No.177 (1/6)

CERTIFICATE OF ACCREDITATION

Name of Laboratory : Food Safety Center of Pulmuone Holdinga Seoul Office Co., Ltd.

Representative : Nam, Seung-Woo

Address of Headquarters : 724, Suseo-dong, Gangnam-gu, Seoul, Korea

Address of Laboratory : Seodaemun P.O.Box 146, Seodaemun-gu, Seoul, Korea

Duration : July 31, 2012 ~ July 30, 2016

Scope of Accreditation
(Scope of Accreditation is described in the accompanying Annex)

This is to certify that the above Laboratory is accredited as Testing Laboratory in accordance with the provisions of Article 23 of the National Standards Act.

These criteria encompass the requirements of ISO/IEC 17025 : 2005.

July 31, 2012

Seo Kwang Kyun

Administrator,
Korea Laboratory Accreditation Scheme(KOLAS)

2. Chemical test

2.017 Food

Test method	Standard designation	Test range or Limits of detection
Bulletin of Korea Food & Drug Administration No. 2012-1 Korean Food Standard Codex	10. General Method	
	1. Test method for general compounds	
	10.1.1.1.1) Moisture (loss on drying)	(0~90) g/100 g
	10.1.1.2) Ash	(0~10) g/100 g
	10.1.1.3.1) Total Nitrogen and Crude Protein	(0~50) g/100 g
	10.1.1.3.3) Amino Acids	(0~1000) mg/100 g
	10.1.1.5.1) Crude Fat	(0~30) g/100 g
	10.1.1.5.3.1) Acid Value	(0~10)
	10.1.1.5.3.3) Iodine Value	(0~10) meq/kg
	10.1.1.5.3.5) Peroxide Value	(0~10)
	10.1.1.5.4) Fatty Acids	(0~50) g/100 g
	10.1.1.5.5) Cholesterol	(0~10) g/100 g
	10.1.1.4.1.4) Qualitative and Quantitative of Sugar	(0~10) g/100 g
	10.1.1.6) Calculation of Calories	-
	10.1.2.2.1) vitamin A by HPLC	(0~1000) μg/100 g
	10.1.2.2.4) vitamin C by HPLC	(0~1000) mg/100 g
	2. Test method for Preserves	
	10.2.1.1) Dehydroacetic acid, Sorbic acid, Benzoic acid, Paraben-methyl, ethyl, butyl and propyl	(0~2.0) g/kg

2.017 Food

Test method	Standard designation	Test range or Limits of detection
Bulletin of Korea Food & Drug Administration No. 2012-1 Korean Food Standard Codex	4. Test method for pesticides residue in foods 4.1.2) Simultaneous test of pesticides residue Acetochlor, Alachlor, Aldicarb, Azoxystrobin, a-BHC, b-BHC, r-BHC, d-BHC, Bifenthrin, Boscalid, Butachlor, Cadusafos, carbendazim, Chlorfenapyr, Chlorothalonil, Chlorpyrifos, Chlorpyrifos-Methyl, Cyfluthrin, Cyhalothrin, Cypermethrin, Cyprodinil, Deltamethrin, Diazinon, Dichlorvos (DDVP), Dicofol, Diethofencarb, Dimethoate, Dimethomorph, Diniconazole, Endosulfan-a, Endosulfan-b, Endosulfa-sulfate, EPN, Ethafluralin,Ethoprophos, Fenarimol, Fenazaquin, Fenitrothion, Fenobucarb, Fenpropathrin, Fenthion, Fenvalerate, Fipronil, Fludioxonil, Flufenoxuron, Fluquinconazole, Flutoranil, Folpet, Fosthiazate, Heptachlor, Hexaconazole, Indoxacarb, Imazalil, Imidaclorprid, Iprobenfos, Iprodione, Isoprocarb, Isoprothiorane, Kresoxim-Methyl, Linuron, Lufenuron, Mepanipyrim, Methidathion, Methoxychlor, Myclobutanil, Nuarimol, Oxadiazone, Oxyfluorfen, Paclobutrazole, Parathion, Parathion-Methyl, Pendimethalin, Permethrin, Phenthoate (PAP), Phosphamidone, Pirimicarb,	(0~10) mg/kg

2.017 Food

Test method	Standard designation	Test range or Limits of detection
Bulletin of Korea Food & Drug Administration No. 2012-1 Korean Food Standard Codex	Procymidone, Prothiofos, Pyrazophos, Pyridaben, Pyrimethanil, Quintozene, Tebufenpyrad, Tebupirimfos, Teflubenzuron, Terbufos, Tetradifon, Tolclofos-Methyl, Tolyfluanid, Triazophos, Tricyclazole, Triflumizole, Vinclozolin	(0~10) mg/kg
	7. Test method for harmfulness compounds in food	(0~10) mg/kg
	10.7.1) Test method for heavy metals by ICP method (Ca, Fe, Na, Cu, Mg, Mn, K, Ni, Zn, As, Cd, Pb)	

2.021 Water

Test method	Standard designation	Test range or Limits of detection
Bulletin of Ministry of Environment No. 2011-21	Standard Methods for the Examination of Drinking Water Pollution	(0~10) mg/kg
	ES 05401.2a Cu - ICP Method	
	ES 05402.1a Pb - ICP Method	
	ES 05403.2a Mn - ICP Method	
	ES 05405.1a As - ICP Method	
	ES 05408.2a Zn - ICP Method	
	ES 05410.3 Fe - ICP Method	
	ES 05411.2 Cd - ICP Method	

9. Biological test

9.002 Microbiological test

Test method	Standard designation	Test range or Limits of detection
Bulletin of Korea Food & Drug Administration No. 2012-1 Korean Food Standard Codex	10. General Method 3. Test method for microbiological	
	10.3.5.1) Total colony count	$(0 \sim 10^9)$ CFU
	10.3.6) Examination of canned food	Enumeration
	10.3.7.1) Total coli forms	Enumeration
	10.3.7.2) Enumeration Total coli forms	$(0 \sim 10^5)$ CFU
	10.3.8.1) E.coli	Enumeration
	10.3.8.2) Enumeration E.coli	$(0 \sim 10^5)$ CFU
	10.3.9.1) Lactic acid bacterial count	$(0 \sim 10^9)$ CFU
	10.3.10) Yeast and Mold	Enumeration
	10.3.11) Salmonella spp	Enumeration
	10.3.12.1) Staphylococcus aureus	Enumeration
	10.3.15) Listeria monocytogenes	Enumeration
	10.3.16) E.coli O157:H7	Enumeration
	10.3.18.1) Bacillus cereus	Enumeration

End.