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| **Pollution indicators** | **Calculation** | **classification** |
| **Enrichment factor (EF)** | EF=(M/Fe) sample/(M/Fe) background  M represents the metal concentration in the sediment and in the background. The background levels of the recorded metals reported for sedimentary rocks were considered as the background values of these elements (Turekian and Wedepohl, 1961) | EF < 1 no enrichment  EF < 3 minor enrichment  EF=3–5 moderate enrichment  EF=5–10 moderately severe enrichment  EF=10–25 severe enrichment  EF=25–50 very severe enrichment  EF > 50 extremely severe enrichment  (after Birch, 2003) |
| **Geoaccumulation Index (Igeo)** | Igeo=Log2 (Cn/(1.5×Bn))  where Cn is the measured concentration of metal (n) in the sediments, Bn is the geochemical background concentration of the metal (n) in shale, and 1.5 is introduced to minimise the effects of possible variations in the background values | Igeo <0 unpolluted  0 < Igeo <1 unpolluted to moderately polluted  1 < Igeo <2 moderately polluted  2 < Igeo <3 moderately to strongly polluted  3 < Igeo > 4 strongly polluted  4 < Igeo <5 strongly to very strongly polluted  Igeo >5 very strongly polluted conditions  (after Muüller, 1981) |
| **Contamination Factor (CF)** | Cf=Co/Cb  where Co is the is the measured concentration of metal in sample and Cb is the normal background value of the metal | Cf < 1 low contamination factor  1≤Cf <3 moderate contamination factor  3≤Cf < 6 considerable contamination factor  Cf≥6 very high contamination factor  (after Hökanson, 1980) |