Guidance Notes on Manufacture, Wholesale, Storage and Transport of Medical Gases

Version 1.0

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Pharmacy and Poisons Board of Hong Kong

Contents

1. Background

Pharmaceutical Products and Medical Gases

1.1 Pharmaceutical product means any substance or combination of substances as defined under section 2 of the Pharmacy and Poisons Ordinance (Cap. 138, Laws of Hong Kong).

1.2 As stipulated under regulation 36(1) of the Pharmacy and Poisons Regulations (Cap. 138A, Laws of Hong Kong), medical gases falling within the definition of pharmaceutical products must be registered with the Pharmacy and Poisons Board (the "Board") before they can be sold, offered for sale or distributed or possessed for the purposes of sales, distribution or other use in Hong Kong. To this end, the Board has published a set of "Guidance Notes on Registration of Pharmaceutical Products/Substances" and a specific set of "Guidance Notes on Registration of Medical Gases".

Licensed Manufacturers of Pharmaceutical Products

1.3 According to regulation 29(1) of the Pharmacy and Poisons Regulations, no person shall manufacture any pharmaceutical product on any premises unless he is the holder of a licence to manufacture pharmaceutical products ("manufacturer licence") on those premises.

1.4 Manufacture of pharmaceutical products includes secondary packaging, which means the labelling, re-labelling, cartoning, re-cartoning or adding additional information (including inserts) to pharmaceutical products which are already enclosed in the container in which they are to be sold or supplied. Any person performing secondary packaging should apply for the manufacturer licence.

1.5 The issuing authority for a manufacturer licence is the Pharmacy and Poisons (Manufacturers Licensing) Committee of the Board.

Licensed Wholesale Dealers of Poisons and/or Pharmaceutical Products

1.6 According to regulation 25 of the Pharmacy and Poisons Regulations, a company wishes to deal in any poison and/or pharmaceutical product by way of wholesale dealing must first obtain a Wholesale Dealer Licence.

1.7 "Poison" means a substance specified in the Poisons List made under the Pharmacy and Poisons Ordinance.

1.8 The issuing authority for Wholesale Dealer Licence is the Pharmacy and Poisons (Wholesale Licences) Committee of the Board.

Codes of Practice

1.9 The Board has issued the following Codes of Practice which set out the minimum standards, obligations and requirements which must be observed by Licensed Manufacturers and Licensed Wholesalers during their courses of businesses and operations related to the manufacture and wholesale of pharmaceutical products respectively: -

1.9.1. Code of Practice for Licensed Manufacturers and Registered Authorized Persons; and

1.9.2. Code of Practice for Holder of Wholesale Dealer Licence.

Other Legislation in Hong Kong

1.10 Medical gases or mixture of gases are also regulated under other legislations in Hong Kong. The licensing of manufacturers and wholesalers of medical gases under the Pharmacy and Poisons Regulations does not exempt the manufacturers or wholesalers from complying with other legislations. A Licensed Manufacturer or Wholesaler should observe and follow all the relevant statutory requirements stipulated under the related ordinances, which include but are not limited to:

1.10.1. Boilers and Pressure Vessels Ordinance (Cap. 56);

1.10.2. Factories and Industrial Undertakings Ordinance (Cap 59);

1.10.3. Fire Services Ordinance (Cap. 95);

1.10.4. Dangerous Goods Ordinance (Cap. 295);

1.10.5. Electricity Ordinance (Cap. 406); and

1.10.6. Occupational Safety and Health Ordinance (Cap.509).

2. Purpose of this Guidance

2.1 This document serves to provide guidance to a Licensed Manufacturer or a Licensed Wholesale Dealer relating to the manufacture, wholesale, storage and transport of medical gases that fall within the definition of pharmaceutical products.

3. Scope

3.1 This document applies to the manufacture and wholesale of any gases or mixtures of gases in cylinders that fall within the definition of pharmaceutical products as well as their storage and transport. These may include medical gases of oxygen, nitrogen, nitrous oxide, nitric oxide, carbon dioxide, helium, medical air or mixture of some of the above gases. The medical gas product covers the gas/gas mixtures and its primary packing including the container and the valve.

3.2 This document is generally not applicable to the following:

3.2.1. Gases that do not achieve their mode of action by pharmacological, immunological or metabolic action in/on the human being or animals;

3.2.2. Gases that are produced in situ in healthcare facilities, i.e. manufactured, mixed and handled in hospitals or day procedure centres for their patients' own use;

3.2.3. Bulk liquefied gases in tankers or vessels (e.g. Vacuum Insulated Evaporator)[1];

3.2.4. The equipment attached later to the gas container at the time of use (e.g. pressure regulator and pipe network);

3.2.5. Gases specified for non-medicinal use such as those in laboratories (e.g. for calibration), oxygen mixtures for smoke-helmeted firemen, oxygen mixtures for divers during normal diving and ascent, etc.; and

3.2.6. Oxygen that is produced via generator or concentrator to be used at patient's bedside.

[1]: Manufacture and supply of such gases are subject to the requirements of Good Manufacturing Practice ("GMP") Guides issued by the Board. Please refer to the website of the Board (www.ppbhk.org.hk) for the current version of the GMP Guides.

4. Manufacture of Medical Gases

4.1 Company wishes to apply for a licence to locally manufacture medical gases that are pharmaceutical products should refer to the "Guidance on Application for Licence for Manufacturer of Pharmaceutical Products" for the application procedures.

4.2 All manufacturing processes and activities conducted on the premises of a Licensed Manufacturer should be carried out in a manner compliant with the conditions specified on the manufacturer licence and the requirements laid down in the Pharmacy and Poisons Regulations, the GMP Guides issued by the Board, the applicable Code of Practice as well as other legislations in Hong Kong relevant to pharmaceutical products, which include but are not limited to:

4.2.1. Import and Export Ordinance (Cap. 60);

4.2.2. Public Health and Municipal Services Ordinance (Cap. 132);

4.2.3. Undesirable Medical Advertisements Ordinance (Cap. 231); and

4.2.4. Trade Descriptions Ordinance (Cap. 362).

4.3 With respect to the two GMP Guides issued by the Board -

4.3.1 the gazetted version of Part I, Part II and Annexes of the "Guide to Good Manufacturing Practice for Medicinal Products" published by the Pharmaceutical Inspection Co-operation Scheme are relevant. Specifically, GMP principles for the manufacture of finished pharmaceutical products are provided in Part I; Part II covers GMP for active substances used as starting materials; and the Annexes provide details on specific areas of activity. In the context of medical gases, Annex 6 on "Manufacture of medicinal gases", which deals with the manufacture of active substance gases and the manufacture of medical gases, should be read with Part I and Part II of the Guide as well as the other Annexes of the Guide where relevant.

4.3.2 the "Hong Kong Guide to Good Manufacturing Practice for the Secondary Packaging of Pharmaceutical Products" sets out the standards and requirements to be followed by Licensed Manufacturers authorised to conduct secondary packaging.

4.4 Personnel of a manufacturer of medical gases must have the necessary qualifications and practical experience to carry out their responsibilities, and manufacturers are responsible for providing training for all personnel whose activities could affect the quality of the product. The Authorized Person and other key personnel for pharmaceutical manufacturers (i.e. the Head of Production and Head of Quality Control) and for secondary packaging manufacturers (i.e. the Quality Assurance Officer and Person-in-charge) must be suitably qualified, experienced and competent for the types of manufacturing operations undertaken by the manufacturers for whom he or she works in accordance with the "Guidance on Qualification, Experience and Training Requirements for Authorized Persons and Other Key Personnel of Licensed Manufacturers in Hong Kong" issued by the Board.

5. Wholesale of Medical Gases

5.1 Company wishes to apply for a licence to deal in any medical gases that are pharmaceutical products by way of wholesale dealing should refer to the "Guidelines for Application for Wholesale Dealer Licence/Antibiotics Permit/Wholesale Dealer's Licence to Supply Dangerous Drugs" for the application procedures.

5.2 Wholesalers that are involved in the storage and distribution of medical gases should document, implement and maintain a comprehensively designed and clearly defined quality management system related to the operation, handling, storage, supply, record keeping and other requirements as set out in the "Code of Practice for Holder of Wholesale Dealer Licence".

5.3 A designated person shall be nominated by the wholesaler who shall have defined authority and responsibility for ensuring that the documentation system and standard operating procedures are implemented and maintained.

5.4 Personnel involved in wholesaling of medical gases shall have the work experience, education, training or combination of these elements that will allow them to effectively discharge their responsibilities.

5.5 Personnel involved in the storage, handling, conveyance and transport of medical gases should receive appropriate training relevant to this type of products. Training records should be maintained.

5.6 Personnel of a wholesaler of medical gases should be aware of the intrinsic risks and potential hazards of medical gases.

5.7 Premises of a wholesaler where the business is to be carried out should have a postal and physical address including lot, street, district and region.

5.8 Residential premises shall not be used for business of medical gases.

5.9 Building must be of permanent construction and address and it should be located at a site approved by relevant authorities, if applicable.

5.10 The premises shall be in such conditions that are suitable for the business to be carried out and fully satisfy, inter alia, the fire prevention and floor loading requirements. Requirements on premises as stipulated under other applicable legislations or guidelines should also be observed and followed.

5.11 Suppliers and contractors should be evaluated before they are approved and included in the approved list. The evaluation should consider a supplier's or contractor's history and the nature of the materials to be supplied or services to be contracted. If an audit is required, it should determine the supplier's or contractor's ability to conform with applicable standards.

6. Storage of Medical Gases

6.1 Written procedures appropriate for the storage of medical gases should be established and implemented by Licensed Manufacturers and Licensed Wholesalers.

6.2 Precautions should be taken to prevent unauthorized persons from entering storage areas.

6.3 Storage areas should be appropriately located, designed, constructed and maintained. They should be kept clean and dry and there should be sufficient space and ventilation. They should not be located in close proximity to any installation that may have a fire risk or other hazard.

6.4 Cylinders should be stored in a separate area from non-medical gases and there should be no exchange of cylinders between these areas. For manufacturers, other gases may be stored in the same areas, provided they comply with the specifications of medical gases and that the manufacturing operations are performed according to GMP standards.

6.5 There should be sufficient capacity for orderly storage of cylinders to avoid the risk of mix-up. Premises should be designated to provide separate marked areas for different gases and clear identification and segregation of cylinders at various stages of processing (e.g. "waiting checking", "awaiting filling", "quarantine", "certified", "rejected ","prepared deliveries").

6.6 The method used to achieve these various levels of segregation will depend on the nature, extent and complexity of the overall operation. Marked-out floor areas, partitions, barriers, signs, labels or other appropriate means could be used. The segregation of the products may be achieved electronically using a validated electronic system as long as the standards for the cylinders and the vessels intended for medical gases are maintained.

6.7 Empty cylinders after sorting or maintenance, and filled cylinders should be stored separately with status labels such as "FULL", "IN USE" and "EMPTY" under cover, protected from adverse weather conditions.

6.8 Filled cylinders should be stored in a manner to ensure that they will be delivered in a clean state, compatible with the environment in which they will be used.

6.9 Specific storage conditions as submitted for registration with the Board or any special storage conditions required should be provided, controlled, monitored and recorded.

6.10 The record of issue should include the name of gas, size of cylinder, date of issue and name of recipient.

6.11 Broken or damaged cylinders that can no longer be used should be withdrawn from usable stock and stored separately with labels.

6.12 Medical gases that have been improperly stored must not be salvaged and returned to the usable stock.

6.13 Returned medical gases should be stored in a controlled manner in a dedicated area. Returned goods should be clearly identified and kept until a decision is made and recorded as to their disposal.

6.14 Cylinders and their associated equipment should be protected from contact with oil, grease and hand creams etc, bituminous products, acids and other corrosive substances.

7. Transport of Medical Gases

7.1 Filled gas cylinders should be protected during transportation and handled in such a manner so that they are delivered to customers in a clean and safe state compatible with the environment in which they will be used.

7.2 There should be documented, detailed procedures for the transport of medical gases. Procedures for transport should ensure that: -

7.2.1 the identity of the medical gas is not lost, all labels should remain legible;

7.2.2 there is no risk of contamination of the medical gases;

7.2.3 precautions are taken against damage and theft; and

7.2.4 environmental conditions are maintained, if required.

7.3 Medical gases should be transported in accordance with the conditions stated on the labels.

7.4 All cylinders shall be transported vertically and secured by the trained porters especially for heavy cylinders.

7.5 Vehicles or vessels used for the transport of medical gases should be appropriately equipped and with sufficient space. Appropriate signs and warnings, where required, should be visible on the vehicles.

7.6 Requirements on vehicles or vessels for the transport of medical gases as stipulated under other applicable legislations or guidelines should also be observed and followed.

7.7 Requirements on vessels for the transport of medical gases as stipulated under Dangerous Goods Ordinance should also be observed and followed.

Document Information

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