Accepted Manuscript

Biomonitoring of trace elements in urine samples of children from a coal-mining region

Marina dos Santos, Maria Cristina Flores Soares, Paulo Roberto Martins Baisch, Ana Luíza Muccillo Baisch, Flavio Manoel Rodrigues da Silva Júnior

PII: S0045-6535(18)30090-0

DOI: 10.1016/j.chemosphere.2018.01.082

Reference: CHEM 20663

To appear in: *ECSN*

Received Date: 3 October 2017

Revised Date: 13 December 2017

Accepted Date: 16 January 2018

Please cite this article as: Santos, M.d., Flores Soares, M.C., Martins Baisch, P.R., Muccillo Baisch, Ana.Luí., Rodrigues da Silva Júnior, F.M., Biomonitoring of trace elements in urine samples of children from a coal-mining region, *Chemosphere* (2018), doi: 10.1016/j.chemosphere.2018.01.082.

BIOMONITORING OF TRACE ELEMENTS IN URINE SAMPLES OF CHILDREN FROM A COAL-MINING REGION

Marina dos Santos 1,2 Maria Cristina Flores Soares 1,2 Paulo Roberto Martins Baisch 1,3 Ana Luíza Muccillo Baisch 1,2 Flavio Manoel Rodrigues da Silva Júnior 1,2

1Programa de Pós-Gradução em Ciências Da Saúde –Faculdade de Medicina – FAMED Rua Visconde de Paranaguá, 102 96203-900 Rio Grande – RS, Brasil.

2Laboratório de Ensaios Farmacológicos e Toxicológicos - Instituto de Ciências Biológicas – ICB Universidade Federal do Rio Grande – FURG, Rio Grande, Rio Grande do Sul, Brasil

3Laboratório de Geoquímica Ambiental – Universidade Federal do Rio Grande – FURG,

Corresponding author: Flávio Manoel Rodrigues Da Silva-Júnior

Email: f.m.r.silvajunior@gmail.com

ABSTRACT

Biomonitoring through urine samples is important for evaluating environmental exposure, since urine is the main form of excretion for most chemical elements. Children are considered more vulnerable to adverse environmental conditions, especially children in developing countries. This study aimed to biomonitor trace elements in urine samples in children from a coal-mining region in the extreme south of Brazil. A cross-sectional study was conducted on 96 children between 6