

# 14. Regulation on Research Room (laboratory) Safety Management

Department in charge: Facilities Services Team 1192-4

Established on Oct. 25, 2007 Regulation No.102

Amended on Dec. 31, 2014 Regulation No.203

Amended on Oct. 29, 2015 Regulation No.216

Amended on Jan. 10, 2019 Regulation No.256

## | ADDENDUM | Attachment |

### **Article 1 (Purpose)**

This regulation seeks to manage effectively research resources used in research activities and ensure the safety of such research activities by preventing accidents that may occur at the research room (laboratory) of Handong Global University (hereinafter referred to as "University") during tests, experiments, and studies. (Amended on Dec. 31, 2014)

### **Article 2 (Scope)**

This regulation shall apply to faculty members and persons engaging in research activities and working at the undergraduate (graduate) school, affiliated research institute, and/or affiliated institutions operating research rooms (laboratories) at the university.

### **Article 3 (Definitions)**

The terms used in this regulation shall have the following definitions:

1. "Research room (laboratory)" pertains to the research facilities, equipment, laboratories, and research materials available at the university for the R&D activities in the science and technology sector. (Amended on Oct. 29, 2015)
2. "Research room (laboratory) manager" refers to the person with the authority to command and supervise directly those persons engaging in research activities and working at the research room (laboratory). (Amended on Oct. 29, 2015)
3. "Safety manager" pertains to a person who assists the research room (laboratory) manager at the research room (laboratory) and performs his/her duties. (Amended on Oct. 29, 2015)
4. "Persons engaging in research activities" refer to undergraduate (graduate) students, experiment assistants, researchers (including assistants), and school staff engaged in research, experiments, and practices. (Amended on Oct. 29, 2015)

5. "Safety inspection" pertains to an inspection performed by a qualified and experienced person with the naked eye or using testing equipment to check the existing risk factors at the research room (laboratory). (Amended on Oct. 29, 2015)
6. "Research room (laboratory) safety environment manager" refers to a staff member in charge of tasks related to the research room (laboratory) environment who possesses the qualifications defined in the Act on the Establishment of Safe Laboratory Environment. (Newly established on Dec. 31, 2014) (Amended on Oct. 29, 2015)
7. "Head of a research entity" refers to the representative of a university. (Amended on Oct. 29, 2015)
8. "In-depth safety inspection" refers to inspection and assessment conducted by a person who meets the standards or qualification requirements prescribed by the Presidential Decree for the purpose of detecting any potential danger and establishing measures for the improvement thereof, in order to prevent the occurrence of any accident in a laboratory. (Newly established on Jan. 10, 2019)
9. "Laboratory accident" means that a person engaged in research activities suffers a loss of life or physical damage, such as injury, disease, and physical disability in connection with the research activities in a laboratory, or that facilities, equipment, etc. in a laboratory are damaged. (Newly established on Jan. 10, 2019)
10. "Serious laboratory accident" pertains to a laboratory accident, the degree of loss or damage by which is serious, as prescribed by the Ordinance of the Ministry of Science and ICT. (Newly established on Jan. 10, 2019)
11. "Hazard factor" means any factor that could cause an accident, such as chemical or physical risk factors. (Newly established on Jan. 10, 2019)
12. "Preliminary risk analysis of hazard factors" refers to a preliminary analysis of hazard factors conducted before commencing research and development activities. (Newly established on Jan. 10, 2019)
13. "Protection Equipment" refers to secondary safety equipment attached to a part of or the whole body for the purpose of preventing accidents, and blocking or reducing the effect of hazard stimulus. (Newly established on Jan. 10, 2019)
14. "Safety sign" pertains to signs including figures, symbols, and letters displayed to raise awareness of warning, guidance, or safety consciousness for dangerous facilities, equipment, devices, places, and substances in a laboratory. (Newly established on Jan. 10, 2019)

#### **Article 4 (Research Room Safety Management Committee)**

1. For efficient and systematic safety management of the campus research room (laboratory), the university may operate a Research Room Safety Management Committee (hereinafter referred to as "Committee"), appoint a research room (laboratory) manager and safety manager of each research room (laboratory), and for accident investigations, operate a Task Force Team (hereinafter referred to as "T/F Team") with departments dealing with safety-related matters. [Attached Form 2] (Newly established on Jan. 10, 2019)
2. The committee shall handle the following matters:
  - (1) Matters related to the establishment and amendment of safety management regulations

- (2) Matters related to the establishment of safety inspection plans
  - (3) Matters related to the investigation of accidents occurring at the research room (laboratory), the establishment of preventive measures, and handling of accidents
  - (4) Important matters related to the promotion of a safe environment for the research room (laboratory)
  - (5) Matters related to the safety of the research room (laboratory) determined by the heads of relevant departments, as prescribed by the Act on the Establishment of Safe Laboratory Environment (Amended on Oct. 29, 2015) (Jan. 10, 2019)
3. The committee shall consist of not more than 9 members including the chairman. The dean of general affairs shall serve as chairman, with the head of the undergraduate school which has research rooms (laboratory), the Team manager of the Future Technology and Industry-University Collaboration, and the Team manager of the Facilities Services Team, Research room (laboratory) safety environment manager, Electricity safety manager, Gas safety manager, and Fire safety manager as key members; non-key members shall be appointed by the president at the recommendation of the chairman. (Amended on Dec. 31, 2014) (Oct. 29, 2015)
  4. The assistant manager of the Facilities Services Team shall serve as the committee coordinator who shall assist the chairman in committee affairs.
  5. During the committee meeting, a quorum shall be declared when the majority of the registered committee members are present. Resolutions voted by the majority of the attending members shall be examined and adopted.
  6. The chairman shall promptly notify the related department of the results of the meeting including the details decided during the meeting using the bulletin board or other appropriate means.
  7. Other matters required for the operation of the committee shall be decided by the chairman based on the resolutions of the committee.

## **Article 5 (Countermeasure Committee on Accident )**

1. In case a serious accident occurs at the university, the chairman shall convert the committee into a Countermeasure Committee on Accident, investigate detailed matters including the cause of the accident and the responsible parties, and establish appropriate countermeasures.
2. The head of an institution belonging to the department involved in the accident shall serve as a member of the Countermeasure Committee on Accident.
3. When an accident occurs in the research room (laboratory), the head of a research entity shall report and notify it to the heads of relevant departments, as prescribed by related laws. [Attached Form 3] [Attached Form 4] (Newly established on Oct. 29, 2015) (Jan. 10, 2019)

## **Article 6 (Duties of the Research Room Manager)**

1. The research room (laboratory) manager shall be responsible for education and the safety of research and development activities conducted in the research room (laboratory) under his/her responsibility; he/she shall perform the following duties: (Amended on Jan. 10, 2019)
  - (1) Prevent accidents at the research room (laboratory) and oversee the establishment of countermeasures.

- (2) Assume primary responsibility for accidents occurring at the research room (laboratory) as per the enacted 「Act on Safe Environment Promotion of Research Laboratory」 and manage the overall research activities.
  - (3) Provide education regarding the hazard factors in a relevant laboratory to persons engaged in research activities. (Newly established on Jan. 10, 2019)
  - (4) Conduct a preliminary risk analysis of hazard factors, as prescribed by Presidential Decree, and submit a report thereon to the head of the relevant research entity
    - a. Safety status of the relevant research room (laboratory)
    - b. Risk analysis by hazard factor of the relevant research room (laboratory)
    - c. Research room (laboratory) safety plan and emergency measures (Newly established on Jan. 10, 2019)
  - (5) Keep and manage the research room (laboratory) safety management regulation and safety rules. (Newly established on Jan. 10, 2019)
  - (6) Check and manage facilities, equipment and devices, chemical substances, waste, etc. of the relevant research room (laboratory). [Attached Form 8][Attached Form 9] (Newly established on Jan. 10, 2019)
  - (7) Install safety facilities and protective devices and secure personal protection equipment for the relevant research room (laboratory). (Newly established on Jan. 10, 2019)
  - (8) Matters regarding the investigation of the causes of research room (laboratory) accidents and countermeasures to prevent a recurrence. (Newly established on Jan. 10, 2019)
  - (9) Take follow-up measures and report the results of the safety inspection. (Newly established on Jan. 10, 2019)
  - (10) Install and manage safety signs [Attached Form 5] (Newly established on Jan. 10, 2019)
  - (11) Other matters concerning general tasks related to safety management for the relevant research room (laboratory) (Newly established on Jan. 10, 2019)
2. The research room (laboratory) manager shall appoint a safety manager to perform duties related to the management of the research room (laboratory).

## **Article 7 (Duties of the Safety Manager)**

1. Manage the safety of the relevant research room (laboratory) and prevent accidents. (Amended on Jan. 10, 2019)
2. Conduct a daily inspection and keep records of the relevant research room (laboratory). (Amended on Jan. 10, 2019)
3. Make and manage the list of hazardous machinery and equipment, facilities, chemical substances, etc.[Attached Form 8][Attached Form 9] (Amended on Jan. 10, 2019)
4. Make and manage the list of personal protective equipment, safety and protective facilities. (Amended on Jan. 10, 2019)
5. Obtain and keep Material Safety Data Sheets (MSDS). (Amended on Jan. 10, 2019)
6. Make and manage the floor plan of the research room (laboratory). (Amended on Jan. 10, 2019)

7. Take emergency measures and report the accident occurrence of the research room (laboratory). (Amended on Jan. 10, 2019)
8. Other matters regarding the safety management of the research room (laboratory) (Newly established on Jan. 10, 2019)

### **Article 8 (Duties of Persons Engaging in Research Activities)**

Persons engaging in research activities shall comply with the instructions given by the research room (laboratory) manager or safety manager.

1. Complete new and regular safety education and training. (Newly established on Jan. 10, 2019)
2. Follow the research room (laboratory) safety management regulation and safety rules. (Newly established on Jan. 10, 2019)
3. Take emergency measures such as suspension of the R&D activities, etc. and immediately report to the research room (laboratory) manager or safety manager if a risk factor is found in the research room (laboratory). (Newly established on Jan. 10, 2019)
4. Take emergency measures and report to the research room (laboratory) manager or safety manager if an accident occurs in the research room (laboratory). (Newly established on Jan. 10, 2019)
5. Persons engaging in research activities shall comply with instructions and standards for the research room (laboratory) safety management and disaster prevention determined by this law and actively take part in activities to improve the safe environment of the research room (laboratory). (Newly established on Jan. 10, 2019)

### **Article 9 (Duties of the Safety Environment Manager)**

The Research room (laboratory) safety environment manager shall and perform the following: (Amended on Dec. 31, 2014)

1. Manage the safety inspections of the research room, establish and execute plans for a close safety inspection. (Amended on Dec. 31, 2014)
2. Establish and execute plans for safety education and training of the research room. (Amended on Dec. 31, 2014)
3. Inquire into the cause of research room (laboratory) accident and provide technical guidance·advice to prevent the recurrence of accidents. (Amended on Dec. 31, 2014)
4. Maintain·manage statistics on research room (laboratory) safety environment and safety management status. (Amended on Dec. 31, 2014)
5. Suggest measures for persons engaging in research activities who violate the Act, legal orders, or safety management regulation of Clause 1, Article 6 of the Act. (Amended on Dec. 31, 2014)
6. Other matters regarding the safety assurance of research facilities in accordance with the safety management regulation of Clause 1, Article 6 of the Act, or other laws. (Newly established on Jan. 10, 2019)

## **Article 10 (Registration of Research Room)**

1. A newly opened research room (laboratory) shall be registered with the Safety Management Department. The application for registration shall include the names of attached institutions and research room (laboratory), risk rating, contact points, and safety manager.
2. After registration, the laboratory shall post safety management rules as well as the actions to be taken in case of emergency, maintain safety management guidelines, and record the Research Room (Laboratory) Safety Checklist for Daily Inspection. [Attached Form 1] (Amended on Jan. 10, 2019)

## **Article 11 (Safety Inspections)**

1. Safety inspections refer to daily inspections, regular inspections, and in-depth safety inspections, etc.; each research room (laboratory) shall conduct daily inspections, and the department in charge of safety management shall support daily circulation monitoring, regular inspections, and in-depth safety inspections. (Amended on Jan. 10, 2019)
2. The research room (laboratory) managers shall immediately take measures for insufficiency found after the safety inspection to prevent any safety accidents, and report the results to the departments in charge of safety management. (Amended on Jan. 10, 2019)
3. The safety manager shall inspect the research room (laboratory) on a daily basis prior to starting research activities.
4. The results of daily inspections and regular (in-depth) inspections shall be recorded in a form and kept for 1 and 3 years, respectively. (Amended on Jan. 10, 2019)

## **Article 12 (Training, etc.)**

1. Research room (laboratory) manager (the person in charge of research) shall conduct the training mentioned in Clause 1, Article 9 of the Enforcement Rule of the Act on the Establishment of Safe Laboratory Environment and submit its results to the Safety environment manager. (Amended on Dec. 31, 2014)
2. Research room (laboratory) manager (the person in charge of research) can limit access of trainees who did not complete the training to research rooms (laboratories). (Amended on Dec. 31, 2014)
3. Persons engaging in research activities shall be educated and trained on accident prevention and environmental pollution prevention. (Newly established on Dec. 31, 2014)
4. In the case of training, collective and online training sessions shall be implemented, and the research room (laboratory) managers shall provide safety training sessions according to the type of each research room to the persons engaging in research activities. (Newly established on Jan. 10, 2019)
5. The research room (laboratory) managers and the research room (laboratory) safety environment manager shall record and keep the journals and list of participants in regular and new training sessions. [Attached Form 6][Attached Form 7] (Newly established on Jan. 10, 2019)
6. The research room (laboratory) safety environment manager shall manage and keep statistics

about the results of safety training sessions such as training hours completed and participation rates. (Newly established on Jan. 10, 2019)

7. The research room (laboratory) managers shall take specialized training on research room (laboratory) safety in accordance with the relevant laws. (Newly established on Jan. 10, 2019)

### **Article 13 (Storing Experimental Waste Liquid and Toxic Materials)**

1. The safety manager shall classify the experimental waste liquid generated from the research room (laboratory) and keep it in the designated place.
2. The collected experimental waste liquids shall be disposed of appropriately by the person in charge of the environmental management. (Amended on Dec. 31, 2014)

### **Article 14 (Accident Reports, etc.)**

1. The person who found the accident for the first time shall immediately report it to the research room (laboratory) manager. (Amended on Jan. 10, 2019)
2. According to the reporting system, the research room (laboratory) manager shall notify the accident to the department in charge of safety management, and if necessary, ask support from the relevant agencies such as the fire station, hospitals, etc. (Amended on Jan. 10, 2019)
3. The department in charge of safety management shall report the accident to the head of the research entity. (Newly established on Jan. 10, 2019)
4. The research room (laboratory) manager and the department in charge of safety management shall fill out the accident investigation form and report it to the head of the relevant department. [Attached Form 3] (Newly established on Jan. 10, 2019)
  - (1) When a serious accident occurs, immediately report it to the head of the relevant department via telephone, fax, e-mail, or others.
  - (2) When an accident (other than a serious one) occurs in a general research room (laboratory), submit a report to the head of the relevant department within one month from the day of the occurrence.
5. It is possible to contact a specialized agency when a serious accident occurs or it is hard to find the cause. (Newly established on Jan. 10, 2019)
6. According to the results of the accident investigation, the head of a research entity shall take safety measures such as restriction or demolition of the use of the research room (laboratory) for the safety of the public. (Newly established on Jan. 10, 2019)
7. The head of a research entity shall take measures to prevent a recurrence of any similar or same kind of accidents by carrying out safety training sessions for persons engaging in research activities. (Newly established on Jan. 10, 2019)

### **Article 15 (Posting, etc. the Rules of Conduct During an Emergency)**

1. To minimize damage in case of an accident, the safety manager shall prepare and maintain the research room (laboratory) accident response manual at the entrance of the research room (laboratory) or other conspicuous places. (Amended on Dec. 31, 2014)

2. The research room (laboratory) accident response manual must specify the telephone numbers of the research room (laboratory) manager, safety manager, nearby fire stations, and hospital emergency rooms. (Amended on Dec. 31, 2014)

3. In case an accident occurs at the research room (laboratory), or there is such possibility, the research room (laboratory) user shall take appropriate actions according to the research room (laboratory) accident response manual. (Amended on Dec. 31, 2014)

4. In preparation for the possibility of an accident in the research room (laboratory), persons engaging in research activities shall be well informed of the rules of conduct during an emergency in order to minimize physical and personal damage and respond calmly according to the rules when an accident occurs. (Newly established on Jan. 10, 2019)

### **Article 16 (Posting, etc. Safety Rules at the Research Room)**

1. To prevent accidents, the safety manager shall install or attach safety and health signs that include prohibitions, cautions, warnings, instructions, or instructions for emergency measures against places, facilities, and substances when there are risk factors in the research room (laboratory) or the possibility of accidents. Those signs shall be posted or attached to places, facilities, or substances so that they can be easily identified by persons engaging in research activities and shall be maintained and managed. [Attached Form 5] (Amended on Dec. 31, 2014) (Jan. 10, 2019)

2. The research room (laboratory) manager shall maintain the safety rules for each type of research room (laboratory) in laboratories, and if necessary, the manager may adjust or add details of the safety rules according to the type and characteristics of each research room (laboratory). (Amended on Jan. 10, 2019)

### **Article 17 (Appropriation and Use of Safety Management Expenses)**

1. This university shall secure the expenses required for safety management of research rooms (laboratories) each year, and the secured safety management expenses shall be used for the following purposes: (Amended on Oct. 29, 2015) (Jan. 10, 2019)

- (1) To pay for insurance and physical examination of persons engaging in research activities
- (2) To provide safety management-related data and to carry out education and training sessions for persons engaging in research activities
- (3) To carry out specialized training for the research room (laboratory) safety environment managers
- (4) To install, maintain, and repair facilities that are to maintain the safety of the research room (laboratory)
- (5) To purchase protective equipment for persons engaging in research activities
- (6) For safety inspections and regular (in-depth) safety inspections
- (7) For other uses notified by the head of the relevant departments as necessary for creating a safe environment of the research room (laboratory)

2. When determining research expenses for external research projects, the head of a research entity shall appropriate the amount of more than 1 % but less than 2% of the total labor costs of this



university as the safety-related budget. (Newly established on Jan. 10, 2019)

### **Article 18 (Insurance)**

In preparation against any possible accident at the research room (laboratory) during the process of research activities involving persons engaging in research activities, the university shall purchase insurance policies with the persons engaging in research activities as the insured and beneficiary in accordance with the criteria prescribed by related laws.

### **Article 19 (Medical Checkup)**

Every year, the research room (laboratory) manager shall conduct medical checkups on persons engaged in research activities and possibly exposed to deadly chemical substances or viruses.

### **Article 20 (Application)**

Matters other than those stipulated in this regulation shall be governed by the enacted Act on Safe Environment Promotion of Research Laboratory and related Enforcement Decree and Enforcement Regulation.

### **ADDENDUM**

This regulation shall enter into force as of October 25, 2007.

### **ADDENDUM**

This regulation shall enter into force as of December 31, 2014. (Amended on Dec. 31, 2014. Regulation No. 203)

### **ADDENDUM**

This regulation shall enter into force as of October 29, 2015. (Amended on Oct. 29, 2015. Regulation No. 216)

### **ADDENDUM**

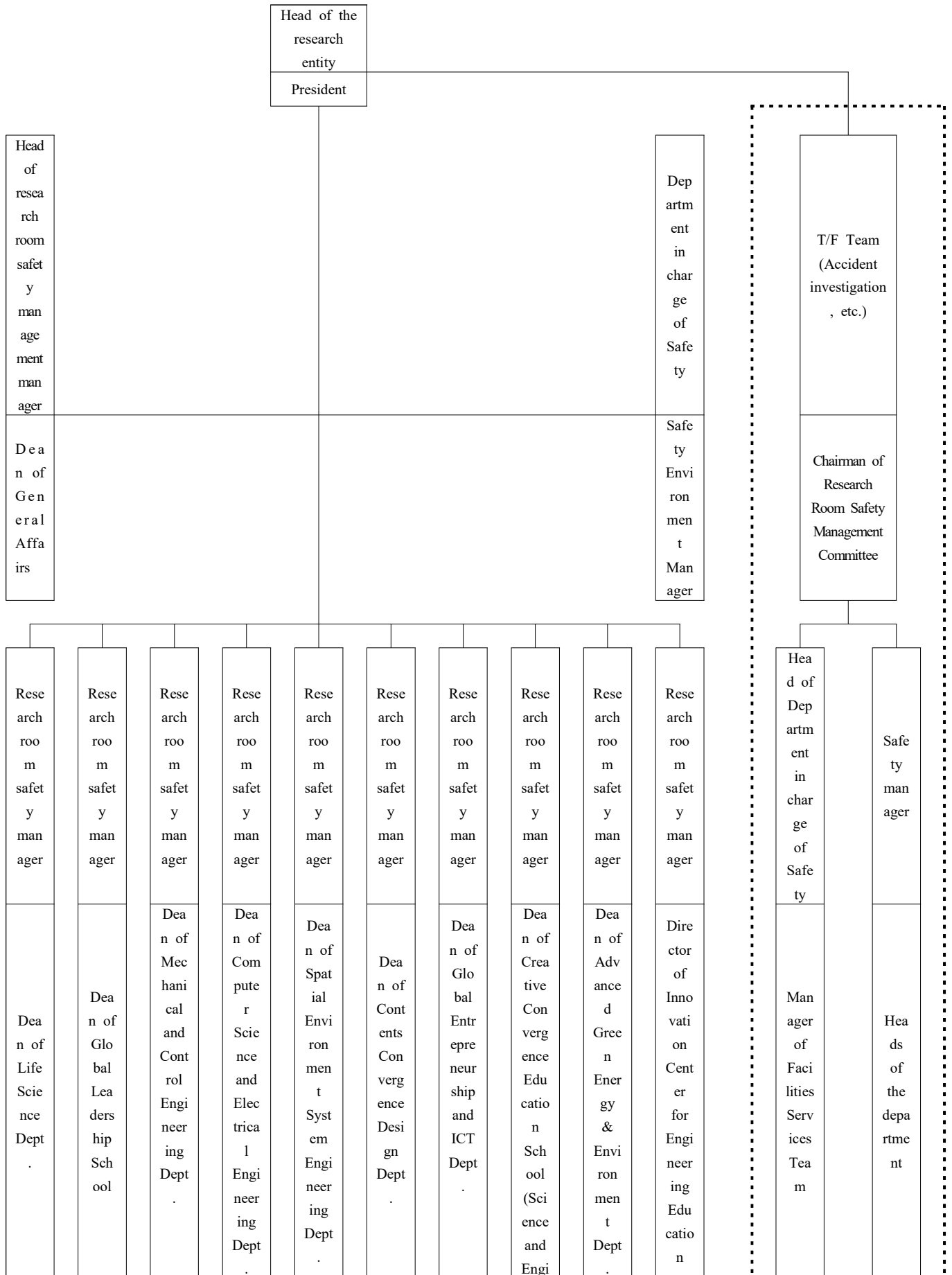
This regulation shall enter into force as of January 10, 2019. (Amended on Jan. 10, 2019. Regulation No. 256)

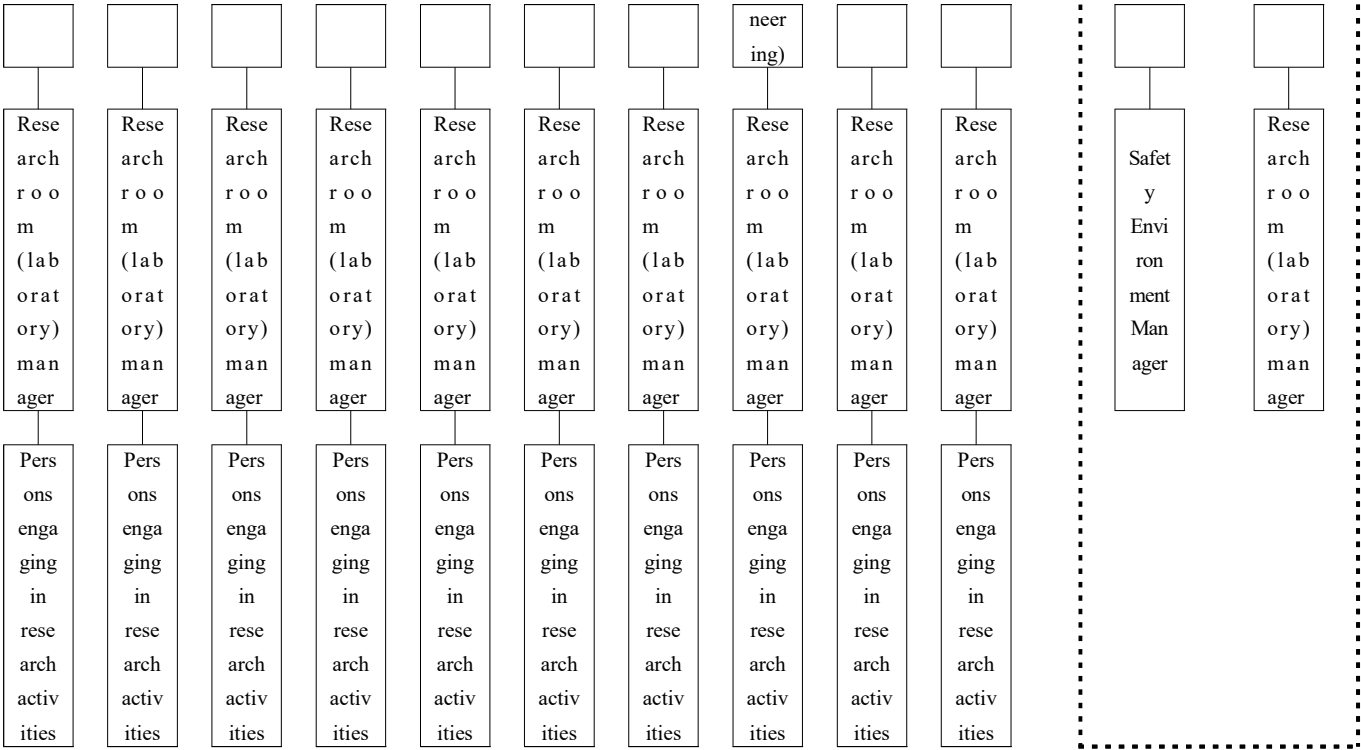
**[Attached From No.1] Research Room (Laboratory) Safety Checklist for Daily Inspection**

Research Room (Laboratory) Safety Checklist for Daily Inspection				
Name of Departments		Approval	Person in charge of Safety Manager	Research Room (Laboratory) Manager
Name of Research Room (Laboratory)				
Division	Items Checked	Results		
		Good	Poor	N/A
General Safety	Whether the research room (laboratory) is tidy and clean			
	Whether it is available to smoke and eat food in the research room (laboratory)			
	Condition of experimental equipment (fume hood, etc.) including safety rules, safety signs, personal protective equipment, first-aid kits, etc.			
	Whether the preliminary risk analysis of hazard factors report is posted			
Equipment	Whether there is an abnormality in the tightening or connecting part of machines and tools			
	Whether a protective device (protective cover) is installed on dangerous facilities			
	Whether protective facilities are installed in a limited dangerous area within the rotational and operational radius of equipment and devices			
Electrical Safety	Whether electric devices not in use are connected to the power and whether multi socket is in use			
	Using of the earthed socket, damage of insulating coating on electric wiring, and electrical wiring arrangement			
	Earthed status in equipment cover or earthing status for prevention of static electricity			
Chemical Safety	Whether loading of foreign substances is prohibited around electric distribution panel			
	Treatment of hazardous factors, maintaining the management ledger of hazardous factors and MSDS			
	Whether chemicals are classified by property and status and stored in safe places like safety cabinets, etc.			
	Whether warning signs are attached on containers for subdivided chemicals, and storage boxes and containers for chemicals			
	Experiment waste management status (attaching classified marks on wastes, using proper containers, cleanness of covers of waste containers, etc.)			
Fire Safety	Whether harmful chemicals such as cancer-causing agent and toxic substances, etc. are isolated and locked for storage			
	Whether there are fire extinguisher signs and whether appropriate fire extinguishers are placed and their status is checked regularly			
	Whether exits and evacuation ways are secured and whether there are no obstacles are loaded on the passageways			
Gas Safety	Whether loading of foreign materials is prohibited around fire extinguisher and hydrant?			
	Whether gas containers are located at the restricted outdoor place, whether the gas cylinder is protected from falling down, and check the ventilation status			
	Whether the outside of gas containers are corroded or changed, whether nozzles are tightly locked, and whether the expiry date for filling gas containers is exceeded			
	Check whether gas leak detector & alarm, gas backflow and backfire protection devices, and scrubbers are installed and check the status of their operation			
	Whether signs are attached to gas pipes and whether warning/alert signs are attached to			

	gas using equipment, and check the operation status of regulators and valves			
	Whether the distance from surrounding fire equipment is maintained, check the treatment status			
Bio Safet y	Check the storage status of the organism (including LMO), tissues, cells, blood (the condition of containers, storage record, biohazard marks at the storage place, etc.)			
	Check the management status of cleaning facilities such as hand sterilizer, sterilizers such as autoclaves.			
	Check the research room (laboratory) management and operational ledger regarding the treatment of the organism (including LMO).			
	Whether medical waste and organism apparatus (syringe, tweezers, etc.) are disposed separately and whether there are covers for waste boxes.			
*Remarks :				
* I hereby checked those items above carefully and recorded the results.				
<b>Inspector (The research room (laboratory) safety manager) : ( Sign )</b>				

**[Attached Form No.2] Research Room (Laboratory) Safety Management Organizational Chart**





**[Attached Form No.3] Research Room (Laboratory) Accidents Investigation Form**

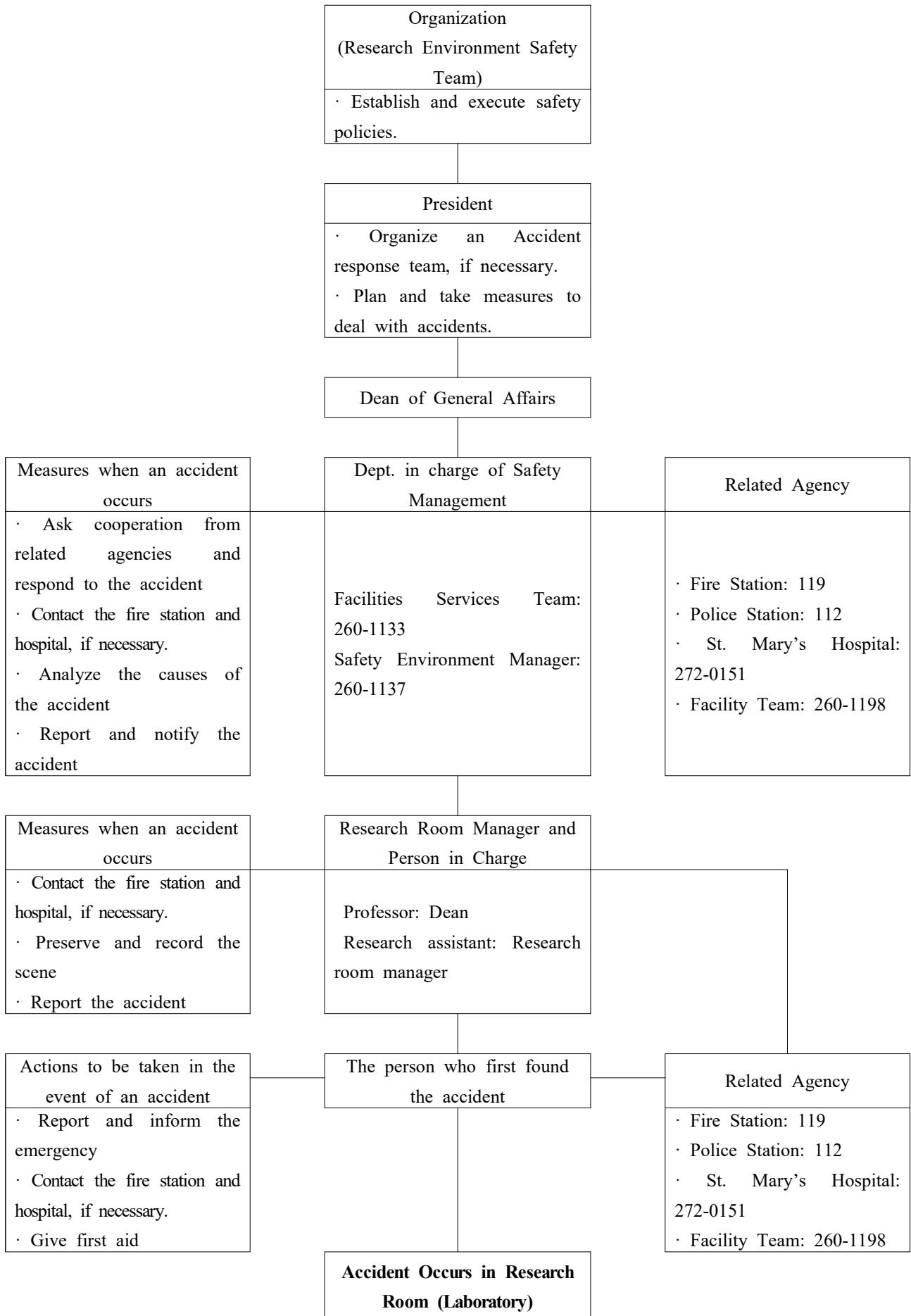
■ Enforcement Regulation on the Establishment of Safe Laboratory Environment [Attached Form No.10] <Newly established 2015.7.1.>

**Research Room (Laboratory) Accident Investigation Form**

Name of Organization (Address)			
Accident Date	(MM/DD/YYYY)	Time	Place
Human Injury	○ Personal information of injured persons engaging in research activities - Name, Age, Position, Type, and extent of injury: - Estimated duration of treatment and whether the injured are fully recovered:		
Property Damage	○ Approximately KRW - Describe details of damaged properties and presumptive basis (fire station, etc):		
Cause and Occurrence Details	Describe substances related to the accident, detailed research activities of persons engaging in research activities at the time of the accident (or victims), and accident occurrence details, etc. - Fill out according to the principle of 5W1H (when, who, where, what, how, and why) and attach the accident photos.		
Current Status and Plans	Write down the current status including the internal reports, etc. and plans (regarding treatment and recovery, etc.) until the time you fill out this form.		
Status of Research Room (Laboratory) Safety Management	Classification	Record the status of the research room (laboratory) safety management	
	Safety management regulation	Check whether it is established (Y/N) and record the establishment date.	
	Regular inspection	“Implemented (Date)” or “not implemented”	
	In-depth safety inspection	“Implemented (Date)” or “not implemented”	
	Insurance subscription of persons engaging in research activities	“Subscribed (Name of insurance and subscription date)” or “not subscribed”	
	Research room safety training sessions	Current status of training	
	Status of safety and maintenance expenses for research room (laboratory)	Compiled to organization budget: KRW Allocated to research expenses: KRW Total: KRW	
Recurrence prevention plans and measures	A detailed plan is attached.		

Confirmed by the person concerned (Date: ) (MM/DD/YYYY)	Head of a research entity	(Sign or Seal)
	Head of Department in charge of Safety management	(Sign or Seal)
	Safety Environment Manager	(Sign or Seal)
	Research Room (Laboratory) Manager	(Sign or Seal)

**[Attached Form No.4] Research Room (Laboratory) Accident Reporting System**



[Attached Form No.5] Types of Safety and Health Signs

1 금지표지	101 출입금지	102 보행금지	103 차량통행금지	104 사용금지	105 탑승금지	106 금연	107 화기금지
108 물체이동금지	2 경고표지	201 인화성물질경고	202 산화성물질경고	203 폭발성물질경고	204 급성독성물질경고	205 부식성물질경고	206 방사성물질경고
207 고압전기경고	208 매달린물체경고	209 낙하물경고	210 고온경고	211 저온경고	212 몸균형상실경고	213 레이저광선경고	214 발암성·변이 원성·생식독성· 전신독성·호흡 기과민성 물질 경고
215 위험장소 경고	3 지시표지	301 보안경착용	302 방독마스크착용	303 방진마스크착용	304 보안면착용	305 안전모착용	306 귀마개착용
307 안전화착용	308 안전장갑착용	309 안전복착용	4 안내표지	401 녹십자표지	402 응급구호 표지	403 들것	404 세안장치
405 비상용기구	406 비상구	407 좌측비상구	408 우측비상구	5 관계자의 출입금지	501 허가대상물질작업장		502 석면취급/해체작업장
					관계자의 출입금지 (허가물질 명칭) 제조/사용/보관중 보호구/보호복 착용 흡연및 음식물 섭취 금지	관계자의 출입금지 석면 취급/해체중 보호구/보호복 착용 흡연및 음식물 섭취 금지	
503 금지대상물질의 취급 실험실 등		6 문자 추가시 예시문	<ul style="list-style-type: none"> <li>- 내 자신의 건강과 복지를 위하여 안전을 늘 생각한다.</li> <li>- 내 가정의 행복과 화목을 위하여 안전을 늘 생각한다.</li> <li>- 내 자신의 실수로써 동료를 해치지 않도록 안전을 늘 생각한다.</li> <li>- 내 자신이 일으킨 사고를 인한 회사의 재산과 손실을 방지하기 위하여 안전을 늘 생각한다.</li> <li>- 내 자신의 방심과 불안정한 행동이 조국의 번영에 장애가 되지 않도록 하기 위하여 안전을 늘 생각한다.</li> </ul>				
관계자의 출입금지 발암물질 취급중 보호구/보호복 착용 흡연및 음식물 섭취 금지				화기엄금			



# Safety Training Journal

Approval	Person in Charge		Head of Department

Date: (MM/DD/YYYY)

Type of Training	Regular safety education & training		New safety education & training	
	Special safety education & training		Others	
Instructor of Training	Job Title			
	Name			
Training Time	OO:OO ~ OO:OO (Total training hours: )			
Number of Participants	Classification	Total	Reason for not participating in the training	
	No. of people eligible for training			
	No. of people participated in the training			
	No. of people who did not participate in the training			
Details of the Training				
Notes				

**[Attached Form No.7] List of Participants in Regular/New Training**

**List of Participants in Safety Training**

Department:

Date:

(MM/DD/YYYY)

Training Type: Regular training , New training , Special training , Others ( )

NO	Student No.	Name	Sign	NO	Student No.	Name	Sign
1				21			
2				22			
3				23			
4				24			
5				25			
6				26			
7				27			
8				28			
9				29			
10				30			
11				31			
12				32			
13				33			
14				34			
15				35			
16				36			
17				37			
18				38			
19				39			
20				40			



**[Attached Form No.9] High-pressure Gas Management Ledger**

**High-pressure Gas Management Ledger**

Name of Laboratory		Written by		Date		
No.	Name of High-Pressure Gas	CAS No.	Qty.	MSDS Storage (Y/N)	Unit (kg, etc.)	Expiry Date
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						