

## Detailed description of the TÜV Austria certification system regarding home compostable materials

### I. Scope and Principles

The *OK compost HOME* - conformity label, which Golden Compound holds, may only be applied to a product if this product has been officially certified by TÜV Austria. This label confirms that the product has been tested according to scientifically recognized procedures to ensure that it rots reliably and safely on a typical garden compost. It must not be confused with the *OK compost INDUSTRIAL* conformity label. This only confirms that the product in question is compostable in industrial composting facilities. In these facilities, the natural rotting process is supported, for example, by increased temperatures and optimized process control.

The *OK compost HOME* certificate of TÜV Austria confirms that the certified product is composted under completely natural conditions and without the use of controlled external factors on the home compost. *The OK compost HOME* certificate represents an independent certificate, as not every industrially compostable product is compostable in the home compost.

The certification system of TÜV Austria can basically be applied to all home compostable raw materials, intermediate products and finished products. Only home compostability is tested. In particular, no evaluation of other product properties is carried out. The raw material of Golden Compound lies within the scope of the certification system.

### II. Applicable Standards in the Evaluation Process

Currently, there is neither a German nor a European standard that bindingly defines the requirements for home compostability. However, there is a European standard for the assessment of compostable plastics which is of particular relevance and which is taken into account in the certification process. This is the European Standard EN 13432 entitled *Packaging: requirements for packaging recoverable through composting and biodegradation- Test scheme and evaluation criteria for the classification of packaging*. The scope of this standard is so far only aimed at industrially compostable products and is binding for these products. The criteria of this standard were basically transferred by TÜV Austria during the development of the certification system for home compostability and adapted to the environmental conditions in a home garden compost.



### **III. Evaluation Process**

TÜV Austria primarily tests the products to be certified for four properties. In particular, these are biodegradation, disintegration, compost quality and chemical properties.

#### **1. Biodegradation**

Biodegradability shall be tested at room temperature between 20 °C and 30 °C. A temperature below 30 °C must be maintained throughout the test. For this purpose, the product is placed in a closed compost, through which air flows in a controlled manner. The CO<sub>2</sub> content in the exhaust air of this compost is continuously measured. On the basis of the CO<sub>2</sub> released, it is now possible to determine how far the material to be tested has decomposed. Under these conditions the product must biodegrade at least 90% within 12 months compared to a reference material defined in the standard, such as pure cellulose.

#### **2. Desintegration**

Disintegration is the dissolution or breakdown of the product to be certified. Disintegration shall be tested at a temperature between 20 °C and 30 °C and a maximum test duration of six months. When testing disintegration, the maximum thickness at which the material has been tested and approved must be stated. The article to be tested is placed in a compost and after 6 months of testing, the degree of disintegration is evaluated. To pass the test successfully, 90% of the article must have disintegrated to fragments < 2mm. Particles or parts of the sample to be tested which are larger than 2 mm but which do not differ from the compost in colour, structure, size, sense of moisture and lightness/gloss are considered as compost in the final analysis.

#### **3. Compost Quality**

The material to be tested shall be added to the compost at a concentration of 10 % based on the wet mass during this test. In a next step, from the compost thus prepared, containing 10 % of the material to be tested, a substrate is again mixed with 10 % of this compost and the germination rate and growth of certain plants on this substrate is then evaluated and compared with a reference without compost. The germination rate and the dry weight of the plants must not fall below 90% of the reference value. All components and their maximum concentrations, which are indicated on a positive list of TÜV Austria, are assumed to meet the requirements for compost quality.



#### 4. Chemical Properties

Furthermore, the chemical properties of all organic and inorganic components are examined. There are positive lists from TÜV Austria for this purpose. If the organic or inorganic substances are listed there, it is assumed that the requirements for the chemical properties are fulfilled. In addition, the heavy metal content must be analyzed and must meet strict limit values.

#### If you want to know for sure:

A detailed description of the "Program OK 2 - Home compostability of products" can be found [HERE](#).

