

ELECTROPHORUS MODEL N-130

The electrophorus is used to generate an electrostatic charge on the surface of a material, usually an insulator. Then, with the use of metal plate, the charge can be transferred to other objects for study and observation.

When two dissimilar materials are rubbed against one another or are separated after being in contact, there is often, depending on the materials, a transfer of electrons from one to the other. This will, of course, leave one with a positive charge and the other with a negative charge.

Rubbing the cloth provided over the surface of the white plastic will create a negative charge on its surface. The cloth will have given up electrons and will be positively charged. If you are holding the cloth in your bare hands, that charge will be quickly neutralized through this contact. If you were to wear insulating gloves, the charge would last longer and could be readily verified with an electroscope.

The negative charge on the plastic disk can be transferred to the metal disk simply by placing it on the plastic. That a transfer of charge has taken place can be verified with an electroscope. Over time, these charges will all be neutralized by leakage over the surface and through the air.

When the humidity is high, there is minimal transfer of electrons between materials. To improve performance at such times, dry the cloth thoroughly with an ordinary hair dryer. It may take five or ten minutes to drive out all of the moisture within the cloth.

