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Soybean plant-based toxicity assessment and phytoremediation of soils contaminated by vegetable and mineral oils used in power electrical transformers



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1 **Soybean plant-based toxicity assessment and phytoremediation of soils**
2 **contaminated by vegetable and mineral oils used in power electrical transformers**

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16 **ABSTRACT**

17 In this work, deleterious effects in soils due to the presence of dielectric fluids were
18 investigated. For this purpose, vegetable (Envirotemp[®] FR3) and mineral (Lubrax AV
19 66 IN) oils were used for simulating a set of soils contaminated in different oil contents
20 (0.5, 1.0, 2.0, 2.5, 5.0, 7.5 and 10%) in which three 120-days soybean crop periods
21 (SCP) were carried out using the species *Glycine max (L.) Merr.* Both soil and soybean
22 plant samples were analysed on following the changes on chemical attributes, content of
23 oils and greases (COG) in soils and phytotechnical characteristics of soybean plant. No
24 significant changes on soil chemical attributes were found. For a 0.5% vegetable oil

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