رقم البحث	٠ ول(١)
نوع البحث	(فردى) غير مستخلص من رسالة
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العنوان باللغة الإنجليزية	Toxicological Aspects of Physiological and Biochemical Changes with Potassium Silicate and Silica Nano-Particles on Albino Rat.
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سنة النشر	٢٠١٩
الملخص الإنجليزي	**Abstract:** Naturally occurring micron-sized silica has gained enormous popularity as a physically active insecticide. Nano-sized silica [SiO_2-NPs] has insecticidal property and would be needed in lesser quantity in comparison with conventional insecticides because of the huge surface to volume ratio of nanoparticles. Nano molecular has been widely used in consumer and industrial applications, such as medicine, cosmetics and foods because they exhibit unique physicochemical properties and innovative functions. However, nanomaterial can also be problematic in terms of eliciting a toxicological effect by their small size. The present study was designed to examine the toxic effect of orally administered pesticide Sil-matrix 29 % (Potassium Silicate) and Silica nanoparticles (SiO_2-NPs) using male albino rats, at sub lethal doses [2/5, 1/4 and 1/8 LD_{50}], relative to control on [body, organs weight such as liver, kidney, heart, spleen, and cytotoxic effect (such as total protein content levels as biochemical aspects)] for 28- and 45-days'

time exposure period. Orally ingested of Sil-matrix 29 % and Silica nanoparticles (SiO_2-NPs) [2/5, 1/4 and 1/8 LD_{50}], was not associated with significant changes in the average gain of body weight, organs weight. On the other hand, total protein content value after ingestion with Sil-matrix and (SiO_2-NPs) for all doses and treatments time period were increased significantly in a pattern similar to control rats. Our results suggested that the well-dispersed nano-silica cytotoxic effect and caused systemic exposure in mouse, and induced mutagenic activity. Our information indicated that further studies of the relation between physicochemical properties and biological responses are needed for the development and the safer form of nanomaterial (NMs).