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(54) Title: REGENERABLE GAS ABSORPTION MATERIAL AND DEVICE

(57) Abstract: The present invention relates to water based regenerable filters for absorbing the harmful gases and method of preparation thereof. The regenerable filters absorb gas components in the air and have excellent reversible absorption performance of gases such as carbon dioxide, ammonia, methane, halogens, hydrogen sulphide, sulphur dioxide and so on. The filters based on nanocomposite hydrogels or hybrid hydrogels, are highly hydrated polymeric networks, either physically or covalently crosslinked with each other and/or with nanoparticles or nanostructures with very large surface areas.



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