Globally Harmonized System of Classification and Labelling of Chemicals (GHS) data were added to the information on chemicals. GHS data have been inserted for each pure chemical and each solution as a new "GHS band" between

the two heading lines and the sections on "Potential hazards" and "Standard handling procedures".

potassium dichromate 0.068-0.1 M (2-3% wt/wt)		K₂Cr₂O₇(aq)
Class: nc	PG: none	Users: 1,2,3,5
GHS data:		
DANGER Allergy alert!		May cause cancer
		May cause genetic defects
		May damage fertility and the unborn child
		Toxic if inhaled
		Harmful if swallowed
		Causes damage to organs through prolonged or repeated exposure
		May be harmful in contact with skin
		Causes skin irritation
		Causes serious eye irritation
		May cause allergy or asthma symptoms or breathing difficulties if inhaled
		May cause an allergic skin reaction
		Toxic to aquatic life with long lasting effects
<hr/>		
<i>Potential hazards</i>	<i>Standard handling procedures</i>	
TOXIC; MAY CAUSE CANCER OR GENETIC DEFECTS; MAY DAMAGE FERTILITY OR THE UNBORN CHILD; CAUSES ORGAN DAMAGE; SENSITISER.	Should not be handled by pregnant women. Women of reproductive age should avoid handling the chemical.	

From left to right, the GHS band provides:

Signal word Pictograms Hazard statements

GHS data are separated by a dotted line from RiskAssess advice on "Potential hazards" and "Standard handling procedures", which have both been updated in light of the new GHS information. For further details about GHS and the meanings of the pictograms etc, click "***GHS data:***". In cases where the possibility of allergic reaction is mentioned in the hazard statements, an "**Allergy alert!**" is included beneath the signal word.

All risk assessments created after 1 January 2016 will automatically include GHS data for chemicals.

If you want to change any entry in your risk assessment, click the "**Author's Update**" button at the top. This takes you back to the form, and you can fix any errors or omissions. "**Author's Update**" should **NOT** be clicked to customise the risk assessment for an experiment taking place on a different day, or performed by a different teacher. Click "**Create Modifiable Copy**" for this situation. See the later section on *Sharing and Customising Risk Assessments* for more information.

Copying and updating risk assessments created prior to 1 January 2016

Any risk assessment you created prior to 1 January 2016 will still be accessible in the original format (with no GHS chemical data included), but will show a notice at the top that it was created before GHS data were introduced into RiskAssess. In many cases, when you next update (by clicking "**Author's Update**") or copy (by clicking "**Create Modifiable Copy**") this risk assessment, RiskAssess will automatically add GHS data for the chemicals and solutions included in the new risk assessment. However, in cases where a chemical in the previous risk assessment corresponds to more than one chemical in the new system, RiskAssess cannot automatically choose a direct match and a help box will appear. Chemicals with no direct match are shown in

red, and have a “GHS >>” link next to them. Clicking the “GHS >>” link will let you choose the appropriate chemical with GHS data.

Chemicals Used

magnesium, ribbon [Remove](#)

hydrochloric acid solution, 0.2 M to 4 M (1% to 14% wt/wt) [GHS >>](#)

Choose chemical with GHS data to replace 'hydrochloric acid solution, 0.2 M to 4 M (1% to 14% wt/wt)':

- [hydrochloric acid 3-8 M \(10-25% wt/wt\)](#)
- [hydrochloric acid <3 M \(<10% wt/wt\)](#)

Before you can update or generate the new risk assessment, you need to choose the equivalent chemical(s) with GHS data that RiskAssess was not able to convert automatically. You will only need to do this once for each risk assessment created before the GHS data were introduced, provided you make further modifiable copies or author updates from the converted risk assessment.

As there are now many more chemicals and solutions to choose from in the database, you should always review your new risk assessment to ensure that RiskAssess has automatically updated the correct chemicals with the new GHS data.

The Actual Risk Assessment

You carry out the actual risk assessment when you consider the risks listed under the heading “Risk assessment”.

Knowledge

- I have read and understood the potential hazards and standard handling procedures of all the equipment, chemicals and living organisms.
- I have read and understood the (Material) Safety Data Sheets for all chemicals used and produced.
- I have copies of the (Material) Safety Data Sheets of all the chemicals available in or near the laboratory.

Risk assessment

I have considered the risks of:

<input type="checkbox"/> fire	<input type="checkbox"/> breakage of equipment	<input type="checkbox"/> electrical shock	<input type="checkbox"/> radiation
<input type="checkbox"/> explosion	<input type="checkbox"/> cuts from equipment	<input type="checkbox"/> escape of pathogens	<input type="checkbox"/> waste disposal
<input type="checkbox"/> chemicals in eyes	<input type="checkbox"/> sharp objects	<input type="checkbox"/> heavy lifting	<input type="checkbox"/> inappropriate behaviour
<input type="checkbox"/> inhalation of gas/dust	<input type="checkbox"/> rotating equipment	<input type="checkbox"/> slipping, tripping, falling	<input type="checkbox"/> allergies
<input type="checkbox"/> chemicals on skin	<input type="checkbox"/> vibration and noise	<input type="checkbox"/> falling objects	<input type="checkbox"/> special needs
<input type="checkbox"/> runaway reaction	<input type="checkbox"/> pressure	<input type="checkbox"/> heat and cold	<input type="checkbox"/> other risks

Your personal knowledge, all the RiskAssess database information and the data included in each relevant chemical (Material) Safety Data Sheet or (M)SDS, provide the basis for your risk assessment. You must carry out a risk assessment for the actual tasks you are going to do. A teacher assesses the risks for the experiment in the classroom; a laboratory technician assesses the risks for preparing the package of equipment, chemicals and living things for the class, and then disposing of the items appropriately afterwards. It is not possible to do a risk assessment for another person. RiskAssess is a tool that provides information, a template and a structure in which you may do your own risk assessments.

The risk assessment form follows the ISO Standard 31000:2009, Risk Management – Principles and Guidelines. When you identify a risk from the checklist, you need to consider its ‘likelihood’ and its possible ‘consequences’. The ‘severity’ of the risk is

assessed using the School's risk matrix (also known as risk level matrix). Click the **"School's risk matrix"** link for sample risk matrices and further information.

It is recommended that your school obtain copies of ISO Standard 31000:2009 and the Risk Management Guidelines HB 436:2004, and that persons carrying out risk assessments be familiar with them. Copies of these documents may be obtained from your national Standards Organization.

The logic of the risk assessment process is as follows:

First of all, you assess the 'inherent level of risk' for an experiment, that is, the risk level without any extra control measures in addition to your routine procedures. Control measures are measures put in place to make an activity safer. Click the appropriate button: **"Low risk"**, **"Medium risk"**, **"High risk"**, or **"Extreme risk"** to describe the inherent risk level.

If the inherent level of risk is 'low' for both the classroom experiment (teacher) and the preparation/cleanup (laboratory technician), the risks can be managed by routine procedures in the laboratory. Both the teacher and laboratory technician should complete the certification section to state that the risk levels are 'low'.

If you click the **"routine procedures"** link, you will be taken to a page containing some suggestions by the RiskAssess team for the sorts of routine procedures that your school might consider adopting. This page also includes a link to a page that describes procedures and issues relating to the safe culturing of microorganisms.

If the inherent risk is 'medium' or greater for the classroom experiment, the teacher should enter adequate control measures in the appropriate text box to reduce the risk level to 'low'. Similarly, if the inherent risk is 'medium' or greater for the preparation/cleanup, the laboratory technician should enter adequate control measures in the appropriate text box to reduce the risk level to 'low'. Clicking on **"Save Control Measures"** will save the control measures in the risk assessment form. You can edit your entry or add control measures by clicking **"Update Measures"**. Remember to click **"Save Control Measures"** each time you complete an entry. Sufficient and appropriate control measures will need to be put in place so that the risk level is reduced to 'low risk', with the control measures in place. It should be possible to add sufficient control measures to an experiment so that the risk level (with control measures in place) is reduced to 'low risk'. If you cannot add adequate control measures to reduce the risk level to 'low risk', you should **NOT** perform this experiment. There are tick boxes available for commonly used control measures such as safety glasses, gloves etc. Both the teacher and laboratory technician should complete the appropriate certification section (yellow for teacher and purple for laboratory technician) to state that with the control measures in place the risk level has been reduced to 'low risk' for their area of responsibility. Both electronic signatures are required for RiskAssess to automatically archive the risk assessment. See the later section on *Archiving Risk Assessments* for more information.

Certification by Teacher

I have assessed the risks associated with performing this experiment in the classroom on the basis of likelihood and consequences using the [School's risk matrix](#), according to International Organization for Standardization Standard ISO 31000:2009 and the Risk Management Guidelines, HB 436:2013.

I consider the [inherent level of risk](#) (risk level without control measures) to be:

Low risk
 Medium risk
 High risk
 Extreme risk

Control measures: Update Measures

Always point test tube away from people.
Explain hazards to students before class.
Additional measures: safety glasses, lab coat, fume cupboard

With the specified control measures in place, I have found that all the risks are "low risk". Risks will therefore be managed by [routine procedures](#) in the classroom, in combination with the specified control measures.

Name: _____ **Signature:** _____ **Date:** _____ Sign Electronically

Certification by Laboratory Technician

I have assessed the risks associated with preparing the equipment, chemicals and living organisms for this experiment and subsequently cleaning up after the experiment and disposing of wastes, on the basis of likelihood and consequences using the [School's risk matrix](#), according to International Organization for Standardization Standard ISO 31000:2009 and the Risk Management Guidelines, HB 436:2013.

I consider the [inherent level of risk](#) (risk level without control measures) to be:

Low risk
 Medium risk
 High risk
 Extreme risk

Control measures: Update Measures

Dilute the concentrated acid in a fume cupboard.
Additional measures: safety glasses, gloves, lab coat, fume cupboard

With the specified control measures in place, I have found that all the risks are "low risk". Risks will therefore be managed by [routine procedures](#) in the laboratory, in combination with the specified control measures.

Name: _____ **Signature:** _____ **Date:** _____ Sign Electronically

If the classroom component of the experiment has a 'high' or 'extreme' level of inherent risk, additional approval will need to be obtained from an authorized person. Click on **"authorized person"** for details.

Approval by Authorized Person

(An [authorized person](#), e.g. Head of Department or Principal, is required to approve the experiment when the inherent level of risk in the classroom is "high" or "extreme")

I note that the inherent level of risk for this experiment is "high" or "extreme". As an [authorized person](#), I approve this experiment, on the condition that the above control measures are put in place in the classroom.

Name: _____ **Signature:** _____ **Date:** _____ Sign Electronically

As classroom experiments with a 'high' or 'extreme' level of inherent risk have the greatest potential to cause injuries, it is important that an authorized person check that adequate control measures have been put in place to reduce the risk level to 'low risk'. In this case, electronic signatures of the teacher, the laboratory technician and the authorized person are required, prior to the risk assessment being archived automatically. See the later section on *Archiving Risk Assessments* for more information.

When you first generate a risk assessment form, no inherent risk level is assigned. Once you choose an inherent risk level, the form will automatically change to show only the relevant control measures and signature boxes. Even if you are printing the risk assessment, rather than archiving it electronically, we recommend you select the inherent level of risk and enter control measures (if required) using RiskAssess, as this will decrease the number of pages you will need to print.

Signing of Risk Assessments

RiskAssess contains an electronic signing feature for use by both the teacher, and the laboratory technician (and the authorized person, if necessary). When you click the “**Sign Electronically**” button, a new box will appear. You should enter your full name into the appropriate box and refer to the note below the signature.

Enter your full name:

By entering your name in the box above, you are providing an electronic signature which is the equivalent of signing your name with a pen and as such will constitute a legally binding agreement between the relevant parties. We can give no warranty in respect to fraud or security breach resulting from the use of an electronic signature.

If the risk assessment is changed (using the 'Author's Update' button or changing risk level or control measures), this electronic signature will be automatically removed.

If a later signatory changes the inherent level of risk or the control measures of an earlier signatory, the earlier electronic signature will be removed. This is a quality control measure, which allows the teacher and the laboratory technician (and the authorized person) to review each other’s risk assessment, as encouraged by safety authorities. The signatory whose signature has been removed will need to check the changes and electronically sign the risk assessment again.

Should you decide not to use the electronic signature feature, you can always print the risk assessment (see later section on *Printing and Emailing Risk Assessments*), and sign the appropriate sections by hand.

Archiving Risk Assessments

RiskAssess has an automatic archiving feature. When two electronic signatures (or three, in a case where the inherent risk is ‘high’ or ‘extreme’ in the classroom) have been attached to a risk assessment, the risk assessment is automatically stored in the RiskAssess system as an archival electronic document in PDF format (that is, a non-modifiable format), valid for legal purposes. You should make a back-up copy of your archived risk assessment on your school system (see later section on *Long-term Storage of Risk Assessments*).

Keeping Track of Electronic Signing of Risk Assessments

To help you track which risk assessments have been signed electronically, different icons are used whenever risk assessments are listed:



Has not yet been signed electronically by all required parties and can be updated with “**Author’s Update**”.



Has been signed by all required parties, can no longer be updated using “**Author’s Update**” and has been automatically archived. It can only be copied using “**Create Modifiable Copy**”. See later section on *Sharing and Customising Risk Assessments* for more details.

Printing, Emailing and Saving Risk Assessments

You can click the **“Print”** button at the bottom of a generated risk assessment to print directly from the web page. However, the quality of the printout will depend on the print settings in your chosen browser. For consistently high quality printing, it is better to click **“Save / Print PDF”** and then print from the PDF document, which has been appropriately formatted by the RiskAssess system. You can also save the PDF document to a sub-directory or folder on your school computer for back-up purposes (see later section on *Long-term Storage of Risk Assessments*).

If you wish to email the risk assessment, enter the email address of the recipient in the appropriate box. If you wish to email the risk assessment to several people, enter the email addresses with a ; (semicolon) between them. When a recipient receives a risk assessment by email, the email will include summary information about the risk assessment. This summary information shows up in the text of the email, so the recipient of the email can see more about the risk assessment without having to open the attached PDF file. The email also includes a link to the risk assessment in the RiskAssess system, making it quick and easy to check and then sign electronically.

The **“Email”**, **“Print”** and **“Save / Print PDF”** buttons are all at the bottom of the generated risk assessment, since they are generally used after reading the risk assessment (you may need to scroll down to see them).



The screenshot shows a horizontal interface element with a text input field on the left, followed by an 'Email' button, a 'Print' button, and a 'Save / Print PDF' button. Below the input field, there is a small text note: 'You can enter multiple email addresses with ; between them.'

Reviewing Your Risk Assessments

By law, you are required to regularly review your risk assessments. RiskAssess provides a date when the risk assessment **“Expires”**. This expiry date is 15 months after the date the risk assessment was commenced and is provided to remind you to review your risk assessment by that date.

If you are using RiskAssess and then printing out your risk assessments (see later section of *“Ways to Use RiskAssess at Your School”*), you should manually add your comments, problems or ideas in the **“Monitoring and review”** section at the end of the risk assessment form.

Monitoring and review

This risk assessment will be monitored using comments below and will be reviewed within 15 months from the date of certification.

If you are using RiskAssess to store your risk assessments electronically, you can keep track of modifications, problems or ideas about the experiments by clicking the button for **“Add Review Notes”**, which is provided at the top of the page. A new window will appear and you can enter your notes and click **“Save Notes”**.

REVIEW NOTES
Make sure that boxes of different sizes of rubber gloves are available. Last year, we ran out of large sizes.
Save Notes >

You can update the review notes by clicking "**Update Review Notes**", entering changes and clicking the "**Save Notes**" button.

Create Modifiable Copy	Author's Update	Delete	Home Log out
------------------------	-----------------	--------	--

REVIEW NOTES
Make sure that boxes of different sizes of rubber gloves are available. Last year, we ran out of large sizes.
Update Review Notes

RISK ASSESSMENT EcoSolve High School

Each time you click the "**Save Notes**" button, the information entered here is stored with the risk assessment and is available whenever the risk assessment is viewed again.

Many risk assessments will be generated by different teachers for different classes during the year for virtually the same experiment. Some may have review notes. Ideally, these risk assessments should be reviewed at regular intervals (eg at the end of each year) by a group of experienced staff and a model risk assessment can then be created and archived for use as a starting point for staff in the following year. If these risk assessments contain a specific key word, such as Proforma, in the title of the experiment (eg Proforma 2017: Acids and Bases), they can easily be retrieved using the search function (see next section). Staff can copy these model risk assessments by clicking "**Create Modifiable Copy**", so that they can customise them for their class situation (see later section "*Sharing and Customising Risk Assessments*").

Searching for Previous Risk Assessments

RiskAssess has a "**Risk Assessment Search**" box on your home page that allows you to search for a particular risk assessment created at your school. For example you can search for the risk assessment using the Experiment Name and the Teacher's name, or any combinations of the categories of key words shown in the "**Risk Assessment Search**" box. You only need to enter one part of the Author's name. For example, if you type in 'Joe', all risk assessments by 'Joe North' or 'Joe Smith' will be listed. Similarly, you only need to enter a few key words in "**Experiment name:**" field, rather than the full title of the experiment. Once you click the "**Search>**" button, RiskAssess will produce a list of all relevant risk assessments. You can sort the results by clicking the column heading you wish to sort by. For example, click on the 'Date' heading to sort all of the search results in order from most recent risk assessment to oldest risk assessment. Clicking a second time on the column heading will reverse the sort (for example, from oldest to most recent). The arrow next to the column heading shows the direction of the sort. Click on the appropriate risk assessment to retrieve it.

The "**Recent Risk Assessments**" box is visible on the home page and contains the last five risk assessments that have been created at your school. You may retrieve a

risk assessment from this list, by clicking on it. If you would like to see more than the five recent risk assessments shown on the home page, click the “**See more...**” link in the “**Recent Risk Assessments**” box.

You can obtain a list of deleted risk assessments by clicking on the “**Deleted**” link (see later section on *Deleting and Undeleting Risk Assessments*) in the “**Risk Assessment Search**” box. You can obtain a list of all risk assessments generated at your school by clicking on the “**All**” link in the “**Risk Assessment Search**” box.

Sharing and Customising Risk Assessments

You should carry out a risk assessment for each experiment carried out by each class, by each teacher, in each physical location. It is not sufficient to carry out one risk assessment for an experiment, as performed by multiple teachers in multiple locations with multiple classes. The reason is that, by law, you must take into account "all relevant matters". This includes the behaviour of the class (which greatly affects what can be done safely), the facilities available (e.g. fume cupboard), students with special needs, students with allergies, experience of staff, etc. You can do this easily through RiskAssess by clicking on the “**Create Modifiable Copy**” button. This new risk assessment will have all of the information that the old one had (except the scheduling and Teacher information). It can then be customised with any changes in procedure, the correct teacher and the correct scheduling information relating to room, period, date, etc. This approach allows you to use the automatic laboratory ordering and scheduling system, and complies with the legislation, as you are signing a risk assessment of the exact experiment you will be performing (that is, for a particular period, on a particular day, with a particular class, with a particular teacher in a particular location).

The RiskAssess system makes it very quick and easy to copy and customise existing risk assessments created by yourself or other staff, to save you time. First, find the risk assessment you want to customise. See earlier section for *Searching for Previous Risk Assessments*. This can be an archived risk assessment, or one still in editable form (a risk assessment before all the appropriate electronic signatures have been added). Once you have found the relevant risk assessment, and read the “**Review Notes**” (if present), click the “**Create Modifiable Copy**” button at the top of the page. If the risk assessment was created prior to the introduction of GHS data, see above section on *Copying and updating Risk Assessments created prior to 1 January 2016*.



You will then have your own editable copy of the risk assessment. All the fields will be the same as in the original risk assessment, except those relating to the teacher and the scheduling information. These fields will be blank and will need to be customised with the appropriate information. You should review and further customise the risk assessment to reflect your own experiment, the class, the location, and other circumstances. You can update any of the entries in the risk assessment by clicking “**Author's Update**”, if it has not been archived yet.

Deleting and Undeleting Risk Assessments

Occasionally, there is a need to delete a risk assessment, possibly due to scheduling difficulties or staff absences. Bring up on screen the risk assessment you wish to delete. When you click the **“Delete”** button at the top of the screen, a warning message appears asking if you really wish to delete this risk assessment. If you click **“OK”**, the risk assessment will appear to be deleted. It will no longer show up on the recent risk assessment list, or in the laboratory scheduling. If for some reason you decide you would like to recover a deleted risk assessment, go to the home page and click the **“Deleted”** link in the **“Risk Assessment Search”** box to view a list of all deleted risk assessments. Click on the relevant risk assessment and it will be brought up on screen, with a message stating that it has been deleted. If you click the button **“Undelete this risk assessment”** (next to this message), the risk assessment will be recovered. It will again be visible and retrievable in the usual ways.

Special Issues for Schools without Laboratory Technicians

In some schools, there is no laboratory technician. In these cases, the teacher who is responsible for the preparation before the experiment and the disposal after the experiment, should sign the section labelled ‘Certification by laboratory technician’ as the teacher is fulfilling this role. Once both electronic signatures are attached, the risk assessment will be archived as a legal record.

Special Issues for Laboratory Technicians

Laboratory technicians may wish to carry out risk assessments for activities, which relate to a number of laboratory classes, such as the preparation of dilute acid solutions. It is recommended that the title of these risk assessments include words like ‘Standard procedure’, such as ‘Standard procedure: Preparation of dilute acid solutions’. These risk assessments can easily be retrieved by using the key words ‘standard procedure’ and the author’s name in the **“Risk Assessment Search”** box. See earlier section on *Searching for Previous Risk Assessments* for more details. Since there is no classroom component for these activities, it is not appropriate for the teacher to sign the teacher’s certification. Instead, the laboratory technician should put N/A in the teacher’s signature area, after clicking the **“low risk”** button. This way the risk assessment will be archived in the RiskAssess system in non-editable format for legal purposes.

Laboratory Scheduling

From the home page, you can choose to view the **“Laboratory Scheduling”** for different time periods.



The laboratory scheduling screen is a day-by-day view of future and past experiments. It shows summary information about each experiment, and also provides a link to the full risk assessment for further details and/or electronic signing. As soon as a new risk

assessment is entered in the system for an experiment, it will automatically show up in the scheduling screen.

Laboratory Schedule [Home](#) [Log out](#)

Show schedule for:

Thursday, 31 December 2015

Period	Room	Year	Teacher	Experiment & Procedure	Prepared?
1	1	10 Chemistry	John Williams	Crystal growing Science World p80 Lodged: 30 Dec 2015, 5:27pm	<input checked="" type="checkbox"/>
Prepare well in advance <input type="button" value="Update Prep Note"/>					
4	3	12 Senior Science	Phillip Crisp	Making hydrogen gas S&B p112 Lodged: 31 Dec 2015, 10:44am	<input type="checkbox"/>
<input type="button" value="Add Prep Note"/>					

Monday, 11 January 2016

Period	Room	Year	Teacher	Experiment & Procedure	Prepared?
4	2	10 Chemistry	Mary Jones	Acids and Bases <i>Please make sure magnesium ribbon is not corroded.</i> Science World p52 Detailed procedure at www.scienceexperiment.com.au Lodged: 30 Dec 2015, 6:20pm	<input type="checkbox"/>
<input type="button" value="Add Prep Note"/>					

In many schools, teachers prepare risk assessments and then email them to laboratory technicians for review, signing and preparation. Alternatively, laboratory technicians can view the scheduling screen and click the link to the risk assessments for review, signature and preparation. If laboratory technicians are checking the scheduling screen regularly, it is generally not necessary for teachers to email the risk assessments to them, or notify them by other means, as the risk assessment will be evident on the scheduling screen.

Prep notes can be added to a risk assessment from the lab scheduling screen by clicking the “**Add Prep Note**” button. These notes may be further modified by clicking the “**Update Prep Note**” button.

There is also a “**Prepared?**” tick box for each scheduled experiment. The tick box is designed to help laboratory technicians keep track of which experiments they have already prepared, and which still need preparation. The tick box also helps teachers by giving them a way to easily see that their experiment request has been received and all has been prepared.

The time when the risk assessment is first lodged is automatically shown on the scheduling screen (for example - Lodged: 15 May 2016, 10:09pm). This is useful for those schools, which have a policy relating to a ‘cut-off time’ for experiments to be lodged in RiskAssess. It also clarifies which person has ordered an item of equipment first.

In schools where laboratory technicians initiate the risk assessments, the scheduling screen is useful to help co-ordinate preparation and to give a calendar view of future and past risk assessments.

The laboratory schedule can be printed by clicking the **“Print”** button on the appropriate laboratory schedule screen. If you would rather download the schedule into an Excel file, click **“Download for Excel (CSV)”**. Fifteen different columns of data about the experiment will be downloaded. This includes data on the inherent risk levels of experiments, as required by certain school authorities. Excel will allow further sorting and manipulation of the data.

Labelling

RiskAssess allows you to print GHS-compliant labels for pure chemicals and solutions. The labels comply with the Code of Practice, and pictograms and text automatically rearrange for best appearance. From the homepage, go to the section called **“Labelling”** and click **“Print Labels >”** button.

Safety Information Search	Labelling
Safety information without doing a risk assessment.	For chemicals
<input type="text" value="Chemicals"/> <input type="text"/> <input type="button" value="Search >"/>	<input type="button" value="Print Labels >"/>

Follow the steps 1-3.

Chemical Labelling

[Home](#)
[Log out](#)

1. Choose Chemical

Concentration: M

2. Choose Label Size and Options

All labels are designed to be printed on to A4 paper or Avery (or equivalent) label sizes.

Extra-Small (3x8, 24 labels per page, 64 x 33.8mm, eg, Avery L7159)
 Small (3x7, 21 labels per page, 63.5 x 38.1mm, eg, Avery L7160)
 Medium (2x7, 14 labels per page, 99.1 x 38.1mm, eg, Avery L7163)
 Large (2x2, 4 labels per page, 99.1 x 139mm, eg, Avery L7169)

Would you like to print borders on the labels?

Yes - best for normal paper, to help with cutting out
 No - best for sticky labels which already have borders

3. Download and Print Labels

Labels are downloaded as a PDF file for easy printing.

Print with Google Chrome or Adobe Acrobat.

Ensure you print at 100% or 'Actual Size' and do not have a 'Fit to Page' option selected.

If you want to print labels larger or smaller, and are not using sticky labels, you can adjust the print size percentage when you print. Eg, print at 80% to fit very small dropper bottles.

If you want to print multiple pages of labels, enter the number of copies when you print the PDF.

Problems?

If you have problems with printing/margins, ensure you are using the exact printer driver for your printer model, sourced from the manufacturer of your printer (not just coming with Windows/Mac). Check you have the right paper size selected (A4) and are printing with Chrome/Acrobat. Have a look at your printer paper/labels in the tray and make sure they are straight and properly positioned. Some label sheets are not quite symmetrical - check they are being printed the right way up. Try another printer and computer (eg, at home) to compare. Measure the margins in the PDF using Adobe Acrobat measure tool and compare with the printed output. Discuss with your internal IT team.

“1. Choose Chemical” When you enter the name or formula of the chemical in the box, a list of chemicals will appear. Click the appropriate chemical. If it is a solid, continue to the next step. If it is a solution, another box will appear for you to enter the concentration. The software will automatically choose the correct signal word, pictograms and hazard statements depending on the concentration of the solution entered.

“2. Choose Label Size and Options” You can print four different-sized labels for either pure chemicals or solutions. Click on the appropriate size of label. The various dimension of the labels are provided, as is the Avery code, to make your choice easier.

Click ‘Yes’ or ‘No’ depending on whether you would like borders on the labels. Click ‘Yes’ if you want the border to print on the label. Borders are provided to assist those who like to cut out the labels. Click ‘No’ if you use Avery or other types of sticky labels in Avery sizes where you do not need the border.

“3. Download and Print Labels” At this stage, you need to print a full sheet of the same label. Labels are downloaded as PDF files for easy printing. You should use Chrome or Adobe Acrobat and print at 100% or ‘Actual Size’. Make sure you do not have ‘Fit to Page’ selected. If you wish to reduce the size of the label and you are using paper, reduce the percentage. For example, 80% will allow you to print labels for very small dropper bottles. If you want to print multiple pages of labels, enter the number of copies when you print the PDF.

If you have problems with printing/margins, make sure you are using the exact printer driver for your printer model, sourced from the manufacturer of your printer (not just coming with Windows/Mac). Also check that you have selected A4 as your paper size and that you are using Chrome or Adobe Acrobat and that the labels are being printed the right way up. In addition, check the positioning of the paper/labels in the tray and ensure that they are straight and correctly-positioned, as some label sheets are not quite symmetrical. If you are still having problems, try another computer and printer to compare. Measure the margins in the PDF using the measure tool in Adobe Acrobat and compare with the printed output. Contact your internal IT team to discuss your problems.

Ways to Use RiskAssess at Your School

Either the teacher or laboratory technician can initiate a risk assessment in RiskAssess. Both of them need to review and electronically sign the risk assessment for the assessment to be automatically archived (in cases when the inherent risk is ‘high’ or ‘extreme’ in the classroom, a third signature by an authorized person is required). As each risk assessment has fields for equipment and chemicals for preparation, scheduling details and notes, it also acts as a good communication tool between teachers and laboratory technicians. There are several recommended approaches for using RiskAssess effectively at your school.

Paper-Based System

You may choose to print each risk assessment and have the teacher and laboratory technician sign it with a pen, and then file it. This is a good starting point, but takes

additional time and paper. There are also long-term problems with storage of risk assessments for legal purposes.

Note that using a paper-based workflow still allows you to use the “**Laboratory Scheduling**” screen to see a day-by-day view of experiments, if adequate information has been entered into RiskAssess.

Electronic Documents Stored on the RiskAssess System (Recommended)

Using electronic documents saves time and paper. You can choose to sign the risk assessment electronically by clicking the “**Sign Electronically**” button (See *Signing Risk Assessments* in earlier section).

Both the teacher and the laboratory technician need to sign each risk assessment. If the classroom component of the experiment has an inherent risk level of ‘high’, or ‘extreme’, additional approval is required from an ‘Authorized person’ (see *The Actual Risk Assessment* in earlier section).

Usually, after creating a risk assessment, you would sign your part electronically. You then need to let the other person(s) know about the risk assessment, so that they can review and sign it. There are two alternative approaches to do this:

1. Risk assessments are automatically included in the “**Laboratory Scheduling**” screen. This means that, if teachers usually create the risk assessments, they do not need to tell the laboratory technicians about each one. Instead, laboratory technicians, who are using the “**Laboratory Scheduling**” screen, will see the risk assessments there, and can check and sign them (see earlier section on *Laboratory Scheduling* for more information”).
2. Alternatively, you can send the risk assessment by email to another person for checking and second (or third) electronic signing. For example, if laboratory technicians generally initiate the risk assessments, they can then email them to the appropriate teacher (or vice versa). The risk assessment can also be emailed to the authorized person, if required. The email includes a link, which when clicked, will retrieve the relevant risk assessment in the RiskAssess system, making it quick and easy to sign electronically.

When two electronic signatures (or three, in the cases where the inherent risk in the classroom is ‘high’ or ‘extreme’) have been attached to a risk assessment, the risk assessment is automatically archived. See earlier section on *Archiving Risk Assessments*.

It is not necessary to print the electronic document, although we recommend you store an electronic copy of the risk assessment on your computer as an additional back up (see later section on *Long-term Storage of Risk Assessments*). You can download the risk assessment by clicking the “**Save/Print PDF**” button, so you can move or copy the file to a subdirectory or folder for storage purposes.

Student Risk Assessments

The Australian Curriculum for Science and the International Baccalaureate require

that students plan and conduct a range of their own experiments. Science students in some school systems carry out extended experimental investigations (student-initiated experiments). The RiskAssess team recommends that schools purchase an additional subscription called Student RiskAssess to be used only by students. The student subscription has a different login to the usual school subscription and, therefore, students do not have access to the risk assessments created by teachers and laboratory technicians. It has all the usual features of RiskAssess and has been customised for student use. It can be linked to the staff RiskAssess subscription, so that it can be used for assessment purposes using individual PINS for each student. For more information, see:

<http://www.riskassess.com.au/info/student> in Australia

<http://www.riskassess.ca/info/student> in Canada

<http://www.riskassess.co.nz/info/student> in New Zealand

Long-term Storage of Risk Assessments

Risk assessments are stored on the RiskAssess system in as secure a manner as we can arrange. RiskAssess operates from a server in Australia, with continuous backup to a server in Singapore. Both servers are backed up by their providers. While we can give no legal guarantee that RiskAssess will preserve your data, we have made the system as secure and long-lived as we can. We will do our utmost to ensure long-term data storage, but we do not warrant that RiskAssess will forever store your records.

We recommend that you save your risk assessments on your own school system, as an additional backup. You should discuss with your IT Department the best method for long-term storage of your risk assessments.

Risk assessments should be backed up and stored according to your school policy. The RiskAssess team recommends that risk assessments be stored for the lifetime of the people involved. The reason for this is that courts of law routinely waive the 7-year Statute of Limitations in the event of chemical injuries such as cancers, which may take decades to become apparent.

Learning Resources

You can access a number of helpful documents and presentations by clicking the “**Learning Resources**” link on the splash page or at the bottom of every RiskAssess webpage.

Frequently Asked Questions

In case you are having any problems, check out the “**Questions and Answers**” link from the bottom of every RiskAssess webpage.

Contact the Team

If you have any further questions or suggestions, please contact us as follows:.

Dr Phillip Crisp

for general discussion and feedback

info@riskassess.com.au or info@riskassess.co.nz or info@riskassess.ca
+61 (0)2 9415 8677

James Crisp

for technical issues and computer questions

info@riskassess.com.au or info@riskassess.co.nz or info@riskassess.ca

You can also click the link “**Contact Us**” at the bottom of every screen in RiskAssess.