Sorption of Arsenic on metal oxides

(A) Iron oxide: Goethite, Hematite and Magnetite
(B) Manganese dioxide: Ramsdellite and a-MnO_2
(C) Modified Sorbents : MnO_2-XAD-4

} Synthesized & Characterized

Sorption study using radiotracer technique

Application:

Ground water samples
(from tube wells of North 24 Parganas, West Bengal, India)

Sample A

MnO_2 (30 min) ← → Goethite (2 h)

Sample B *Sample C*

Tube well from which water sample was collected.

Ground water samples with and without acidification.

Sample	pH	Sample A ($\mu g\ L^{-1}$)	Sample B ($\mu g\ L^{-1}$)	Sample C ($\mu g\ L^{-1}$)
WB-1	7.3 ±0.21	163 ± 8.2	1.0 ±0.20	2.2** ± 0.21
WB-2	7.7 ±0.24	710 ± 35	5.6 ±0.29	8.5** ± 0.30

** Two equilibrations

- Arsenic concentrations in samples reduced below the WHO limit (10 $\mu g\ L^{-1}$)

*Appl. Radiat. Isotope, **2019**, 153, 108807; Sep. Sci. Technol, **2019**, https://doi.org/10.1080/01496395.2019.1604756;*
*JESH-A, **2019**, 54(4), 277-285; JESH-A, **2015**, 50(8), 866-873; JESH-A, **2013**, 48(4), 422-428*