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(57) Abstract:

The present invention discloses a method for preparing specific types of amorphous silica gels, involving the treatment of alkali metal silicate with an acidifying agent at three distinct pH ranges: pH 3-4, pH 5.5-6.5, and pH 9.5-10.5. While all the resulting amorphous silica gels are mesoporous, they exhibit varying particle size distributions and different toxicity levels against stored grain pests. The amorphous silica gel produced at pH 5.5-6.5 was found to be the most effective seed protectant, characterized by comparatively a larger average pore diameter and smaller particle size.