AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

will display a loss of pressure below 0.25 inches water guage.

(3) Gloves will be changed at appropriate intervals (dependent on the box contents) to ensure they provide the protection needed.

(4) Inlets that provide dilution air will be protected by HEPA filters.

§ 627.55 Ventilated balance enclosures.

(a) *Description*. A ventilated balance enclosure is a box that surrounds a balance and has a small open area for access and handling material in the front. Air is exhausted out the rear of the enclosure.

(b) *Uses*. A ventilated balance enclosure is used when containment of a balance is required to weigh hazardous materials that have a low vapor pressure (such as toxins). These enclosures are also used when it is best to use the balance in other than a fume hood (due to the turbulence and vibration) and when biological safety cabinets or glove boxes are inappropriate or unavailable. Dry forms of toxins may be weighed in these enclosures.

(c) *Prohibitions*. Very volatile or highly toxic volatile materials must not be handled in ventilated balance enclosures unless they are placed in closed containers in a properly functioning fume hood before being transferred to the balance enclosure.

(d) *Additional certifications or requirements*. (1) The flow through the openings in the enclosure will be at least 60 lfpm and must average between 60 and 80 lfpm.

(2) Containment will be certified prior to first use and annually thereafter by smoke tubes.

(3) The air flow will be certified initially and semiannually by averaging readings taken from the face of the opening.

§ 627.56 Ventilated cage enclosures.

There are a number of cage-ventilated enclosures in which infected animals may be housed at levels corresponding to the various classes of biological safety cabinets. A brief description of four different types of animal ventilated cages is given below. This is not a complete description of all the different animal ventilated cages available. The proper functioning of these will be tested initially, upon each connection to exhaust sources, and at least annually. The inward flow rates on the partial containment systems and pressure checks on the total containment cages will be performed. Prior to selecting such equipment, an evaluation of the function and the equipment should be made, and the methods for testing and decontamination should be analyzed and documented.

(a) *Filter-top cages*. Small laboratory animal polystyrene or polycarbonate cage bottoms are fitted with a dome shaped glass fiber or polyester filter cage cover. The dome shaped filters help reduce the dissemination of aerosols, and the spread of infectious agents. Adequate ventilation around cages fitted with a dome shaped filter is essential since they may contain elevated ammonia and carbon dioxide levels, and high temperature and humidity. Ventilation recommendations in the NIH publication 86–23, 1985 ''Guide for the Care and Use of Laboratory Animals'' will be followed.

(b) *Forced ventilation cages*. This is a small HEPA-filtered cage connected to a centralized exhaust system. A minimum airflow of 0.03 m^3/min per cage is required. Ventilation rates may vary with the size of the cage, and the number and type of animals being housed.

(c) *Cubicle-type isolation cage*. This is a partial containment unit which holds several animal cages. This unit is a negative pressure HEPA-filtered stainless steel cage. A minimum airflow of 0.3 m^3/min per cage is required for a 0.24 m^3 unit. Ventilation rates may vary with the size of the cage and the number and type of animals being housed.

(d) *Total containment cage*. This unit is a negative pressure or positive pressure HEPA-filtered stainless steel cage which has the filters incorporated into the design. It is halogen gas-leak tight and can be considered a Class III biological safety cabinet. A minimum airflow of 0.3 m^3/min per cage is required for a 0.24 m^3 unit. Ventilation rates may vary with the size of the cage, and the number and type of animals being housed.

§ 627.57 Ventilated cage areas.

Ventilated cage areas within a room that are solid-walled and bottomed areas for containing multiple cages housing infected animals. The containment for these areas is equivalent to the Class I biological safety cabinet. For testing purposes, they will be treated the same as a Class I biological safety cabinet.

APPENDIX A TO PART 627—REFERENCES

Publications referenced in this part can be obtained from the National Technical Information Services, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161.

REQUIRED PUBLICATIONS

AR 11–34

Army Respiratory Protection Program. (Cited in §§ 627.31(h)(2) and 627.31(h)(4).)

AR 40–5

Preventive Medicine. (Cited in § 627.8.)

AR 40–10

Health Hazard Assessment Program in Support of the Army Materiel Acquisition Decision Process. (Cited in § 627.7(a)(8).)

AR 40–12

Medical and Agricultural Foreign and Domestic Quarantine Regulations for Vessels, Aircraft, and Other Transports of the Armed Forces. (Cited in § 627.40(a).)

AR 40–66

Medical Records and Quality Assurance Administration. (Cited in § 627.9.)

AR 40–400

Patient Administration. (Cited in § 627.8(e).)

AR 70–65

Management of Controlled Substances, Ethyl Alcohol, and Hazardous Biological Substances in Army Research, Development, Test, and Evaluation Facilities. (Cited in §§ 627.36(a)(6) and 627.40(b).)

AR 385–10

Army Safety Program. (Cited in §§ 627.6 and 627.31(h)(4).)

AR 385–69

Biological Defense Safety Program. (Cited in §§ 627.6, 627.7(a), 627.7(a)(8), 627.7(d), 627.11(c), 627.18(a) and 627.18(f)(1).)

AR 740–32

Responsibilities for Technical Escort of Dangerous Materials. (Cited in § 627.39.)

RELATED PUBLICATIONS

A related publication is merely a source of additional information. The user does not have to read it to understand this pamphlet.

AR 40–14

Control and Recording Procedures for Exposure to Ionizing Radiation and Radioactive Materials.

ANSI Z86.1–1973

Breathing Air

ASHRAE Standard 62

Bacterial Toxins: A Table of Lethal Amounts, Gill, D.M., Microbiological Reviews, Volume 46, Number 1; March 1982, pages 86–94.

Biohazards Reference Manual

American Industrial Hygiene Association, 1985, Clinical Medicine Branch, Division of Host Factors, Center for Infectious Disease, Centers for Disease Control, Atlanta, GA 30333, telephone: (404) 639–3356, Compressed Gas Association Pamphlet G–7.1

Grade D Breathing Air

Dangerous Goods Regulations, International Air Transport Association (IATA), Publications Section, 2000 Peel Street, Montreal, Quebec, Canada H3A 2R4, Tel (514) 844–6311. DHEW Pub. No. (NIH) 76–1165

Biological Safety Manual for Research Involving Oncogenic Viruses, Executive Order 12196

Safety and Health Programs for Federal Employees, 26 February 1980

Guide for Adult Immunizations, Published by the American College of Physicians, Guide for Transportation of Hazardous Materials, Vol. 4(1) February 10, 1975. (Copies may be obtained from the Office of Research Grants Inquiries, NIH, Department of Health and Human Services, 5333 Westbard Avenue, Bethesda, MD 20205.)

Guidelines for Laboratory Design, Health and Safety Considerations, L. DiBerardinis, et al., John Wiley and Sons, 1987

Guidelines for Prevention of Herpesvirus Simiae (B Virus) Infection in Monkey Handlers, Kaplan, J.E., et al., Mortality and Morbidity Weekly Report, Volume 36, Number 41; October 23, 1987, pages 680–689.

HHS Publication No. (NIH) 88–8395, Biosafety in Microbiological and Biomedical Laboratories

Industrial Ventilation, A Manual of Recommended Practice Published by the American Conference of Governmental Industrial Hygienists.