



**Bureau of Laboratory Quality Standards  
Ministry of Public Health**

This is to certify that

**The Laboratory of**

**Bureau of Radiation and Medical Devices  
Department of Medical Sciences**

**88/7 Moo 4, Tiwanon Road, Talad - Khwan,  
Muang Nonthaburi, Nonthaburi 11000, Thailand**

has been accepted as an  
accredited laboratory complying with the ISO/IEC 17025:2017  
and the requirement of the Bureau of Laboratory Quality Standards

The laboratory has been accredited for specific tests  
listed in the scope within the field of

**Medical Devices Testing**

A handwritten signature in blue ink, appearing to read "Surasak Muenphon".

**(Mr.Surasak Muenphon)**

**Director of Bureau of Laboratory Quality Standards**

**Date of Accreditation: 23 August 2024**

**Valid Until : 22 September 2026**

**Accreditation Number 4050/50**

The laboratory of Bureau of Radiation and Medical Devices, Department of Medical Sciences has been accepted as an accredited laboratory in the field of radiation and medical devices testing for the following scopes.

| No. | Type of Sample   | Test   | Method                                     |
|-----|--|--|--|
| 1   | Male condom<br>- Natural rubber latex<br>- Synthetic rubber latex                              | 1. Quantity of lubricant   | - ISO 4074:2015                            |
|     |  | 2. Length  | - ISO 23409:2011                           |
|     |  | 3. Width   | - TIS. 625-2559                            |
|     |  | 4. Thickness   |  |
|     |  | 5. Bursting pressure and volume  |  |
|     |  | 6. Freedom from holes, Visible defects and Individual containers with visibly open seals |  |
|     |  | 7. Package integrity   |  |
|     |  | 8. Packaging and labeling  |  |
| 2   | Single-use medical examination gloves<br>- Natural rubber latex<br>- Synthetic rubber latex    | 9. Length  | - TIS.1056, Vol. 1-2556                    |
|     |  | 10. Width  | - ISO 11193-1:2020                         |
|     |  | 11. Thickness  | - ASTM D 3578-19                           |
|     |  | 12. Water tightness  | - ASTM D 6319-19                           |
|     |  | 13. Force at break, Tensile strength, Elongation at break and Stress                     | - EN 455-1:2020+A1:2022<br>- EN 455-2:2024 |
|     |  | 14. Accelerated ageing   |  |
| 3   | Single-use sterile rubber surgical glove<br>- Natural rubber latex<br>- Synthetic rubber latex | 15. Length   | - TIS.538-2560                             |
|     |  | 16. Width  | - ISO 10282:2023                           |
|     |  | 17. Thickness  |  |
|     |  | 18. Water tightness  |  |
|     |  | 19. Force at break and Elongation at break   |  |
|     |  | 20. Accelerated ageing   |  |

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| No. | Type of Sample                             | Test                        | Method            |
|-----|--|-----------------------------|-------------------|
| 4   | Sterile hypodermic syringes for single-use | 21. Capacity                | - TIS 777-2552    |
|     |  | 22. Scale                   | - ISO 7886-1:2017 |
|     |  | 23. Barrel and finger grips |                   |
|     |  | 24. Piston and plunger      |                   |
|     |  | 25. Nozzle                  |                   |
|     |  | 26. Lubricant               |                   |
|     |  | 27. Generalization          |                   |
|     |  | 28. Dead space              |                   |
|     |  | 29. Piston leakage          |                   |
|     |  | 30. Packaging               |                   |
|     |  | 31. Symbol and labeling     |                   |
| 5   | Sterile single-use syringes for insulin    | 32. Capacity                | - TIS 2084-2552   |
|     |  | 33. Graduate scale          | - ISO 8537:2016   |
|     |  | 34. Barrel and finger grips |                   |
|     |  | 35. Piston and plunger      |                   |
|     |  | 36. Nozzle                  |                   |
|     |  | 37. Needle                  |                   |
|     |  | 38. Generalization          |                   |
|     |  | 39. Lubricant               |                   |
|     |  | 40. Dead space              |                   |
|     |  | 41. Piston leakage          |                   |
|     |  | 42. Needle leakage          |                   |
|     |  | 43. Packaging               |                   |
|     |  | 44. Symbol and labeling     |                   |

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| No. | Type of Sample | Test   | Method  |
|-----|----------------|--|---|
| 6   | OSL card       | 45. Occupational exposure due to external sources of radiation | <ul style="list-style-type: none"> <li>- IAEA Safety Standards Series No. GSG -7 Occupational Radiation Protection General Safety Guide 2018</li> <li>- Radiation Dose Management for Fluoroscopically Guided Interventional Medical Procedures, NCRP Report No.168</li> <li>- Whole Body Dose Algorithm for the Landauer In Light LDR Model 2 Dosimeter, Revision in Light N2003</li> <li>- Whole Body Dose Algorithm for Landauer in Light Basic-OSLN Dosimeter (Validated by National Voluntary Laboratory Accreditation Program: NVLAP U.S.A.), 2008</li> </ul> |

The laboratory of Bureau of Radiation and Medical Devices, Department of Medical Sciences has been accepted as an accredited laboratory in the field of radiation and medical devices testing for the following scopes.

| No. | Type of Sample                   | Test  | Method   |
|-----|----------------------------------|---|--|
| 7   | Magnetic Resonance Imaging (MRI) | 46. Geometric accuracy<br>47. High-contrast spatial resolution<br>48. Slice thickness accuracy<br>49. Slice position accuracy<br>50. Image intensity uniformity<br>51. Ghosting ratio (Percent signal ghosting)<br>52. Low-contrast object detectability<br>53. Signal to noise ratio : SNR<br>54. Controlling access to the B <sub>0</sub> hazard area | Department of Medical Sciences. Quality Control Requirements of Magnetic Resonance Imaging (MRI), B.E: 2566        |
| 8   | Co-60 teletherapy                | 55. Output measurement of Co-60 teletherapy   | - International Atomic Energy Agency, IAEA TRS-398, 2024<br>- Quality Standard of Radiotherapy Machines, B.E. 2563 |
| 9   | Linear accelerator               | 56. Output measurement of high-energy electron beam   |  |
|     |                                  | 57. Output measurement of high energy photon beam   |  |
| 10  | HDR After loading brachytherapy  | 58. Source strength   |  |
| 11  | X-ray therapy unit               | 59. Output measurement of X-ray therapy unit  |  |

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| No. | Type of Sample           | Test   | Method  |
|-----|--------------------------|--|---|
| 12  | Conventional radiography | 60. Tube potential<br>61. Exposure time<br>62. Radiation output<br>63. Filtration<br>64. Beam – limiting device<br>65. Leakage radiation<br>66. Scatter radiation  | Quality Standards of Diagnostic X-ray Machines, B.E. 2566 |
| 13  | X-ray machine for animal | 67. Tube potential<br>68. Exposure time<br>69. Radiation output<br>70. Filtration<br>71. Beam limiting device<br>72. Leakage radiation<br>73. Scatter radiation  |   |
| 14  | Mammogram                | 74. Tube potential<br>75. Exposure time<br>76. Radiation output<br>77. Filtration<br>78. Beam limiting device<br>79. High-contrast spatial resolution<br>80. Compression device<br>81. Automatic exposure control or AEC<br>82. Leakage radiation<br>83. Scatter radiation |   |

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| No. | Type of Sample                          | Test  | Method  |
|-----|---|---|---|
| 15  | Bone mineral densitometer X-ray machine | 84. Phantom calibration<br>85. Radiation output<br>86. Scatter radiation  | Quality Standards of Diagnostic X-ray Machines, B.E. 2566 |
| 16  | Dental X-ray machine                    | 87. Tube potential<br>88. Exposure time<br>89. Radiation output<br>90. Filtration<br>91. Beam limiting device<br>92. Leakage radiation<br>93. Scatter radiation   |   |
| 17  | Fluoroscopy X-ray machine               | 94. Tube potential<br>95. Fluoroscopic exposure switch<br>96. Filtration<br>97. Radiation output<br>98. Beam limiting device<br>99. Scatter radiation<br>100. Cumulative timing device<br>101. Last image hold<br>102. High-contrast resolution<br>103. Low-contrast resolution |   |

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| No. | Type of Sample                       | Test   | Method  |
|-----|--------------------------------------|--|---|
| 18  | Computed tomography<br>X-ray machine | 104. CT number accuracy<br>105. Image noise<br>106. High-contrast spatial resolution<br>107. Low-contrast resolution<br>108. Image uniformity<br>109. Image slice thickness<br>110. Image artefacts<br>111. Scan projection radiography accuracy<br>112. Table increment<br>113. Radiation dose<br>114. Medical X-ray room | Quality Standards of Diagnostic X-ray Machines, B.E. 2566 |
| 19  | Mobile radiographic unit             | 115. Tube potential<br>116. Exposure time<br>117. Filtration<br>118. Radiation output<br>119. Beam limiting device<br>120. Leakage radiation<br>121. Scatter radiation   |   |

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| No. | Type of Sample                               | Test  | Method   |
|-----|--|---|--|
| 20  | Industrial X-ray                             | 122. Leakage radiation at 5 cm. from X-ray machine<br>123. Radiation warning symbol<br>124. Door interlock system<br>125. Distancing control for portable or mobile X-ray machine | Quality Standards of Diagnostic X-ray Machines, B.E. 2566  |
| 21  | Non-invasive automated sphygmomanometers     | 126. Maximum permissible errors of the cuff pressure indication<br>127. Air leakage   | - International Organization of Legal Metrology. OIML R149-1 : 2020(E)<br>- International Organization of Legal Metrology. OIML R149-2 : 2020(E) |
| 22  | Non-invasive non-automated sphygmomanometers | 128. Maximum permissible errors of the cuff pressure indication<br>129. Air leakage   | - International Organization of Legal Metrology. OIML R148-1 : 2020(E)<br>- International Organization of Legal Metrology. OIML R148-2 : 2020(E) |