UNIVERSITÄT BERN
Faculty of Medicine
Department for BioMedical Research

DBMR safety guidelines

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François Achermann
Head of DBMR Safety
Murtenstrasse 24, Office 405
3008 Bern
Switzerland
safe.dbmr@unibe.ch
www.safety.dbmr.unibe.ch

1 Scope, documents

This document describes the safety organization of the Department for BioMedical Research (DBMR) and summarizes the guidelines effective in the DBMR. It is distributed to all new employees in the DBMR. The detailed documents and forms can be found on the DBMR safety microsite www.safety.dbmr.unibe.ch.

2 DBMR safety organization

	Responsible person	Deputy
Head of DBMR Safety	François Achermann	
Health & Safety Officer (HSO)	François Achermann	
Biosafety Officer (BSO)	Prof. Dr. Katia Monastyrskaya	François Achermann
Chemical Safety Officer (CSO)	François Achermann (CSO ad interim	
Radiation Safety Officer (RSO)	François Achermann	
Dangerous Goods Officer (DGO)	François Achermann	
Anesthetics Supervisor	PD Dr. Alessandra Bergadano	Dr. Carlotta Detotto

In all research programs, core facilities, independent research labs and operational and administrative units a Contact Person for Occupational Safety (KOPAS) supports the leaders and staff in the fulfilling of safety requirements and serve as first point of contact in all safety matters.

3 Emergency

3.1 Emergency numbers

General emergency number	112
Police	117
Fire brigade (Inselspital)	118 / (3333)
Ambulance	144
Toxicology Center (Poisoning)	145
Life-threatening emergencies (Inselspital)	9999
Technical incidents (Inselspital)	2 66 66
Crisis management group UniBE	031 684 55 55
In case of exposition to untested human blood or tissues:	
Staff physician (08:00-16:30)	2 20 38
Off hours: Emergency Station (physician on duty)	181 75 20
In case of injury:	
Emergency Station (physician on duty)	181 75 20
DBMR emergency contacts:	
François Achermann	031 684 04 45
Stephan Christen	031 684 04 84

Information to provide in case of an emergency call:
WHERE did it happen?
WHAT did happen?
HOW MANY injured/affected persons?
WHICH KIND of injuries?
WAIT for questions

3.2 Escape routes, assembly points

Escape routes and emergency exits are labeled with green escape signs. The escape and rescue routes must be kept free and safe to use at all times. In case of fire the use of elevators is strictly forbidden. In case of evacuation all employees of the respective DBMR location have to meet at a defined assembly point.

Building	Assembly point
Mu24-28	Bremgarten cemetery forecourt
Mu31	Meadow between Psychiatric Clinic and Pavilion 47
Mu35	Entrance Mu31
Mu40-42	Entrance Mu50
Other	As decided on-site by the fire brigade

3.3 First aid

First aid boxes are located on each floor in all research divisions.
Defibrillators are available in the following DBMR research locations:

Building	Location
Mu24	EG040 (first aid/nursing room)
Mu28	Entrance and 4th floor
Mu31	Entrance PathL
Mu35	Entrance
Mu40	Entrance

In case of exposure to chemicals (splashes), the contact area should be extensively flushed. Water is an appropriate “flushing fluid” for most cases and affected areas should be rinsed for at least 15 minutes. Contact lens wearers must wear closed chemical safety goggles in all DBMR laboratories, therefore the wearing of contact lenses is not recommended.
All accidents and injuries (including exposition to human blood or unfixed human tissues) occurring during work have to be reported to safe@dbmr.unibe.ch, with copy to personal@dbmr.unibe.ch.

4 ID Badges

All DBMR members are requested to wear their badge at all times to facilitate the identification of persons unauthorized in the facilities.

5 Risk prevention

Risks can only be dealt with if they are known. Suitable measures must be taken to eliminate the dangers identified or reduce them to an acceptable level. It must be ensured that the measures taken remain effective in the long term.

5.1 Work equipment

Work equipment may represent substantial risks if manipulated improperly. It is therefore mandatory to ask for an instruction before using an instrument for the first time.
Work equipment must be maintained according to manufacturer's instructions.
The maintenance must be carried out by suitably instructed or trained persons.
The executed maintenance must be documented. Defects that are not detected and eliminated before the first start-up can be the cause of accidents, damage to health and property.

5.2 Working alone

Working alone is not permitted if the work can lead to injury, that requires the immediate help of a second person.

5.3 Liquid nitrogen

Contact with liquid nitrogen (LN2) can cause severe frostbite. Wear protecting gloves, goggles and face shield. LN2 also represents an asphyxiation risk. Nobody should enter an elevator in which LN2 tanks are transported. Place a warning sign on the tank (see SOP).

5.4 Compressed gas cylinders
Gas cylinders have to be secured with a chain to prevent them from falling. It is strictly forbidden to use or store gas cylinders in the escape routes.

5.5 Spill kits
Spill kits are available in case of biological or chemical spillage. The biological spill kits are located in every BSL 2 lab. Chemical spill kits are located on every floor of all research locations.

5.6 On-site transport
To prevent accidents, use a basket or an appropriate box to transport samples. Hazardous samples have to be packed in a secondary unbreakable container, with absorbing material for liquids.

6 Maternity protection
Pregnant and breast-feeding women have to be protected from exposure to ionizing radiation, to pathogenic microorganisms and to hazardous chemicals. A risk assessment should be performed as soon as possible to prevent damage to the unborn child (higher risk during first trimester!). Contact personal@dbmr.unibe.ch.

7 Basic laboratory safety rules
1. Work smart. Work safe
2. Respect the rules and follow the instructions of your supervisor
3. Never pipet by mouth or smell a chemical directly
4. Do not eat, drink or store food in the lab
5. Keep the workplaces clean and tidy. Label all samples and chemicals accurately
6. Handle hazardous chemicals exclusively under the fume hood
7. The use of needles and blades should be limited as much as possible and never recap a needle
8. Wear a lab coat or apron and tie-back long hair. Skirts, shorts, and open-toed shoes are not the right clothes in a lab
9. Depending on the individual risks additional personal protection equipment (PPE) must be worn. Ask your supervisor, which PPE is needed for which laboratory activity
10. Take-off your gloves before using telephones, computers, tap water, door latches, elevators and copy machines. Do not reuse disposable gloves. Wash and cream your hands regularly, especially after taking-off the gloves and before leaving the workplace
11. Before being brought for washing, glassware must be rinsed to prevent exposure of the cleaning team to hazardous chemicals. Stickers and waterproof labels have to be removed. Chipped glassware must not be brought for washing (risk of injury for the cleaning team), but discarded

8 Special safety regulations
8.1 Anesthetics
According to the Swiss Narcotics Act it is mandatory to keep a record of the use of narcotics and psychotropic substances. The quantities used each year by the DBMR research groups have to be reported to the Supervisor Anesthetics.

8.2 Biosafety
All activities involving pathogenic or genetically modified organisms must be registered with the Federal authorities. Activities involving group 1 organisms are registered as part of a DBMR global notification, while activities with group 2 organisms have to be notified individually. Activities with organisms assigned to group 3 and 4 are not possible in the DBMR facilities. Group leaders are responsible for the registration of their activities with the BSO DBMR.

Experiments with cells or material of human origin have to be performed in a Biosafety Level 2 (BSL2) cabinet and waste has to be appropriately disposed of. Hepatitis B vaccination is highly recommended when working with material of human origin (Staff physician, Freiburgstr. 15, every Tuesday 1pm – 3pm).
Transduction experiments with lentiviruses and other retroviruses as well as all other class 2 activities have to be done exclusively in the dedicated BSL2 labs. Access to BSL2 labs will be granted only after proper instructions. Specific SOPs are available.

8.3 Dangerous goods

The transport of dangerous goods on public ground is subject to the ADR, SDR, GGBV legislation. Before sending dangerous goods including biological samples, contact the DGO DBMR for advice.

8.4 Radiation safety

All DBMR employees who deal with ionizing radiation comply with the corresponding internal directives for radiation safety. It is strictly forbidden to deal with ionizing radiation without authorization of the RSO DBMR.

9 Special waste management

Employees and students are responsible for the materials they use and the optimal separation and treatment of the special waste they generate in accordance with the local regulations. Depending on the type of waste and where it was produced, the waste is managed by the University of Bern or the Inselspital Bern.

9.1 Biological waste

Solid biological waste has to be autoclaved or discarded in UN 3291 containers (blue with yellow lid). When full, containers must be tightly closed and the lid handle disinfected with 70% Ethanol before disposal. Liquid
Liquid biological waste has to be inactivated, either by heat (autoclave) or chemically (1% Virkon S for 24h).

9.2 Chemical waste

Organic solvents and liquid chemical waste are collected using appropriately labeled waste containers. Containers are color-coded (Mu24, Mu31, Mu35 - removal by University) or white (Fr15, AKL, PKT1, SH1+2 - removal by Inselspital). Take care to correctly declare the content.
Solid chemical waste has to be collected in their original packaging cushioned in the provided containers. Content must be precisely declared and be protected from breaking and leaking.

9.3 Sharps, scalpels, microtome blades and needles

Needles, scalpel and microtome blades, glass Pasteur pipettes have to be discarded in sharps containers, which are then disposed of in a blue container UN 3291 with yellow lid.

9.4 Glass

Glassware (rinsed) and histology slides with fixed/inactivated samples should be collected for glass recycling.

10 Information and instruction

Safe and health-conscious behavior requires appropriate knowledge. This knowledge is ensured through targeted and permanent training of all persons in the DBMR.

10.1 Personal safety passport (FCOS)

The personal safety passport is handed out by the KOPAS to all new persons in the DBMR. All safety instructions and trainings have to be documented in this passport.

10.2 Mandatory safety courses

	Target group	Administration	Duration
Fire fighting	Everyone at the University of Bern	Fachstelle Sicherheit	1.5 hours
Basics of First Aid	Everyone at the University of Bern	Fachstelle Sicherheit	1.5 hours
Retten für Alle	Everyone at the Inselspital	Inselspital Bern	1.5 hours
Science Lab Safety	Everyone working in the lab	DBMR safety	2.5 hours
Hot Lab Safety	Everyone handling radioactive materials	DBMR safety	1.5 hours
Approved radiation protection training for lab staff in work areas B/C (course 875E, I 19)	Everyone working in a C-lab	Paul-Scherrer-Institut (PSI)	5 days
Approved radiation protection training for RSO B-/C-lab (course 420)	RSO c-lab	Paul-Scherrer-Institut (PSI)	10 days
Approved radiation protection training for RSO X-ray – SPI (I 9)	RSO X-RAD, RSO, IVIS/CT, RSO µCT40, RSO Faxitron	Suva	1 day
KOPAS course	KOPAS	DBMR safety	2 hours
BLS-AED Grundkurs	KOPAS	Fachstelle Sicherheit	1 day
BSO-BSL2 Biosafety course	BSO	b-safe GmbH	3 days

11 Informed consent

Employee

I herewith confirm that I have read and understood the DBMR safety guidelines and that I will comply with all safety rules at all times.

Place, Date:

Name:

Signature:

Supervisor

I make sure that in line with the DBMR safety guidelines, the employee receives the required safety instructions and support, and that the safety rules are fully adhered to in my area of responsibility.

Place, Date:

Name:

Signature:

Important:
Please send this correctly signed form to sekretariat.dbmr@unibe.ch by your second working day at the latest. Thank you!