

可生物降解产品测试认证服务

Test and Certification of Biodegradable Products

可生物降解产品，减轻地球负担

因为契合可持续发展的理念，生物塑料是当今非常热门的话题，但相比传统塑料仍然是一个很新的市场。如果模糊宣称产品是生物降解的，可能让消费者误以为它们会自然降解而随意丢弃产品，反而造成污染。因此，非常需要有一种可信赖的指引来帮助消费者辨识产品在什么情况下是可生物降解和资源再生。堆肥是一个切实可行的废弃可生物降解塑料的解决方案，不但能够实现固体废弃物减量并且可以缩短回收循环工序，节省成本。可生物降解产品在明确的堆肥条件下可实现有机循环，产生二氧化碳、水、无机化合物和生物质，方便进行验证。

我们的服务

作为国际领先的检测认证服务提供商，德国莱茵 TÜV 集团（以下简称“TÜV 莱茵”）上海生物降解检测实验室可以为所有终端产品、中间物（如膜）、材料（如粒子）、添加剂（如油墨、色母）等提供工业堆肥和家庭堆肥测试服务，验证产品在这两种堆肥条件下的生物降解能力。凭借 TÜV 莱茵出具的合格测试报告，厂商可向国际知名的生物降解协会和第三方认证机构申请相应的堆肥认证标识和证书，向公众准确地传达产品的生物降解情况。

实验室发展里程碑

- 2013 年 1 月 DIN CERTCO 认可的中国首家外资实验室
- 2014 年 11 月 获中国 CNAS 认可
- 2017 年 4 月 BPI 认可的中国首家外资实验室
- 2017 年 12 月 获上海市市场监督管理局 CMA 资质认定
- 2019 年 1 月 上海市食品接触材料协会外卖团体标准能力获 CMA 认定，是国内首家能提供团标要求的生物降解测试实验室
- 2019 年 2 月 DIN CERTCO, ABA 认可的中国首家具备家庭堆肥测试能力的实验室
- 2021 年 6 月 JBPA（日本生物塑料协会）认可的中国首家外资实验室
- 2022 年 2 月 TÜV 奥地利 OK COMPOST 认证认可的中国首家外资实验室
- 2022 年 4 月 英国 REAL 可堆肥材料认证计划认可的中国首家外资实验室

标准

- EN 13432:2000 / 通过堆肥及生物降解评定包装可回收性的要求
- EN 14995:2006 / 塑料 - 可堆肥性能评估 - 测试与技术规范
- ISO 17088-2021 / 可堆肥塑料技术规范
- ISO 18606-2013 / 包装与环境、有机再循环
- ASTM D6400-21 / 市政和工业设施可堆肥塑料标识标准规范
- ASTM D6868-21 / 以塑料和聚合物为涂层或添加剂并设计为可在市政和工业设施中有氧堆肥的纸及其他基材制品标签的标准规范
- AS 4736-2006 / 生物降解塑料 - 适合堆肥和其他微生物处理的生物降解塑料

Use Biodegradable Products to Protect the Environment

With the ever-increasing demand for sustainable development, bioplastics have become a hot topic, but compared with conventional plastics, bioplastics are still new to the market. However, merely claiming that products are biodegradable without standard specifications will mislead the consumers that they can discard those products everywhere. Therefore, there is a great need for reliable guidance to help consumers identify the circumstances under which products are biodegradable and resource regenerating. Composting is a feasible solution for waste biodegradable plastics. It can not only reduce solid waste but also shorten the waste recycling process and save costs. Biodegradable products can realize the organic cycle under clear composting conditions, producing carbon dioxide, water, inorganic compounds and biomass, which is convenient for verification.

Our Services

As a leading provider of technical services worldwide, TÜV Rheinland Group (Hereinafter referred to as "TÜV Rheinland") Shanghai biodegradation testing laboratory can provide industrial composting and home composting test services for all end products, intermediates(e.g.foils), materials(e.g.granules), additives(e.g.inks and master batches) to verify the biodegradability of products under these two composting conditions. With the positive test report issued by TÜV Rheinland, manufacturers can apply to internationally renowned biodegradation associations and third-party certification bodies for composting certification marks and certificates which correctly communicate the biodegradability of products to the public.

Milestones of the Laboratory Development

- Jan. 2013 First foreign-capital testing laboratory approved by DIN CERTCO in China
- Nov. 2014 Accredited by CNAS in China
- Apr. 2017 First foreign-capital testing laboratory approved by BPI in China
- Dec. 2017 Got CMA approval from Shanghai Administration for Market Regulation
- Jan. 2019 CMA approval on Association Standards for Take-out Food Service (Internet) issued by Shanghai Association of Food Contact Materials (SAFCM), the first laboratory capable of biodegradability testing required by the Association Standards.
- Feb. 2019 First testing laboratory approved by DIN CERTCO and ABA for home composting testing in China
- Jun. 2021 First foreign-capital testing laboratory approved by JBPA (Japan Bioplastics Association) in China
- Feb. 2022 First foreign-capital testing laboratory in China approved by TÜV AUSTRIA OK COMPOST certification
- Apr. 2022 First foreign-capital testing laboratory in China approved by REAL Compostable Materials Certification Scheme

Standards

- EN 13432:2000 / Requirements for packaging recoverable through composting and biodegradation
- EN 14995:2006 / Plastics - Evaluation of compostability - test scheme and specifications
- ISO 17088-2021 / Specification for compostable plastics
- ISO 18606-2013 / Packaging and Environment, Organic Recycling
- ASTM D6400-21 / Standard specification for labeling of plastics designed to be aerobically composted in municipal or industrial facilities
- ASTM D6868-21 / Standard specification for labeling of end items that incorporate plastics and polymers as coatings or additives with paper and other substrates designed to be aerobically composted in municipal or industrial facilities
- AS 4736-2006 Biodegradable plastics-Biodegradable plastics suitable for composting and other microbial treatment

- AS 5810-2010 / 生物降解塑料 - 适合家庭堆肥的生物降解塑料
- NF T51-800:2015 / 塑料 - 适合家庭堆肥的塑料要求
- GB/T 41010-2021/ 生物降解塑料与制品降解性能及标识要求
- GB/T 19277.1-2011 受控堆肥条件下材料最终需氧生物分解能力的测定采用测定释放的二氧化碳的方法 第 1 部分：通用方法
- 更多生物降解产品相关的国家标准

- AS 5810-2010 Biodegradable plastics-Biodegradable plastics suitable for home composting
- NF T51-800:2015 Plastics-Specifications for plastics suitable for home composting
- GB/T 41010-2021 / Degradability and identification of biodegradable plastics and products
- GB/T 19277.1-2011 Determination of the ultimate aerobic biodegradability of plastic materials under controlled composting conditions – Method by analysis of evolved carbon dioxide – Part 1: General method
- More other national standards related to biodegradable products

测试项目

- 禁用重金属和氟含量等化学特性
- 生物降解能力
- 堆肥条件下的崩解能力
- 通过植物生长和 / 或蚯蚓毒性测试验证堆肥质量

Test Items

- Chemical characterization including restricted heavy metals and fluoride
- Biodegradability
- Disintegration under composting conditions
- Compost quality: ecological non-toxicity by plant growth and/or earthworm testing

堆肥认证及标志

Composting Certifications and Marks

工业堆肥标志 Industrial composting marks:



家庭堆肥标志 Home composting marks:



德国莱茵 TÜV 集团旗下的 DIN CERTCO (德国标准化学会认证中心) 具有 20 多年的可堆肥认证经验。除自身提供认证服务, 同时可为欧洲生物塑料协会 (EUBP)、澳大利亚生物塑料协会 (ABA)、美国生物降解产品学会 (BPI) 和可再生能源和清洁技术协会认证中心 (REAL) 等团体提供认证的技术评估服务。DIN CERTCO 管理上述五种国际公认的工业堆肥标志的认证, 三种家庭堆肥标志认证和其他环境认证如生物基认证等。日本生物塑料协会 (JBPA) 可降解塑料认证也采纳 DIN CERTCO 认可实验室出具的报告。

DIN CERTCO, a subsidiary of the TÜV Rheinland Group, has more than 20 years of experience in composting certification. In addition to providing its own certification services, it can also provide technical assessment services to groups such as the European Bioplastics e.V.(EUBP), the Australasian Bioplastics Association (ABA), the Biodegradable Products Institute(BPI) and Renewable Energy Assurance Ltd. (REAL). DIN CERTCO is now managing the above mentioned certifications for five internationally recognized industrial composting marks, three home composting marks, and other environmental certifications such as bio-based certifications. The Japan Bioplastics Association (JBPA) also accepts reports issued by DIN CERTCO accredited laboratories in its Biodegradable Plastic Certification.

针对中国市场, 基于国内标准, 对标国际标准, 德国莱茵 TÜV 集团推出生物降解产品中国标识 (China Mark), 是国内第一个从原料到制品进行全产业链管控的认证方案, 助力生物降解行业在国内的健康发展, 目前提供工业堆肥和家庭堆肥认证。



For the Chinese market, TÜV Rheinland has launched the China Mark certification for biodegradable products, based on domestic standards and benchmarking against international standards. China Mark is the first certification scheme in China to control the whole industry chain from raw materials to products, assist the healthy development of biodegradation industry in China, and currently provide industrial compost and home compost certification.

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