



University of
St Andrews

Guidance on the use of the COSHH risk management programme CHARM

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University of St Andrews
Guidance on the Use of the CHARM Programme 2014

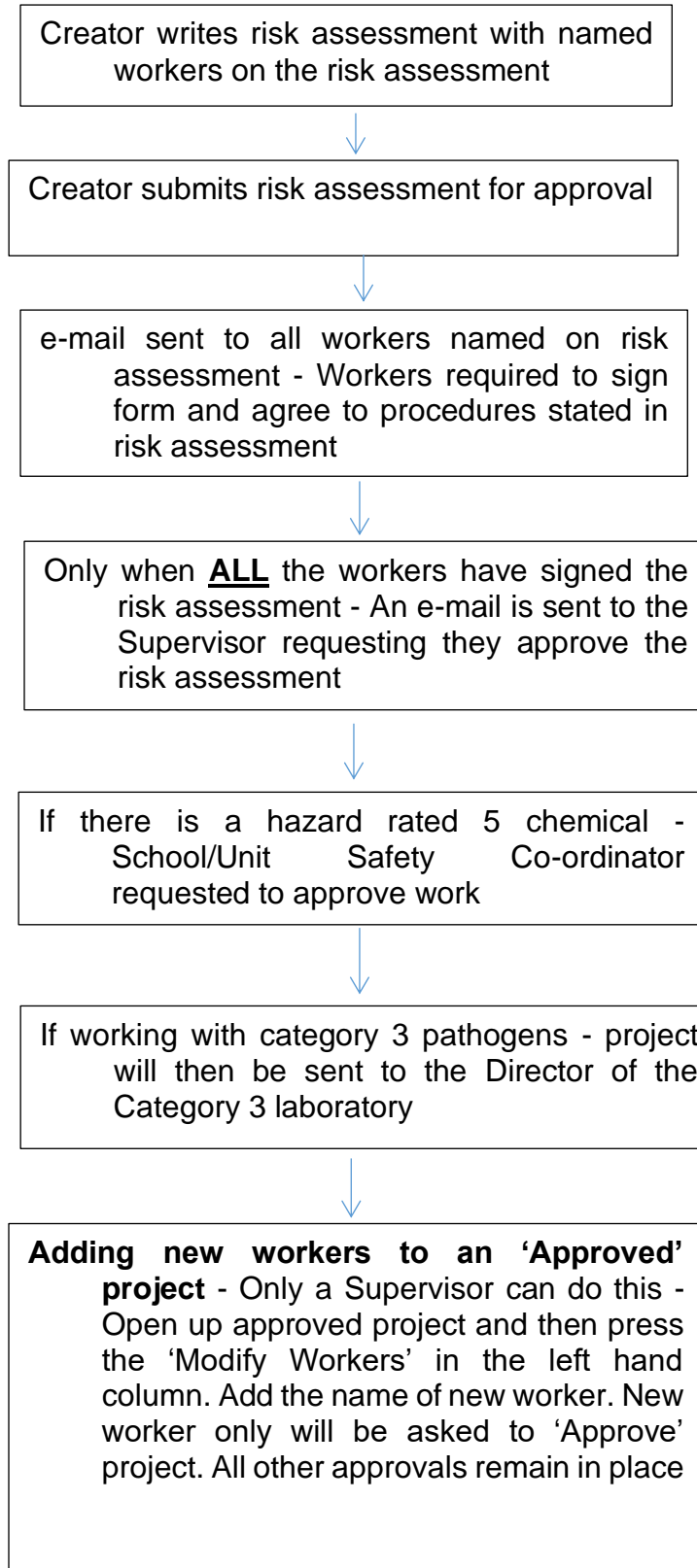
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Approval Procedure

Please note there is a modified approval procedure from the previous system. In the new system all workers identified on the risk assessment must sign the risk assessment **BEFORE** the supervisor will be allowed to approve the risk assessment..

The approval process is now as follows:



Access

The new CHARM Programme for writing COSHH risk assessments can be found at the link <https://www.st-andrews.ac.uk/ehss/charm/>

This will produce the Single Sign on site as follows:

Home Current Staff Current Postgraduates Current Students Administration A-Z Maps Contacts

University of St Andrews

Single sign-on

What it is

University of St Andrews SSO

Single sign-on (SSO) enables you to **log in only once** to gain access to the systems and applications that you have permission to use, without being prompted to log in again for each system.

Please do not bookmark this page. The login will only work if you have been redirected to this page automatically by the resource you wish to access. If you have not been redirected please now visit the resource you wish to access.

Log in here with your University username and password.

Username

Password

Login Clear

For security reasons, please Log Out and Exit your web browser when you are done accessing services that require authentication!

Personal e-mail Username

Personal e-mail Password

Then 'login'

NOTE: There is NO logout command - To end a session all you have to do is close the browser you are using

CHARM Programme

When you have logged in you will get a menu

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CHARM

The CHARM (Chemical Hazards and Risk Management) system has been developed for facilitating the preparation and management of COSHH Risk Assessment and the Chemical...

Risk assessment >

Chemicals and micro-organisms >

Training system >

Training version of programme - No 'Live' records kept

A Training version of the programme exists - The aim is to allow people to try the programme without producing 'Live' records which can be misinterpreted as work proposed.

Guidance on CHARM can be found

Guidance on CHARM programme can be found here

To search or suggest new chemicals

Press arrow to open folder

to search for chemicals - Press Search button

Enter name of chemical or part

The search feature will produce a screen as follows:

Name	Rating	EH40	STEL	LTEL	Approved	Notes
21 dimethylphenyl isocyanide 2,6-	4T	No			Yes	
22 ethyl cyanide (propionitrile)	3T	No			Yes	
23 gold cyanide	5 T	Yes		5 mg/m3	Yes	

This will determine if the chemical is on the University Database but should NOT be used as the start of the risk assessment process (you will need to open the risk assessment folder for this).

To Suggest a New Chemical

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CHARM

The CHARM (Chemical Hazards and Risk Management) system has been developed for facilitating the preparation and management of COSHH Risk Assessment and the Chemical Hazard data stored in the Hazards database

If you have any problems please contact: Dr Paul Szawłowski, Deputy Director, EHSS Email: ehss@st-andrews.ac.uk

Risk assessment

Chemicals and micro-organisms

Use this section to:

- Search for chemicals or biological agents and obtain their hazard code.
- Suggest a chemical or biological agent to be entered in the hazard database.

Search Suggest

Training system

Press the Suggest Button

You should then fill in as much information as you know about the chemical or biological agent including its name and potential hazards - see form below. Then once you have filled in as much as you can press the submit button at the very bottom of the page.

NAVIGATION

- Home
- Search substance
- Help

Chemical and micro-organisms form

* Name of the chemical

Rating:

Hazard rating according to 5 point scale

1 (no significant hazard) 2 (low hazard) 3 (moderate hazard)

4 (hazardous) 5 (highly hazardous) N/A

Nature of hazard

A (Corrosive or irritant) C (Carcinogenic) F (Flammable)

M (Mutagenic) O (Oxidising agent) R (Radioactive)

T (Toxic) X (Explosive)

OR

This information will then be picked up the University Chemical Adviser who will assess the chemical and then either confirm your hazard rating or define a different hazard rating

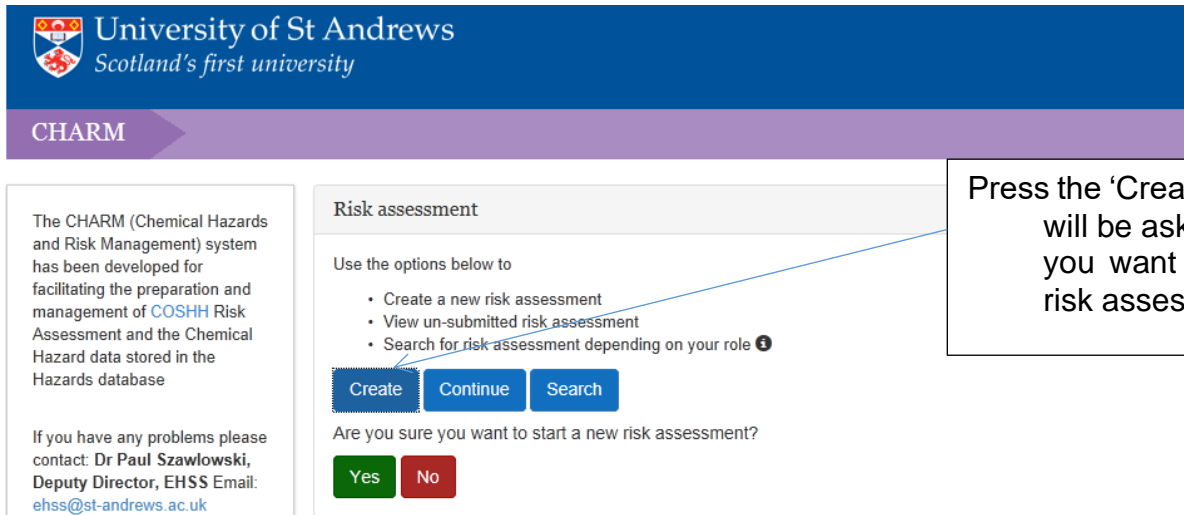
NOTE - Please do not try contacting the University Chemical Hazards Adviser directly. All new chemicals must be submitted through this process

Producing a COSHH Risk Assessment

To start a COSHH Risk Assessment



To start a new risk assessment - Press the arrow here



Press the 'Create' Button and you will be asked to confirm that you want to create a new risk assessment

If you wish to carry on a previously started risk assessment, press the 'Continue' button. If you wish to search previous risk assessments to either modify them or 'Archive' them, press the 'Search' button:

Page 1

If you press the Create and then the 'Yes' button, the following screen appears:

This column shows the sections of the risk assessment you have completed

Put in a brief title of the procedure

You should put in your School that manages you personally **NOT WHERE YOU ARE WORKING**

You should put the location of your work here

The screen should look like the screen shot below:

Progress tracker

- ✗ Title and location
- ✗ Substance and procedure
- ✗ Workers and notification
- ✗ Hazards of procedure
- ✗ Control measures
- ✗ Monitoring and supervision
- ✗ Waste disposal
- ✗ Emergency action

Options

Title and locations Creator: Dr Paul Szawlowski

* Title of the procedure

* Creator's School/Unit

* Creator's supervisor

* Locations for the procedure

#	Building	Rooms	Action
1	BSRC Annex	2.06	<input type="button" value="Edit"/> <input type="button" value="Remove"/>

Once you have made your selection you must press the 'Save' button. The system does NOT automatically store the data you enter.

To move to the next page - Press the 'Continue' button.

Page 2

On the second page you will be asked to list the chemicals and/or biological agents to be used in your procedure. You will also be asked to put in a text description of the procedure

Progress tracker

- ✓ Title and location
- ✗ Substance and procedure
- ✗ Workers and notification
- ✗ Hazards of procedure
- ✗ Control measures
- ✗ Monitoring and supervision
- ✗ Waste disposal
- ✗ Emergency action

Substance and procedure Creator: Dr Paul Szawlowski

Search for substance

* Substances to be used in the procedure

#	Name	Hazard rating	STEL	LTEL	License	Action
<input type="checkbox"/> Cyanide form required <input type="checkbox"/> Overnight form required						

* Details of the procedure ⓘ

You will be asked to put in the chemicals used in the procedure here

NB – When you search for a chemical, please do not use Numbers at the start – All records are kept with the numbers at the end - as follows

troger's base (dimethylmethanodibenzodiazocine 2,8- -6H,12H-5,11- [b,f][1,5])
 troger's base (dimethylmethanodibenzodiazocine 2,8- -6H,12H-5,11- [b,f][1,5])

If you are using a category 3 biological agent, then you will be warned of this:

✓ Title and location
✗ Substance and procedure
✓ Workers and notification
✓ Hazards of procedure
✗ Control measures
✗ Monitoring and supervision
✗ Waste disposal
✗ Emergency action

Options

Search for substance

* Substances to be used in the procedure

#	Name	Hazard rating	STEL	LTEL	License	Action
1	potassium cyanide	5 T		5 mg/m3		Remove
2	Mycobacterium bovis	IIIB				Remove

You are using a category III biological agent in your experiment.

Cyanide form required

Overnight form required

When you submit this project for approval, then as work on category 3 biological agents can only be undertaken in the category 3 containment laboratory, the project will have to be approved by the Director of the Category 3 laboratories.

If you plan to work with 'Controlled Substances' under the Misuse of Drugs Act 1971, you will be warned of this and ask for your licence number to ensure you have all the necessary Home Office licences

✓ Title and location
✗ Substance and procedure
✓ Workers and notification
✓ Hazards of procedure
✗ Control measures
✗ Monitoring and supervision
✗ Waste disposal
✗ Emergency action

Options

Search for substance

This material is subject to strict controls under the Misuse of Drugs Act 1971 and the Misuse of Drugs Regulations 2001. Contact EHSS for further details.

[+ Add Substance](#)

* Substances to be used in the procedure

#	Name	Hazard rating	STEL	LTEL	License	Action
1	potassium cyanide	5 T		5 mg/m3		Remove
2	Mycobacterium bovis	IIIB				Remove

✓ Title and location
✗ Substance and procedure
✗ Workers and notification
✗ Hazards of procedure
✗ Control measures
✗ Monitoring and supervision
✗ Waste disposal

Options

Search for substance

* Substances to be used in the procedure

#	Name	Hazard rating	STEL	LTEL	License	Action
1	potassium cyanide	5 T		5 mg/m3		Remove

Cyanide form required


Overnight form required

* Details of the procedure ⓘ

If your School/Unit requires a Cyanide form or an overnight form - you should highlight these boxes - Data will be

You will then be asked to complete the procedure. The procedure should include all chemicals and/or biological agents to be used in the complete procedure. The aim is to identify the risk

of the procedure, but this can only be done when you you have a list of all the agents to be used and what you intend to do with them.

* Details of the procedure 

Sample procedures:

1. [Example Chemical procedure Risk Assessment](#)
2. [Example Biological procedure Risk Assessment](#)

Example risk assessments to show the standard expected can be found here

Continue »

Once you have filled in this page - Press the 'Continue' button.

Page 3

This page deals with who may be at risk.

You will be asked to identify those workers who will be involved in the project. These workers will be informed of the fact that they are part of a project and asked to agree with the risk assessment automatically.

You should also identify others who may be at risk due to the work. Please do not forget those who you may not see often in a laboratory eg Cleaners, trades staff and maintenance workers. In this section you should also identify what you will do to warn them about the hazards and risks associate with the work in the project.

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CHARM

Progress tracker

- ✔ Title and location
- ✘ Substance and procedure
- ✘ Workers and notification
- ✘ Hazards of procedure
- ✘ Control measures

Workers and notification Creator: Dr Paul Szawlowski

Search for workers

+ Add workerAdd yourself as a worker

* Workers directly involved in the procedure

#	User	Signed	Action
1	Dr Paul Szawlowski (pwss)	03-Mar-2014	Remove

Put the e-mail address of workers on the project here. Then highlight worker then press the + Add Worker' button

- ✗ Monitoring and supervision
- ✗ Waste disposal
- ✗ Emergency action

Options

- [View summary](#)
- [Help](#)
- [Save and exit](#)

In addition to the workers named above, the following should be informed of any risk to which they might be exposed from this work activity and the necessary actions they should take to eliminate or minimise these risks.

Other workers in the area

<input type="checkbox"/> Cleaning staff	<input type="checkbox"/> Maintenance staff
<input type="checkbox"/> Visitors	<input type="checkbox"/> Others

Notification method

- Notice will be displayed on the door
- Notice will be displayed on the experimental bench
- Hazards will be discussed with the workers
- Send an email to inform the other workers

Continue »

For other workers - you should complete this section for others who may be affected by the work and what you propose to do to minimise the risk to these workers

Once this section has been completed - press the 'Continue Button.

Page 4

Hazards of Procedure

Each individual chemical will have a hazard but it must be realised that when the chemicals are mixed in a particular procedure, the mixture of chemicals may have a completely different set of properties. This section asks you to assess the properties of the mixture of chemicals or the reaction products.

The following items need to be completed for the mixture / reaction mixture of chemicals

Progress tracker

- ✔ Title and location
- ✗ Substance and procedure
- ✔ Workers and notification
- ✗ Hazards of procedure
- ✗ Control measures
- ✗ Monitoring and supervision
- ✗ Waste disposal
- ✗ Emergency action

Options

- [View summary](#)

Hazards of procedure Creator: Dr Paul Szawlowski

Hazards

<input type="checkbox"/> Biological	<input type="checkbox"/> Environmental Damage	<input type="checkbox"/> Poisoning
<input type="checkbox"/> Burns	<input type="checkbox"/> Explosion	<input type="checkbox"/> Sensitization
<input type="checkbox"/> Carcinogenesis / Mutagenesis	<input type="checkbox"/> Fire	<input type="checkbox"/> Toxic
	<input type="checkbox"/> Damage to reproductive organs	<input type="checkbox"/> Irritation

Others

Route

<input type="checkbox"/> Direct contact	<input type="checkbox"/> Inhalation	<input type="checkbox"/> Skin absorption
<input type="checkbox"/> Ingestion	<input type="checkbox"/> Injection	

* Possible severity of injury if the procedure goes wrong

Page 5

Control Measures

Control measures should always be prioritised. The first control measure which should be considered is – ‘Can the Chemicals /Procedure’ be eliminated. If it cannot be eliminated then can you ‘Substitute’ some or all of the chemicals with something less hazardous. This protects all workers in a laboratory with minimal costs. If you cannot eliminate or substitute the chemicals then you should complete Section on Control Measures on how you propose to control the risks of the chemicals and procedure.

Pages 5 and 6 deal with the control measures that need to be applied to eliminate or minimise the risks of the procedure described in the COSHH Risk Assessment

On page 5, the basic control measures are defined:

Control measures
Creator: Dr Paul Szawłowski

Engineering control measures

Fume cupboard Glove box Vacuum system

Ventilation system

Others

Biological laboratory

Containment level 1 Containment level 2 Containment level 3

Microbiological safety cabinet

Class 1 Class 2 Class 3

Options

The requirements for containment laboratories is given in 2 documents published by the HSE - Compendium of Guidance <http://www.hse.gov.uk/bio/safety/gmo/acgm/acgmcomp/index.htm> and by the Management, Design and Operation of Microbiological Containment Laboratories <http://www.hse.gov.uk/pubns/priced/microbiologyiac.pdf>

Details on the different classes of microbiological safety cabinets (MSC) can also be found in Management, Design and Operation of Microbiological Containment Laboratories <http://www.hse.gov.uk/pubns/priced/microbiologyiac.pdf>

NOTE: Class of microbiological safety cabinet does NOT correlate to containment - The Class of MSC just defines how they work. Therefore you do not need to have Class 2 MSC in Category 2 containment facilities - you can use Class 1 MSCs.

Identify the type of personal protective equipment, you make sure it is the right type For example:

Personal protective equipment

Eye protection Face protection (visor) Foot protection

Hand protection Laboratory coat Respiratory protection (Mask)

Others

Mark section as complete *

Eye protection - Can provide protection against projectiles and also/or against chemical splashes. It is important that the correct type of eye protection is chosen eg eye protection in a laboratory is usually for protection against projectiles for when an experiment explodes.



Examples of Frame Markings according to BS EN 166

W	166	34	B/F	CE	0196
Manufacturers ID	Number of BS EN Standard	Field(s) of Use (Optional)	Symbol of Resistance to high speed particles	CE Mark of Conformity	Certified test body numr
Symbol of Field(s) of Use			Symbol of resistance to high speed particles		
Symbol Number	Basic Use				
3	Liquids (Goggle/Visor)		F = Low energy impact (45 cm/s) (Spectacles)		
4	Large dust particles (Goggle)		B = Medium energy impact (120 m/s) (Goggle or visor)		
5	Gas and fine dust particles (Goggles)				
8	Short Circuit Electric Arc (Visor)				
9	Molten metals and hot solids (Goggle/Visor)		T = Extreme temperature (-5oC / +55oC)		








Personal protective equipment

- Eye protection
 Face protection (visor)
 Foot protection
 Hand protection
 Laboratory coat
 Respiratory protection (Mask)

Others

Mark section as complete*

Hand Protection - There are different types of hand protection from protection against chemicals, Kevlar gloves to provide protection cuts and protection against high/low temperature.

	Mechanical Strength Four factors considered: Abrasion - 1 to 4 (1 being lowest protection) Blade Cut - 1 to 5 (1 being lowest protection) Tear - 1 to 4 (1 being lowest protection) Puncture - 1 to 4 (1 being lowest protection)
	Chemical Resistant - Gloves have a 30 minute breakthrough time for specific chemicals. Details the chemicals it is resistant to
	Low Chemical Resistance - Gloves have a breakthrough time of less than 30 minutes
	Resistant to biological agents
	Resistant to Ionising Radiations - Radioactivity and X-Rays etc
	Protection against hot thermal hazards
	Protection against extreme cold

Protection against Chemicals - The protection a particular gloves provides against specific chemicals depends on the material of the glove. Gloves do not provide a uniform protection against all chemicals. Some glove materials are better than others at protecting against specified chemicals but not others. The parameters that have to be considered are the

- Breakthrough time (The time it takes a particular chemical to penetrate a particular glove type),
- Permeation Rate (The rate of permeation of a chemical once it has broken through a particular glove type) and
- Degradation rate (The rate at which a particular glove type degrades in the presence of particular chemical).

Details of such parameters can be found at Glove Manufacturers websites eg:

http://industrialcatalogue.ansell.eu/en/chemicalagentsperstyle?field_style_nid=105

Personal protective equipment

- Eye protection Face protection (visor) Foot protection
 Hand protection Laboratory coat Respiratory protection (Mask)

Others

Mark section as complete *

Respiratory Protective Equipment (RPE) - There are different types of RPE to provide protection against dusts, fumes, chemical gases and smoke. The protection provided depends on the filters being used and also on the effectiveness of the seal around the face. It is therefore important that workers are aware of the different types of RPE and what they are used for.

Dust RPE - Three types of RPE is available

Type of mask	Size of particle will provide protection against	Protection Factor	British Standard
FFP1	FFP1 Mask = For large particulates (>5 mm) – Not very effective	4 4	BS EN 149 (disposable face mask) BS EN 140 (Half mask silicon RPE)
FFP2	FFP2 Mask = For fine particulates (dusts between 2 – 5 mm)	10 10	BS EN 149 (disposable face mask) BS EN 140 (Half mask silicon RPE)
FFP3	FFP3 Mask = For very fine dusts (<2mm)	20 20	BS EN 149 (disposable face mask) BS EN 140 (Half mask silicon RPE)

Gas Filter protection RPE

Type of mask	Size of particle will provide protection against	Protection Factor	British Standard
FFGas P2/P3	Disposable half masks - See Manufacturers details for protection against specific gases/fumes	10 10	BS EN 405 (Disposable masks)
Gas P2/ P3	Half Face mask -See Manufacturers details for protection against specific gases/fumes	10	BS EN 140 (Half mask respirator)
Gas	Full Face Respirator - See Manufacturers details for protection against specific gases/fumes	20	BS EN 136

FACE FIT TESTING - Where the effectiveness of a RPE is dependent on a seal of the PRE with the face of the user, it is legally required that the mask is face fitted (Reg 7 - Control of Substances Hazardous to Health Regulations 2002). This includes disposable masks - but you only have to test one mask type once but if you change the manufacturer then you must do another face fit. Only qualified persons can undertake such a face fit test

Positive Pressure Full Face mask/hood

Type of	Size of particle will provide	Protection	British Standard
---------	-------------------------------	------------	------------------

Page 6

The control measures identified on Page 5 of the Form should NOT be seen as covering all situations. Just ticking the tick boxes on page 5 may not be enough. If you are unsure or there are other hazards which need controlling, please complete the section on page 6 entitled 'Any Other Control Measures'.

You should also mention if there is need for specific training for handling any of the chemical and/or biological agents eg

- Training requirement for entering category 3 containment laboratories;
- Working with category 3 pathogens;
- Working with HF acid
- Working with inorganic cyanides eg NaCN

Some chemicals have Workplace exposure limits (WELs) as defined in the Control of Substances Hazardous to Health Regulations 2002 and defined in the EH40 document (<http://www.hse.gov.uk/pubns/priced/eh40.pdf>). Where WELs exist, these are deemed to be maximum legal exposure limits, exceeding these limits is a criminal offence. It, thus, may be necessary to monitor levels of these compounds. Some limits are so vast that we do not do any work that may reach these limits eg ethanol WEL = 1000ppm over an 8 hour working period.. However some other substances eg formaldehyde the WEL is 2ppm or a 15 minute exposure period. Tus it may be necessary to periodically measure formaldehyde levels using systems like Kitagawa tubes or electronic measuring devices. If you do undertake monitoring, you need to keep accurate records of all monitoring activities.

Monitoring and supervision

Creator: Dr Paul Szawlowski

If there are any other Control Measures required please give details below.

Require specific training to carry out this procedure

Monitoring required

Mark section as complete *

Details of any other control measures required including any monitoring required

Continue »

If specific training is required, then tick this box and complete the dialogue box which subsequently produced.

Page 7

Waste Disposal

This section deals with the waste disposal procedures for the chemicals/biological agents being used. This is managed through the Special Waste Amendment (Scotland) Regulations 2004 and enforced by the Scottish Environment Protection Agency (SEPA).

However to ensure simple management of Hazardous Waste, it has been University guidance that no chemicals are put to drain

The controls of how waste should be disposed of is managed through the European Waste Catalogue (EWC) which can be found at: <http://publications.environment-agency.gov.uk/pdf/GEHO0411BTRD-e-e.pdf> . It is a legal requirement on the University that waste must be disposed of in a safe and environmental acceptable manner. The EWC does allow for harmless chemicals to be put to drain but that they must comply with the European Waste Catalogue (EWC) requirements.

The EWC has three categories of waste -

- Absolute category - This is where it is absolutely forbidden to put this chemical to drain in any quantity;
- Mirror Category - where a chemical can be put to drain but only if the concentration is below the limit set in the EWC. This is done through algorithms set up in the EWC.
- Non-hazardous

To determine if the quantity of a substance is deemed non-hazardous under the Special Waste Amendment (Scotland) Regulations 2004, you will need to use the algorithms stated in the EWC.

The algorithms are given in Appendix 1 at the back of this guidance.

As can be seen, this is a very complex procedure. Ensuring this is complied with is very difficult.

However, if you are prepared to go through the relevant algorithm and show that the waste is not deemed hazardous, then it can be put to drain.

There are algorithms for:

- Explosive waste
- Highly flammable and flammable waste;
- Irritant and harmful waste
- Toxic waste;
- Corrosive waste; Environmentally Harmful waste
- Toxic for reproduction
- Infectious waste;
- Mutagenic waste
- Carcinogenic waste;
- Waste producing toxic gases when in contact with water
- Any other substance which is hazardous

If you do this you **MUST KEEP A COPY OF THE ALGORITHM SHOWING it complies with relevant legislation.**

NOTE: It is however recommended that to simplify management of hazardous waste disposal that all chemical waste is deemed hazardous and disposed of in this manner and no such waste is put to drain

Special Waste (Incineration) is only for very special cases for example was from work with Specified Animal Pathogens

Waste which may be only slightly contaminated with chemicals eg waste gloves, weighing boats etc

No chemically contaminated waste can be put in Domestic Waste Bins emptied by Estates cleaners

Waste Disposal - This section deals with the waste disposal procedures for the chemicals/biological agents being used. This is managed through the Special Waste Amendment (Scotland) Regulations 2004 and enforced by the Scottish Environment Protection Agency (SEPA). Detailed guidance on the legal and University requirements for disposal of hazardous materials can be found in the main CHARM Guidance document

Solid waste

- Keep for special waste disposal ⓘ Special waste (incineration) ⓘ Low level contaminated waste ⓘ

Other

Gaseous waste

- Absorb in suitable solution Vent to atmosphere

Other

Organic liquid waste

- Solvent waste collection Keep for special waste disposal ⓘ

Other

This should be ticked if the organic waste cannot be mixed or there is no general waste solvent uplift

Waste disposal

Emergency action

Options

View summary

Help

Save and exit

NO aqueous waste can be put to drain unless the EWC algorithm has been undertaken and it can be shown not to be hazardous

Aqueous liquid waste

Wash to drain ⓘ Keep for special waste disposal ⓘ

Other

Solid biohazard waste ⓘ

Autoclave Disinfect with 2.5 % virkon Disinfect with Hypochlorite

Other

Liquid biohazard waste ⓘ

Autoclave Disinfect with 2.5 % virkon Disinfect with Hypochlorite

Other

If there are any special procedures require to make waste safe prior to disposal, please give details below. ⓘ

iste.htm#

If you are using a disinfectant - You must be able to show the disinfectant reduces the number of viable organism by 10^5 fold.

Where special procedures are needed to inactivate or minimise the risk from a chemical, then that procedure should be detailed in this section. This procedure should provide exact details including timings for inactivation and necessary precautions for inactivation (eg to be done in a fume cupboard).

Once this section s competed, then you should mark it as complete and then press the 'Continue' Button as below.

Mark section as complete *

Continue »

Emergency Actions

The purpose of this section is to ensure that the appropriate measures to be taken in the event that the procedure described goes wrong are adequately described. This means that if there is an accident, staff know what to do.

CHARM

Progress tracker

- Title and location
- Substance and procedure
- Workers and notification
- Hazards of procedure
- Control measures
- Monitoring and supervision
- Waste disposal
- Emergency action

Options

- View summary
- Help

Emergency Action Creator: Dr Pat

Fire

- Fire blanket
- CO₂ fire extinguisher
- Dry powder fire extinguisher
- Call fire service
- Other

Compressed gas

- Ventilate area
- Evacuate building
- Call fire service
- Other

Burns

- Irrigate with water
- Call first aider
- Take to hospital
- Call ambulance
- Other

Poisoning

- Call first aider
- Take to hospital
- Call ambulance
- Other

Stench

- Ventilate area
- Evacuate building
- Other

Chemical spillage

- Clean up
- Cover with sand
- Call specialist contractor (via your school safety co-ordinator)
- Other

The use of fire extinguishers should only be contemplated if the person knows what types of fire the extinguishers can be used against, how to use the extinguisher and only if it is safe to tackle the fire

Always call a first aider for a heat or chemical burn. Only if the first aider believes it is necessary should an ambulance be called for

Any chemical spillage - you should detail not only the means of cleaning up the spill but also what personal protective equipment that should be used (in particular the type of gloves)

Biohazard spillage

Autoclave
 Disinfect with 2-5 % virkon
 Disinfect with Hypochlorite

Call specialist contractor (via your school safety co-ordinator)

Other

Mark section as complete*

Continue »

If you are using a disinfectant - You must be able to show the disinfectant reduces the number of viable organism by 10⁵ fold.

Once you have completed this section, you should mark it as complete and then press the 'Continue' Button.

Page 9 Submit Risk Assessment

Progress tracker

- Title and location
- Substance and procedure
- Workers and notification
- Hazards of procedure
- Control measures
- Monitoring and supervision
- Waste disposal
- Emergency action

Workers and notification Creator: Dr Paul Szawlowski

Search for workers

* Workers directly involved in the procedure

#	User	Signed	Action
1	Dr Paul Szawlowski (pwss)	03-Mar-2014	<input type="button" value="Remove"/>

In addition to the workers named above, the following should be informed of any risk to which they might be exposed from this work activity and the necessary actions they should take to eliminated or minimise these risks.

Other workers in the area

Cleaning staff
 Maintenance staff
 Visitors
 Others

Notification method

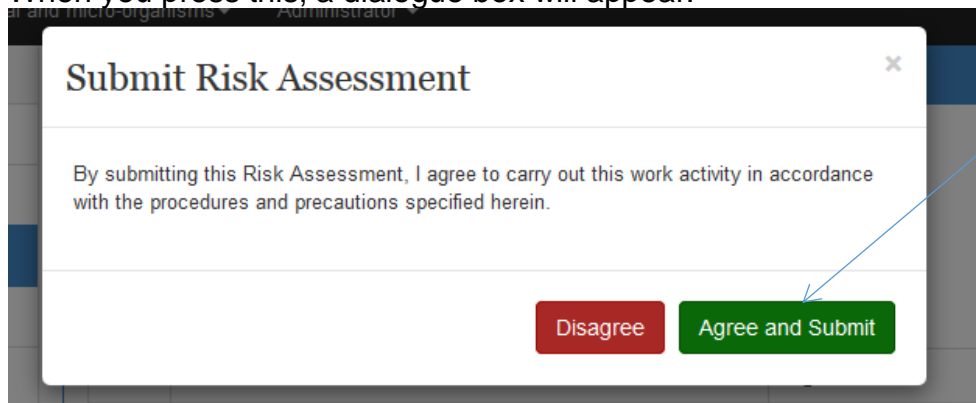
Notice will be displayed on the door

Options

-
-
-
-

When you have completed the risk assessment form and all the boxes on the left hand side are ticked - You will see the 'Submit Risk Assessment' button

When you press this, a dialogue box will appear:



By agreeing to the risk assessment, you agree to comply with the procedures agreed in the risk assessment.

Once you have pressed the agree button, this will automatically notify

- Other workers and request their signature;
- Request approval from your Supervisor;
- If necessary request approval of the School Safety Co-ordinator
- If necessary request approval of the Category 3 Containment Laboratory Director

Page 10

View

To view partially completed risk assessments:

This will bring up a list of partially completed risk assessments:

Title	Creator	School	Locations	Supervisor	Workers	Substances	Created	
1	Dr Paul Szawlowski (pwss)			0			03-Mar-2014	
2	Dr Paul Szawlowski (pwss)			0			03-Mar-2014	
3	Dr Paul Szawlowski (pwss)			0		<ul style="list-style-type: none"> fluorophthalic acid 3- (3 A T) ryanodine (4T) 	23-Jan-2014	
4	Dr Paul Szawlowski (pwss)			0			23-Jan-2014	
5 New one	(pwss)	School of Biology	<ul style="list-style-type: none"> BSRC Annex (Rooms: 5) 	Mr Ankit Sawa (as291)	<ul style="list-style-type: none"> Mr Ankit Sawa (as291) 	<ul style="list-style-type: none"> potassium ethoxide (3 A) 	26-Sep-2013	

To reactivate the risk assessment - press this button

To view your risk assessments which have been reactivated, click on the CHARM homepage:

The CHARM (Chemical Hazards and Risk Management) system has been developed for facilitating the preparation and management of COSHH Risk Assessment and the Chemical Hazard data stored in the Hazards database

If you have any problems please contact:
Dr Paul Szawlowski, Deputy Director,
EHSS Email: ehss@st-andrews.ac.uk

If you have a query about completing a Risk Assessment, please contact your Subject Risk Safety Co-ordinator

Risk assessment

Use the options below to

- Create a new risk assessment
- View un-submitted risk assessment
- Search for risk assessment depending on your role

Create Continue Search

Chemicals and micro-organisms

Training system

Press the search button

This will bring up the following table:

You must highlight the role you are searching under - eg are you the creator, PI

Select your role

Creator
 Safety co-ordinator of school
 Worker

Supervisor
 Head of building
 Building indirect role

Head of school
 Safety co-ordinator of building

Find using unique risk assessment number

eg. 12 or ra12 or RA12 Go!

search in table 10 records per page

Showing 1 to 1 of 1 entries

Title	Supervisor	School	Locations	Submitted	Workers	Substances	Approved
1 Making carbon	Dr Paul Szawlowski (pwss)	Environmental Health and Safety Services	<ul style="list-style-type: none"> • BSRC Annex (Rooms: 2.06) • Biomolecular Sciences Building (BMS) (Rooms: 2.06) 	03-Mar-2014	• Dr Paul Szawlowski (pwss)	• potassium cyanide (5 T)	pending

To reactivate the risk assessment - Press this button

Cyanide Forms

Once a form has been approved, press the Search Button to get up the relevant form (as a Creator or Supervisor) and open the relevant risk assessment with an inorganic cyanide in it – This will then look like:

This shows the status of the approval process

- Options
- View summary
 - Cyanide form
 - Modify workers
 - Help
 - Print
 - Save and exit

magnus test 1 RA288

School of Biology Approved: 28-Aug-2014

Supervisor: Dr Paul Szawlowski
 Creator: Dr Paul Szawlowski
 Expires: 28-Aug-2018

Workers directly involved in the procedure

#	User	Signed
1	Dr Paul Szawlowski (pwss)	28-Aug-2014

Locations for the procedure

#	Building	Rooms
1	BSRC Annex	B213

Press the link to the Cyanide Form which will open the Cyanide form as below

School of Chemistry Cyanide procedure form

magnus test 1 RA288

Details of procedure

these chemicals will be used for a fantastic experiment

Location:

For each page of the procedure involving manipulation of cyanide or cyanide-containing materials please enter the following information

#	Procedure	Date	Time	Accompanying person	First aid worker on call
1					
2					
3					
4					

Signature

Name

Date

Person doing the work

Accompanying person

NEW Workers to be added

The Supervisor can add the names of new workers to an approved project anytime after approval.

Only the Supervisor can undertake this operation

When you open an 'Approved' project, you will get the following page:

Click on Modify Workers

University of St Andrews
Scotland's first university

CHARM Print

Bromobenzene RA315

School of Chemistry Approved: 01-May-2014

Supervisor: Dr Paul Szawlowski
Creator: Dr Paul Szawlowski

Workers directly involved in the procedure

#	User	Signed
1	Dr Paul Szawlowski (pwss)	01-May-2014
2	Mr Brian Kennedy (bmk1)	

Locations for the procedure

#	Building	Rooms
1	Eute Building	b1

Options

- View summary
- Modify workers
- Help
- Print
- Save and exit

This will bring up the page:

Options

- View summary
- Modify workers**
- Help
- Save and exit

Modify workers Creator: Dr Paul Szawlowski

Search for workers

[+ Add worker](#)[Add yourself as a worker](#)

*Workers directly involved in the procedure

#	User	Signed	⊖
1	Dr Paul Szawlowski (pwss)	01-May-2014	Remove
2	Mr Brian Kennedy (bmk1)		Remove

After you have added new worker(s) please click on **Notify workers**.
This will send an email notification to all workers who have **not** signed this risk assessment.

Notify workers can also be used to send workers a second reminder if they have not signed the risk assessment yet.

Just add the name of a new worker. System will automatically get new worker to approve risk assessment without others having to approve it

www.st-andrews.ac.uk

Editing Risk Assessments

To edit a risk assessment – Only the Creator and the Supervisor can Edit a risk assessment. Press the Search Button on the Front Page of the CHARM programme and search as a Creator or as a Supervisor. This will bring up all the risk assessments associated with your role. Open the relevant risk assessment which will look like:

magnus test 1 RA288

School of Biology Approved: 28-Aug-2014

Supervisor: Dr Paul Szawlowski
Creator: Dr Paul Szawlowski
Expires: 28-Aug-2018

Workers directly involved in the procedure

#	User	Signed
1	Dr Paul Szawlowski (pwss)	28-Aug-2014

Locations for the procedure

#	Building	Rooms
1	BSRC Annex	B213

Substances to be used in the procedure

#	Name	Hazard rating	STEL	LTEL	Licence
1	tin, granulated	1			
2	ryanodine	4T			
3	tributylphosphine -n-	4T			
4	ephedrine 1R, 2S (-)	3 T			HMJ1111

This experiment requires a cyanide form

Details of procedure

these chemicals will be used for a fantastic experiment

Other workers in the area

- Cleaning Staff
- Maintenance Staff

Notification method

- Notice will be displayed on the experimental bench

Hazards of the Procedure

- Poisoning
- Explosion
- Toxic

Route to hazards

- Direct contact
- Ingestion
- Injection

Personal protective equipment

- Eye protection
- Hand protection
- Laboratory coat

This experiment requires specific training
someone will look over your shoulder

Waste

Solid waste

- Keep for special waste disposal

Emergency

Fire

- Fire blanket
- CO2 fire extinguisher

Poisoning

- Call first aider
- Call ambulance

Stench

- Ventilate area

Chemical spillage

- Clean up

Edit

Press this Button to open the Edit function of the Programme

NB – When you open the risk assessment in the 'Edit Function' and modify the risk assessment, no matter how small the changes are, you will need to get the modified risk assessment reapproved by all the necessary people

Archiving

4years after a risk assessment has been approved, it will be required to be reviewed formally and all those on the risk assessment will have to approve the work on the form again.

A warning 3 months, 1 month and 1 week prior to the archiving date will be sent to Supervisors. They should then review the risk assessment and if it is still valid, then reapprove it. Workers will also have to reapprove it

Any editing needing done on the risk assessment should be done as shown in the Edit section

If the risk assessment is not reviewed by 4 years it will automatically be archived and withdrawn from view and not be valid.

If a risk assessment has been Archived, then for the work to continue, a new risk assessment will have to be written and approved.

In some exceptional circumstances, Archived risk assessments can be reactivated but this will be a rare occurrence

NOTE:

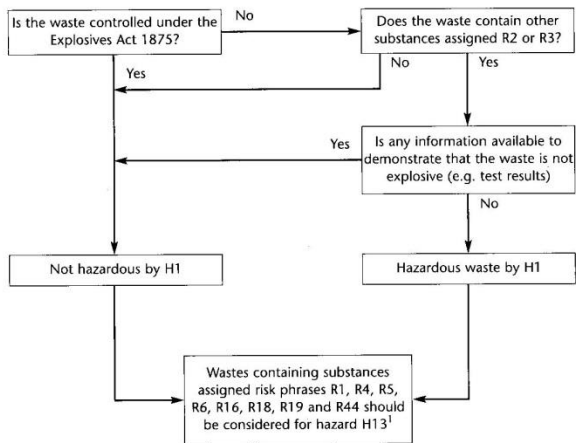
If you have any problems regarding the use of the CHARM system, you should in the first instance contact Paul Szawlowski at EHSS using the e-mail address: ehss

Appendix 1

European Waste Catalogue Hazardous Waste Property Assessment Algorithms

Hazard Waste Group 1 - Explosives (H1)

Figure C1.1: Decision Tree for the Assessment of Hazard H1

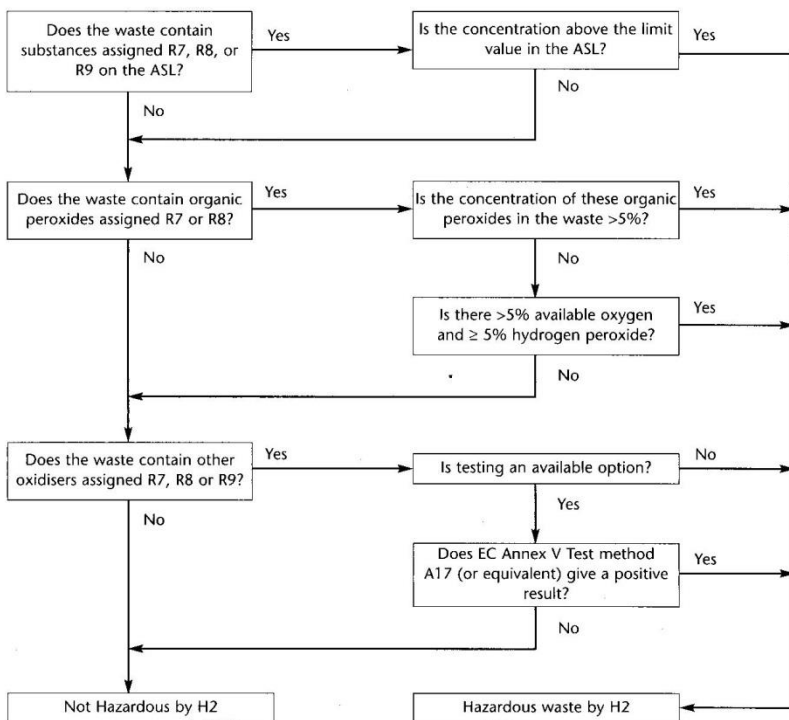


Note:

¹ Except wastes covered by the Explosives Act 1875

Hazard Waste Group 2 - Oxidisers (H2)

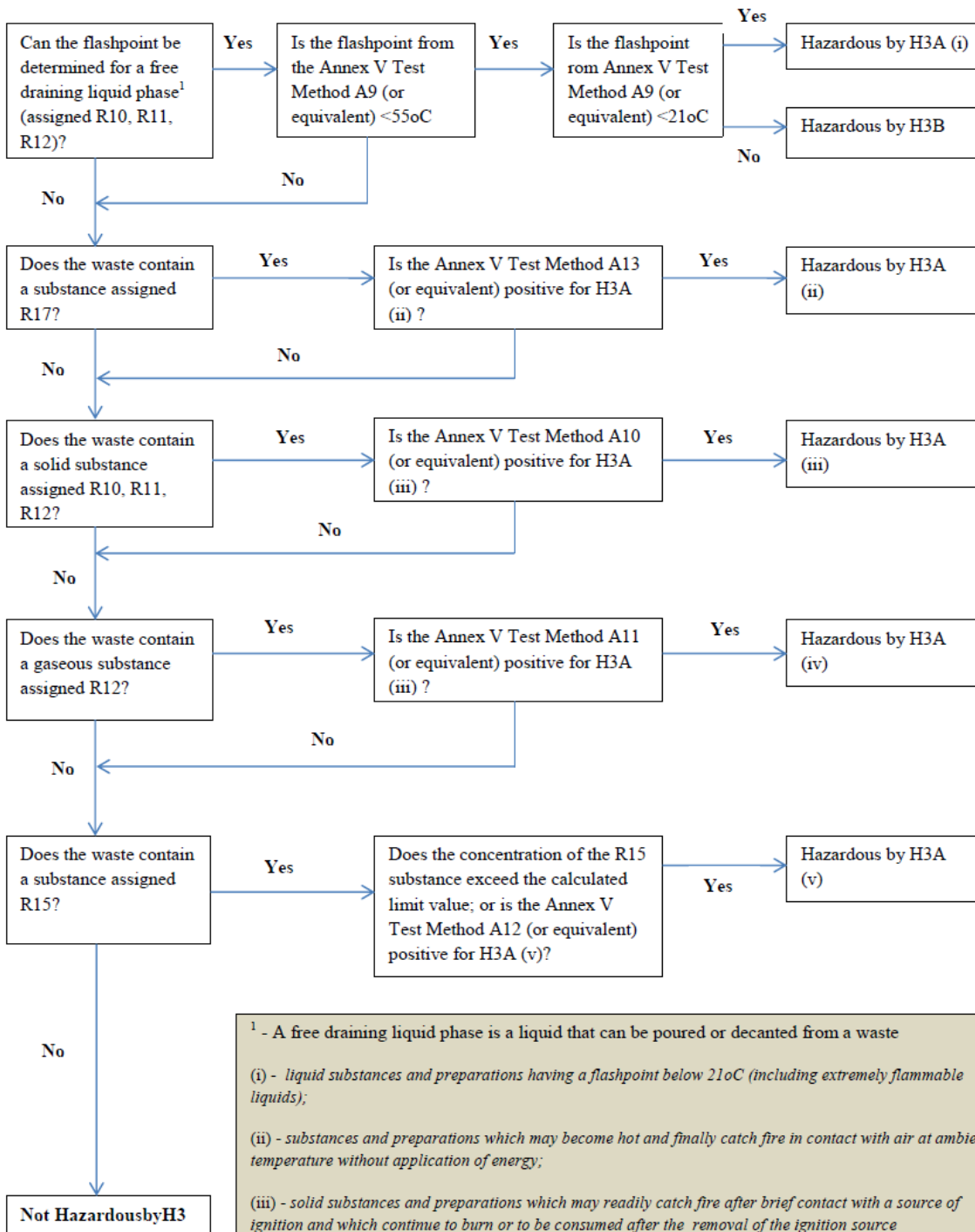
Figure C2.1: Decision Tree for the Assessment of Hazard H2



Hazard Waste Group H3 - Flammable

C3.1

Decision Tree for the Assignment of Hazard Code H3



¹ - A free draining liquid phase is a liquid that can be poured or decanted from a waste

(i) - liquid substances and preparations having a flashpoint below 21oC (including extremely flammable liquids);

(ii) - substances and preparations which may become hot and finally catch fire in contact with air at ambient temperature without application of energy;

(iii) - solid substances and preparations which may readily catch fire after brief contact with a source of ignition and which continue to burn or to be consumed after the removal of the ignition source

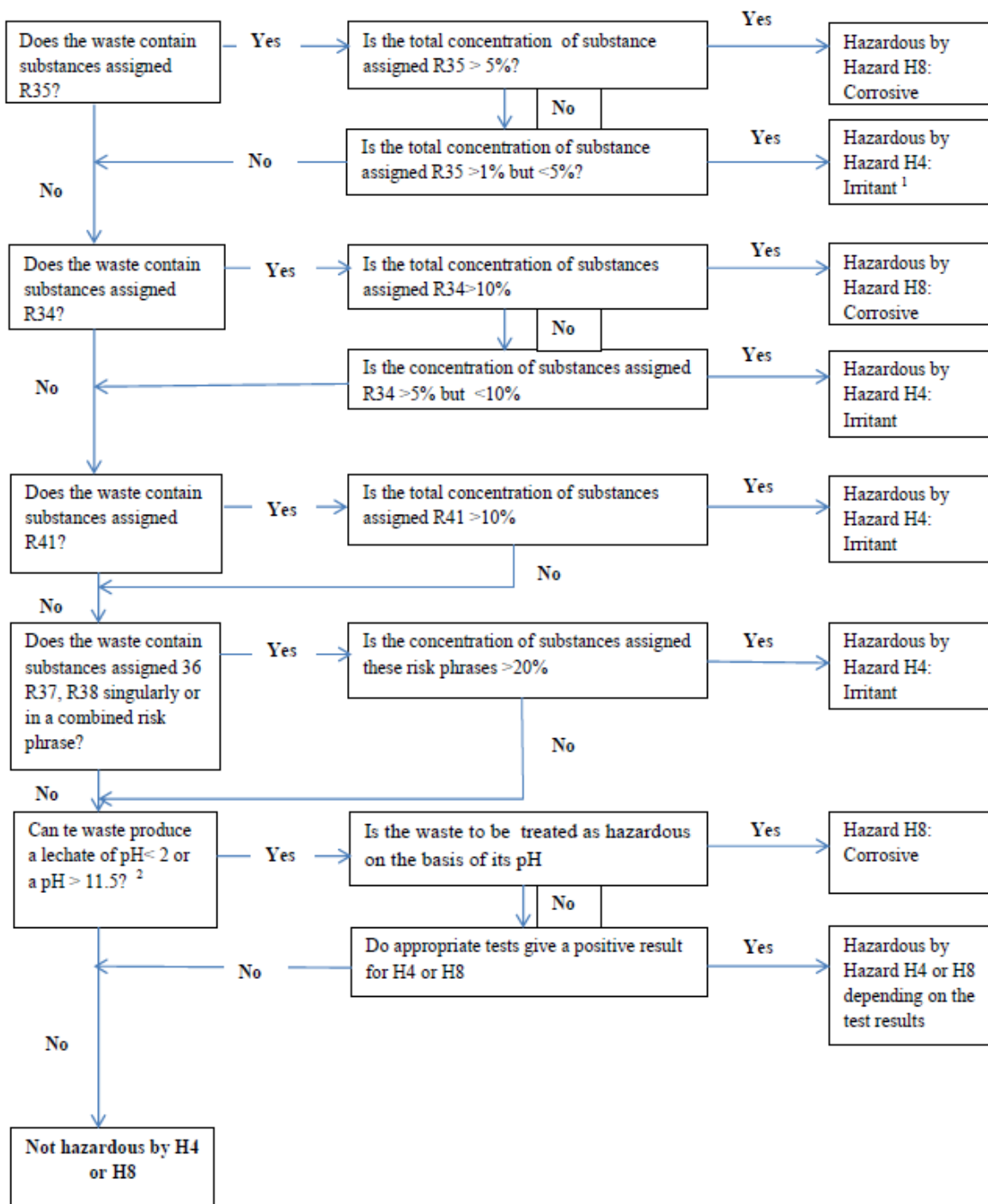
(iv) - gaseous substances and preparations which are flammable in air at normal pressure;

(v) - substances and preparations which, in contact with water or damp air, evolve highly flammable gases in dangerous quantities.

Hazard Waste Group H4 and H8 - Irritant and Corrosive

C4.7 Decision Tree

C47 sets out the assessment process for Hazards H4 and H8



¹ - If the waste also contains substances assigned R34 and the total concentration of these substances is 10%, the waste is hazardous by hazard 8: Corrosive

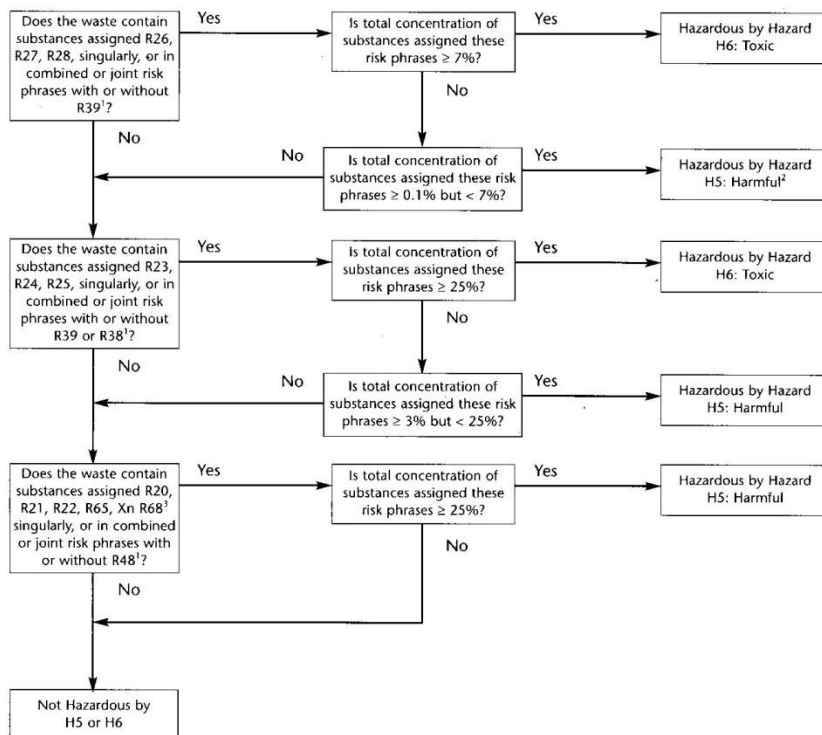
² - Including consideration of acid/alkali reserve, if appropriate

Hazard Waste Group H5 and H6 - Harmful and Toxic

C5.7 Decision Tree

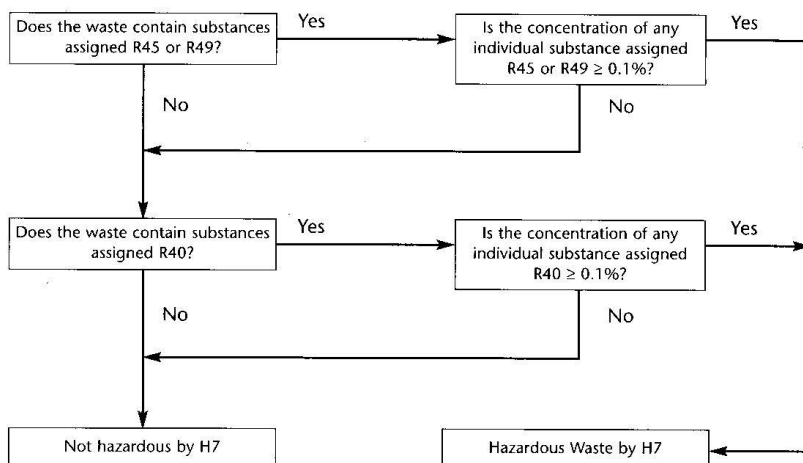
Figure C5.1 sets out the assessment process for the Hazards H5 and H6.

Figure C5.1: Decision Tree for the Assessment of Hazards H5 and H6



Hazard Waste Group H7 - Carcinogenic

Figure C7.1: Decision Tree for the Assessment of Hazard H7



Hazard Waste Group H9 - Infectious

C.9.5 Decision Tree

Figures C9.1 and C9.2 set out the assessment process for the Hazard H9.

Figure C9.1: Chapter 18 Wastes – Special Requirements

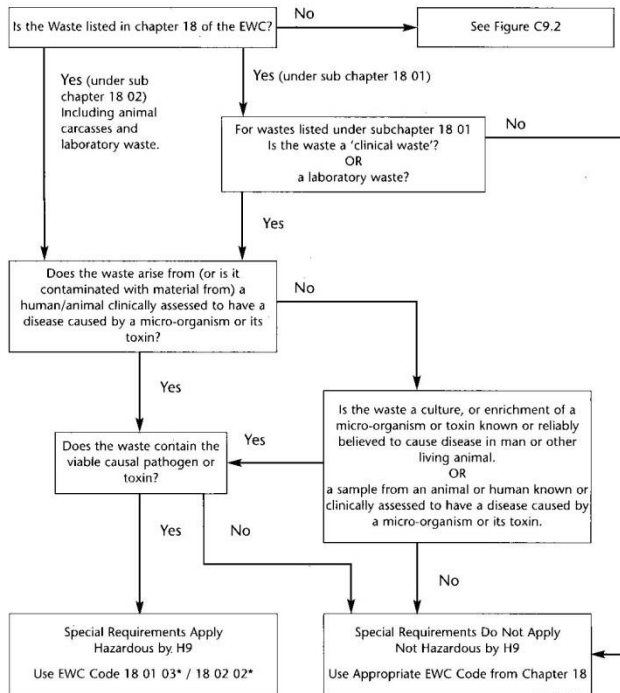
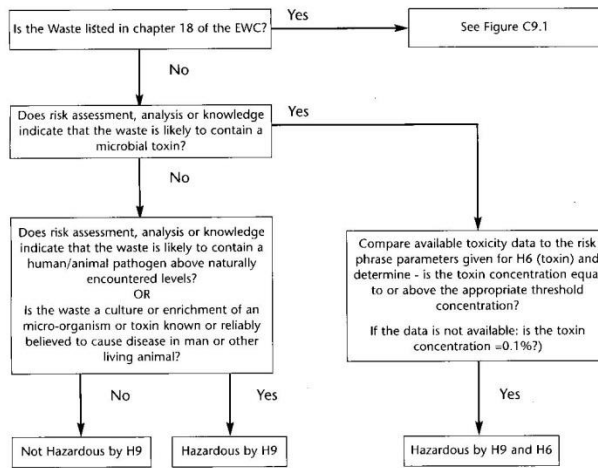


Figure C9.2: Potentially infectious wastes from other sources (Chapters 1-17, 19 and 20)

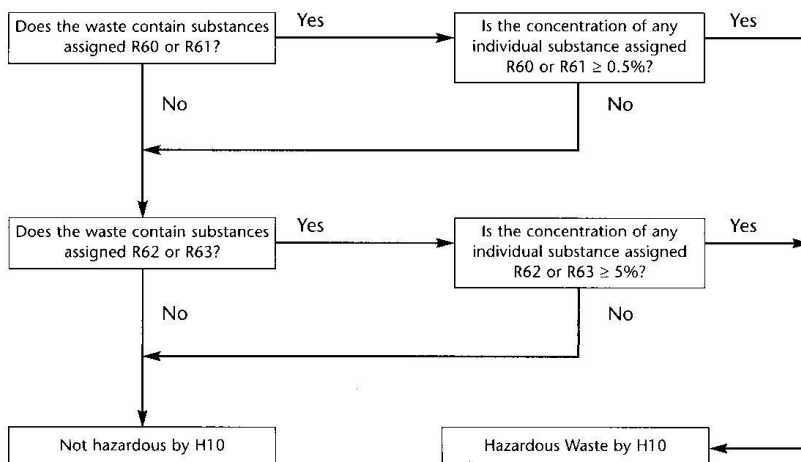


Hazard Waste Group H10 - Toxic For Reproduction

C10.4 Decision Tree

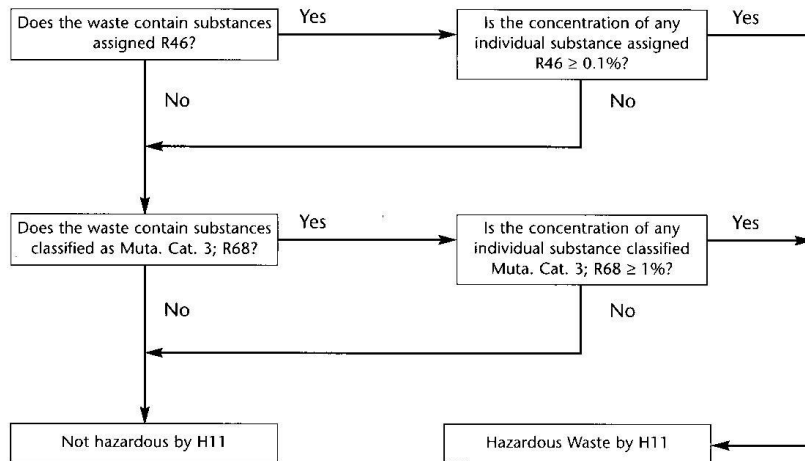
Figure C10.1 sets out the assessment process for the Hazard H10.

Figure C10.1: Decision Tree for the Assessment of Hazard H10

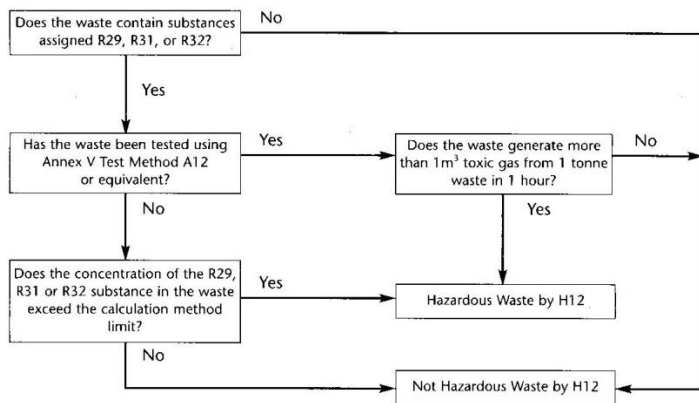


Hazard Waste Group H11 - Mutagenic

Figure C11.1: Decision Tree for the Assessment of Hazard H11

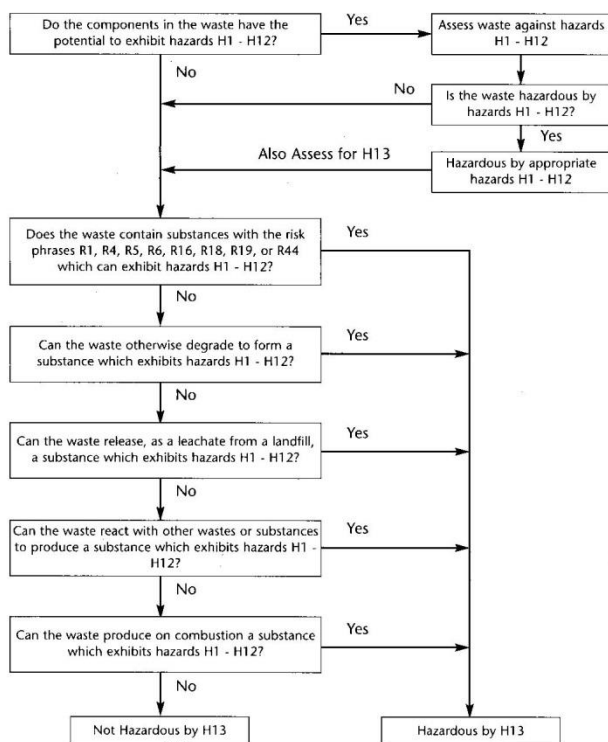


Hazard waste Group H12 - Produces Toxic Gases in contact with Water, Air or Acid



Hazard Waste Group 13 - Can the substance produce another hazardous substance after disposal

Figure C13.1: Decision Tree for the Assessment of Hazard H13

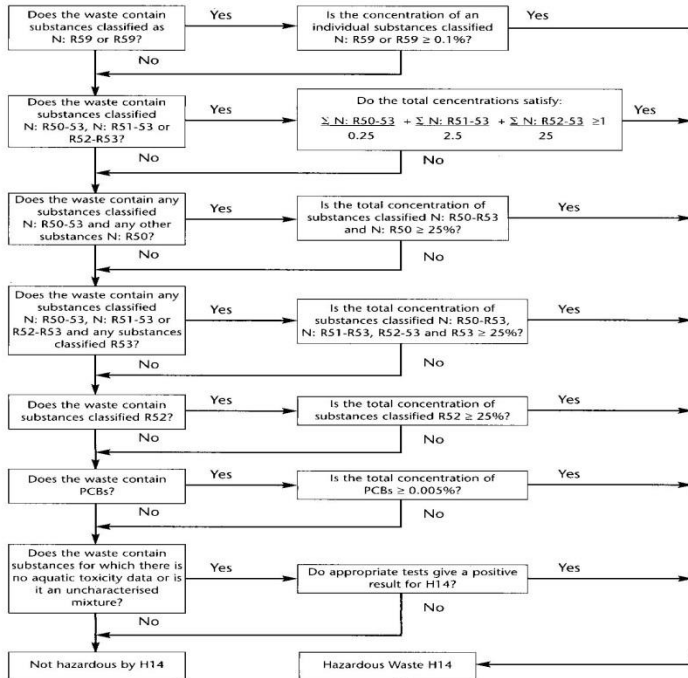


Hazard Waste Group H14 - Ecotoxicity

C14.6 Decision Tree

Figure C14.1 sets out the assessment process for Hazards H14.

Figure C14.1: Decision Tree for the Assessment of Hazard H14



Version number	Purpose / changes	Document status	Author of changes, role and school / unit	Date
V1.0	Revision	Draft	Paul Szawlowski	26/06/2019
v1.1	Reviewed	Draft	Paul Szawlowski	08/06/2021