

Biological cyclability of Climatex® products

The statement on compostability/biological cyclability of Climatex® Lifecycle™ and Climatex® LifeguardFR™ products of Gessner AG is derived from the facts that:

- they are made of natural fibers/natural polymers that are inherently biodegradable
- the chemistry chosen to dye and finish them
 - does not contain any cross-linking agents that would modify the inherent biodegradability of fibers.
 - is defined for safety as such and as expected degradation products occurring concomitantly with degradation of fibers.

This applies also to the component of Climatex® Dualcycle™ that is providing the climate sitting property and can be separated from the Cradura component after use.

There is no standard for testing compostability of textiles in Europe. Standards developed for the measurement of biodegradability of plastic products destined to packaging applications makes limited sense to be applied to Climatex® products. Indeed even native biomass wouldn't necessarily pass the high requirements in terms of evolution of organic carbon to carbon dioxide (90% within 6 months).

It is not even desirable that degradation occurs so fast when the material has a value for fertilization as it is the case for Climatex® products. The fertilizing value of Climatex® products is provided first of all by the nitrogen content of the wool. Nutrients being released and made available to plants slowly is an asset of this form of organic fertilization. An old agriculture rule in the German speaking area saying "With nails and hair you fertilize for seven years" is expressing this.

Among other aspects, composting means reduction of the Carbon to Nitrogen (C/N) ratio from typically more than 30 in native biomass to about 15 in compost before it further decreases to a typical value of 10 in long-term humus, the finally resulting organic matter of the soil.

The wool contained in Climatex® products has already a very low C/N ratio of about 3 (acc. to . Simpson W.S and Crawshaw G, Wool: Science and Technology. 2002. ISBN-10: 0849328209). Degreased wool has even a lower C/N=2 ratio. Because cellulose doesn't contain nitrogen, the global C/N ratio of the wool cellulose fiber mixture making up Climatex® products increases again depending on the wool cellulose ratio that is varying among Climatex® article references.

Climatex® products could be used directly – i.e. without prior volume reduction via composting - for fertilization and reconstitution of humus, the insurance for retention of rainwater and soil resistance against erosion.

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