# New activated carbon derived ‎from *Gundelia tournefortii* seeds for ‎effective removal of acetaminophen ‎from aqueous solutions: adsorption performance

Shekoofe Mokhtaryan1, Abbas Khodabakhshi1, Ramezan Sadeghi1, Heshmatollah Nourmoradi2,

Kobra Shakeri1,Sara Hemati1, Fazel Mohammadi-Moghadam1, 3\*

1Department of Environmental Health Engineering, School of Health, Shahrekord University of Medical Sciences, Shahrekord, Iran.

2Department of Environmental Health Engineering, School of Health, Ilam University of Medical Sciences, Pajouhesh Ave., Ilam, 6939177143, Iran.

3 Social Determinants of Health Research Center, Shahrekord University of Medical Sciences, Shahrekord, Iran.

**\*Corresponding Author**: Department of Environmental Health Engineering, School of Health, Shahrekord University of Medical Sciences, Shahrekord, Iran. Tel: +98-383-3336712, Fax: +98-383-3334678, E-mail: [fm.moghadam@skums.ac.ir](mailto:fm.moghadam@skums.ac.ir)

**Table S1**. Phsicochemical properties of ACT (1)

|  |  |
| --- | --- |
| **Value** | **Property** |
| Acetaminophen, Paracetamol | Common name |
| N-(4-Hydroxyphenyl) acetamide | IUPAC name |
| 151.16 g/mol | Molecular weight |
| C8H9NO2 | Molecular Formula |
| 170˚C | Melting point |
| 14 g/L | Solubility (at 25˚C) |
| 1.293 g/cm3 | Density (at 21˚C) |
| 9.38 | pKa |

1. Igwegbe CA, Aniagor CO, Oba SN, Yap P-S, Iwuchukwu FU, Liu T, et al. Environmental protection by the adsorptive elimination of acetaminophen from water: a comprehensive review. Journal of Industrial and Engineering Chemistry. 2021;104:117-35.