Welcome for newcomers

- Hazards in a laboratory
- Trainings offers
- Good Laboratory Practice
- Life in the laboratory
- Registers
- Safety instructions
- Questionnaire
Hazards in a laboratory

- Chemical hazard
- Biological hazard
- Electrical hazard
- Fire hazard

- Others: Noise, Handling, Lasers, Radiations, High pressure, Cryogenics, Asphyxia, Screen work...
Chemical hazard

Reading labels

Preexisting regulation

REACH regulation
(Registration, Evaluation, Authorisation and restriction of CHemicals)

ECHA (European Chemical Agency)

CLP European Regulation:
Classification, Labelling and Packaging
Pictograms of chemical compounds

**Flammable, F**
- Use away from a heat source or flame, (F = Highly flammable, F+ = extremely flammable)

**Corrosive, C**
- Corrodes metals, cause severe skin burns and eye damage

**Explosive, E**
- All compounds which can explode after a collision or if they are exposed to a heat source.

**Toxic for environment, N**
- Toxic to the aquatic life, those compounds must be retrieved after use and treated (organic solvents).

**Combustive, O**
- Compounds facilitating fire, to be used away from a flame or heat source.

**Toxic, T**
- Can harm or kill at low doses, must be manipulated with appropriate protections.

**Harmful, XI and Xn**
- Compounds which may cause health problems, must be manipulated with appropriate protections.
Physical Hazards

- SGH01: Explosive
- SGH02: Flammable
- SGH03: Oxidising
- SGH04: Gas under pressure
- SGH05: Corrosive

Human health hazards

- SGH05: Corrosive
- SGH06: Acute toxicity
- SGH07: Health hazard
- SGH08: Serious health Hazard
- SGH09: Hazardous to the aquatic life

- Acute toxicity: Toxic, Irritating, sensibilizing, narcotic
- Health hazard: CMR(1), STOT(2)
- Gas under pressure: Hazardous to the aquatic life

(1) CMR: carcinogenic, mutagenic, toxic to reproduction
(2) STOT: Specific Target Organ Toxicity
Risk-Phrases

- R 11 Highly flammable
- R 38 Irritating to skin
- R 48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation
- R 63 Possible risk of harm to the unborn child
- R 65 Harmful: may cause lung damage if swallowed
- R 67 Vapors may cause drowsiness and dizziness

Globally Harmonized System: Hazard statements H200 to H413 (H: Hazard statement)

- H225 Highly flammable liquid and vapour
- H304 May be fatal if swallowed or if it enters airways
- H315 Causes skin irritation
- H336 May cause drowsiness or dizziness
- H361 Suspected of damaging fertility or the unborn child
- H373 May cause serious damage to organs through prolonged or repeated exposure

Example: Toluene

Preexisting: Risk-Phrases R1 to R68

http://www.msds-europe.com/id-485-r_s_phrases.html

Globally Harmonized System: Hazard statements H200 to H413 (H: Hazard statement)

http://www.msds-europe.com/id-486-h_p_statements_ghs_clp.html
Safety Phrases or Precautionary statements: S or P Phrases

Example: Toluene

Preexisting: Safety Phrase S1 to S64
http://www.msds-europe.com/id-485-r_s_phrases.html

<table>
<thead>
<tr>
<th>Safety Phrase</th>
<th>Precaution</th>
</tr>
</thead>
<tbody>
<tr>
<td>S 36/37</td>
<td>Wear appropriate protective clothing and gloves</td>
</tr>
<tr>
<td>S 62</td>
<td>If swallowed, do not induce vomiting: seek medical advice immediately and show him the packaging or label</td>
</tr>
<tr>
<td>S 64</td>
<td>If swallowed, rinse mouth with water (only if the person is conscious)</td>
</tr>
</tbody>
</table>

Globally Harmonized System: Precautionary statement P101 to P501
(P: Precautionary statements)
http://www.msds-europe.com/id-486-h_p_statements_ghs_clp.html

<table>
<thead>
<tr>
<th>Precautionary statements (P Phrases)</th>
</tr>
</thead>
<tbody>
<tr>
<td>P210</td>
</tr>
<tr>
<td>P260</td>
</tr>
<tr>
<td>P280</td>
</tr>
<tr>
<td>P301/312</td>
</tr>
<tr>
<td>P304/340</td>
</tr>
<tr>
<td>P273</td>
</tr>
</tbody>
</table>
Fiches toxicologiques

Définissez votre recherche

Nom chimique
Numéro de fiche
Numéro CAS
Terme recherché

Rechercher

HAZARDOUS SHEETS Data Bank

www.inrs.fr/fichetox

CAS registry number
(Chemical Abstracts Service)

Ethidium Bromide @ Wikipédia
Hazardous Substances Data Bank (HSDB)

ECHA (European CHemical Agency)

Advanced search for Chemicals

Classification details (ECL inventory) (AIO)
- Hazard: Physical, Environmental, Health

Uses and exposure (registration dossier) (AIO)
- Category: Production Category, Domestic Use

Regulatory activities and outcomes (AIO)
- Article Category

https://echa.europa.eu/advanced-search-for-chemicals

120,000 hazardous chemicals

TOXNET (NIH)

Search HSDB
- Search Term: benzene, endocrine disruptor
- Records with all of the words
- Include Synonyms and CAS Numbers in Search

HSDB: A TOXNET DATABASE

About HSDB
- What is HSDB?
  HSDB is a toxicity database that focuses on the toxicity of potentially hazardous chemicals. It provides information on human exposure, industrial hygiene, emergency handling procedures, environmental fate, regulatory requirements, nanomaterials, and related areas. The information in HSDB has been assessed by a Scientific Review Panel.
- Updates: The HSDB Scientific Review Panel meets several times yearly to review selected substances, add new records, and update records, as needed.

Did you know
- How is the TOXNET database selected?
  The following TOXNET databases are available for license: ChemIDplus, DPLINE, TOXNET, HSDB, and TOXLINE.
- For further information visit Leasing Data from the National Library of Medicine.

5,000 hazardous chemicals

https://toxnet.nlm.nih.gov/newtoxnet/hpdb.htm
Regulations are being amended
<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Identification of the Company’s chemical</td>
</tr>
<tr>
<td>2</td>
<td>Identification of hazards</td>
</tr>
<tr>
<td>3</td>
<td>Information on components</td>
</tr>
<tr>
<td>4</td>
<td>Description of first aid measures</td>
</tr>
<tr>
<td>5</td>
<td>Firefighting measures</td>
</tr>
<tr>
<td>6</td>
<td>Accidental release measures</td>
</tr>
<tr>
<td>7</td>
<td>Handling, use and storage precautions</td>
</tr>
<tr>
<td>8</td>
<td>Exposure control/ characteristics of personal protection equipment</td>
</tr>
<tr>
<td>9</td>
<td>Physical and chemical properties</td>
</tr>
<tr>
<td>10</td>
<td>Product stability and reactivity</td>
</tr>
<tr>
<td>11</td>
<td>Toxicological information</td>
</tr>
<tr>
<td>12</td>
<td>Ecotoxicological information</td>
</tr>
<tr>
<td>13</td>
<td>Information on waste disposal</td>
</tr>
<tr>
<td>14</td>
<td>Transport information</td>
</tr>
<tr>
<td>15</td>
<td>Regulatory information</td>
</tr>
<tr>
<td>16</td>
<td>Other information which may contribute to the health and safety of users</td>
</tr>
</tbody>
</table>
Homepage

This website is intended for people working in the BIU. You will find general information in the field of health and safety, but also practical information about the organization of security within the BIU.

You will also find direct links allowing you to reach other websites specialized in hygiene and security, which we used as models to create our own. Many pages are still being developed. Please feel free to bring to my attention any broken link or suggest corrections or additions.

Upon your arrival at the BIU, you will be asked to follow a health and safety training which will be validated by a questionnaire. This website will allow you throughout your stay at the BIU to have access to useful additional information regarding your health and that of your colleagues. You have rights and duties. You must know, respect and apply rules and instructions, especially with regard to risk prevention. You are required to follow good laboratory practices. The Prevention Assistants are at your disposal for any questions related to risk prevention.

It is essential to visit the laboratories upon your arrival at the BIU accompanied by your manager in order to be introduced to all staff and get to know the premises in which you will evolve.

In addition, you acknowledge having read the Rules of Procedure and personally agree to comply with all its protocols and the rules of the establishment.

Happy browsing!
According to Regulation (EC) No 1907/2006
Collective protection equipment

Air Extraction

- No Filter
- Air is rejected on rooftop

Air Filtration

- Filters Toxic Gases
- Air is blown back into the room

PSM II

- HEPA filter (particules)

Check On/Off, front’s position, space requirements
Location of chemical fume hoods

RC Haut   Pour Biotyping

N+1   L101 & L105 pour SybrSafe
N+1   L102 pour beta mercapto ethanol
N+2   L206 pour BET et solvants organiques

RC Haut : Local à solvant 001

N+2   Microscopie électronique  1
N+2   Spectrométrie de Masse
N+2   Local à solvants
Chemical waste

**Halogenated solvents (Br, Cl, I, F) (or chlorinated)**
Examples: Chloroform, dichloroethane, Phenol, iodoacetamide, ...

**Non-halogenated solvents & alcohols (or non-chlorinated)**
Examples: Isopropanol, ethanol, methanol, formaldehyde, xylene, ...

**Acids Containing less than 40 % water**
Examples: Chlorhydric, nitric, formic, phosphoric, acetic, sulfuric, ...

**Bases containing less than 40% Water**
Examples: NaOH, KOH, Ammoniac, ...

**Heavy metals**
Examples: Silver nitrate, Osmium tetroxyde, Plomb and derivatives, ...

**Low-HV Products (lower heating value)**
Contaminated liquid containing more than 40% water
Examples: Outputs of automate Buffers Dyes, ...
The CMR

Genotoxic Products. CMR for Carcinogenic, Mutagen and Reprotoxic

3 categories according to the risk: Category 1 (proven), 2 (assumed) or 3 (suspected)

<table>
<thead>
<tr>
<th>Effects</th>
<th>Risk sentences H or P</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carcinogenic</td>
<td><strong>H350</strong>: May cause cancer&lt;br&gt;<strong>H351</strong>: Suspected of causing cancer</td>
<td>Acrylamide&lt;br&gt;Ethidium bromide&lt;br&gt;Formaldehyde&lt;br&gt;Benzene&lt;br&gt;Chloroforme&lt;br&gt;Dimethylsulfate (DMS)&lt;br&gt;Thiourée&lt;br&gt;Dichloromethane&lt;br&gt;Iodomethane&lt;br&gt;Schiff's reagent&lt;br&gt;Formvar</td>
</tr>
<tr>
<td>Mutagen</td>
<td><strong>H340</strong>: May cause genetic defects&lt;br&gt;<strong>H341</strong>: Suspected of causing genetic defects</td>
<td>Acrylamide, Ethidium bromide&lt;br&gt;Iodoacétamide&lt;br&gt;Phenol</td>
</tr>
<tr>
<td>Reprotoxic</td>
<td><strong>H360</strong>: May damage fertility or the unborn child&lt;br&gt;<strong>H361</strong>: Suspected of damaging fertility or the unborn child&lt;br&gt;<strong>H362</strong>: May cause harm to breast-fed infants</td>
<td>Dimethylformamide&lt;br&gt;Formamid&lt;br&gt;Monooethyl esther&lt;br&gt;Dibutyl phthalate&lt;br&gt;Imidazol&lt;br&gt;Sodium tetraborate</td>
</tr>
<tr>
<td></td>
<td><strong>R45</strong>: May cause cancer&lt;br&gt;<strong>R49</strong>: May cause cancer by inhalation&lt;br&gt;<strong>R40</strong>: Limited evidence of a carcinogenic effect</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>R46</strong>: May cause heritable genetic damage</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>R60</strong>: May impair fertility&lt;br&gt;<strong>R61</strong>: May cause harm to the unborn child&lt;br&gt;<strong>R62</strong>: Possible risk of impaired fertility&lt;br&gt;<strong>R63</strong>: Possible risk of harm to the unborn child</td>
<td></td>
</tr>
</tbody>
</table>

The routes of exposure are:

✓ Respiratory route: inhalation of dusts, fumes, gases, aerosols
✓ Digestive route: ingestion of products
✓ Skin route: contact with the skin
✓ Percutaneous route: passage from the cutaneous barrier to the bloodstream
Preventive measures

- Supply in small units
- Inventory and storage
- Information and training
- Places of handling
- Individual and collective protection

**BET case**

Ethidium bromide (BET) is a fluorescent dye used in molecular biology for its properties of intercalating agent allowing to visualize the DNA. It is a mutagen.

BET is handled only in the room dedicated to gels (casting, migration and image acquisition). Wearing gloves is mandatory even when acquiring images on transilluminators.

- **Alternative disponible au laboratoire : SYBR Safe® DNA gel stain**

  Less toxic, lower mutagenic potential but no evidence of its innocuousness: ➔ Same precautions as for BET
Chemical waste: SYBR Safe case

Solid waste

- Any solid having been contaminated by EtB or analogous (Sybr Safe):
  - Agarose gels
  - Gloves
  - Papers, ...

Liquid waste

- Liquid waste containing EtB or analogous (Sybr Safe):
  - Electrophoresis buffer
  - TAE ou TBE
Individual exposure form

The "individual exposure form for hazardous products" was made **compulsory** by decrees of 2001, 2003 and 2004.

It is in **everyone's interest** to complete this document and keep it indefinitely.

It aims to annually **identify people exposed to hazardous chemicals** (including RMCs) and to characterize exposure. It allows the traceability of exposures with a view to ensuring the recognition of occupational diseases, health surveillance or epidemiological studies.

**Who is concerned?**
Any person exposed to the preparation and handling of hazardous chemicals.

**Who is it for?**
The employer, "the handler", Occupational physician, INSERM

**Who fills it?**
The person exposed with the help of the prevention assistant.

**When to fill it?**
Every year during risk assessment. Updated in case of technical changes that may affect exposure to hazardous chemicals and preparations.
Individual exposure form

Concerned products

**CARCINOGENIC - MUTAGENIC - REPROTOXIC**

- R40, R45, R46, R49, R60, R61, R62, R63, R64, R68
- H340, H341, H350, H351, H360, H361, H362

**ACUTE TOXICITY**

- R20, R21, R22, R23, R24, R25, R26, R27, R28

**CORROSIVE AND IRRITANT**

- R34, R35, R36, R37, R38, R41, R42, R43
- H314, H315, H317, H318, H319, H334, H335
Individual exposure form

Hygiène, Sécurité, Sureté et Qualité

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Happy browsing!
Hazards in a laboratory

- Chemical risk
- Biological risk
- Risque électrique
- Risque incendie
- Autres: Bruit, Manutention, Lasers, Rayonnements, Appareils sous pression, Cryogénie, Asphyxie, Travail sur écran, ...
## Classification of biological microorganisms

<table>
<thead>
<tr>
<th>Grade</th>
<th>Individual hazard</th>
<th>Collective hazard</th>
<th>Prophylaxis treatment</th>
<th>Biosafety level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>None</td>
<td>None</td>
<td>Yes</td>
<td>BSL1</td>
</tr>
<tr>
<td>2</td>
<td>Moderate</td>
<td>Limited</td>
<td>Yes</td>
<td>BSL2</td>
</tr>
<tr>
<td>3</td>
<td>Important</td>
<td>Moderate</td>
<td>Often</td>
<td>BSL3</td>
</tr>
<tr>
<td>4</td>
<td>High</td>
<td>High</td>
<td>None</td>
<td>BSL4</td>
</tr>
</tbody>
</table>

**BSL** : Biosafety level

### Biosafety training

NSB 2 – BPL Training
Others training course (NSB3) upon request of the senior scientific officer and programmed with Nathalie Wurtz. The access to the P3 is restricted to people who have followed this training.
Solid waste

**Sharp materials**

Blades, Needles + syringes, Glass slides, Scalpels, Pipettes, Pipette tips

**Contaminated Waste**

Closed decontaminated containers, Gloves, Plastic tubes, Syringes, Compresses

---

Yellow = danger

Filling limit at ¼ Secure closure

---
DAOM: Déchets Assimilables aux Ordures Ménagées (waste assimilated to household waste)

Conventional Waste: Packaging, paper
no sharp or cutting materials

Cost:
Decontamination of biological agents

Anioxy-Twin: Bactericidal, fungicidal and virucidal disinfectant

* Put one dose in a 1L beaker
* Diluted solution can be used within 48 hours maximum

Required EPI:
- Gloves
- Sunscreen
- Long Sleeve Blouse

Peracetic acid
Hydrogen peroxide
Acetic acid

It is strictly forbidden to mix any chemical waste with the Anioxy-Twin waste. Incompatibilities can cause very dangerous reactions.

Bleach:
* Do not use pure
* Use a dilution of 1 dose (berlingot) in 1 liter of water
* Leave in contact 1h00
* Possibility to dispose of the product in the sewer
* Do not mix with certain products
Caution is required when putting a container into service, please respect sorting and incompatibility regulations.
Solvents Premises

2nd Floor

- Ventilated cabinet
- Ventilated acid base cabinet
- Sorbonne for solvent sampling
- Scale for weighings of toxic products or CMR
4 cabinets with products stored in alphabetical order.

Respect the storage organization

Keep them clean !!!
Risks in the laboratory

- Chemical risk
- Biological risk
- Electrical risk
- Fire risk
- Others: Noise, Handling, Lasers, Radiation, Pressurized equipment, Cryogenics, Asphyxia, Screen work,
In the lab, we use many electrical devices operating at 220 V, some are three-phase electrical devices operating at 380V

The electrical hazard results from direct or indirect contact with the electric current.

Consequences:

- Fire
- Explosion
- Health damage
  - Burn
  - Electrification
  - Electrocution
Safety precautions

- Do not overload electrical plugs by multiple plugs.
- Only use devices in good conditions and comply with standards.
- Never touch a socket with wet hands.

Buffer >> Water

Si problème électrique :
Il est formellement interdit de réenclencher un disjoncteur
Prévenir :
AXIMA service entretien au 04 13 73 20 50 en heures ouvrables
ou le PC sécurité au 04 13 73 20 18 à toute heure
Safety precautions

- Never try to repair a device which presents a malfunction

  Report any anomalies to the person in charge or to technical services.

- In the absence of authorization, do not modify the electrical installation, the setting of circuit breakers or the fuse rating, especially to reduce their sensitivity.
Risks in the laboratory

- Chemical risk
- Biological risk
- Electrical risk
- Fire risk
- Others: Noise, Handling, Lasers, Radiation, Pressurized equipment, Cryogenics, Asphyxia, Screen work,
Fire hazard

- **Prevention**: storage, handling of products, electrical risk

- **Main rules in case of fire**: If you face a fire outbreak

  Keep calm while acting. *Never put your life at risk*

  Alert rescue and provide adequate information.

  Trigger the alarm

  Alert other lab members

  Combat the onset of fire with the available and appropriate extinguishing media
Fire Hazard

<table>
<thead>
<tr>
<th>CLASSES OF FIRES</th>
<th>TYPES OF FIRES</th>
<th>SYMBOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Wood, paper, fabric, plastic, and most kinds of trash.</td>
<td>A</td>
</tr>
<tr>
<td>B</td>
<td>Flammable liquids (for example, gasoline).</td>
<td>B</td>
</tr>
<tr>
<td>C</td>
<td>Burning gases (for example, natural gas).</td>
<td>C</td>
</tr>
<tr>
<td>D</td>
<td>Combustible metals* such as magnesium, potassium, titanium, and zirconium. * Exception of the metals that burn in contact with air or water (for example, sodium).</td>
<td>D</td>
</tr>
<tr>
<td>E</td>
<td>Fires involving potentially energized electrical equipment.</td>
<td>E</td>
</tr>
<tr>
<td>F</td>
<td>Unsaturated cooking oils in well insulated cooking appliances located in commercial kitchens.</td>
<td>F</td>
</tr>
</tbody>
</table>

Water + additive

CO2

EMPLOI DES EXTINCTEURS

Les extincteurs sont des appareils homologués qui permettent de projeter un agent extincteur sous l'effet d'une pression. Deux techniques sont employées : pression permanente et pression auxiliaire. Dans tous les cas, la gâpulle (dispositif de sécurité) doit être retirée avant d'agir sur la poignée pour libérer le produit.
Fire Hazard

Example of an evacuation plan

- Close the fire doors.
- Go towards the exit WITHOUT using the elevators.
- Report to the meeting point.
Risks in the laboratory

- Chemical risk
- Biological risk
- Electrical risk
- Fire risk
- Others: Noise, Handling, Lasers, Radiation, Pressurized equipment, Cryogenics, Asphyxia, Screen work,
Laser risks

- **Equipments**: Confocal microscope, fluorescent scanner, Flow Cytometer, MALDI-TOF Mass Spectrometer, New generation sequencers,

<table>
<thead>
<tr>
<th>Risks</th>
<th>Classe 1</th>
<th>Classe 2</th>
<th>Classe 3A</th>
<th>Classe 3B</th>
<th>Classe 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Direct beam Specular reflection</td>
<td>Safe</td>
<td>Safe</td>
<td>Safe</td>
<td>Hazard</td>
<td>Hazard</td>
</tr>
<tr>
<td>Eye reflection diffuse</td>
<td>Safe</td>
<td>Safe</td>
<td>Safe</td>
<td>Hazard</td>
<td>Hazard</td>
</tr>
<tr>
<td>Skin</td>
<td>Safe</td>
<td>Safe</td>
<td>Safe</td>
<td>Safe</td>
<td>Safe</td>
</tr>
<tr>
<td>Fire</td>
<td>Safe</td>
<td>Safe</td>
<td>Safe</td>
<td>Safe</td>
<td>Safe</td>
</tr>
</tbody>
</table>

- **Consequences**: Eye injury
  - Fire
  - Burns

- **Prevention**: Integrated technical protection
  - Labeling
  - Radiation Containment
  - Restricted access
  - Hand, body and eyes protection
  - Training of operators in the use of laser equipment
Risks of asphyxia, Pressurized equipment and Cryogenics

- **Source**: Confined Space
  
  Sources of gas
  Insufficient ventilation

- **Consequences**:
  - Anoxia \((O_2 \leq 17\%)\), **Coma then death** \((O_2 \leq 10\%)\)
  - Propulsion, storage, handling, sealing

- **Prevention**:
  - Ensure ventilation of the room and presence of oximeters.
  - The manipulation of a gas cylinder must be carried out by competent personnel.
  - The cylinders outside the dedicated room (ground level) must remain an exception.
  - The cylinders must be attached by a chain.
  
  - Handling of liquid nitrogen must be done with hand protection (cryo gloves) and eye (face shield) protection. Avoid splashing by slowly opening the valve.
  - **Storage of liquid nitrogen or dry ice in a confined space such cold room, refrigerators or freezers is strictly forbidden.**
  - **If the alarm sounds** : Shut off the gas supply. Open the doors to ventilate.
  - Evacuate places by warning your co-workers to do the same.
  - Call the Security PC at 04 13 73 20 18 to report the incident.
Welcome Days for New Entrants

- Risks in the laboratory
- Training offers
- Good Laboratory Practice
- Life in the laboratory
- Occupational Health and Safety
- Registry Safety instructions
- Evaluation / Questionnaire
Internal trainings - Conditions of access to the platforms

Formations 2017

MEDITERRANEE INFECTION

ATTESTATION DE SUIVI DE FORMATION

Nom et prénom du stagiaire :

Formations Validation Signature responsable
1. Formation HSE (Hygiène, Sécurité, Santé, Qualité) - Niveau 1
   Date :
   R. La Scala

2. Formation NSB2 - BPI
   Date :
   R. La Scala

3. Formation NSB3
   Date :
   R. La Scala

4. Formation NSB3 - CMDI
   Date :
   R. La Scala

5. Formation NSB3 - MOT
   Date :
   R. La Scala

6. Formation NSB3 - sensibilisation MOT
   Date :
   R. La Scala

7. Formation Biologie moléculaire
   Date :
   P.L. Fournier

8. Formation Spectrométrie de masse
   Date :
   E. Codassin

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Director of the IHU
Dr. Didier Roilfi
04 12 12 12 00
didier.roilfi@gmail.com
Internal trainings - Conditions of access to the platforms

FORMATIONS IHU

En ligne
- Hygiène, sécurité, sûreté, qualité (HSSQ)
- Sécurité et sûreté biologique
  - NS62 BPL
  - Biotox
  - MOT
  - Sensibilisation MOT
- Identification de micro-organismes par MALDI-TOF
- sur demande
  - Microscopie optique
  - Microscopie électronique
  - Morgagni
  - Tecnai G2O
- Insectarium
- Lyophilisation

Biologie moléculaire
- Cytométrie de flux
- Microarray
- Culture de cellules primaires
- Bio-informatique

Pour iOS, télécharger l'appli Bakodo
Pour Android, télécharger l'appli QR barcode lecteur
Welcome Days for New Entrants

- Risks in the laboratory
- Training offers
- Good Laboratory Practices
- Life in the laboratory
- Occupational Health and Safety
- Registry Safety instructions
- Evaluation / Questionnaire
Good Laboratory Practices - GLP

General instructions

- No food, no drinking, no putting makeup and no smoking in the lab.
- No food storing in the lab or in the cold room.
- No mouth pipeting.
- Do not open doors or answer the telephone with gloves.
- Do not obstruct corridors, steps, staircases and fire doors.
- No intervention on electrical devices or installations.
- Before leaving the lab, wash and disinfect your hands and remove your work clothes. Do not clean your work clothes at home.
- Immediately treat wounds, even the most trivial ones.
- Complete the Health and Safety Register if you witness an incident or malfunction.
Good Laboratory Practices - GLP

- Do not proceed to hazardous experimentations out of **normal working hours**, especially at night and during the week-ends (at the IHU, you must notify your time of entry and exit with the security officer on the register).

- Use personal protective equipment (PPE): Wear a lab **coat**, **gloves** appropriate for handling, dust **mask** adapted for solid fine-particle products, safety **glasses** with side shells.

- Keep your hair attached.

- Use appropriate **collective protective equipments**

- Before handling, select the least hazardous products and read the information on the vial.

- **Read the safety data sheets**

- Check expiration dates. Indicate date of opening.

- Solutions must be carefully **labeled** (composition, date and name).

- Observe the rules of incompatibilities for the storage of your chemicals.
G.P.L. Experimental precautions (continuation)

- Use preferably single use materials
- The manipulator is in charge of cleaning his own dishes.
- Handle on clean benches or fume hoods (make sure that it works correctly).
- Clean the shared material and work surfaces before and after use: scales, hoods, incubators, PSM, centrifuge.

- Respect waste streams. Dispose of your chemical waste in the corresponding containers (before mixing waste, ensure compatibility). Never throw into the sewer products that react violently with water, toxic or flammable products, foul-smelling products, products that are hazardous for the environment.
- Transport contaminated items in appropriate sealed containers

- Use of sharp objects
  - Do not recap or remove syringe needles!
  - Scalpels are exclusively reserved for dissection works.
  - Scissors with round ends are at your disposal in each room for opening parcels.
    - Immediately throw your cutting or sharps objects in a suitable container
  - Evacuate and allow trained personnel to intervene in case of massive chemical dispersion
Good Laboratory Practices - GLP

Special risks

- Report to preventive medicine any handling of genotoxic products
  - In case of accident (contact with a genotoxic product), report it immediately to the preventive medicine and record it in the Health and Safety Register of the unit.

- In case of pregnancy it is forbidden to use carcinogenic, teratogenic, toxic and infectious products.
  - => You have to declare your status of pregnancy

Prevention:

- Pure products must be locked up.
- Minimize the **weighing** of powders and wear a dust mask
- Solutions must be carefully labeled. They must be transported in a sealed container inside a metal box, labeled as "mutagenic or carcinogenic", with absorbent material (vermiculite).
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Accreditation for the analyzes of the National Reference Center:

Rickettsies
Bartonella
Coxiella, ...

Diagnostic: Ground Floor of the IHU

Equipments and space dedicated only to diagnostic unless authorization by the AP-HM staff

Respect the Good Laboratory Practices (BPL)
Procedures for analysis, calibration of equipment, quality control ...
Regular audit
Reagents and Consumables

Person in charge: Patricia SCAPIN et Christine BONIFAY

Double doors
Destocking of reagents and consumables

Person in charge: Patricia SCAPIN et Christine BONIFAY

- Stocks with alert thresholds and automatic ordering

  Bring the label or the number below the barcode to the order office

- Update in real time by scanning the barcode or entering the number below the barcode

  No products out of stock
Freezers

Person in charge: Majda Benassila

- +4°C
- -20°C
- -80°C
- -150°C
- Liquid Nitrogen

- Compartment or specific area
- Packaging: cardboard box
- Identification: name, first name, status, head, dates of your stage
- Gloves and protective screen available
- Opening: the shortest time as possible to avoid frost, over consumption and maintenance troubles
- Arrange storage in order to recover quickly your product
- Avoid thermal variations for stored products
Autoclaves

Person with an "autoclave clearance"

✓ Murielle Militello 06-08-04-51-74
✓ Nathalie Wurtz 06-21-79-02-20
✓ Jean-Marc Feuerstein 07-76-19-58-19
✓ Lorène Lacassin 06-29-21-39-69
✓ „„

Autoclaving organization
Solid sterilization At 09:30
Sterilization liquid media At 12:00

Thank you to specify:
✓ Name
✓ Date of deposit
✓ For liquids: storage temperature after autoclave (56 °C or room temperature)
Informations – Health And Safety

- Health and Safety General Information Panels

- Health and safety information specific to laboratory

xxxxxxx.xxxxxx@xxxxxx.fr
XX XX XX XX XX
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Entry – Exit Register

Introduction of an Entry-Exit register outside business hours placed at the Security Office

Details concerning the business hours

Business hours are from 7am to 8pm during the week

Outside Business hours, public holidays and week – end, you have to sign the register
The following must be transcribed:

- Any malfunction of an installation or machine, or failure in the application of rules of hygiene and safety
- Any accident or incident that gave rise to an accident at work

All of the following must be completed:

- Last name, first name and status of the person who fills the document.
- Date, hour and place of the event.
- Detailed circumstances of the occurrence (description, consequences)
- Follow-up (declaration, medical visit, care, safety of the installation...).
- Suggested solutions and observations to avoid this type of accident
- Signature of the person who fills the register and of his superior.
- Date of entry in the register.
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First Aid

Medicine cabinets are available on each floor for first aid with compresses, bandages, gloves, disinfectants ....

Location :

4ème  Relaxation Area
3ème  Laundry Room
2ème  in corridor
       Close to electron microscopy 1
1er   in corridor
       Close to Lab 102
RdCH  Reception Desk
RdCB  In front of the Packages Reception
Special case: accident with exposure to blood

**Puncture, cut or damaged skin**
* Do not make the wound bleed
* Clean the area immediately with soap and water and rinse
* Disinfect for at least 5 minutes with a chlorinated derivative (dakin or bleach) or with 70 ° alcohol

**Projection on mucous membranes especially the eyes**
* Rinse with a saline solution or water for 5 minutes

**Assess the risk**
* Fastest medical advice possible
* Search serological and bacteriological status of the source patient

**Reporting the accident**
* Make a declaration to ensure your rights

**Medical and biological monitoring**
Referring doctor: Dr P. Brouqui
In case of incident: PC security: 04 13 73 20 18

Technical Problem, Fire or Accident
Emergency opening

Portable shower In case of chemical and thermal burns
## Useful numbers

### NUMEROS DE TELEPHONE D'URGENCE
### EMERGENCY TELEPHONE NUMBERS

<table>
<thead>
<tr>
<th>Service</th>
<th>Number</th>
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<tbody>
<tr>
<td>POMPIERS / FIRE BRIGADE</td>
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<td>EMERGENCY HOSPITAL LA TIMONE</td>
<td>04 13 42 97 01</td>
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<tr>
<td>CENTRE ANTIPOIISON / POISON CONTROL CENTER</td>
<td>04 91 75 25 25</td>
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<tr>
<td>MEDECINS REFERENTS / REFERRING DOCTORS</td>
<td>06 77 02 53 34</td>
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<tr>
<td>SERVICE D'ASTREINTE / DUTY SERVICE</td>
<td>06 07 79 82 74</td>
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<td>Pr. BROUQUI</td>
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</tr>
<tr>
<td>SERVICE TECHNIQUE / TECHNICAL SERVICE (AXIMA)</td>
<td>04 13 73 20 50</td>
</tr>
<tr>
<td>PC SECURITE</td>
<td>04 13 73 20 18</td>
</tr>
</tbody>
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NW – 29/01/2016
End

Training
https://www.mediterranee-infection.com/formation-hygiene-securite/

Google link
https://docs.google.com/forms/d/1TW4hD6w1Dre0spq6I91IlgKtwCI2EUBAbF3aHyQlTBY/edit

Code scan

Note obtenue >15/20
Have a good and safe stay at the IHU