WHAT IS CLAIMED IS:

1. An RFID composite conductive paste, characterized in that, comprising the following components:

10-25 parts by weight of oil-soluble special cross-linked resin, 30-50 parts by weight of metal conductive agent, 5-10 parts by weight of two-dimensional carbon-based material, 20-50 parts by weight of organic solvent, 10-20 parts by weight of quick-drying agent, and 2-5 parts by weight of leveling agent;

the oil-soluble special cross-linked resin is a polyurethane-modified epoxy resin, and a carrier saturated solid content of the polyurethane-modified epoxy resin in an oil-soluble system is ≥55%;

a high-cohesion chlorine-acetic resin is also added to the oil-soluble special cross-linked resin, and a dry-film density of the high-cohesion chlorine-acetic resin is ≥1.4 g/m^3;

the two-dimensional carbon-based material is a physically prepared oil-soluble graphene paste that includes 9 to 11 graphene layers;

the physically prepared oil-soluble graphene paste is prepared through the following steps:

step 1: mixing a high-order intercalated graphite with a dibasic ester and an oil-soluble special cross-linked resin to obtain an initial graphene paste, wherein the high-order intercalated graphite has a magnification ratio of 150-350 times and a purity of ≥99%;

step 2: performing liquid-phase delamination on the initial graphene paste under high pressure to obtain the physically prepared oil-based graphene paste that includes 9 to 11 graphene layers.

2. The RFID composite conductive paste according to claim 1, characterized in that: the metal conductive agent is one of or a mixture of any two or more of silver-coated copper powder, silver-coated nickel powder, nickel-coated copper powder, and modified conductive copper powder.

3. The RFID composite conductive paste according to claim 1, characterized in that: the quick-drying agent is one of or a mixture of any two or more of ethyl acetate, butyl acetate, acetone, and cyclohexanone.

4. A method for preparing an RFID composite conductive paste, which is used to prepare the RFID composite conductive paste according to any one of claims 1 to 3, characterized in that, comprising the following steps:

S1: placing an oil-soluble special cross-linked resin and an organic solvent in a container, heat the oil-soluble special cross-linked resin and the organic solvent to 50°C, and dispersing the oil-soluble special cross-linked resin and the organic solvent at a dispersion frequency of 1800-2200 revolutions per minute for a dispersion time of 50-70 minutes to obtain a conductive paste carrier;

S2: adding a two-dimensional carbon-based material and a metal conductive agent to the conductive paste carrier and stirring the conductive paste carrier for 25-35 minutes to obtain a carbon-based composite conductive paste;

S3: adding a quick-drying agent and a leveling agent to the carbon-based composite conductive paste and disperse the carbon-based composite conductive paste at a dispersion frequency of 800-1200 revolutions per minute for a dispersion time of 25-35 minutes to obtain an RFID composite conductive paste;

S4: using a grinder to grind the RFID composite conductive paste.

5. The method for preparing an RFID composite conductive paste according to claim 4, characterized in that: the grinder is a three-roller grinder, a distance between opposite rollers is 0.4-0.6 mm, and the number of times of grinding is 1.

6. An RFID electronic tag includes an insulating substrate, an RFID radio frequency circuit fixed on a surface of the insulating substrate, and a control chip electrically connected to the RFID radio frequency circuit, characterized in that:

the RFID radio frequency circuit is made by gravure printing using the RFID composite conductive paste according to claim 1.