ABSTRACT

The present invention discloses a multifunctional temperature self-regulating multilayer film, from outside to inside comprising at least: a carrier layer (1) loaded with functional material, and a thermal-insulation layer (2) directly contacted with the skin (4); wherein the carrier layer (1) loaded with functional material has a sealed cavity sealed with a flexible water-impermeable material, the sealed cavity is at least loaded with a refrigerating or heat-generating chemical material (11); wherein thermal-insulation layer (2) is made of a material having waterproof and thermal-insulation properties. The present multilayer film can be manufactured into a face mask or eye mask for use on facial skin. If the multilayer film is loaded with heat-generating chemical material, the thermal-insulation layer (2) ensures that the heat given off from the carrier layer (1) is uniformly and stably transferred to the skin (4), and the heat would not spread out quickly from the skin (4), so as to avoid scalding caused by too high initial temperature and maintain stable and suitable holding temperature. If the multilayer film is loaded with refrigerating chemical material, the thermal-insulation layer (2) prevents the carrier layer (1) from instantaneously absorbing the heat of the skin, so as to avoid local frostbite and perform uniform heat exchange between the carrier layer (1) and the skin (4), and significantly prolong the duration of refrigerating.