

# 成功大學核心設施中心微奈米科技組無塵室規範

## Regulations for Cleanroom of Micro/Nano Science and Technology Group, Core Facility Center, NCKU

104.11.18 中心會議通過

110.03.11 幹部會議修正

Approved through the center's meeting on November 18, 2015

Amended in the center's caucus on March 11, 2021

### 無塵室門禁規範

1. 凡需使用本中心無塵室內設備者，須先通過安全講習課程，並申請磁卡。
2. 無塵室 24 小時開放各界使用，須事先預約機台，方可進入。
3. 嚴禁轉借他人之磁卡或帶領未經核准人員進入。

### Cleanroom Access Regulations

1. Whoever needs to use the equipment in the cleanroom of the Center must complete the safety training and apply for the magnetic card.
2. The cleanroom is available around the clock; prior reservation of the unit is required before accession.
3. It is strictly prohibited to lend the magnetic card to someone else or bring someone unapproved into the laboratory.

### 進入無塵室前之注意事項

1. 請先以電腦預約機台；陪同實驗者或僅需使用化學操作台者，請預約無塵室進出。
2. 請先將外鞋脫下放入鞋櫃，再進入換衣區換穿無塵衣、無塵鞋。
3. 非無塵室使用之物品（提袋、書籍、紙箱等）請置放於置物櫃。
4. 請將厚重外套或毛衣，吊掛於外衣區。
5. 進入無塵室，請依規定於換衣區換穿無塵服裝。
6. 本中心定期清洗無塵服裝，為維護無塵服裝衛生，請穿著襪子。
7. 無塵衣穿著程序：(1)髮罩，(2)口罩，(3)無塵衣，(4)無塵鞋。
8. 攜入無塵室之任何物品須乾淨無塵，須清潔後才可攜入。
9. 嚴禁攜帶個人化學藥品進入無塵室，若有特殊需求，請洽機台管理者。
10. 無塵室可攜入自有工具箱，工具箱須標示所屬實驗室及姓名。
11. 請進入空氣洗淨室作空氣浴，至多可 3 人同時進入，請站立於空氣洗淨室中央輕微搖動雙手、雙腿，以讓灰塵掉落。
12. 無塵室內請勿使用普通紙本及鉛筆，須使用無塵室專用紙（請向本中心行政辦公室洽購無塵室專用筆記本）。

### Precautions prior to entering the Cleanroom

1. Please reserve a unit online in advance; for those helping in an experiment or only needing to use the chemical wet bench, please reserve access to the cleanroom.
2. Please remove your shoes and place them in the shoe cabinet before entering the changing area to put on the cleanroom coverall and cleanroom shoes.
3. Items that do not belong in the cleanroom (handbags, books, carbon boxes, etc.,) are to be placed in the shelves.
4. Please hang heavy coats or sweaters in the clothing area.
5. To access the cleanroom, please put on the cleanroom coverall in the changing area as required.
6. The cleanroom coverall is washed periodically at the Center. For hygienic reasons, please wear socks before you put on lint-free clothing.
7. Please put on cleanroom wear sequentially: (1) hair cover, (2) mask, (3) cleanroom coverall, (4) cleanroom shoes.
8. Any item brought into the cleanroom has to be clean and dust-free. It may only be brought into the cleanroom after cleaned.
9. It is strictly prohibited to bring personal chemicals into the cleanroom. For special needs, please contact the unit manager.

10. Personal toolkits are allowed in the cleanroom. The toolkit, however, has to show the name of the laboratory that it belongs to and the name of the owner.
11. Please enter the air shower room; up to 3 people are allowed at a time. Please stand in the center of the air shower room and slightly shake your hands and legs so that dust may fall off.
12. Do not use regular paper and pencils in the cleanroom; the airlaid paper for the cleanroom needs to be used (please purchase the airlaid notebook from the administrative office of the Center).

#### 無塵室內之守則

1. 無塵室內不得抽煙或飲食，或從事與實驗無關之事務。
2. 使用儀器、化學藥品請遵照各設備管理規範，若有疑問，請先洽管理者。
3. 因不當使用所造成之任何損害，使用者須照價賠償。
4. 須通過各儀器管理者訓練及認證，才得使用實驗室內所有儀器，不得私自訓練或隨意使用。
5. 儀器用畢須將其恢復正常儀器狀況，儀器使用情形須詳實登錄於使用紀錄簿。
6. 無塵室內儲物櫃請依規定申請，僅提供擺放實驗用工具（非化學品）。
7. 在黃光室處理或使用化學藥品時，須穿戴防護手套與圍裙、防毒口罩及安全護目鏡。
8. 化學藥品限於化學抽風櫥內使用，使用抽風櫥時須將櫥門（玻璃安全門）維持在安全高度以下，禁止將頭伸進抽風櫥。
9. 操作化學實驗須隨時監控實驗，若暫時離開現場，須標明化學物品種類、使用者姓名、聯絡方式與離開時間，請勿離開現場超過 30 分鐘。
10. 加熱源附近，禁放易燃物（如：酒精、丙酮...等）。
11. 隨時保持工作台、地面、藥品容器之清潔乾燥，及走道之暢通。
12. 無塵室內所提供之所有化學藥品及耗材僅供無塵室內使用，不得攜出。
13. 每次實驗結束後，所有相關設備物品務必清潔乾淨並物歸原位。
14. 本中心定期清掃無塵室，個人物品（包含燒杯、晶片、簿本、個人實驗工具、光罩...等），請勿隨意放置。
15. 避免一人獨自進行實驗（平日 18:00 後及假日）。

#### Rules inside the Cleanroom

1. Do not smoke or eat or drink or engage in something irrelevant to the experiment inside the cleanroom.
2. Please follow respective equipment regulations when using the instruments or chemicals. For any questions, please contact the unit manager or engineer.
3. The user needs to pay as priced for any damage done due to improper use.
4. One must be approved through the instrument training courses and get certified before using all instruments in the cleanroom. Private training or arbitrary use is disallowed.
5. Upon completion of use, it is required to reinstate instruments to their normal condition. Use of the instrument has to be truthfully documented in the Use Log.
6. Please apply for a storage cabinet inside the cleanroom that can only be used for placing experimental tools (not chemicals).
7. When handling or using chemicals in the lithography zone, one must wear the protective gloves and apron, anti-poison respirator, and safety goggles.
8. Chemicals are restricted to use in the chemical fume hoods only. When using the fume hoods, it is required to keep the hood doors (glass safety doors) below the safety height and it is prohibited to reach your head inside the fume hoods.
9. Chemical experiments shall be monitored at all times while they are ongoing. If one needs to leave the site temporarily, information of the type of chemical involved, the name of the user, contact method, and time of departure needs to be labeled; do not leave the site for longer than 30 minutes.
10. It is prohibited to place inflammables in the surroundings of the heat source (such as alcohol and acetone, etc.)
11. Always keep the workbenches, floors, and chemical containers clean and dry and aisles clear.
12. All chemicals and consumables provided inside the cleanroom are for use inside the cleanroom only; do not bring them out of the cleanroom.
13. After the experiment is completed, all related equipment and items have to be cleaned and returned to where they were.
14. The Center periodically cleans its cleanroom. Do not place personal items, including flasks, chips,

books, personal experiment tools, photomasks, etc. in the cleanroom.

15. Avoid conducting an experiment alone (after 18:00 on week days and anytime on holidays).

#### 安全及廢棄物相關規範

1. 無塵室內絕對禁止任何可能導致自身或其他使用者危險之行為。須嚴格遵守成功大學核心設施中心無塵室安全及政府勞工安全所有相關規範。
2. 請熟記各安全出口、滅火器、儀器電源開關、沖身洗眼器之位置及葡萄糖鈣軟膏放置位置（抽風櫃旁置物櫃內）。
3. 所有廢棄物應依規定之方式處理及傾倒。
4. 請參照化學溶液相容表，勿將酸及有機溶劑混合傾倒，以免爆炸。
5. 各種化學廢液須倒入指定之廢液容器，勿倒入排水系統，有疑問者請諮詢管理者再做處理。

#### Safety and Waste-related Regulations

1. Any behavior that is likely to put oneself or other users in danger is absolutely prohibited in the cleanroom. The Regulations for Cleanroom of the CFC and all applicable government labor safety regulations must be strictly followed.
2. Please keep clearly in mind the respective locations of safety exits, fire extinguishers, instrument power switches, and shower/eyewash station and also the location of the calcium gluconate gel (inside the cabinet next to the fume hoods).
3. All waste shall be processed and dumped as required.
4. Please refer to the chemical compatibility guide. Do not dump acid solution together with organic solvents as explosion might occur.
5. Respective chemical waste solutions need to be dumped into designated waste containers; do not dump them into the drainage system. In case of any question, please consult the manager or engineer in advance.

#### 緊急狀況處理

遇有氣體外洩、化學藥品翻灑及火警等緊急狀況，請先離開無塵室，並通知相關人員協助處理。請撥打成功大學緊急應變電話：06-2757575 ext. 66666；同時聯繫本中心人員：06-2757575 ext. 31380。

#### Management of Emergencies

In case of emergency conditions such as gas leak, spillage of chemicals, and fires, please leave the cleanroom first and notify related staff to help address the situation. Please dial the NCKU emergency number: 06-2757575 ext. 66666 and contact the staff at the Center: 06-2757575 ext. 31380.

#### 違規之處罰

本規定事項，若經發現或經通報有不遵守情況者，管理者將視情節輕重處以警告至永久停權之處罰；造成災害者（如火災、爆炸...等），除終止進入實驗室之權限外，將通報公共安全委員會，並須擔付損害賠償責任。

#### Penalties for Violations

Non-compliance with the requirements herein, once found or reported, shall be subject to a warning to permanent termination by the manager, depending on the circumstances. When it results in a disaster, such as a fire or an explosion, among others, besides termination of access to the laboratory, it will also be reported to the Public Safety Committee and shall be liable for the damages.