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A study on total mercury and methylmercury in deep-sea fish, commercial tuna and billfish in South-Korea

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In this study, we tested for total mercury and methylmercury in 101 samples of the seafoods (deep-sea fish, commercial tuna and billfish) and 44 samples of fishery products circulated in South Korea. In the seafoods, total mercury was detected in all samples and methylmercury was detected in 92 samples of them. The detection rate of methylmercury was 91.1% in seafood. The mean concentration (mg/kg) of total mercury and methylmercury were 1.968±0.505/0.496±0.057 for billfish, 0.665±0.091/0.252±0.033 for deep-sea fish and 0.577±0.085/0.218±0.025 for tuna, respectively. The swordfish contains the highest level of total mercury (1.968 mg/kg) and methylmercury (0.496 mg/kg). In mabled rockfish, the ratio of methylmercury's contents about total mercury's contents was the highest as 66.5%. In case of fishery products, frozens made of 100% of raw material contained the highest level of total mercury and methyl mercury. The weekly intake of total mercury and methylmercury was calculated in 4.72% and 5.24% of PTWI, respectively. This study showed that the weekly intake of methylmercury from deep-sea fish, commercial tuna and billfish was less than the provisional tolerable weekly intake (PTWI) recommended by the joint FAO/WHO expert committee on food additives.

Biography

Suk Ho Kang has completed his Master's degree from Myong-ji University in South Korea. He is working for food analysis service in the Health and Environment in South Korea.

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