

Table 2 Specification of Enrichment factor and Geo-accumulation index used in this study

Enrichment factor (EF)	Considered as background rank	Minimal enrichment	Moderate enrichment	Significant enrichment	Very high enrichment	Extremely high enrichment	-
	1	1 – 2	2 – 5	5 – 20	20 – 40	40	-
Geo-accumulation index (Igeo)	Uncontamination	Uncontaminated to moderately contamination	Moderate contamination	Moderate to heavy contamination	Heavy contamination	Heavy to extremely contamination	Extremely contaminated
Improved Nemerow Index (INI)	$I_{geo} \leq 0$ $0 < INI \leq 0.5$	$0 < I_{geo} \leq 1$ $0.5 < INI \leq 1$	$1 < I_{geo} \leq 2$ $1 < INI \leq 2$	$2 < I_{geo} \leq 3$ $2 < INI \leq 3$	$3 < I_{geo} \leq 4$ $3 < INI \leq 4$	$4 < I_{geo} \leq 5$ $4 < INI \leq 5$	$I_{geo} \geq 5$ $INI > 5$

Note: Geo-accumulation index is by Muller (1969) have been widely applied by Ghaleno et al. (2015), Bhutiani et al. (2017), Todorova et al. (2016), Improved Nemerow Index is by Forstner et al. (1990) and have been applied by Guan et al. (2014); while Enrichment factor is by Sutherland (2000) and have been applied by Bhutiani et al. (2017)