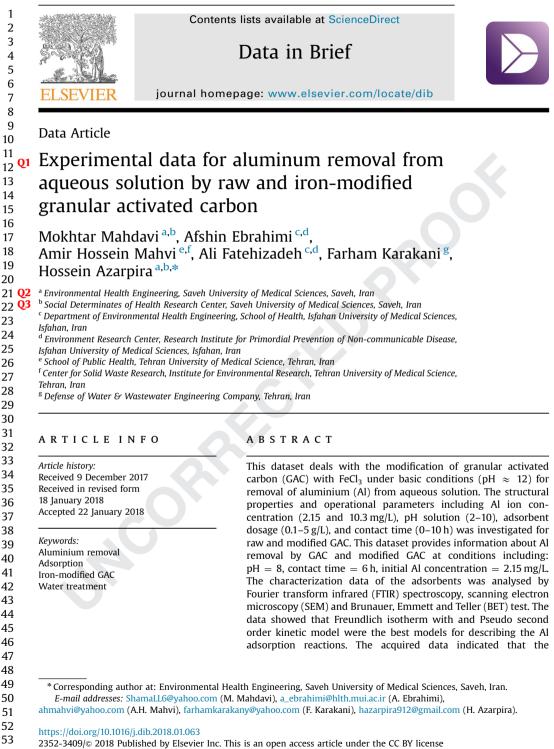
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maximum adsorption capacity of GAC and modified GAC to uptake Al ($C_0 = 10.3 \text{ mg/L}$) was 3 and 4.37 mg/g respectively. © 2018 Published by Elsevier Inc. This is an open access article under the CC BY license

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Specifications Table

4		
5	Subject area	Environmental Engineering
6 7	More specific subject area	Adsorption
8	Type of data	Table, image and figure
69 70 71	How data was acquired	 GAC was oxidized by nitric acid and concentrated sulphuric acid. Then it was modified by FeCl₃. 6H₂O under basic condition according to a designed procedure.
2		- Experiments were conducted according to a designed procedure of analytica
'3 74		test and were investigated in order to perform an analysis of adsorption process. All adsorption tests were done in batch mode.
75		- Fourier transform infrared (FTIR) spectroscopy (Shimadzu 4300), scanning
76		electron microscopy (SEM, Hitachi, SU 70) and Brunauer, Emmett and Teller
77		(BET) tests were used to determine the characteristics of the adsorbent.
/8		- The aluminium concentration was measured by DR5000 Spectrophotometer
79 30		(Method 8012) that was adapted from Standard Methods for the Examination of Water and Wastewater
30 31	Data format	Raw and analysed
32	Experimental	Studying variables including pH, contact time, Al concentration, adsorbent
3	factors	dosage and characterisation of raw and modified GAC which were investigated
4		for Al removal by adsorption.
5	Experimental	- Characterization data of raw and modified GAC obtained from FTIR, BET and
6	features	SEM are given.
7 8		 Optimization of Al adsorption onto raw and modified GAC adsorbent by modification.
89 90	Data source location	Saveh University of Medical Sciences.
1		The data presented in this article is not published anywhere else.

Value of the data

• The data are beneficial for determination of the isotherm and kinetic for predicting and modelling the adsorption capacity and mechanism of Al removal by the iron-modified GAC.

- These data show the efficacy of modified GAC in comparison to raw GAC on Al removal.
 - The dataset will be useful for Al removal from aqueous solution.

1. Data

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Presented data in this article comprise the characterization of raw and modified GAC (in this paper modified GAC under basic condition nominated as BGAC) with analytical methods like FTIR, SEM, BET and iron content, as well as experimental data including studying different variables (pH, contact time, Al concentration and adsorbent dosage), isotherm and kinetic. One of the best available technologies for

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