



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

This is to certify that
**The laboratory of
Central Laboratory (Thailand) Co., Ltd.
(Chiang Mai Branch)**

**164/86 Moo 3, Donkaew, Maerim,
Chiang Mai 50180, Thailand**

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

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

Food and Feeding Stuffs Testing

Patavee Soisangwan

(Dr. Patavee Soisangwan)

Director of Bureau of Laboratory Quality Standards

Date of Accreditation : 20 July 2021

Valid Until : 19 July 2025

Accreditation Number 1079/48

The laboratory of Central Laboratory (Thailand) Co., Ltd. (Chiang Mai Branch) has been accepted as an accredited laboratory in the field of food and feeding stuffs testing for the following scopes.

No.	Type of Sample	Test	Method
1.	<ul style="list-style-type: none"> Non-potable Water <ul style="list-style-type: none"> Supply water Natural water Cooling water Water to be used in the factory Swimming pool water Potable Water <ul style="list-style-type: none"> Drinking water in sealed container Drinking water in non-sealed Process water Filtered water 	1. Lead (Pb) 2. Cadmium (Cd) 3. Mercury (Hg) 4. Arsenic (As) 5. Iron (Fe) 6. Silver (Ag) 7. Aluminum (Al) 8. Barium (Ba) 9. Chromium (Cr) 10. Copper (Cu) 11. Manganese (Mn) 12. Selenium (Se) 13. Zinc (Zn)	In-house method TE-CH-037 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA WEF, 23 rd Edition, 2017, Part 3030 E, 3120 B, 3125 B
		14. <i>Legionella</i> spp.	ISO 11731 : 2017 (E)

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No.	Type of Sample	Test	Method
2.	<ul style="list-style-type: none"> Non-potable Water <ul style="list-style-type: none"> - Supply water - Natural water - Cooling water - Water to be used in the factory - Swimming pool water 	15. <i>Escherichia coli</i>	Standard Methods for the Examination of Water and Wastewater APHA, AWWA, WEF, 23 rd Edition, 2017, Part 9221
		16. Coliforms	
		17. Fecal Coliforms	
	<ul style="list-style-type: none"> Potable Water <ul style="list-style-type: none"> - Drinking water in sealed container - Drinking water in non-sealed - Process water - Filtered water Waste water Ice Beverage 	18. Total Plate Count	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF 23 rd Edition, 2017, Part 9215
		19. <i>Salmonella</i> spp.	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF 23 rd Edition, 2017, Part 9260
		20. <i>Staphylococcus aureus</i>	Standard methods for the Examination of Water and Wastewater, APHA, AWWA, WEF 23 rd Edition, 2017, Part 9213
		21. <i>Clostridium perfringens</i>	ISO 14189 : 2013

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No.	Type of Sample	Test	Method
3.	<ul style="list-style-type: none"> ● Non-potable Water <ul style="list-style-type: none"> - Supply water - Natural water - Cooling water - Water to be used in the factory - Swimming pool water ● Potable Water <ul style="list-style-type: none"> - Drinking water in sealed container - Drinking water in non-sealed - Process water - Filtered water ● Wastewater ● Water form Air-conditioning and Cooling system 	22. <i>Legionella spp.</i>	In-house Method TE-MI-150 based on ISO/TS 12869 : 2019 (E)

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No.	Type of Sample	Test	Method
4.	Honey	23. Chloramphenicol	EuroProxima Chloramphenicol ELISA 5091 CAP [21] 07.10
		24. Chloramphenicol	In-house method TE-CH-168 based on Journal of Chromatography A. (2006) Vol. 1118, P. 226-233 and APIACTA 42 (2007) P. 25-30
		Nitrofurantoin Metabolites 25. AHD (1-Aminohydantoin) 26. SEM (Semicarbazide) 27. AOZ (3-amino-2-oxazolidinone) 28. AMOZ (3-amino-5-morpholinomethyl-2-oxazolidinone)	In-house method TE-CH-133 based on Journal of Chromatography B. (1997) Vol. 691 P. 87-94
		29. Hydroxymethylfurfural (HMF)	Food Control, (2005), Vol. 16, Page 273-277
		Tetracyclines group 30. Oxytetracycline (OTC) 31. Tetracycline (TC) 32. Doxycycline (DTC) 33. Chlortetracycline (CTC)	In-house method TE-CH-385 based on Food Sci. Technol, Campinas, 36(1): 90-96, Jan.-Mar. 2016 Page 90-96

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No.	Type of Sample	Test	Method
4.	Honey	Sulfonamides group 34. Sulfadiazine (SDZ) 35. Sulfapyridine (SPD) 36. Sulfathiazole (STZ) 37. Sulfamerazine (SMR) 38. Sulfamethazine (SMZ) 39. Sulfamonomethoxine (SMONO) 40. Sulfachloropyridazine (SCPD) 41. Sulfamethoxazole (SMXZ) 42. Sulfisoxazole (SIX) 43. Sulfadimethoxine (SDMX) 44. Sulfaquinoxaline (SQX)	In-house method TE-CH-385 based on Food Sci. Technol, Campinas, 36(1) : 90-96, Jan.-Mar. 2016 Page 90-96
		45. Streptomycin	In-house method TE-CH-384 based on Arkansas Regional Laboratory Food and Drug Administration Jefferson, AR 72079. LIB#4560, March 2014

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No.	Type of Sample	Test	Method
5.	Fruits and Vegetables - High Water and Chlorophyll - High Water and Low or No Chlorophyll	Pesticide Residues : Organochlorine group 46. hexachlorocyclohexane alpha-isomer (alpha-BHC) 47. hexachlorocyclohexane beta-isomer (beta-BHC) 48. hexachlorocyclohexane gamma-isomer (gamma-BHC or Lindane) 49. dicofol 50. heptachlor 51. heptachlor epoxide 52. alpha-chlordane 53. gamma-chlordane 54. alpha-endosulfan 55. beta-endosulfan 56. endosulfan sulfate 57. o, p'-DDE 58. o, p'-DDD 59. p, p'-DDD 60. o, p'-DDT 61. p, p'-DDT 62. aldrin 63. dieldrin 64. endrin 65. hexachlorobenzene 66. p,p'-DDE	In-house method TE-CH-030 based on Steinwandter, H. Universal 5 min On-line Method for Extracting and Isolating Pesticide Residue and Industrial Chemicals Fresenius Z. Chem. (1985), No. 1155

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5.	Fruits and Vegetables - High Water and Chlorophyll - High Water and Low or No Chlorophyll	Pesticide Residues : Organophosphate group 67. methamidophos 68. mevinphos 69. dicotophos 70. monocrotophos 71. prothiofos 72. profenofos 73. triazofos 74. azinphos-ethyl 75. pirimiphos-ethyl 76. pirimiphos-methyl 77. parathion-methyl 78. chlorpyrifos 79. DDVP (Dichlorvos) 80. diazinon 81. ethion 82. fenitrothion 83. malathion 84. methidathion 85. parathion-ethyl 86. dimethoate 87. omethoate 88. phosalone 89. EPN	In-house method TE-CH-030 based on Steinwandter, H. Universal 5 min On-line Method for Extracting and Isolating Pesticide Residue and Industrial Chemicals Fresenius Z. Chem. (1985), No. 1155

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No.	Type of Sample	Test	Method
5.	Fruits and Vegetables - High Water and Chlorophyll - High Water and Low or No Chlorophyll	Pesticide Residues : Pyrethroid group 90. bifenthrin 91. cyfluthrin 92. lambda cyhalothrin 93. cypermethrin 94. deltamethrin 95. permethrin 96. fenvalerate Pesticide Residues : Carbamate group 97. aldicarb 98. aldicarb sulfoxide 99. aldicarb sulfone 100. fenobucarb 101. isoprocarb 102. methiocarb 103. carbofuran 104. 3-hydroxy carbofuran 105. carbaryl 106. oxamyl 107. methomyl 108. promecarb	In-house method TE-CH-030 based on Steinwandter, H. Universal 5 min On-line Method for Extracting and Isolating Pesticide Residue and Industrial Chemicals Fresenius Z. Chem. (1985), No. 1155

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No.	Type of Sample	Test	Method
6.	- Cereal and Cereal products - Peanut - Chili	109. Aflatoxin B1 110. Aflatoxin B2 111. Aflatoxin G1 112. Aflatoxin G2 113. Total Aflatoxin	In-house method TE-CH-025 based on AOAC (2019) 991.31 and 994.08
7.	Food* (Except Onion, Leek and Cabbage)	114. Sulfite as Sulfur dioxide (SO ₂)	AOAC (2019) 990.28
8.	Food*	115. Ash	AOAC (2019) 923.03 and 920.153
		116. Moisture	AOAC (2019) 925.10 and 950.46
		117. Protein	AOAC (2019) 991.20
		118. Fat	AOAC (2019) 948.15
		119. Carbohydrate and Energy	Method of Analysis for Nutrition Labeling (1993), Chapter 6 Proximate and Mineral Analysis
		120. Total Sugar (Invert Sugar) 121. Reducing sugar	In-house method TE-CH-074 based on AOAC (2019) 906.03
		122. Total Dietary Fiber	AOAC (2019) 985.29, 991.42 and 993.19

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No.	Type of Sample	Test	Method
8.	Food*	123. Lead (Pb)	In-house method TE-CH-260 in connection with : - AOAC (2019) 2013.06 - AOAC (2019) 999.10
		124. Cadmium (Cd)	
		125. Mercury (Hg)	
		126. Arsenic (As)	
		127. Copper (Cu)	
		128. Zinc (Zn)	
		129. Calcium (Ca)	In-house method TE-CH-170 based on AOAC (2019) 984.27 and 999.10
		130. Potassium (K)	
		131. Sodium (Na)	
		132. Iron (Fe)	
		133. Tin (Sn)	In-house method TE-CH-340 based on AOAC (2019) 985.16
		134. Benzoic acid 135. Sorbic acid	In-house method TE-CH-020 based on Standard Methods for Food Analysis Thailand. 1 st Edition 2017, Volume V, DMSc F 1072.
		136. Enterobacteriaceae	
		137. Fecal Streptococcus	Compendium of methods for the Microbiological Examination of Foods (APHA), 5 th Edition, 2015 Chapter 9
			Compendium of methods for the Microbiological Examination of Foods (APHA), 5 th Edition, 2015 Chapter 10

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No.	Type of Sample	Test	Method
8.	Food*	138. Aerobic Plate Count	FDA BAM <i>Online</i> , 2001 (Chapter 3)
		139. Fecal Coliforms	FDA BAM <i>Online</i> , 2020 (Chapter 4)
		140. Coliforms	
		141. <i>Escherichia coli</i>	
		142. Coliforms	AOAC (2019) 991.14
		143. <i>Escherichia coli</i>	
		144. <i>Salmonella</i> spp.	ISO 6579-1:2017/Amd.1:2020 (E)
		145. <i>Bacillus cereus</i>	FDA BAM <i>Online</i> , 2020 (Chapter 14)
		146. <i>Staphylococcus aureus</i>	FDA BAM <i>Online</i> , 2016 (Chapter 12)
		147. Yeasts and Molds	FDA BAM <i>Online</i> , 2001 (Chapter 18)
		148. <i>Clostridium perfringens</i>	FDA BAM <i>Online</i> , 2001 (Chapter 16)
		149. <i>Vibrio parahaemolyticus</i>	FDA BAM <i>Online</i> , 2004 (Chapter 9)
		150. <i>Vibrio cholerae</i>	FDA BAM <i>Online</i> , 2004 (Chapter 9)
		151. <i>Listeria monocytogenes</i>	ISO 11290-1 : 2017 (E)
		152. <i>Listeria</i> spp.	ISO 11290-1 : 2017 (E)
		153. Yeast and Molds	AOAC (2019) 2014.05
9.	Mango	154. Propiconazole	In-house method TE-CH-274 based on Bulletin of the Chemists and Technologists of Macedonia. Vol. 19 No.1 Page 27-33

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No.	Type of Sample	Test	Method
10.	Feed and Feeding Stuffs	155. Moisture	AOAC (2019) 930.15
		156. Ash	AOAC (2019) 942.05
		157. Protein	AOAC (2019) 991.20
		158. Fat	AOAC (2019) 954.02
11.	Soil	159. Arsenic (As)	In-house method TE-CH-329 based on A Handbook of Soil analysis 1/2553 and Environmental Protection Agency (EPA) 3052, 1996
		160. Cadmium (Cd)	
		161. Lead (Pb)	

Note :

Food*

- | | |
|---|---|
| 1. Meat and Meat Products (Raw, Frozen, Dried) | 10. Egg and Egg Products |
| 2. Poultry and Poultry Products (Raw, Frozen, Dried) | 11. Algae and Algae Products |
| 3. Vegetable and Vegetable Products
(Fresh, Frozen, Dried) | 12. Noodles and Noodles Products |
| 4. Fruit and Fruit Products (Fresh, Frozen, Dried) | 13. Tea and Coffee |
| 5. Flour and Flour Products | 14. Semi-instant Foods |
| 6. Cereal and Cereal Products | 15. Ready-to-Eat Foods |
| 7. Nuts and Nuts Products | 16. Fish Sauce and Other Kinds of Sauce |
| 8. Beans and Beans Products | 17. Seasoning |
| 9. Milk and Milk Products | 18. Beverages |
- (Beverages are as mentioned in the Food Act, B.E. 2522)

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