

**Title:** Electrifying the world of polyolefins: exploring the electrical properties of these versatile materials

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**Images:**

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**Abstract:**

*Note: maximum length of 400 words.*

Polyolefins are a class of polymers known for their versatility and widespread use in a variety of applications. One of the key properties of these materials is their very low electrical conductivity, which enables a range of applications, mainly as insulating materials in the field of electrical engineering and electronics, but also as electretes for masks and filters. The electrical conductivity of polyolefins is affected by a number of factors, including the type of polymer, its molecular structure, and the presence of additives or impurities.

In this poster, various methods to measure the low electrical conductivity of polyolefines are discussed. The methods include both the measurement of surface conductivity and volume conductivity, respectively. The breakthrough voltage can be measured, too. For electrete materials, a charge spraying method in combination with the contact free measurement of the surface potential during weeks or months is presented. The tendency for a material to become electrically charged by mechanical friction (triboelectrification) can also be determined by a special setup. Evaluation of triboelectrification under different environmental conditions (temperature and relative humidity) is possible.