

# **OPERATING RULES**

**CZECH ADVANCED TECHNOLOGY AND RESEARCH  
INSTITUTE (CATRIN)**

DIRECTOR OF CATRIN

Assoc. Prof. Pavel Banáš, Ph.D.

Effective from: 1 April 2021

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## 1. INTRODUCTION

These operating rules apply to CATRIN workplaces. They regulate relations and organizational matters in the workplace, as well as occupational safety issues and movement in laboratories, which are further specified in generally binding regulations and in the Laboratory Rules of CATRIN.

## 2. IMPORTANT TELEPHONE NUMBERS

### Management

Director of CATRIN	Assoc. Prof. Pavel Banáš, Ph.D.	tel. <b>585 63 4762</b>
Tajemník	Mgr. Dalibor Jančík, Ph.D.	tel. <b>585 63 1406</b>

### Reporting of Faults and Defects:

Building Manager	Ladislav Huslar	tel.: <b>585 634 964</b> mobile: <b>734 188 945</b>
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Water Failure	Ladislav Huslar	tel.: <b>585 634 964</b> mobile: <b>734 188 945</b>
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Gas Failure	Ladislav Huslar	tel.: <b>585 634 964</b> mobile: <b>734 188 945</b>
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Holice Campus Maintenance – Emergency		mobile: <b>739 544 869</b>
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### Emergency Numbers:

Fire Brigade: **150**

Emergency Medical Service: **155**

Police: **158**

Municipal Police: **156**

Single European Number: **112**

### 3. DESCRIPTION OF THE FACILITY, WORKPLACES AND THEIR SECURITY

#### 3.1. Description and Location

CATRIN is located in the UP Olomouc Holice campus, Šlechtitelů 27, 783 71, in buildings F2, G and H.

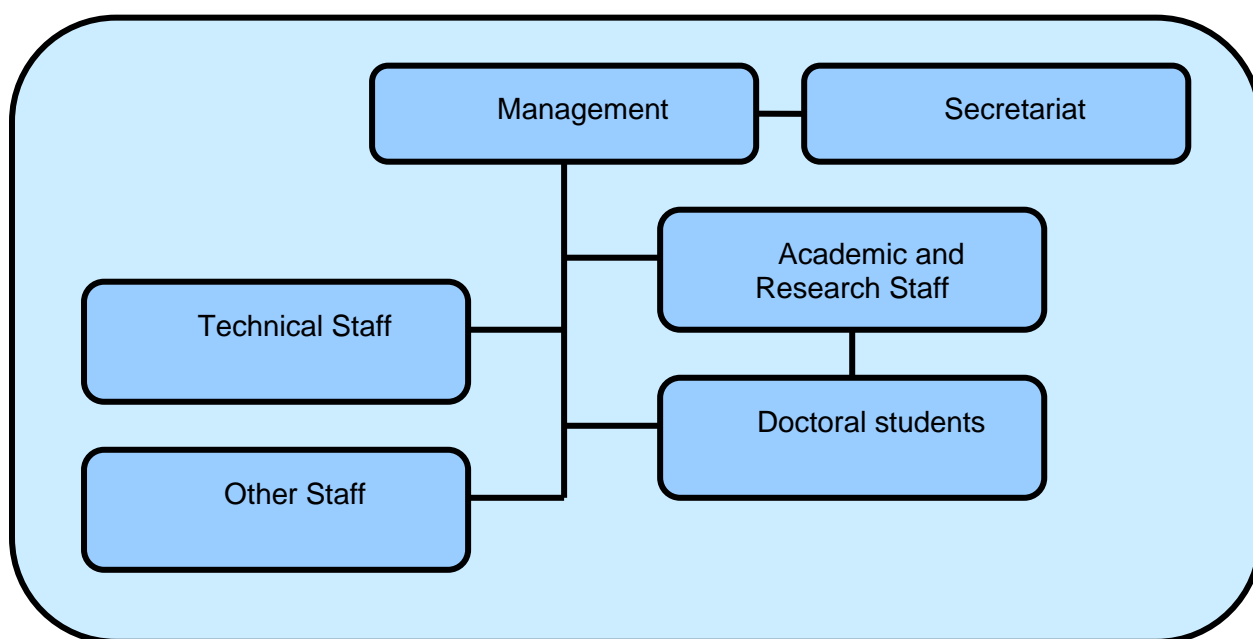
The buildings house research laboratories, offices of teaching and research staff, Ph.D. students, administrative and technical staff,

the office of the CATRIN Director, the CATRIN Secretariat, seminar room, server room, common rooms and storage of office and operating material.

#### 3.2. Structure

CATRIN is part of Palacký University Olomouc.

The organizational structure of CATRIN includes:



### **3.3. Laboratory Technical Security Systems**

#### **3.3.1. Central Vacuum Distribution**

installed to selected fume hoods and workbenches.

Color marking of valve: grey with letter V.

In case of malfunction call: 739 544 869, 585 634 964 or 734 188 945 (Ladislav Huslar).

#### **3.3.2. Source and Distribution of Distilled Water**

Sources located in designated rooms of buildings G, H1, F2 with distribution to laboratories. Operation ensured by Holice Campus Maintenance, tel. 585 634 962.

The source of distilled water is located in building H1 – 1st floor, room 1.18A. The distribution of distilled water to the individual laboratories of building H1/1st floor is installed in rooms 1.25, 1.26, 1.28, 1.37, 1.39, 1.40, 1.41, 1.42, 1.43, 1.44, 1.45.

The source of distilled water is located in building H1 – 2nd floor, room 2.39. The distribution of distilled water to the individual laboratories of building H1/2nd floor is installed in rooms 2.34, 2.36, 2.37, 2.38, 2.39.

The source of distilled water is located in building H1 – 2nd floor, room 2.16B. The distribution of distilled water to the individual phytotrons of building H1/2nd floor is installed in rooms 2.20 A, B, C, D, E.

Operation ensured by: Holice Campus Maintenance, tel. 585634962.

The source of distilled water is located in building F1 – 2nd floor, room 1.18A. The distribution of distilled water to the individual laboratories of building F2/2nd floor is installed in rooms 2.22, 2.23, 2.24.

Operation ensured by: Holice Campus Maintenance, tel. 585634962.

#### **3.3.3. Drinking Water Distribution**

supplied to workbenches and fume hoods. Color marking: green, letters WPC. In case of malfunction call as above.

#### **3.3.4. Technical Gas Distribution**

##### **3.3.4.1. Compressed Nitrogen Distribution**

Supplied to workbenches and fume hoods.

Building G

1.09, 1.11, 1.15, 1.17, 1.22, 1.25, 1.27, 1.28, 1.30, 1.31, 1.32, 2.18, 2.20, 2.21, 2.23, 3.21, 3.23, 3.24, 3.25, 3.26

*Marking:* gray, letters N<sub>2</sub>

In the event of a malfunction or failure, it is necessary to call phone number 739 544 869 (Holice Campus maintenance emergency), 585 634 964, or 734 188 945 (Ladislav Huslar).

In the laboratory, increased caution must be exercised when working with compressed nitrogen, as there is a heightened risk of suffocation due to a decrease in oxygen concentration in the atmosphere. When working with compressed nitrogen, it is necessary to ensure the extraction of excess nitrogen, for example by using a mobile exhaust system, and to ensure sufficient laboratory ventilation. A device for measuring the indicative concentration of oxygen in the laboratory atmosphere is also available. Only trained employees may handle the control valves.

#### **3.3.4.2. Gas Cylinders with Technical Gases**

When using gas cylinders with technical gases, whether for laboratory experiments or for ensuring the operation of analytical instruments, the following basic rules apply:

- Gas cylinders must be secured.
- Appropriate pressure-reducing valves must be used.
- Labeling must be carried out in accordance with applicable regulations and standards.
- Handling of gas cylinders may only be performed by a trained person.

#### **3.3.5. Air Conditioning and Ventilation**

The ventilation of laboratories and other rooms, as well as the exhaust of fume hoods, is provided by a system of air-handling equipment. In the event of a malfunction or failure, it is necessary to call phone number 739 544 869 (Holice Campus maintenance emergency), 585 634 964, or 734 188 945 (Ladislav Huslar). Work in a laboratory or fume hood with non-functioning ventilation or exhaust is prohibited.

## **4. WORK ORGANIZATION**

Laboratory work is governed by the Laboratory Rules of CATRIN, which form an integral part of these Operating Rules.

### **4.1. Powers and Responsibilities**

They are specified in the job descriptions of individual employees. The heads defined by these rules have the following tasks and responsibilities:

**The head of the research laboratory is responsible for:**

- Compliance with safety and hygiene regulations, as well as the laboratory and operating rules in the laboratory;
- Checking and ensuring the availability of occupational health and safety equipment in the laboratory;
- Handling chemicals and waste in the laboratory and their labeling;

- Reporting accidents and injuries and recording them in the safety logbook (CATRIN Secretariat).

**The head of the research laboratory is authorized to:**

- Expel from the laboratory any worker who does not comply with the laboratory rules, operating rules, hygiene regulations, or occupational health and safety regulations.
- Propose entries in the safety logbook – inspections, near misses, defects.

The person responsible for the storage of office and operating materials collects staff requirements and, in agreement with the head of CATRIN, ensures their ordering, storage, and orderliness in the storage area in building G (Mgr. Emil Řemeslníček – operating material, tel.: 585 63 4490; Mgr. Lucie Pospíšilová – office material, tel.: 585 63 4762). In building H1/1st floor, storage order is ensured by Jana Nosková, tel.: 585 63 4830. In building H1/2nd floor, storage order is ensured by Vendula Svobodová, tel.: 585 63 4739.

## ***4.2. Laboratory Documentation***

Each experiment must be recorded in protocols and/or laboratory/instrument logbooks. Responsibility lies with the worker performing the experiment.

# **5. MOVEMENT OF PERSONNEL AND MATERIAL**

## ***5.1. Movement of personnel***

Employees enter the CATRIN premises through the main entrance; the doors are opened using a magnetic card or a key issued against the employee's signature.

Before starting work in the laboratory, all employees must put on protective clothing (see Laboratory Rules CATRIN). They enter the laboratory already wearing the prescribed protective clothing and footwear.

Within CATRIN workplaces, only employed staff may move freely. Visitors may enter CATRIN laboratories only with the consent of the supervisor or the head of the respective laboratory. In other CATRIN premises, visitors may only enter with the consent of the staff member being visited.

## ***5.2. Movement of Material, Storage***

Designated persons are responsible for individual storage areas and the supply of selected materials – see the appendix to these Operating Rules. Within the building, material is transported from the storage areas to the laboratories either via stairs or by elevator. During these activities, the relevant safety precautions must be observed.

## ***5.3. List of Storage Rooms***

For the needs of CATRIN, the following storage areas are available:

Building G:      1.38, 1.39      office supplies storage



	2.41	operating materials storage
Building H1:	1.27	operating materials and equipment storage
	2.18	operating materials and equipment storage

#### **5.4. Storage of Chemicals at CATRIN workplaces**

- Chemicals may be stored in laboratories only in the quantities strictly necessary.
- Chemicals must be stored only in suitable, closed containers labeled in accordance with legal requirements.
- Chemicals must be stored only in designated cabinets.
- Products must also be stored in closed containers and properly labeled.
- Substances classified as T+ (very toxic) and narcotic substances must be recorded in accordance with legal requirements. Responsibility for record-keeping lies with the designated person.
- It is prohibited to store chemicals in cabinets and corridors.
- It is prohibited to store chemicals in fume hoods.

## **6. DOCUMENTATION**

### **6.1. Documentation and Operation of Equipment**

Equipment must be operated according to the relevant manuals. These manuals are available at the equipment itself or are kept by the person responsible for the respective device.

### **6.2. Records Required by the Chemical Substances Act**

Work with narcotic and highly toxic substances is governed by special provisions. Employees are regularly trained in this area. Records of the issuance of such substances are kept by the person authorized for the management of chemicals and narcotic substances.

### **6.3. Fire Alarm Directive and Escape Plan**

The fire alarm directive and escape plan are posted in visible locations within the common areas of CATRIN.

## **7. BASIC SAFETY AND FIRE PROTECTION RULES**

For the protection of health at work and the protection of equipment, employees are required to comply in particular with:

- CATRIN Operating Rules
- CATRIN Laboratory Rules
- Fire Alarm Directive and Escape Plan

### **7.1. Workplace order**

Laboratories and other CATRIN workplaces must be kept clean. Spilled or scattered chemicals must be immediately cleaned and decontaminated. Cleaning and maintenance of equipment are carried out by the employees responsible for the device (see CATRIN Laboratory Rules). The laboratory head bears the final responsibility for order and proper storage of materials.

### **7.2. Basic Safety Instructions**

- All employees must comply with all provisions of safety regulations and rules.
- If an employee is alone in CATRIN premises or laboratories, they must not perform experiments or tests that could be dangerous.
- All injuries, even minor ones, as well as accidents and indispositions must be reported to the laboratory head, who records them in the safety logbook.
- In the event of eye exposure, the eye shower located in each synthesis laboratory must be used.
- Before leaving the laboratory, personnel must check and secure equipment in a safe state according to the CATRIN Laboratory Rules, so that neither health nor property is endangered.
- In case of extraordinary events, employees must immediately inform the laboratory head and follow his/her instructions.
- Principles of safe workplace behavior and proper hygiene must be observed.
- Safety regulations for laboratory work apply without exception.
- Persons not performing work at the workplace (i.e., their own tasks or related activities such as service or maintenance work), or persons not equipped with the prescribed protective equipment, must be expelled by staff, and such persons are obliged to comply with this order.
- Any excursions, etc., must be reported in advance; their entry to individual workplaces is permitted only by the CATRIN director or laboratory heads, depending on the activities in progress.

## **8. BASIC RULES FOR WASTE MANAGEMENT**

### **8.1. Wastewater and Solvents**

Wastewater is discharged into the sinks of laboratory benches and fume hoods. Water-soluble waste solvents are poured into sinks labeled "*chemical waste – chemical waste*".


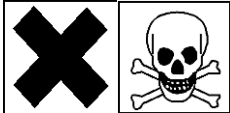
Water-insoluble waste solvents generated during laboratory activities are collected in containers designated for this purpose and properly labeled. Once filled, after checking the tightness of the container, verifying the labeling, and notifying the responsible person, these containers are gathered at the CATRIN collection point and subsequently handed over for disposal as instructed by the designated person.

## 8.2. Solid Waste

Solid waste is temporarily stored in closed containers and disposed of on an ongoing basis (handed over for disposal). Any hazardous waste is collected in labeled containers. After checking their tightness, verifying the labeling, and notifying the responsible person, such containers are gathered at the CATRIN collection point and then handed over for disposal as instructed by the designated person.

## 8.3. Waste Sorting and Labeling

Individual waste types must be sorted into containers according to their categories as listed on the waste identification sheet. Sorted waste must be labeled with appropriate tags:

<p style="text-align: center;"><b>14 06 02 ★</b></p> <div style="text-align: center;">  </div> <p><i>Organic halogenated solvent, washing liquid, mother liquor</i> (Mixture of organic solvent waste from laboratories)</p> <p><b>Hazardous properties:</b></p> <ul style="list-style-type: none"> <li>• H3-A: High flammability</li> <li>• H4: Irritant</li> <li>• H6: Toxicity</li> </ul>	<p style="text-align: center;"><b>16 05 06 ★</b></p> <div style="text-align: center;">  </div> <p><i>Laboratory chemicals and their mixtures that are or contain hazardous substances</i> (Residues of organic chemicals from the laboratory)</p> <p><b>Hazardous properties:</b></p> <ul style="list-style-type: none"> <li>• H6: Toxicity</li> <li>• H4: Irritant</li> </ul>
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# 9. MAINTENANCE, REPAIRS, REVISIONS, INSPECTIONS

## 9.1. Repairs and Modifications

All employees are obliged to report any defects to the laboratory head. Minor defects are handled directly by the laboratory head. The removal of more serious defects is arranged by the CATRIN director or an authorized person.

Equipment that is out of order must not be used and must be visibly marked with the sign "OUT OF ORDER".

## 9.2. Revisions

Revisions of technical equipment (pressure, electrical, gas) are carried out in accordance with legal regulations and the Safety Code issued by Palacký University Olomouc. Revision reports (fire inspection reports, ventilation inspections, etc.) are kept by the building manager.

## 9.3. Inspection of Technical Equipment and Storage

Inspections of technical equipment (pressure, electrical, gas) and storage facilities are carried out in accordance with legal regulations and the Safety Code issued by Palacký

University Olomouc.

Records of inspections are kept by the building manager.

#### **9.4. Emergency and Eye Shower Inspections**

In accordance with applicable standards, the functionality of emergency showers and eye showers must be checked once a month. This inspection is to be performed on the first Monday of each month. A record of the inspection is kept by the responsible employee carrying out the check (Mgr. Markéta Donthová, room 2.24). Responsibility for emergency and eye shower inspections lies with the employee listed in the appendix to the CATRIN Operating Rules.

### **10. PRESCRIBED CLOTHING AND PERSONAL PROTECTIVE EQUIPMENT (PPE)**

The obligation to wear prescribed protective clothing and PPE applies to all employees working in CATRIN laboratories.

#### **Minimum prescribed protective clothing:**

- White laboratory coat, or alternatively, a white laboratory shirt and trousers.

#### **Minimum prescribed PPE:**

- Rubber work gloves, five-fingered, resistant to chemical influences.
- Protective goggles resistant to chemical influences.

#### **Note:**

When working in the laboratory, it is mandatory to use protective gloves and goggles if required by the nature of the laboratory work. This obligation also applies to visitors. The host is responsible for the visitor's compliance.

**If required by the nature of the work, additional PPE must be used according to the anticipated risk. Recommended additional PPE includes:**

- Work cap with visor.
- Protective rubber apron.
- Protective mask or filter with equivalent protective effect.
- Face shield.
- Closed leather shoes with non-slip soles.
- Rubber boots.

#### **Rules for the use of PPE:**

- All activities must be carried out using protective equipment corresponding to the nature of the chemical substance handled, based on commonly available information (S-statements, R-statements).
- Each workplace must always have a sufficient supply of functional protective equipment (gloves, goggles, face shields, masks).
- CATRIN employees take these protective devices independently as needed. If the necessary PPE is not available, the responsible laboratory head must be informed.
- The laboratory head is responsible for monitoring compliance with prescribed clothing and PPE requirements.

## **11. TRAINING**

### ***11.1. OHS and Fire Protection Training of Employees***

- All employees must undergo regular training in occupational health and safety (OHS) and fire protection (FP).
- Training takes place at the start of employment, then once every two years, and whenever working conditions change.
- Responsibility for organizing regular OHS and FP training lies with the employee's supervisor.
- Training is conducted by the employee's supervisor or by a Palacký University staff member responsible for OHS and FP.
- A written record of the training must be made. Records are archived in the CATRIN Secretariat or in the personnel department.

### ***11.2. Work with Hazardous Chemical Substances and Preparations***

- CATRIN employees who are not professionally qualified to handle hazardous chemical substances and preparations (i.e., those without a university degree in chemistry or related fields) must undergo regular annual training in handling hazardous chemicals and preparations.
- Qualified persons must complete this training upon starting employment.
- Responsibility for organizing this training lies with the employee's supervisor.
- The training is carried out by a professionally qualified person. A written record of the training is made and archived by that person.

### ***11.3. Operation of Stationary Pressure Vessels and Gas Cylinders***

- All employees who handle pressure vessels and gas cylinders must undergo regular training.
- Training is held once every two years.
- Responsibility for organizing this training lies with the employee's supervisor. The training is conducted by a professionally qualified person.
- A written record of the training must be made. Records are stored with the head of building management (for stationary pressure vessels) or in the CATRIN Secretariat.

## **12. LIST OF APPENDICES**

1. Laboratory Rules CATRIN
2. Accident Report Form
3. List of Employees Responsible for Rooms (Laboratory Heads)