



SAFETY MANUAL

EMERGENCY TELEPHONE NUMBERS

USBD (24/7): 021-808 4666 or 021-808 2333 (Emergency)

Maintenance: 021-808 4666

Building Chief Safety Officer: Fawzia Gordon: 021 808 2402 / 083 611 0644

Building A/H Contact: Nico Solomons: 021 808 2327 / 064 005 8459

Fire Brigade: 021-808 8888 / 021-887 4446

Police 10 111 / 021-809 5000/3/4

Ambulance: 10 177 (Western cape) / 082 911 (Netcare) / 021 883 3444

Stellenbosch State Hospital: 021-887 0310

MediClinic Private Hospital: 021- 861 2000 / Emergency no: 021-861 2094

Campus Health Services: 021-808 3496/3494 (7 Claassen Street - between Heemstede & Metonoia Residences)

In case of difficulties with an Emergency, Call 1022 (Only Ambulance/ Fire /Police)

OTHER IMPORTANT Numbers:

SU 24-Hour Crisis Line for students: 082 557 0880

Poison Info Centre – Tygerberg: 021 931 6129 or 0861 555 777 (24 hrs)

24-Hour Rape Crisis: 021 447 9762

Metro Rescue Control Room (they will contact Wilderness Search & Rescue when needed):
021 937 0300 or 10177 (24 hrs)

Lifeline Cape Town – counseling service: 021 461 1111





EMERGENCY NUMBERS

UNIVERSITEIT
STELLENBOSCH
UNIVERSITY

Campus Security
(EMERGENCY)
021 808 2333



CSCD 24 HR Crisis Service **082 557 0880**
(ER24 answers this phone too. During the day CSCD will assist and at night – from 16:00 – ER24 will assist)

Maties ER24 **010 205 3032**
(Identify yourself as a student from Stellenbosch University and as a Corporate Client, please)

Campus Security **021 808 4666**
(general enquires)

SAPS (EMERGENCY) **10111**

SAPS Sector 1
Patrol Vehicle **082 522 2293**

SAPS Stellenbosch
(Ops Centre) **021 809 5015**

SAPS Stellenbosch
(general enquires) **021 809 5000**

Ambulance NETCARE **082 911**

Ambulance Western Cape **10177**

Campus Health Services **021-808 3494/96**

Fire Dep. Stellenbosch **021 808 8888**

Traffic Dep. Stellenbosch **021 808 8800**

Stellenbosch Hospital
(casualties) **021 808 6147**

Medi-Clinic Stellenbosch
(casualties) **021 861 2094/5**

Stelkor Pharmacy (Neelsie) **021 883 3162**

Compiled by Campus Security and the Centre for
Student Counselling and Development, 2017



NATURAL SCIENCE BUILDING:

Updated 2021-06-01

North = Merriman side

* Chairperson ** Temporary Appointm

BUILDING SAFETY COMMITTEE

Area	Name	Room	Tel	Cell no	Email Address	
1st Floor South	Janette Hutton	1006	x2716	072 268 1146	janette@sun.ac.za	Member
1st Floor Molecular Ecology Lab	Megan Mathese	1080	x3059	079 625 3962	megank@sun.ac.za	Member
1st Floor East (incl.Glass house)	Megan Mathese	1080	x3059	079 625 3962	megank@sun.ac.za	Member
2nd Floor South	Shula Johnson	2018	x3231	062 354 1504	shulaj@sun.ac.za	Member
IPB: 2nd Floor East	Elana Visser	2066	x9443	084 452 7537	lariaan@sun.ac.za	Member
IPB: 2nd Floor East	Christelle Van der Vyver	2061	x2530	082 564 0886	cvdv@sun.ac.za	Member
2nd Floor North (Marine Group), Annex	Jonathan Williams	2057	x3588	084 890 2255	jpw@sun.ac.za	Member
CIB: 2nd & 3rd Floor East	Erika Nortje	3075	x2872	066 288 0186	en@sun.ac.za	Member
CIB: 3rd Floor South & lecture halls)	Suzaan Kritzing-Klopper	2039B	x3607	082 551 5522	suzaank@sun.ac.za	Member
NARGA: 3rd Floor South**	Richard Thompson			072 583 6580	rct@sun.ac.za	Member
3rd & 4th Floor North	Fawzia Gordon	3056	x2402	083 611 0644	fq1@sun.ac.za	CHAIRPERSON
4th Floor North	Nico Solomons	4009	x2327	064 005 8459	nsolo@sun.ac.za	Member

* Chairperson; ** Temporary appointment

BOTANY & ZOOLOGY Department SAFETY COMMITTEE

Area	Name	Room	Tel	Cell no	Email Address	
1st Floor South	Janette Hutton	1006	x2716	072 268 1146	janette@sun.ac.za	Member
1st Floor Molecular Ecology Lab	Megan Mathese	1080	x3059	079 625 3962	megank@sun.ac.za	Member
1st Floor East (incl.Glass house)	Megan Mathese	1080	x3059	082 331 5577	megank@sun.ac.za	Member
2nd Floor South	Shula Johnson	2018	x3231	062 354 1504	shulaj@sun.ac.za	Member
2nd Floor North (Marine Group), Annex	Jonathan Williams	2057	x3588	084 890 2255	jpw@sun.ac.za	Member
CIB: 2nd & 3rd Floor East	Erika Nortje	3075	x2872	066 288 0186	en@sun.ac.za	Member
CIB: 3rd Floor South & lecture halls)	Suzaan Kritzing-Klopper	2039B	x3607	082 551 5522	suzaank@sun.ac.za	Member
3rd & 4th Floor North	Fawzia Gordon *	3056	x2402	083 611 0644	fq1@sun.ac.za	CHAIRPERSON
4th Floor North	Nico Solomons	4009	x2327	064 005 8459	nsolo@sun.ac.za	Member

* Chairperson

FIRST AID PERSONNEL

Area	Name	Room	Tel	Cell no	Email Address	
1st Floor South	Janette Hutton	1006	x2716	072 268 1146	janette@sun.ac.za	Member
1st Floor Molecular Ecology Lab	Megan Mathese	1011	x4774	079 625 3962	megank@sun.ac.za	Member
1st Floor East (incl.Glass house)	Megan Mathese	1011	x4774	079 625 3962	megank@sun.ac.za	Member
2nd Floor South	Shula Johnson	2018	x3231	062 354 1504	shulaj@sun.ac.za	Chief Aider
IPB: 2nd Floor East	Elana Visser	2066	x9443	084 452 7537	lariaan@sun.ac.za	Member
2nd Floor North (Marine Group), Annex	Jonathan Williams	2057	x3588	084 890 2255	jpw@sun.ac.za	Member
CIB: 2nd & 3rd Floor East	Erika Nortje	3075	x2872	066 288 0186	en@sun.ac.za	Member
CIB: 3rd Floor South & lecture halls)	Suzaan Kritzing-Klopper	2039B	x3607	082 551 5522	suzaank@sun.ac.za	Member
NARGA: 3rd Floor South**	**Suzaan Kritzing-Klopp	2039B	x3607	082 772 0671	idk@sun.ac.za	Member
3rd & 4th Floor North	Fawzia Gordon	3056	x2402	083 611 0644	fq1@sun.ac.za	Member
4th Floor North	Nico Solomons	4009	x2327	064 005 8459	nsolo@sun.ac.za	Member

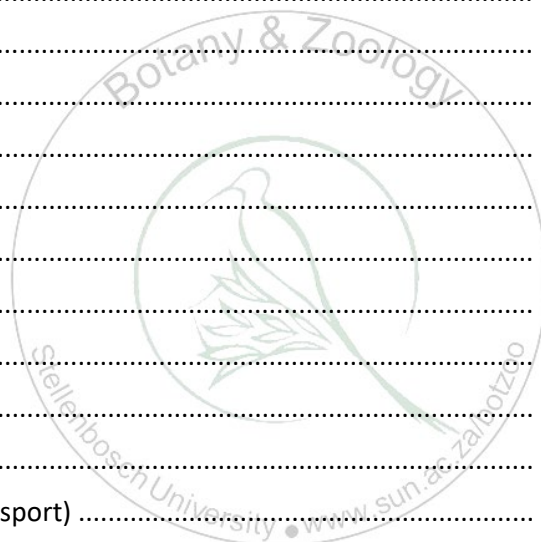
** Temporary appointment

FIRE & EVACUATION TEAM

Area	Name	Room	Tel	Cell no	Email Address	
1st Floor South	Janette Hutton	1006	x2716	072 268 1146	janette@sun.ac.za	Member
1st Floor Molecular Ecology Lab	Megan Mathese	1011	x4774	079 625 3962	megank@sun.ac.za	Member
1st Floor East (incl.Glass house)	Megan Mathese	1011	x4774	079 625 3962	megank@sun.ac.za	Member
2nd Floor South	Shula Johnson	2018	x3231	062 354 1504	shulaj@sun.ac.za	Member
IPB: 2nd Floor East	Elana Visser	2066	x9443	084 452 7537	lariaan@sun.ac.za	Member
2nd Floor North (Marine Group), Annex	Jonathan Williams	2057	x3588	084 890 2255	jpw@sun.ac.za	Member
CIB: 2nd & 3rd Floor East	Erika Nortje	3075	x2872	066 288 0186	en@sun.ac.za	Member
CIB: 3rd Floor South & lecture halls)	Suzaan Kritzing-Klopper	2039B	x3607	082 551 5522	suzaank@sun.ac.za	Member
NARGA: 3rd Floor South**	**Suzaan Kritzing-Klopp	2039B	x3607	082 772 0671	suzaank@sun.ac.za	Member
3rd & 4th Floor North	Fawzia Gordon	3056	x2402	083 611 0644	fq1@sun.ac.za	Chief Marshall
4th Floor North	Nico Solomons	4009	x2327	064 005 8459	nsolo@sun.ac.za	Chief Marshall (C

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UNIVERSITY POLICY ON OCCUPATIONAL HEALTH AND SAFETY

It is the aim of the university to protect staff, students and visitors, assets and resources as far as possible from physical risks, especially occupational health and safety risks. To achieve this, accepted risk management practices are followed to prevent loss and thereby minimize the costs.

The university is also bound to keep all legal and statutory laws as set out in the Occupational Health and Safety Act (Act 85 of 1993). The university thus demands that all staff and students accept their responsibilities as set out in this act.

The university expects that staff and students must fully accept the risk management policy and follow its directives. Staff members who have managerial or supervisory functions are considered co-responsible and liable in terms of article 8(2)(i) of the named act, to ensure that all necessary steps are taken so that physical risks, especially those concerning occupational health and safety, be identified and evaluated. These risks should further be handled and managed according to the stipulations of the laws and the university's standard operating work procedures.

Purpose driven risk management financing methods that result in cost effective insurance, and the provision of funds to include risk prevention remains a high priority at the university but is subject to practical and economic limitations.

The university is further bound to ensure that risk management practices, procedures and systems (other than the above prescriptions) are developed so that the policy on occupational health and safety is effectively maintained in the workplace.



**PROCEDURE FOR LECTURERS & STUDENTS
in case of an EMERGENCY SITUATION**

IN CASE OF A FIRE ALARM & EVACUATION:

1. Upon hearing a **fire siren** while you are in a lecture hall or in a laboratory, stay calm and prepared; the fire marshals will inspect, if there is a real emergency, the alarm will be triggered again and **will ring non-stop for evacuation**.
2. If necessary to **evacuate** the building, **calmly** guide the occupants to the correct **emergency exits**. An evacuation **plan** is mounted on the **wall** and easy to follow.
3. **Obey** and co-operate with the fire marshals.
4. **Prevent** people from returning for personal possessions.
5. **Assist** the infirm or injured.
6. Last person to leave must **close** but not lock doors and windows.
7. **Hang sign** on door to indicate room is evacuated.
8. **Do NOT use the lift** during any emergency or evacuation exercise.
Use your nearest and easiest emergency exit but always **move away from the fire/danger**. U can use the major stair case or the emergency staircases whichever is the safest and quickest exit towards the assembly area.
9. Guide all occupants to the **Assembly area** on the **lawn of the Red Square:**
10. **Report** all findings and absentees to a fire marshal who will then report to the Chief Fire Marshal, Fawzia Gordon/ Nico Solomons.
11. **Do not go back into the building before it is declared to do so.**



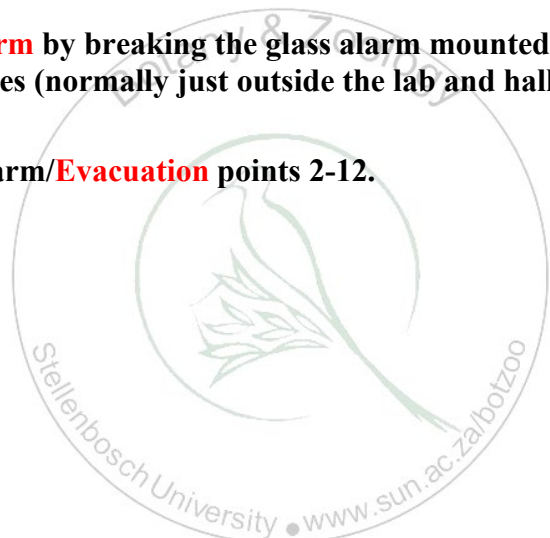
IN CASE YOU DISCOVER A FIRE:

SMALL FIRE

1. If a fire breaks out in your immediate vicinity, **attack** the fire if expedient to do so using available **fire extinguishers** (know beforehand where they are situated).
2. First use the **smother blanket / sand buckets** in case of a small fire.
3. Use **water** on all paper/wood fires. Water hoses used only in big fires.
4. Use **CO₂ extinguishers** on all other fires including electrical fires.
5. Contact the building **Fire Marshals** to report any fire.
 - a) **Chief Fire marshall** : Nico Solomons, x2327 / 064 005 5459
 - b) **1st Floor South & Annex** : Janette Hutton, x2716
 - c) **1st Floor South**: Megan Mathese, x4774
 - d) **1st Floor North, Glass house** : Benjamin Petersen / Megan Mathese, x3059
 - e) **2nd Floor South**: Shula Johnson, x3231
 - f) **IPB** : Elana Visser x4570
 - g) **Marine Group & Annex & Jonathan Williams**, x3588
 - h) **3rd Floor South (CIB)** : Suzaan Kritzinger-Klopper, x3607
 - i) **2nd-3rd Floor East (CIB)** : Erika Nortje, x2872
 - j) **3rd Floor South_(NARGA)** : Richard Thompson, x2173
 - k) **3rd & 4th Floor North** : Fawzia Gordon, x2402
6. **Phone Risk Management** (x2333 or x4666) or for help
7. **Phone Maintenance** (x4666) to switch off air conditioning.
8. **Switch off electrical supply** at main switch outside lab door.
9. **Switch off gas supply** at tap.

BIG FIRE:

1. If not able to control the fire, **sound the alarm** by breaking the glass alarm mounted on the wall in various places in the passages (normally just outside the lab and hall doors).
2. **Proceed** further as listed under the Fire Alarm/**Evacuation** points 2-12.



EMERGENCY EXIT BOXES:

There is a variety of emergency exit boxes located around the building:

❖ Yellow Emergency Exit boxes at card reader doors:

1. If you can't get out of the room in an emergency situation, press on black dot to disengage the door, this will break the glass. The door is now open.
2. **A loud alarm will sound for a minute.**
3. Please report this to the nearest safety officer who will contact USBD & IT for TAS to repair the break glass. This will mainly be needed if there is power (electricity or battery power) and you are stuck for some reason. If all power has run out, the door will be unsealed and must please be reported.



❖ Red box with key inside to unlock door, at all Emergency exits.

1. When the break glass is broken, an alarm will sound, which will sound like a fire alarm.
2. This sound will only stop when the alarm board at the entrance of the building is put to silent.
3. The **Merriman Avenue side building exit** is situated against wall next to the men's toilet (behind you). This key is **not for the card reader door**, but for the double door next to it (left side).



❖ Fire alarm:

1. In passages around the building – if you are first on the scene of a fire, please break the glass to trigger the fire alarm.





All of these are **emergency options only** – please stay calm and first see if you cannot find another way out. All of the boxes are connected to US Risk & Protection Services and should alert them, but the decent thing would be to phone them (021 808 2333) to let them know you had to use the emergency option and to make sure they know which box in order to minimize the risk of the building standing open. .

❖ Lift

If you are stuck in the lift, you press the yellow alarm button for 5 seconds and USBD can communicate with you. There is also cell phone connection in the lift.



LAB SAFETY:

Ensure that all visitors, new students and new staff are trained with regard to the types of hazards found in the laboratory, the laboratory rules, laboratory equipment and safety procedures before being allowed to begin working.

1. Familiarise yourself with your lab.
2. Everyone is responsible for his / her own safety, though keep your fellow workers' safety in mind.
3. Wear suitable protective clothing. Lab coat and closed shoes are to be worn at all times, and suitable gloves, if necessary. Beware of cross-contamination when wearing gloves.
4. When working with very hazardous chemicals, use eye and face protection.
5. Be careful how you handle glassware, sharps and hazardous chemicals.
6. Remove all jewelry and “snug up” all loose fitting clothing. Fasten long hair and keep it out of your face.
7. If necessary, work in an efficient fume cupboard, or at least in a well-ventilated area, wearing respiratory equipment as required.

❖ Know your lab area

1. Know where are the first aid box is, the location of eye washes, showers, fire extinguishers and exits.
2. Know with what you are working with.
3. Know where the different apparatus are.
4. Beware of specific lab rules.

❖ Know what are you are doing

1. Know your protocol; plan beforehand especially when you are doing a new experiment.
2. Know the hazards of the chemicals you are working with – read the labels on the chemicals.
3. Please label that with which you are working, such as your name, content, date. Incompatible chemicals can cause explosion. No label – No work.
4. Be Alert

❖ Pipetting & Solutions

1. Mouth pipetting is prohibited.
2. Use a new tip for different solutions.
3. Work economically.
4. Do not inhale directly from chemical containers.

❖ General

1. Good housekeeping – if you mess, clean and tidy up.
2. Keep laboratory floors and work bench area tidy, clean and dry.
3. Respect your fellow lab user and be always polite.



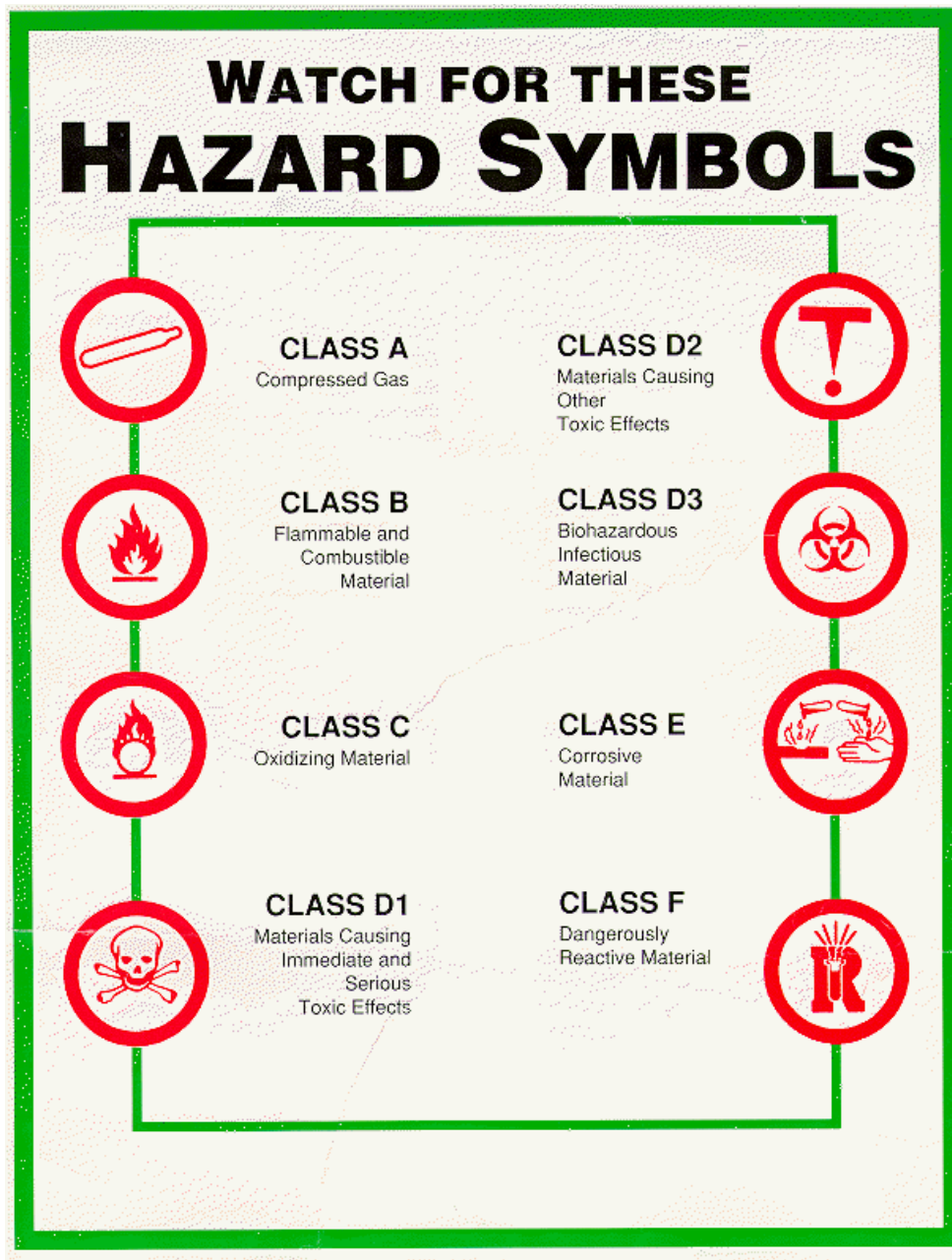
4. When borrowing, or lending, equipment and chemicals, make sure that the technical assistants are informed
5. Report any shortage of glassware, chemicals, broken glassware or faulty apparatus.
6. Report any incident (first aid or spill) as soon possible to the technical assistant responsible.
7. It is strictly forbidden to eat, drink (even water), smoke, handle contact lenses or apply cosmetics in a laboratory.

BASIC SAFETY SIGNS

There are four types of safety signs:

Mandatory		Prohibitive	
Warning / Hazard		Informative	



WASTE

Types of waste

1. Normal Municipal waste (general)
2. Recyclable waste
3. Broken Glass
4. Biological / Medical waste
5. Chemical waste
6. Sharps, Broken Glass
7. Radioactive material waste
8. Electronic and computer waste



Chemical Waste

❖ Segregation of waste

1. Proper segregation = good chemical hygiene + safe workplace environment
2. Only put compatible chemicals in a container
3. Also do not store the following near each other

i. Acids and bases

- ii. Organics and acids
 - iii. Powdered or reactive metals and combustible materials
 - iv. Cyanide, sulfide or arsenic compounds and acids
 - v. Mercury or silver and ammonium containing compounds
4. Do not mix solids and liquids
 5. Halogenated with non-halogenated chemicals
 6. Incompatible chemical waste not to be mixed or store together
 7. If it must be store in same area – separated secondary containment
 8. Container must be compatible with the waste:

i. Mineral acids - plastic

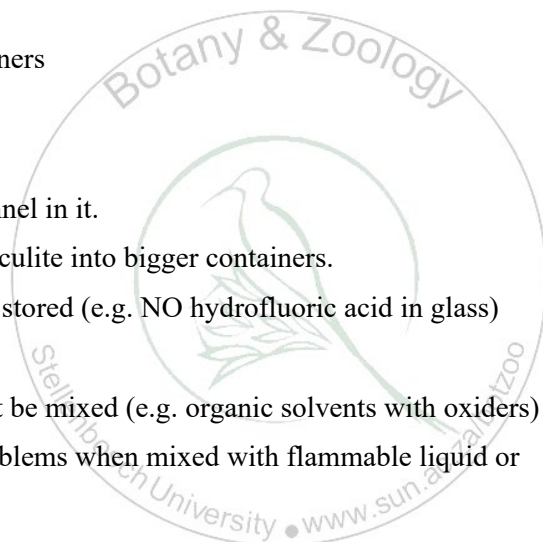
- ii. Bases -Plastic
- iii. Oxidizers - Glass
- iv. Organics (incl Acetic acid) - Glass

❖ Take special care

1. Nitric acid: Reacts with organics-heat & gas: Be sure container is rinsed thoroughly
2. Perchloric acid, Organic Peroxides: Highly reactive with organics and organic material (wood). May react with metals
3. Hydrofluoric acid: Dissolves glass containers

❖ Packaging of chemical waste

1. Place hazardous waste in sealable containers
2. Enviroserv supply different plastic and metal containers
3. Sized from 25L to 200L, plastic or metal.
4. Containers must be kept closed.
5. Do not leave a hazardous waste container with a funnel in it.
6. Glass bottles with waste must be packed with vermiculite into bigger containers.
7. The container should not react with the waste being stored (e.g. NO hydrofluoric acid in glass)
8. Similar wastes may be mixed if they are compatible
9. Wastes from incompatible hazard classes should not be mixed (e.g. organic solvents with oxiders)
10. Be aware that certain metals also cause disposal problems when mixed with flammable liquid or other organic liquids.



❖ Labelling

1. Must be labeled as HAZARDOUS WASTE
2. Should be accurate, legible and fully explained
3. Contain name of the department, lab group name, contact person details, content and concentration, hazard class, date
4. Use Enviroserv /Sanumed self adhesive labels or your own.
5. Waste vs. used
6. No old labels

❖ Storage

1. Select the correct container (glass / polyethylene) for storage
2. Use original containers if possible
3. Use appropriate sized container
4. Do not make containers too heavy to lift by the contractors
5. Containers must be tightly sealed and not leak
6. Containers correctly labeled
7. Container compatible with chemical being stored -separate containers for each type of waste
8. Do not store longer than 90 days

Special Waste

❖ Ethidium Bromide

1. Electrophoresis gels >0.1% - blue drum, for chemical waste hazardous dispose by Enviroserv
2. EtBr solution- charcoal filtration/ decon bags then down drain

❖ Mercury

1. Spilled-pooled droplets, gloves & paper-puncture resistant container – label “mercury spill debris”

❖ Silica gel

1. Not grossly contaminated – normal lab trash
2. Heavy contaminated- disposed as hazardous waste

❖ Batteries

1. Classified as universal waste rather than hazardous waste
2. Contain mercury, cadmium, lead, silver, lead-acid
3. Alkaline (no Hg) - not to be put in the normal trash.
4. South Africa Recycle program?



❖ Unidentified Chemical Waste

1. Should be considered unknown hazardous waste.
2. Unknown waste cannot be legally transported or disposed.
3. To dispose them safely and properly it need to be characterised by Enviroserv which is a costly affair.
4. Find out as much as possible about how the waste was generated.

Check pH, flammability and

5. Please **DO NOT**

- i. Pour unknown chemicals down the drain
- ii. Mix unknown chemicals with any other chemicals
- iii. Bring unknown chemicals to a regular waste pick up
- iv. Abandon unknown chemicals in the work area.



Biological Waste

1. **Definition:** Waste generated from biologically-cultured stocks and plates, molecular material, blood, animal and plant tissues etc.
 2. All sharps e.g. glass implements, needles, syringes, blades, glass Pasteur pipettes
 3. Separate biological waste from chemical hazardous waste
 4. Treat to eliminate biohazard by sterilization or incineration
 5. Label correct, use biohazard tape
 6. Animal Bedding waste
- i. Bagged – not be mixed with other waste
 - ii. Labelled as animal bedding waste
 - iii. Are to be autoclaved before being placed in medical waste boxes – disposed in the medical waste stream
7. Animal carcasses
- i. Are kept frozen in green bags until collected by the biological waste company BCL who will incinerate it.





Containers

❖ Biohazard/medical waste boxes

1. Disposal of non-sharp bio hazardous waste
2. Red plastic drum lined with a red 45 micron plastic bag
3. Incinerated by BCL

MEDICAL WASTE BOXES (Available in 2 sizes 50 litre(small) and 142 litre(large) – Lined with a 45 micron liner)

For the disposal of all non- sharp healthcare waste e.g. gloves, plastic vaculitres, syringes, dressings, urine bags (emptied) sputum cups and toilet bin waste.Areas of utilization are all wards and departments.

RE-USABLE HEALTHCARE WASTE CONTAINERS (Available with 50 Micron liners + cable tie)

For the disposal of all non- sharp healthcare waste e.g. gloves, plastic vaculitres, syringes, dressings, urine bags (emptied) sputum cups and toilet bin waste.Areas of utilization are all wards and departments.



❖ Biohazard Sharp containers

1. Disposal sharp bio-hazardous waste
2. 100% puncture proof
3. Available in 4, 7.6, 10, 15 and 25 l
4. Destruction by high temp



SHARPS CONTAINERS: (Available in a 4 litre, 7.6 litre, 10 litre)

For the disposal of sharp healthcare waste, needles, 1ml syringes with needle, stitch cutters, scalpel blades, amni-hooks, broken ampoules, Intravenous cannules, sutures and glass tubes with blood.

Areas of utilization are all wards and departments.



❖ Biohazardous Waste Storage

1. No bio-hazardous waste shall be stored for longer than 24 hours without being decontaminated
2. Decontaminated bio-hazardous waste stored up to 30 days
3. No storage in public areas
4. Store under refrigeration if necessary to prevent odors
5. Sharps containers treated as regular bio-hazardous waste

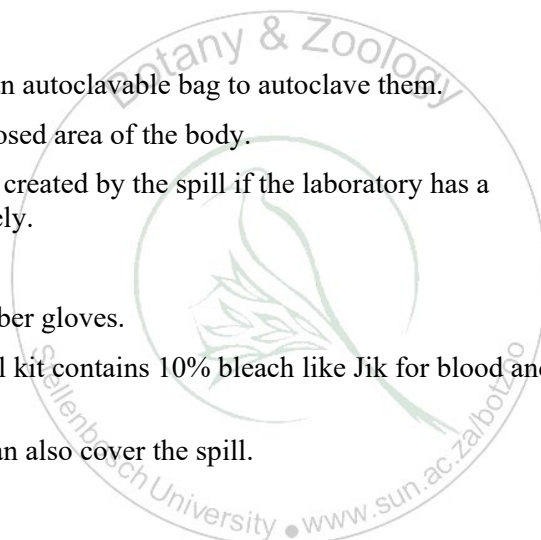
❖ Biohazardous Waste Collection

1. Seal red bags when $\frac{3}{4}$ full with cable ties provided by contractor
2. Place in the biohazardous store in the Annex.
3. Christelle vander Vyver from IPB will complete chemical/biological waste pick-up request form which is forward to Ms Meg Pittaway at Facility Management
4. BCL (Biohazard collection company) will pick up the collection on a Tuesday.

BIOHAZARD SPILL PROCEDURES:

❖ Biohazard Spills Outside a Biological Safety Cabinet

1. Hold your breath, leave the room immediately and close the door.
2. Warn others not to enter the contaminated area.
3. Notify your supervisor of the spill immediately.
4. Remove contaminated garments and put them into an autoclavable bag to autoclave them.
5. Thoroughly wash hands and face and any other exposed area of the body.
6. Wait for 30 minutes to allow dissipation of aerosols created by the spill if the laboratory has a negative airflow otherwise begin cleanup immediately.
7. Get a biohazard spill kit from Technical staff
8. Put on protective clothing including a mask and rubber gloves.
9. Pour a decontaminant solution around the spill. Spill kit contains 10% bleach like Jik for blood and body fluids and 70% ethanol for microorganisms.
10. Paper towels soaked in the correct decontaminant can also cover the spill.
11. Leave for 20 minutes for adequate contact time.



12. Transfer all contaminated cleaning material into a biohazard bag for removal by SanuMed.
13. Autoclave all contaminated reusable material in autoclave bags (in block B room 321).

❖ Biohazard Spills Inside a Biological Safety Cabinet

1. Prevent escape of contaminants from the cabinet by immediately initiating chemical decontamination.
2. Obtain spill kit from technical staff.
3. Put on rubber gloves and take care when picking up broken glass or other sharps by using tongs.
4. Discard sharps into sealed sharps containers.
5. Wipe walls and work surfaces with the appropriate decontaminant.
6. Flood the top work surface tray with the decontaminant and leave for 30 minutes (be careful in safety cabinets as Jik corrodes stainless steel after 30 minutes exposure).
7. Remove excess decontaminant from the surface by wiping with a sponge.
8. Collect all used sponges and put into an autoclavable bag and autoclave in block B room 321.
9. Notify your supervisor of the spill as soon as possible.

❖ Biohazard Spills Outside the Laboratory (During Transport)

1. If a biohazard agent is spilled during transport outside the laboratory, the main difference from the first procedure is to initiate the cleanup **immediately**.
2. Because it would already be too late to prevent aerosolization, in this case it is better to place extra emphasis on prevention of spills during transport:
 - ii. Develop a procedure for the removal of biohazardous materials for incubation, refrigeration, or for any other reason from the laboratory, and enforce adherence to it.
 - iii. Place all such materials in an unbreakable container that would prevent the escape of liquid or aerosol if it were dropped.
 - iv. Label the container with the biohazard symbol to ensure no mistake is made as to the contents.

❖ Biohazard Spill Kit

1. Appropriate chemical decontaminants.
2. Absorbent paper towels.
3. Autoclavable dust pan.
4. Sponges and cloths.
5. Protective clothing including laboratory coat/plastic apron, gloves and face-masks.
6. Tongs.
7. Biohazard bags.
8. Autoclavable bags.



PROCEDURE FOR SMALL CHEMICAL SPILLS

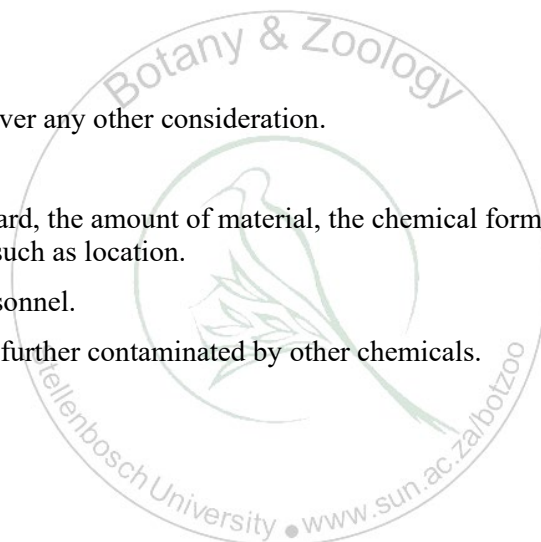
TOLL FREE NUMBER FOR EMERGENCY CHEMICAL SPILLS: 0800 147 112

1. Contain spill as best as possible using absorbent paper/sand or appropriate chemicals. If liquid has spilled from a container, return the container to the upright position to prevent further spread of the liquid.
2. Notify all staff in the laboratory of the chemical spill.
3. Close all drains to prevent the spill from reaching the environment.
4. Switch off all electrical equipment in the vicinity of the spill.
5. Cordon off the area and control access of unnecessary staff.
6. Assist any person that has been exposed to chemical contamination.
7. First aid kit and spill kit available from technical staff in the different labs.
8. Trained first aid workers are available in the department.
9. Technical staff will report spill to USBD if help is needed.
10. Clean up spill as follows
 - i. Put on all protective clothing, goggles and acid resistant gloves.
 - ii. Cover all wet spills with Spillover packs or with loose PP.
 - iii. Clean up all dry spill using the scoop.
 - iv. Try not to mix chemicals when scooping up. See Appendix 1 for a list of incompatible chemicals.
 - v. Place all dry chemicals in a sturdy plastic bag, tie with vinyl bag ties, and label if contents are known and put into blue plastic drum with lid supplied by EnviroServ.
 - vi. Pick up all broken glass using tongs and put it into the broken glass containers supplied in every lab. Take note of all information on the labels from broken containers, both safety information and toxicity.
 - vii. After the Spillover packs have absorbed 10-20X their own weight, they are saturated and need to be replaced by another Spillover pack.
 - viii. Put saturated Spillover packs into plastic bags in blue plastic drum. Saturated spillows can be landfilled, neutralized or incinerated according to information obtained from EnviroServ

Treatment of Contaminated Staff

❖ In the case of serious injuries

1. The treatment of serious injuries takes precedence over any other consideration.
2. Call USBD x2333 and request medical assistance.
3. Advise the called assistance of the nature of the hazard, the amount of material, the chemical form of the material and any other pertinent information such as location.
4. Direct someone to meet the emergency medical personnel.
5. Ensure that the victim is comfortable and cannot be further contaminated by other chemicals.



❖ In case of minor wounds not requiring hospitalization

1. Get Trained First Aid worker to treat the affected person immediately.
2. Wash the contaminated wound with copious amounts of warm water.
3. Clean the affected area with swabs.
4. Encourage minor bleeding.
5. In the case of contaminated facial wounds, ensure that contamination does not spread to the mouth, ears, eyes or nasal passages.
6. After decontamination, apply first aid dressing.

❖ If the skin is intact

1. It is very important that skin contamination be removed immediately. Early, effective removal of the contamination can help to reduce chemical exposure.
2. During skin decontamination, it is important to proceed from mild treatments to harsher ones only if necessary. Abrasion or any other breaks of the skin must be avoided, as these will allow rapid penetration of the chemicals. Therefore, hard scrubbing is discouraged.
3. Flush contaminated area with copious amounts of water.
4. Exercise caution so as to not spread contamination to other areas of the body.
5. Rinse thoroughly.
6. Repeat wash/rinse procedure several times using a soft brush, if necessary.

❖ Eyes, Ears, Nose, and Mouth

1. Use eyewash station or shower to flush eyes, ears, and nose.
2. Rinse mouth with water, but do not to swallow the water.

❖ Hair

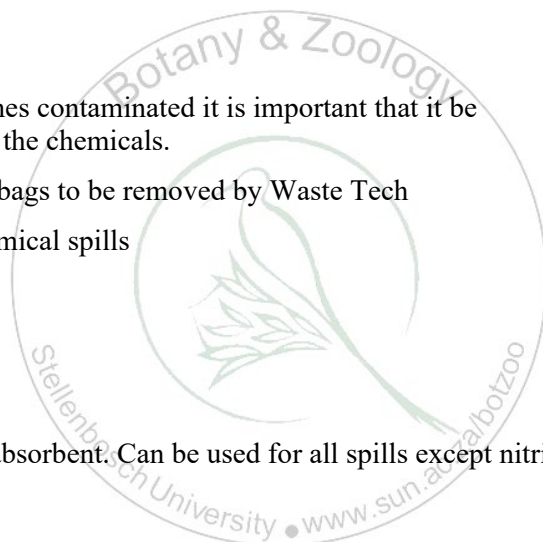
1. Tilt head back so water doesn't run across face.
2. Be sure to close eyes and mouth during decontamination.
3. Wash gently with soap and warm water for 2-3 minutes in sink and rinse well.

❖ Treatment of Clothing Contamination

1. In the event that personal clothing or lab coat becomes contaminated it is important that it be removed quickly to reduce the person's exposure to the chemicals.
2. All contaminated clothing must be sealed in plastic bags to be removed by Waste Tech
3. A full emergency shower can be used for major chemical spills

❖ Chemical Spill Kit

1. Drum with lid and side lever locking ring.
2. Spillow phenolic foam absorbent pack or loose PP absorbent. Can be used for all spills except nitric acid (HNO₃).
3. Pair of neoprene/latex gloves.



4. Chemical resistant goggles.
5. Two thick plastic bags (100 micron thick from EnviroServ).
6. Two self-locking vinyl bag ties.
7. Scoop to pick up Spillover, loose PP absorbent.
8. Acid resistant lab coat/plastic apron.
9. Latex shoe covers.
10. Face shield with ratchet headgear.
11. Tongs.
12. Powdered zinc/iodine/sulphur for absorbing mercury spills.
13. Activated carbon/vermiculite for blanketing effect on both toxic and flammable spills-suppresses vapours and reduces risk of combustion and explosion.
14. Clean beach sand for acid spills.

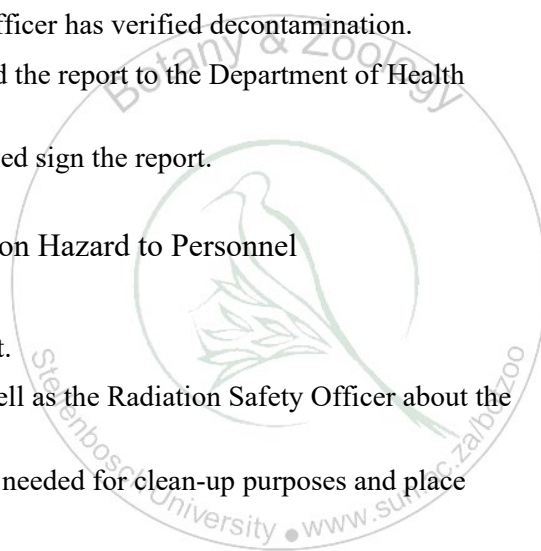
PROCEDURES FOR RADIATION SPILLS

❖ Major Radiation Spill - Potential Radiation Hazard to Personnel

1. Do not panic.
2. Alert everyone in the laboratory. Have all persons not involved in spill leave the area immediately.
3. Confine the problem. If a liquid spilled from a container, return container to an upright position using gloves or a lever and prevent further spread of the liquid. If volatile (e.g. dusts, fumes, gases) materials are involved, turn off all fans and shut off room ventilation system, but keep fume hood on to keep the room under negative pressure.
4. Evacuate and seal the room. Close and lock doors and/or post guards to prevent entry.
5. Control the movement of all persons to prevent possible spread of contamination and take immediate steps to decontaminate those workers found contaminated.
6. Summon aid. Contact USBD at x2333 and Radiation Safety Officer, Dr James Lloyd x4570; together they will help clean the spill. They will assist in developing a decontamination plan for the area. This plan should decontaminate and conduct air surveys (if appropriate).
7. Report known or suspected inhalation or ingestion of radioactive material to Radiation Safety Officer.
8. Do not attempt to clean the spill, but do take actions, to prevent its spread.
9. Stop all other work in area until Radiation Safety Officer has verified decontamination.
10. Prepare history of the spill and clean-up and forward the report to the Department of Health (Radiation Control) within 72 hours.
11. Have the authorized user and each individual involved sign the report.

❖ Procedures For Minor Radiation Spills - No Radiation Hazard to Personnel

1. Do not panic
2. If a personal contamination has occurred treat it first.
3. Immediately notify all persons in room or area as well as the Radiation Safety Officer about the spill.
4. Limit access to the area of the spill to those persons needed for clean-up purposes and place radiation warning signs on the laboratory door.



5. Do not allow anyone to leave the contaminated area without first being monitored for contamination. If contamination is found, have persons change clothing and wash as necessary, then re-monitor.
6. Outline the location and probable extent of the contamination with a wax pencil. Radiation warning tape may also be used. Do not enter this outlined area.
7. Begin decontamination procedures as soon as possible.
8. Wear 2 pairs of gloves and change the first pair often during this procedure. Wearing protective attire (heavy-duty rubber gloves, lab coat, safety glasses), confines the spill and prevent the spread of contamination.
9. Work from the outside of the spill towards the centre.
10. Blot the area, do not wipe. For wet spills drop dry absorbent pads on spill. For dry material use water or the appropriate organic solvent to lightly dampen the material and cover the spill. Use oil if a reaction producing air contamination could occur from using water.
11. Gently wash the affected area.
12. Normal cleaning agents or commercial decontamination agents may be used. Ensure that sufficient materials are available to properly clean the area prior to beginning the cleaning procedure. If you need something ask your co-worker (who should remain free from contaminations) to get it for you.
13. Discard all used cleaning materials as radioactive waste in plastic bags with radiation warning signs on them.
14. Swipe test with filter paper (if beta emitter) or swab test (if gamma emitter) the area and count the samples.
15. Repeat the cleaning procedure until the contamination is removed.
16. The Radiation Safety Officer must monitor all technical staff involved in the cleaning procedure.
17. Prepare a history of the spill and subsequent remedial or protective measures to be taken. Send the report to the Department of Health (Radiation Control). Have the authorized user and each individual involved sign the report.
18. Restock decontamination kit.

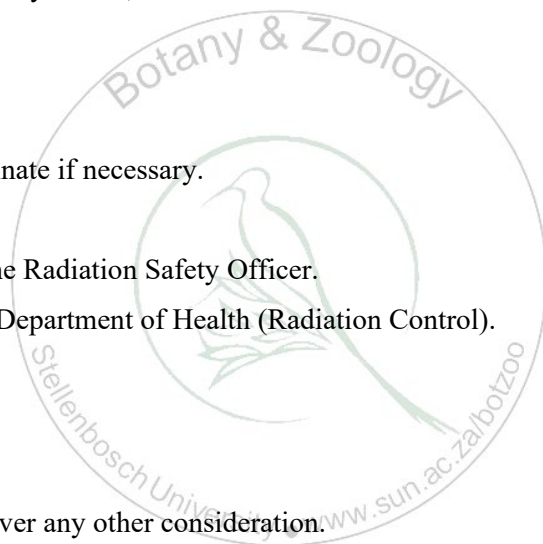
❖ Fire or Other Major Emergencies together with Radiation Hazard

1. Immediately notify all other persons in room and building.
2. Call USBD and report the emergency.
3. For fires, if you are certain you can extinguish the fire yourself, do so if an airborne radiation hazard is not present.
4. Always keep an exit behind you.
5. When in doubt, get out.
6. After the emergency, survey the area and decontaminate if necessary.
7. Monitor all personnel involved in the emergency.
8. Do not resume work in the area until approved by the Radiation Safety Officer.
9. Prepare a history of the incident and forward to the Department of Health (Radiation Control).

❖ Decontamination of Staff

In the case of serious injuries

1. The treatment of serious injuries takes precedence over any other consideration.



2. Providing assistance to seriously injured persons should not be delayed because of concerns relating to radiation contamination.
3. Call USBD and Radiation Safety Officer and request medical assistance.
4. Advise the called assistance of the nature of the hazard, the amount of material, the chemical form of the material and any other pertinent information such as location.
5. Direct someone to meet the emergency medical personnel.
6. Ensure that the victim cannot be further contaminated by radioactive material.
7. If the person needs to go to the hospital emergency room for treatment, then hospital personnel must be made aware of the possibility of radioactive contamination.
8. Prepare a history of the incident and forward to the Department of Health (Radiation Control).

In case of minor wounds not requiring hospitalisation

1. Treat immediately.
2. Clean the affected area with swabs.
3. Wash the contaminated wound with copious amounts of warm water. The rinse solution used to decontaminate personnel can be allowed to run down the drain (with excess water), it need not be collected.
4. Encourage minor bleeding.
5. In the case of contaminated facial wounds, ensure that contamination does not spread to the mouth, ears, eyes or nasal passages.
6. Wash wound with mild soap and water as noted above.
7. After decontamination, apply first aid dressing.
8. Notify the Radiation Safety Officer.

If the skin is intact

1. Early, effective removal of the contamination can help to reduce radiation exposure.
2. During skin decontamination, it is important to proceed from mild treatments to harsher ones only if necessary. Abrasion or any other breaks of the skin must be avoided, as these will allow rapid penetration of radioactive material. Therefore, hard scrubbing is discouraged.
3. Flush contaminated area with copious amounts of warm water.
4. Apply mild soap or detergent and wash arms, hands and face in the basin for 2-3 minutes. Lather with sufficient water.
5. Take care that contamination does not spread to other areas of the body.
6. Rinse thoroughly.
7. Monitor contaminated area on the body with the aid of a radiation monitor.
8. Repeat wash/rinse procedure several times using a soft brush, if necessary until decontamination is successful. (a count of less than 650 cpm above background is considered clean).
9. For stubborn contamination on hands and arms, use high-content phosphate soap, Count-Off, lava soap or a mildly abrasive paste made from powdered laundry detergent and water.
10. Repeat decontamination and monitor until the counts are down to 650. Use a shower for whole body decontamination.
11. Apply hand cream to prevent chapping of hands.

12. Notify the Radiation Safety Officer.

Eyes, Ears, Nose, and Mouth

1. Use eyewash station or shower to flush eyes, ears, and nose.
2. Rinse mouth with water, but do not to swallow the water.
3. Monitor with a Geiger-Muller (or Low Energy Gamma-LEG) survey meter to verify decontamination, and repeat procedures as necessary until meter indicates less than 650 cpm.

Hair

1. Tilt head back so water doesn't run across face.
2. Be sure to close eyes and mouth during decontamination.
3. Wash gently with soap and warm water for 2-3 minutes in sink, rinse and monitor.
4. Repeat as necessary until decontamination is successful.
5. As a last resort (preferably only under the guidance of the Radiation Safety Officer), if hair is still contaminated, cut or clip the hair and decontaminate the scalp using a highly efficient soap like Count-off or paste made from powdered laundry detergent and water.

❖ Further Decontamination Procedures

Treatment of Clothing Contamination

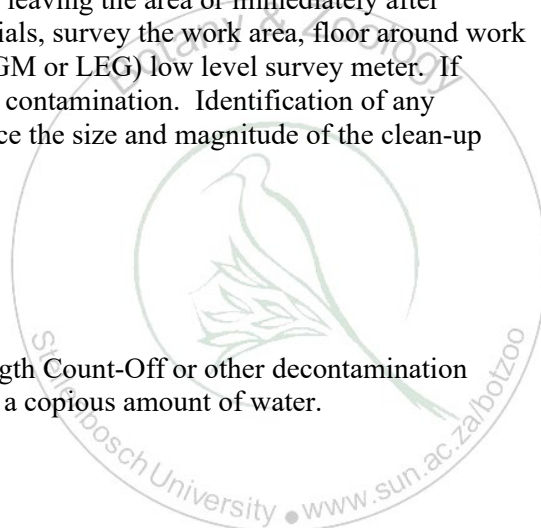
1. In the event that personal clothing or lab coat becomes contaminated by radioactive material it is important that it be removed quickly to reduce the exposure to radioactive material.
2. All contaminated clothing must be sealed in plastic bags. The bags should be labeled with the owner's name, the isotope and the suspected amount of activity.
3. The Radiation Safety Officer should be contacted for further assistance.

Laboratory & Equipment Decontamination

4. Most spills and contamination incidents will involve small quantities of material on lab bench tops, floors, and equipment. Decontamination of spills is easier if radiation work is done on trays that can contain all of the radioactive material (and easily cleaned in the sink) and using absorbent paper on benches (which can then be disposed of in normal trash if metering shows no contamination).
5. After working with radioactive materials and before leaving the area or immediately after completing a procedure involving radioactive materials, survey the work area, floor around work area, equipment, and yourself with an appropriate (GM or LEG) low level survey meter. If contamination is detected, evaluate the extent of the contamination. Identification of any contamination at the earliest possible time will reduce the size and magnitude of the clean-up required.

Traps and Drains Decontamination Procedures

1. Flush with a large volume of water.
2. For persistent contamination, fill trap with full strength Count-Off or other decontamination solutions, soak for about 30 minutes, and flush with a copious amount of water.



Dos & Don'ts

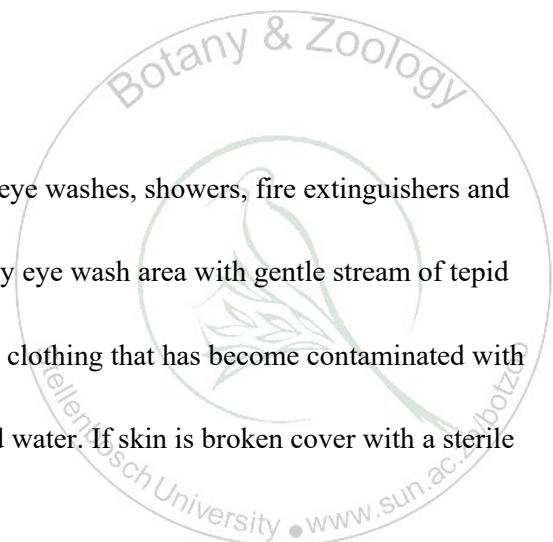
1. Do not use hot water to clean ^1H , ^{14}C , or ^{111}I because of possible volatilisation that could produce an inhalation hazard.
2. While mild acids (e.g., acetic) appear to work well in decontaminating ^{32}P and ^{35}S spills, do not use acids or acidic detergents to decontaminate iodine (^{121}I or ^{111}I) contamination because reactions producing gaseous I_2 or IO may occur.
3. If an airborne contamination hazard exists, contact Radiation Safety concerning appropriate respiratory protection.
4. Always notify the Radiation Safety Officer, even if you believe you have thoroughly decontaminated the spill. Decontaminate to a target level of less than 650 cpm with a Geiger Muller or LEG survey meter.

❖ Decontamination Kit

1. Large and small plastic bags,
2. Caution Radioactive Material-tape
3. Radiation warning signs
4. Decontamination detergents (e.g., Count-Off, Decon, high phosphate soap, dilute acid)
5. Tape to cordon off contaminated area
6. Protective clothing like heavy-duty plastic aprons or laboratory coats
7. Heavy-duty gloves or a box of disposable gloves
8. Footwear protection
9. Safety glasses
10. Portable radiation survey meter
11. Wipes and alcohol (used to moisten wipes)
12. Tongs
13. Grease pencil to outline contaminated area
14. Gauze swabs
15. Paper towels
16. Scouring powder
17. Filter paper to sample areas for counting
18. Scissors

INJURIES IN THE WORK PLACE

1. Know where are the first aid box is, the location of eye washes, showers, fire extinguishers and exits.
2. **Splash in eyes:** Immediately rinse eye at emergency eye wash area with gentle stream of tepid water for at least 15 minutes
3. **Contamination of body:** Remove immediately any clothing that has become contaminated with dangerous materials. Flush area for 15 minutes
4. **Thermal Burns:** If skin unbroken submerge in cold water. If skin is broken cover with a sterile dressing



5. **Cuts and abrasions:** protect yourself from potentially infectious body fluids by using gloves etc. Apply pressure to the wound by placing dressing over it.
 6. **Clothing on fire:** Drop to the floor and roll. Use fire blankets that are available.
 7. Injuries incurred or occupational diseases contracted must be reported to your lab/line manager and Fawzia Gordon, on the same day or before the end of the same shift.
 8. Campus Health Service (CHS) is responsible for the medical treatment (3496/ 3492/3490).
- i. **Light injuries:** Report to the lab/line manager and the first aider responsibly for your area administers treatment if necessary transport the member to CHS at 7 Claassen Street.
 - ii. **Serious injuries:** Report to the lab/line manager and arrange ambulance transport at 10177/ 084124 to Mediclinic, Die Boord, Stellenbosch. Also contact Ms Alverisha September (aseptember@sun.ac.za) nmat the Remuneration Division (4552 or 4386) to report IOD.

FIELD ACTIVITY RISK MANAGEMENT GUIDELINES

Field activities includes work conducted for the purpose of study, research or teaching which are undertaken by staff or students of the Department at a location outside the geographical boundaries of the University campus.

Any activity undertaken in the field is inherently dangerous. Therefore all staff conducting field trips, or whose students undertake field research must manage health and safety risks associated with travel between, and work in remote areas.

This document is intended to provide a set of guidelines to eliminate or reduce the risks associated with field activities to acceptable levels.

Risk management during field activities is multi-faceted. Principal areas are:

1. Driving
2. Awareness and planning
3. Communication
4. Equipment
5. Training
6. Staffing

Please note: Any individual participant of a field activity has a duty to refuse at any time to participate in any activity which he/she feels may endanger his/her health or safety or that of another person.

Remember that there is no scientific discovery important enough to risk your health or life for it.

❖ Driving

Safety guidelines are as follows:

1. Drivers must be in possession of a valid South African drivers license for at least one year.
2. Drivers must familiarize themselves with the vehicle before they operate it. This does not take long, but drivers should know how to operate lights, wipers, turn-signals, transmission, etc.
3. If fieldwork is going to involve driving on difficult road conditions, e.g. gravel and wet roads, or where special driving skills are required, e.g. 4x4 driving or towing a trailer, then drivers must have former experience in such conditions.

4. Never overload or use vehicles not suitable for the job to save on transport costs.
5. When driving in wilderness environments, drivers must be on the lookout for animals crossing the road, especially at night.
6. Driving between midnight and 06:00 is strongly discouraged, except in case of an emergency.
7. Each vehicle with multiple occupants that will be traveling for intervals longer than two hours must have more than one qualified driver on board.
8. Drivers should rotate approximately every two hours, or be able to take at least a 10-15 minute break approximately every two hours.
9. Relief drivers are encouraged to rest during "off-times".
10. Front-seat passengers are encouraged not to sleep during long drives - they should monitor drivers for signs of fatigue.
11. It is recommended that drivers obtain at least six hours of uninterrupted sleep the night before they drive.
12. People who have been up most of the immediately preceding night are encouraged not to drive.
13. Multi-vehicle groups should be able to communicate between vehicles and/or have pre-designated meeting places to gather if vehicles become separated.
14. Driving under the influence of alcohol must be avoided at all times.
15. The behaviour of passengers must be orderly and should not disturb the driver.
16. The national rules of the road must at all times be adhered to.

❖ Awareness and planning

Awareness is the most basic - and most important - step in effectively planning for any field activity.

1. **Hazards:** Knowledge of weather patterns, temperature ranges, risk of fire, flood, avalanche, severe weather, or endemic disease may determine what type of preparation is necessary. Awareness of political and social hazards such as insurrection, government corruption, rule of law (or lack of it) and degree of personal safety (Is camping safe? Are robberies common? Is local law enforcement effective - or even present?) is as important a planning tool as knowledge of physical hazards.
2. **Laws, customs and resources:** For domestic field work, it is important to know local ordinances and customs, as well as what emergency and non-emergency resources are available, including medical care, vehicle repair, stores, etc. For field work outside South African borders, travelers should also be aware of national laws and legal systems, and cultural/language differences.
3. Emergency planning includes identifying specific hazards and one's vulnerability to them, ability to prevent/manage emergencies, and needs for successful outcomes. Self-preparation is an important aspect of contingency planning. Adverse situations may not be expected, but should be anticipated.
4. Useful aspects of self-preparation include:
 - i. Panic suppression and "survival thinking".
 - ii. Understanding the effect of an injured member on the entire group.
 - iii. **Rescue philosophy:** the rescuer, whether good Samaritan or part of an organized response, is more important than the victim (failure to take this to heart kills many would-be rescuers - and victims).
5. The following items represent some of those to be considered in a pre-trip plan:
 - i. Proper weather protection: appropriate clothing to prevent hypothermia or heatstroke, as well as sunscreen.

- ii. Adequate food and water supply and containers: if working in a remote area, make sure that the water is safe for human consumption.
 - iii. Immunizations: vaccination against yellow fever, hepatitis A and B, meningitis, polio, tetanus, rabies, typhoid fever, cholera, etc. if necessary. Consult a travel clinic.
 - iv. Research location(s) and travel routes: road conditions, fuel availability, sleeping areas in both directions; field researchers are strongly advised to obtain and bring copies of relevant topographic and road maps prior to departure.
 - v. How and where to receive emergency assistance; how to request it in another language, if needed.
 - vi. Transportation of hazardous materials and disposal of waste generated
 - vii. Required insurance – medical, travel and general liability.
6. Supervisors of students preparing to do field research in remote areas should assist the student in conducting a hazard analysis, including physical, biological, and political hazards, as well as what hazard mitigation can be reasonably accomplished.
 7. Prior to departure, staff/students should leave an itinerary with their supervisor/dept. office, providing the following information as available:
 - i. "Base" location
 - ii. Contact information and location of nearest local law-enforcement
 - iii. Emergency contact in field area (may be same as previous item)
 - iv. Estimated return date
 - v. Latest possible return date
 - vi. Emergency contact should next of kin need to be notified
 8. Participants in field activities requiring physical exertion, mobility in uneven terrain, or potential exposure to significant health hazards (e.g. dust for asthmatics, anaphylaxis-inducing allergens) should be made aware of the risks. All participants should be asked to provide information indicating personal medical conditions that may create a serious health threat or endanger the group (e.g. respiratory, cardiovascular, allergic and endocrine conditions). Although we cannot force participants to provide accurate information, they must be asked to do so and understand the consequences of not doing so.
 9. Medication for trip participants (e.g. dosage regimens, prophylactic medications, allergy medication) must be provided by the participants; prescription medications cannot be supplied by the department. Needs for such medications, as well as items such as carrying spare prescription eyewear etc., should be determined in advance.
 10. It is extremely unwise to undertake physically demanding fieldwork if not reasonably physically fit, or if pre-existing medical conditions pose a significant threat to survival.

❖ Communication

Communication is extremely important for safety in the field to be able to get help in an emergency.

1. Cellular phones can be used as communication equipment in the field, providing signal coverage is available. Extremely remote areas require less-conventional communication equipment, e.g. high frequency radios and satellite phones.
2. Groups on a field trip must always be able to communicate with their trip leader as well as with the other groups when dispersed in the field. Hand-held two-way radios are recommended. Trip leaders should be aware when groups are overdue and should know where to look in such circumstances.

❖ Equipment

Equipment required on vehicles used for field travel:

1. Emergency recovery tools such as jumper cables, tow rope, set of basic tools, spade, air pump, etc.
2. Extra spare tyre (if conditions indicate and space allows), functional tire-changing tools, traffic warning devices
3. At least 1 x 20 litre water can for dual purposes
4. First-aid kit (stocked and maintained), including suitable first-aid handbook
5. Fire extinguisher (charged and inspected)
6. Appropriate road maps
7. Flashlight, preferably heavy-duty, with fresh batteries
8. Necessary personal protective equipment (e.g. hard hats, eye protection, ear protection) must be provided for each participant.
9. For activities undertaken in remote areas and requiring participants to hike more than five minutes from the vehicles, hiking first aid kits should be carried by trip leaders.
10. Individuals should provide the following:
 - i. Drinking water
 - ii. Personal first-aid kit or items, e.g. medicine for allergies, sunscreen lotion and other "comfort" items
 - iii. Flashlight (heavy-duty, waterproof recommended) with spare bulb and batteries
 - iv. Proper clothing for field area, e.g. hat, hiking boots, warm clothing and rain coat

❖ Training

There is a wide variety of training available for people working outdoors. Unfortunately, they tend to be expensive and time-consuming. Although trip leaders and participants are encouraged to receive as much training as they can, the following training is required for the following people:

All trip leaders and field researchers:

1. Cardiopulmonary Resuscitation (CPR)
2. Basic First Aid
3. Emergency equipment use: operation, simple trouble-shooting procedures and maintenance for basic items such as vehicles, communications equipment, fire extinguishers, tire-changing equipment. This training should be provided to other participants as appropriate and necessary.

Drivers must know how to operate emergency equipment on their vehicles, including communication devices, fire extinguishers and tire-changing equipment.

All participants of field activities:

1. General safety orientation: Trip leaders should orient participants to specific hazards (if any) and emergency procedures (if any) before departure. All participants should know locations of emergency equipment, and basic emergency procedures (e.g. how to request help in case of injury, what to do if they become separated from the group).
2. Be sensible – if you need to operate a 4x4 or work in a big game area, do the appropriate courses.

All skills should be kept current.

❖ Staffing

1. Field activities in wilderness environments should have sufficient staffing to enable trip leaders to maintain accountability of participants and effectively manage the remainder of a group should one or more participants become ill or injured. The appropriate ratio of trip leaders to participants will vary considerably based on trip location, duration, and activities, and local hazards. Trips in which participants are required to perform more than mildly exerting activities or travel on foot over rough terrain are strongly recommended to maintain a trip leader: participant-ratio not greater than 1:10.
2. It may be necessary to limit trip/class sizes due to safety or transportation constraints.
3. Staff/students should be strongly discouraged from working alone in remote areas. In situations where solitary work is deemed necessary and unavoidable, a stringent code of practice must be established to address worker competency, procedures for regular reporting, emergency procedures, and other precautions and procedures appropriate to the types of activities involved.

❖ Snakes & snakebites:

1. Although more than half of the 151 species of snake found in South Africa have fangs and could technically be classified as venomous, only 16 species carry venom which is considered potent enough to be life-threatening. These include the boomslang, vine snakes, coral shield cobra, six species of cobra, the rinkhals, the green and black mambas, the puff adder, the Gaboon adder and the berg adder.
2. There are probably fewer than 10 snakebite deaths per year in South Africa and your chances of being killed in a car accident is much, much higher.
3. If a snakebite is suspected, try and note the kind of snake that bit the patient, bearing in mind the venom of Cape cobras, puff adders and boomslang act differently.
4. **Do not** try and catch the snake as this may put you in further danger – an angry 2 m long Cape cobra is a difficult customer!
5. Try to keep the patient calm and offer reassurance.
6. Transport the patient to hospital as quickly as possible. Generally it's much better to get the patient to hospital, than to apply other first aid measures.
7. If the snake is long and slender, for example a Cape cobra or boomslang, apply a pressure bandage to the bitten limb. Apply the bandage from the hand or foot towards the body trunk. The bandage should be as tight as for a sprained ankle or wrist.
8. Ensure that the patient is as inactive as possible: activity speeds up the transport of venom.
9. Elevate the bite site to reduce blood flow to and from the bite site.
10. If the patient has difficulty breathing, you may have to administer "mouth to mouth" resuscitation. Remember the ABC - **Airway** (open), **breathing** (mouth to mouth) and **circulation** (heart massage, if necessary).
11. If the patient was spat in the eyes by a spitting cobra, rinkhals or any other spitter, wash the infected eye(s) with copious amounts of water. Do not rub the eyes! Yes, you may use milk or urine in an emergency, but there's little or no evidence that this works better than water.
12. **Do not use anti-snakebite serum if you are not trained to administer it** - the patient may go into prophylactic shock and die (of the anti-venom and not the snakebite).
13. **Do not cut the wound to bleed out the venom or suck on it** – this does not work!
14. **Do not apply a tourniquet** – oxygen starvation of the limb can cause more damage.
15. **Do not allow the patient to consume any alcohol** – this speeds up metabolism.

16. **Do not attempt any form of electric shock therapy.**
17. Be careful where you place your hands when moving objects, such as tree trunks, rocks, or equipment around. Always lift slabs of rock and other flat objects in the veld, AWAY from you.
18. When hiking, wear long trousers and boots and watch where you put your feet - rather step on to and not over objects.
19. Finally, please be kind to snakes, they fulfil a very important ecological role in nature and they are rather cool animals!

***Reference:** Alexander & Marais. 2007. A guide to the reptiles of southern Africa. Struik Publishers. [This is the latest and a very useful book on reptiles].

Tygerberg Hospital (24 h telephone number): **021-931 6129** - assistance and information on virtually all **emergency cases of envenomation by either snakes, bees and wasps, spiders and scorpions.**





Field Excursion Information/Indemnity form
Department of Botany and Zoology
University of Stellenbosch

I, (full name) acknowledge that I am participating in an excursion of the department of Botany and Zoology as a volunteer. I acknowledge that the excursion may involve physical activity, may be dangerous and that I participate in those excursions at my own risk. I understand that the department does its utmost to ensure my safety but cannot warrant the safety of its excursions and that I should not participate in these excursions unless I have prepared appropriately and if necessary, have sought and am acting in accordance with medical advice. I give consent and accept all risks necessarily flowing from my participation in the department's excursion that could result in permanent injury or loss of life. I release the department and Stellenbosch University and all persons associated directly or indirectly with the excursions ("the indemnified") from all claims, demands and proceedings arising out of my participation and I indemnify against all liability for an injury, loss or damage arising out of or connected with my participation in the excursions organized by the department. I acknowledge that neither Stellenbosch University nor the department carry personal liability insurance to cover any injury, loss or damage to my person or property while on a departmental excursion. By signing this form I also state that I am fully aware of the nature of the excursion and have informed by parent(s) of my participation to which they have agreed.

Purpose of excursion:			
Date/s excursion:		Destination:	
Last Name:		First Names:	
UT number (or ID number if not SU student):		Mobile Phone:	
Address:			
Nationality:		Gender (please tick)	Male <input type="checkbox"/> Female <input type="checkbox"/>
Please list any medical conditions you believe the group leader should be aware of: (asthma, epilepsy, allergy etc.):			
Emergency contact information: (Please print)			
Name of emergency contact:		Relationship to you:	
Phone 1 :		Phone 2:	

Participant:

I have read and understood this form and all information supplied is correct.

Signed..... Date.....

Group leader:

Name..... Signed.....

Cell phone no. Date.....

Departmental Safety Officer in charge

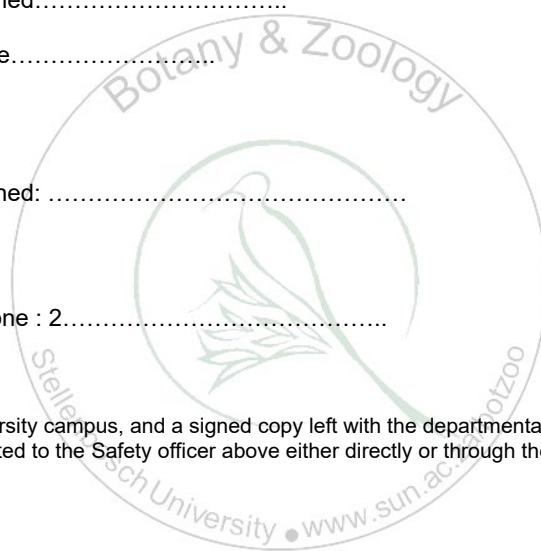
Name: Signed:

Date:

Phone 1: Phone : 2.....

Fax: 021-808 2405

IMPORTANT: This form must be signed before leaving Stellenbosch University campus, and a signed copy left with the departmental Safety officer in charge. Any incidents (injuries or accidents) must be reported to the Safety officer above either directly or through the group leader.



CENTRE FOR STUDENT COUNSELLING & DEVELOPMENT

The overall point of departure of the CSCD is based on the internationally recognised Wellness approach, which is currently applied at more than 70% of the American institutions of higher education.

Our programme, which focuses mostly on first-year students, is known as the ALFA-Programme (Academic Guidance and Facilitation for Adjustment).

Our programme, which focuses primarily on rounding off the period of study (in other words, mainly aimed at senior students), is known as the OMEGA-programme (Development Mechanisms for rounding off Degrees effectively). The aim is to help students to prepare maximally for the realities, demands and challenges of the occupational world. The services of the Careers Office support the aims of the OMEGA Programme.

The personnel of the CSCD work very hard to ensure that the centre remains up to date, dynamic and at the cutting edge of developments. All services are offered by registered practitioners, and strict confidentiality is guaranteed.

❖ The objectives of CSCD

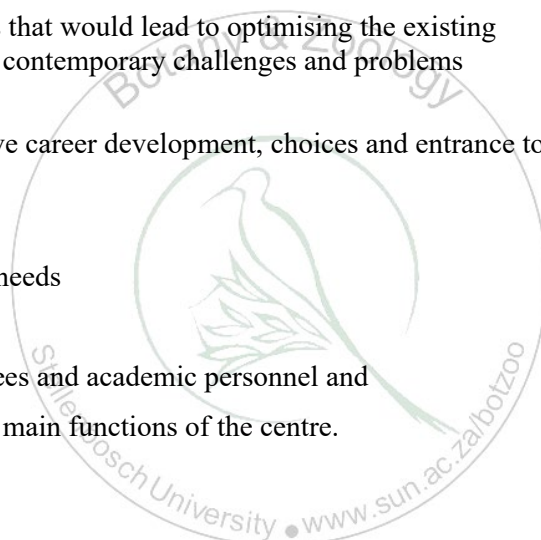
The broad objectives of the Centre are to:

1. render a scientifically responsible psychological service that is up to date, student-centred and dynamic to all registered students;
2. focus on optimising existing potential, counselling (including career development), preventing problems and providing psychotherapeutic assistance;
3. train and undertake supervision to intern psychologists in accordance with the prescriptions of the Health Professions Council of South Africa (HPCSA), and in accordance with recognised scientific standards/strategies;
4. act as consultants for university committees and the academic staff;
5. initiate, conduct and publish relevant and pertinent research; and
6. acquire national and international recognition.

❖ The functions of CSCD

The six objectives above are realised by means of the following seven functions:

1. Present developmental and counselling programmes that would lead to optimising the existing potential of students and empower them to confront contemporary challenges and problems successfully on their own
2. Provide information and guidance regarding effective career development, choices and entrance to such a career
3. Provide confidential psychotherapeutic services
4. Provide an office for students with special learning needs
5. Make a confidential 24-hour crisis service available
6. Provide consultation services to university committees and academic personnel and
7. Initiate, conduct, and publish research related to the main functions of the centre.



❖ Confidentiality

All the information clients give to our staff is treated with the strictest confidence. This means that no one will know that you are utilising the therapeutic services at the CSCD, unless you tell him or her. This includes your parents, the management of the university, your friends or the faculty.

Our therapists are all registered as psychologists with the Health Professions Council of South Africa (HPCSA), and absolute confidentiality is required of them. Only in very exceptional cases, in which the life of our client or someone else is in danger, are we obliged to breach confidentiality. In such cases, we first try to discuss the situation with clients before proceeding.

The **CSCD** (Centre for Student Counselling and Development) can be contacted at:

Academic Counselling: 021-808-4707

Psychotherapeutic and Social Services: 021-808-4994

Career Services: (021) 808 3568

Persons with Disabilities or Special Learning Needs: 021-808-4707

24 Hour Crisis Service (Stellenbosch & Tygerberg campuses) sponsored by Shoprite/Checkers: **082 557 0880**

NB: The service is available only to registered students of Stellenbosch University. The service is provided by professionally trained staff of the CSCD who can offer psychological aid in times of crisis and trauma at short notice.

Physical Address:

CSCD, Central Reception

37 Victoria Street

