

Translated English of Chinese Standard: GB/T29472-2012

www.ChineseStandard.net → Buy True-PDF → Auto-delivery.

Sales@ChineseStandard.net

GB

NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

ICS 19.020

A 20

GB/T 29472-2012

Safety management specification for mobile laboratory

移动实验室安全管理规范

Issued on: December 31, 2012

Implemented on: July 31, 2013

Issued by: General Administration of Quality Supervision, Inspection and Quarantine of PRC;

Standardization Administration of PRC.

Table of Contents

Foreword.....	3
1 Scope	4
2 Normative references.....	4
3 Terms and definitions.....	4
4 General safety management requirements	5
5 Personnel safety management requirements	6
6 Safety management requirements for carrier	8
7 Safety management requirements for instruments and equipment.....	8
8 Safety management requirements for power and electricity	9
9 Safety management requirements for laboratory shelter	10
10 Safety management requirements for environment.....	11
References.....	12

Safety management specification for mobile laboratory

1 Scope

This standard specifies the general safety management requirements of mobile laboratories AND the special safety management requirements in terms of personnel, vehicles, experimental cabins, environment.

This standard applies to the safety management of mobile laboratories, which are used on land.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) is applicable to this standard.

GB 3836.1-2010 Explosive atmospheres - Part 1: Equipment - General requirements

GB 4793.1-2007 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

GB 7258-2012 Safety specifications for power-driven vehicles operating on roads

GB/T 29478-2012 Mobile laboratory hazardous waste management specification

GB/T 29479-2012 General requirements of mobile laboratory

GB 50089-2007 Safety code for design of engineering of civil explosives materials

3 Terms and definitions

The terms and definitions, which are defined in GB/T 29479-2012, as well as the following terms and definitions, apply to this document. For ease of use, some terms and definitions in GB/T 29479-2012 are repeated below.

3.1

Mobile laboratory

A laboratory that meets specific purposes and requirements AND is composed of complete sets of equipment, to carry out activities such as testing, calibration or

relevant provisions in 6.0.9, Chapter 7 and 8.5 of GB 50089-2007. Mobile laboratories shall design emergency exits; the emergency exits shall be clearly marked.

4.6 Obvious dangerous signs shall be affixed in appropriate positions. There shall be clear signs and warnings, for parts and devices, that may generate static electricity and radiation. It shall take appropriate protective measures, for the possible hazards.

4.7 The mobile laboratory shall have an access control system. It shall be ensured that only authorized personnel can enter the laboratory. A monitoring and alarm system should be set up. When necessary, an emergency alarm shall be set up, in the core work area of the laboratory.

4.8 Emergency handling procedures or plans for mobile laboratory accidents shall be formulated, according to possible laboratory accidents, such as the leakage of radioactive, toxic, harmful gases and corrosive substances; the disposal of detected toxic and harmful substances and samples, etc.

4.9 Smoke alarms and on-board fire extinguishers shall be installed, to ensure the safety of personnel and equipment in the vehicle.

4.10 It shall, according to the work types of different mobile laboratories, based on the national safety precaution standards, do a good job in the management of equipment such as sound, light, electricity, magnetism, microwave, radiation, gas, etc.; strictly implement the operating specifications, to prevent various accidental leaks.

4.11 For mobile laboratories with special purposes, corresponding safety measures shall be provided. For mobile laboratories, where flammable and explosive vapors and gases escape, electrical equipment shall meet explosion-proof requirements. The safety of electrical equipment for measurement, control, laboratory use shall meet the requirements of relevant chapters in GB 4793.1-2007 standard, on electrical equipment testing, marking documents, anti-electric shock, anti-collision, anti-radiation, under certain environmental conditions. The electrical equipment, which is used in the explosive gas environment, shall comply with the relevant provisions on equipment safety, in Chapter 6 of GB 3836.1-2010.

4.12 Instruments and equipment and control console, which involve explosives, flammable liquids, flammable gases, and other flammable and explosive substances, shall adopt anti-static measures, such as grounding, protection by inert gas, installation of human body static elimination devices.

4.13 The safety management of hazardous wastes, in mobile laboratories, shall comply with the relevant requirements of GB/T 29478.

5 Personnel safety management requirements

5.1 Staff shall be given pre-job safety education; safety protection knowledge training

shall be carried out every year. Staff shall consciously abide by the management provisions of the mobile laboratory and their respective work responsibilities.

5.2 Work procedures for staff shall be formulated. Personnel using instruments and equipment, especially large and valuable instruments and equipment, shall undergo training; be subject to regular evaluation and assessment. Only after passing the assessment, can they take up their posts.

5.3 Appropriate fire-fighting equipment shall be provided, according to the type of fire that may occur. The experimenter shall be familiar with various types of fire-fighting equipment. It shall organize relevant personnel to conduct drills, on a regular basis.

5.4 It shall pay attention to the use of personal protective equipment for staff; regularly check, maintain, update it, to ensure that its design performance is not reduced.

5.5 The mobile laboratory shall be regularly maintained; the maintenance personnel shall be engineers, that have relevant qualifications.

5.6 Set up dangerous goods management personnel; establish relevant dangerous goods management procedures and access records; do a good job in the safe total amount of dangerous goods storage.

5.7 Mobile laboratory staff shall be able to easily obtain the safety data sheets of these reagents; be familiar with the characteristics of each reagent.

5.8 Before using the reagent, the test personnel shall be familiar with the safe use rules of the reagent, the principles of disposal, the correct disposal measures after the accident occurs. Before using corrosive, toxic, flammable, unstable reagents, it shall comply with the corresponding management provisions of the mobile laboratory.

5.9 All personnel, who are related to radioactive reagents, shall receive instruction and training in radioactive technology and radioactive protection; abide by the operating procedures of radioactive reagents.

5.10 When necessary, the mobile laboratory shall appoint at least one radioactive material protection officer or supervisor, to be responsible for the protection planning and daily supervision of radioactive materials, AND to ensure good radioactive material use behavior. The mobile laboratory shall clearly define the tasks, roles, responsibilities of the guards or supervisors.

5.11 The mobile laboratory shall have a strict electricity management system AND implement it carefully. The experimental technology and other personnel, who work in the laboratory, shall be trained in electricity processing skills; they shall be regularly educated on safe electricity use.

5.12 It shall, according to the storage requirements of different types of mobile laboratories, take corresponding measures, for the storage of mobile laboratories.

required. Each instrument cabinet and storage cabinet are equipped with fixation drawstring. For high and heavy vehicle-carrying equipment, there shall be fixed installation points on the back of the equipment, to prevent the equipment from rolling and shearing the bottom bolts, due to emergency braking.

7.3 The instruments and equipment shall be repaired in a timely manner, in case of failure; the maintenance records shall be made. The maintenance of large and valuable equipment shall rely on manufacturers and professional maintenance companies.

7.4 Effective measures shall be taken, to protect large and valuable instruments and equipment from water and power outages, to prevent damage to instruments and equipment, due to voltage fluctuations or sudden power outages and water outages.

7.5 Before the laboratory is moved, the equipment shall be routinely inspected and fixed. After the laboratory is moved, the routine inspection shall be performed again, to ensure that the instruments and equipment meet the experimental requirements.

7.6 In a high temperature or low temperature environment, safety protection measures shall be taken, for the instruments and equipment, which are used for storage and transportation, to ensure that the instruments and equipment can be used normally.

7.7 The responsibility for the safety work of the instruments and equipment shall be assigned to the person. The management personnel of the instruments and equipment shall be the person in charge of the safety of the instruments and equipment. The instruments and equipment shall be managed by someone, during the use process; the management personnel shall conduct frequent safety inspections. If any problems are found, they shall report them to the supervisor and solved in time.

7.8 Special programs for decontamination, cleaning, disinfection, sterilization of instruments and equipment shall be formulated, in the event of an accident or spill (including biological, chemical or radioactive hazardous materials).

8 Safety management requirements for power and electricity

8.1 The power lines and switchboards, boards, boxes, cabinets and other devices in the mobile laboratory AND various switches, sockets, plugs, etc. in the line system, shall be kept in good condition. There shall be no exposed wire ends, in the mobile laboratory. No items are allowed to be stacked in the power switch box. The fuse, which is used in the fuse device, must match the allowable capacity of the wire. It is strictly forbidden to replace it with other wires. Indoor lighting fixtures shall be kept in a stable and usable state.

8.2 The high-voltage and high-frequency equipment, which is used in the mobile laboratory, shall be regularly repaired. The reliable protective measures shall be taken. Electric equipment must have lightning protection devices. If the equipment itself

requires safe grounding, it must be grounded. Equipment for automatic control of existing electrical installations must be accepted by relevant experiments, before use. The electrical circuit part of the equipment or device, which is self-designed and manufactured, shall also be checked by professionals, before being put into use.

8.3 Multiple sets of power supply systems shall be used; a fast switching system shall be provided.

8.4 The power supply system adopts centralized control distribution box, which has protection functions, such as voltage stabilization, short circuit, overload, leakage alarm.

8.5 It shall be equipped with copper grounding brazing and grounding cables, to meet the basic requirements of the laboratory, for grounding resistance.

8.6 Before and after the moving operation, the power supply system, such as the power input, power supply distribution, power consumption terminals of the laboratory, shall be routinely checked, to ensure that the power supply system meets the experimental requirements.

9 Safety management requirements for laboratory shelter

9.1 The environmental conditions of the laboratory shelter shall meet the requirements of inspection specifications, methods and procedures, equipment and sample processing, preparation, the requirements of the health, safety, working comfort of the inspectors.

9.2 The layout of the laboratory shelter shall be reasonable and easy to work, without interference and cross-contamination between the surrounding environment and the test items. It shall be equipped with leakage protection devices and grounding devices.

9.3 For the test site, which has strict requirements on temperature and humidity, it must be equipped with corresponding facilities and monitoring equipment; record the environmental conditions, during the test.

9.4 When environmental factors, such as electromagnetic interference, noise or vibration, have an impact on the testing work, it shall take special monitoring measures; record relevant measured parameters. For the testing items, that have vibration requirements and are prone to large vibrations, there shall be vibration isolation and anti-vibration measures.

9.5 Precision instruments shall not be mixed with chemical analysis instruments, to avoid the instruments being corroded by moisture and chemicals, such as acid and alkali.

9.6 The experimental area of the laboratory shelter is properly separated from the office area; the entry and use of areas, that may affect the quality of work, are restricted and controlled. The table top in the experimental area is made of a solid psychological board, that is wear-resistant, scratch-resistant, acid and alkali resistant. The lower part of the

This is an excerpt of the PDF (Some pages are marked off intentionally)

Full-copy PDF can be purchased from 1 of 2 websites:

1. <https://www.ChineseStandard.us>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Select your country (currency), for example: USA (USD); Germany (Euro).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Tax invoice can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with download links).

2. <https://www.ChineseStandard.net>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Add to cart. Only accept USD (other currencies - <https://www.ChineseStandard.us>).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with PDFs attached, invoice and download links).

Translated by: Field Test Asia Pte. Ltd. (Incorporated & taxed in Singapore. Tax ID: 201302277C)

About Us (Goodwill, Policies, Fair Trading...): <https://www.chinesestandard.net/AboutUs.aspx>

Contact: Wayne Zheng, Sales@ChineseStandard.net

Linkin: <https://www.linkedin.com/in/waynezhengwenrui/>

----- The End -----