



# 化学测试与分析

## Chemicals Testing and Analysis

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 **TÜVRheinland®**  
Precisely Right.



## 保护消费者免受潜在危害

## Protect Customers from Potential Harm

化学测试和限用物质测试适用于范围广泛的消费品、商业和工业产品，确保其安全、合规和符合市场准入条件，对制造商、企业和用户至关重要。对于玩具、电子产品和服装等消费品，化学测试有助于识别铅、邻苯二甲酸盐和阻燃剂等有害化学物质，这些物质可能对健康构成威胁。对于光伏组件、医疗设备和建筑材料等商业和工业产品，必须进行限用物质测试，以符合镉、汞和多氯联苯（PCB）等物质的法规，确保它们符合安全和环境标准。

了解产品的化学成分并通过专业的化学测试证明是否符合法规可为制造商和供应商带来显着的好处。它最大限度地降低了产品召回、安全问题和违规产品的法律问题风险。它还通过在安全性和合规性保证下增强消费者信任和品牌声誉，为公司提供竞争优势。由认可机构进行的第三方化学测试被认为是制造商、零售商和监管机构验证产品安全性和合规性的黄金标准。

Chemical testing and restricted substances testing are critical for a wide range of consumer, commercial, and industrial products to ensure safety, compliance, and market access. For consumer products like toys, electronics, and apparel, chemical testing helps identify the presence of harmful chemicals such as lead, phthalates, and flame retardants which can pose health risks. For commercial and industrial products such as photovoltaic modules, medical devices, and building materials, restricted substances testing is necessary to comply with regulations on substances like cadmium, mercury, and polychlorinated biphenyls (PCBs), ensuring they meet safety and environmental standards.

Understanding a product's chemical composition and verifying compliance with regulations through professional chemical testing provides manufacturers and suppliers with significant benefits. It minimizes the risk of product recalls, safety issues, and legal consequences from non-compliant products. It also gives companies a competitive advantage by bolstering consumer trust and brand reputation with the assurance of safety and compliance. Third-party chemical testing by accredited organizations is considered the gold standard to validate product safety and compliance for manufacturers, retailers, and regulatory agencies.





## 大中华区化学实验室 Chemical Lab in Greater China

德国莱茵 TÜV 提供符合国际标准的最先进的研究和测试服务。我们在香港、深圳、广州、宁波、上海和青岛等地设立化学实验室，并根据 ISO 17025 标准运作，确保最高水平的质量和信誉。

德国莱茵 TÜV 使用 ISO、EN、BS、ASTM、DIN 和其他权威机构的标准化方法进行测试。我们的专家精通开发定制分析技术和验证方法以满足专业测试需求。

TÜV Rheinland provides state-of-the-art research and testing services that meet the highest international standards. Our laboratories operate under ISO 17025, ensuring the highest levels of quality and credibility.

We conduct testing using standardized methods from ISO, EN, BS, ASTM, DIN, and other authoritative bodies. Our experts are proficient in developing customized analytical techniques and validation methods for specialized testing needs.



## 重点服务

## Key services

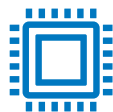


TOXPROOF

TOXPROOF

家用纺织品、床垫、服装、地板覆盖物或建筑材料等产品都可能含有毒素，这些毒素会污染我们的生活空间和室内空气，从而危害我们的健康。有了德国莱茵 TÜV 的测试标识，消费者将可以在选择产品时做出正确的选择。对于装配式房屋行业来说，德国莱茵 TÜV 的测试标识已成为一种广泛接受的方式，证明建筑物已经通过有害物质测试并且无毒。

Products such as home textiles, mattresses, clothing, floor coverings, or building materials can all contain toxins that are a risk to our health by polluting our living spaces and indoor air. With our test marks, health-conscious consumers will know they're making the right choice when they select your products. For leaders in the prefabricated housing industry, our test mark is now a widely accepted way of showing that buildings have been tested for harmful substances and are non-toxic.



有害物质 (RoHS)

Restriction of Hazardous  
Substances (RoHS)

国际 RoHS 指令适用于使用高达 1000 伏特的直流电或交流电运行的所有电子和电气设备。虽然指令包括依赖于电流或电场的设备，但它们也适用于产生、传输和测量这些电流和电场的设备。德国莱茵 TÜV 根据 RoHS 指令和其他国际同类的指令提供测试服务，为您提供产品符合性的独立证明。

International RoHS directives apply to all electrical and electronic devices designed for operation with either direct current or alternating currents of up to 1000 Volts. While directives include devices dependent on electrical currents or electrical fields, they also apply to the equipment for the generation, transmission, and measurement of those currents and fields. Our testing services according to RoHS directives and international equivalents provide you independent proof of the conformity of your products.







## 高度关注物质 (SVHC)

### Substances of Very High Concern (SVHC)

SVHC 测试和合规服务旨在帮助公司识别和管理其产品中的潜在危险化学品，确保符合欧盟法规，例如 REACH（化学品注册、评估、授权和限制）。该服务包括全面的测试和分析，以及法律要求和风险管理方面的咨询。德国莱茵 TÜV 的 SVHC 服务让客户清楚知道自己的产品符合法规要求，对消费者和环境都是安全的。

SVHC testing and compliance service is designed to help companies identify and manage potentially hazardous chemicals in their products, ensuring compliance with EU regulations such as REACH (Registration, Evaluation, Authorization and Restriction of Chemicals). The service includes comprehensive testing and analysis, as well as consultation on legal requirements and risk management. TUV Rheinland's SVHC service provides companies with peace of mind, knowing that their products meet regulatory requirements and are safe for consumers and the environment.



## 包装指令

### Packaging Directive

该指令规定了包装材料的使用和回收，以减少浪费并促进回收利用。为保护环境，包装指令还规定了某些重金属的最大值。德国莱茵 TÜV 的服务包括包装材料的综合测试和分析，以确保符合指令的要求，并提供有关法律要求和可持续性最佳实践的咨询。

This directive regulates the use and disposal of packaging materials in order to reduce waste and promote recycling. It also contains the maximum values for certain heavy metals and concerns itself with protecting the environment. TUV Rheinland's services include comprehensive testing and analysis of packaging materials to ensure compliance with the directive's requirements, as well as consultation on legal requirements and sustainability best practices.



## 重点服务

## Key services



### 加州 65 号提案 (Prop 65) California Proposition 65 (Prop 65)

加州 65 号提案服务包括分析测试和咨询，以帮助企业遵守关于 800 多种可能导致癌症、先天缺陷或生殖毒性的化学品的法规。德国莱茵 TÜV 关注加州 65 号提案的发展和解决方案，从而实现主动和全面的合规计划。我们的服务可识别产品中包含加州 65 号提案所列的化学品，提供有关合规策略的建议、并确保更安全、更可持续的未来。

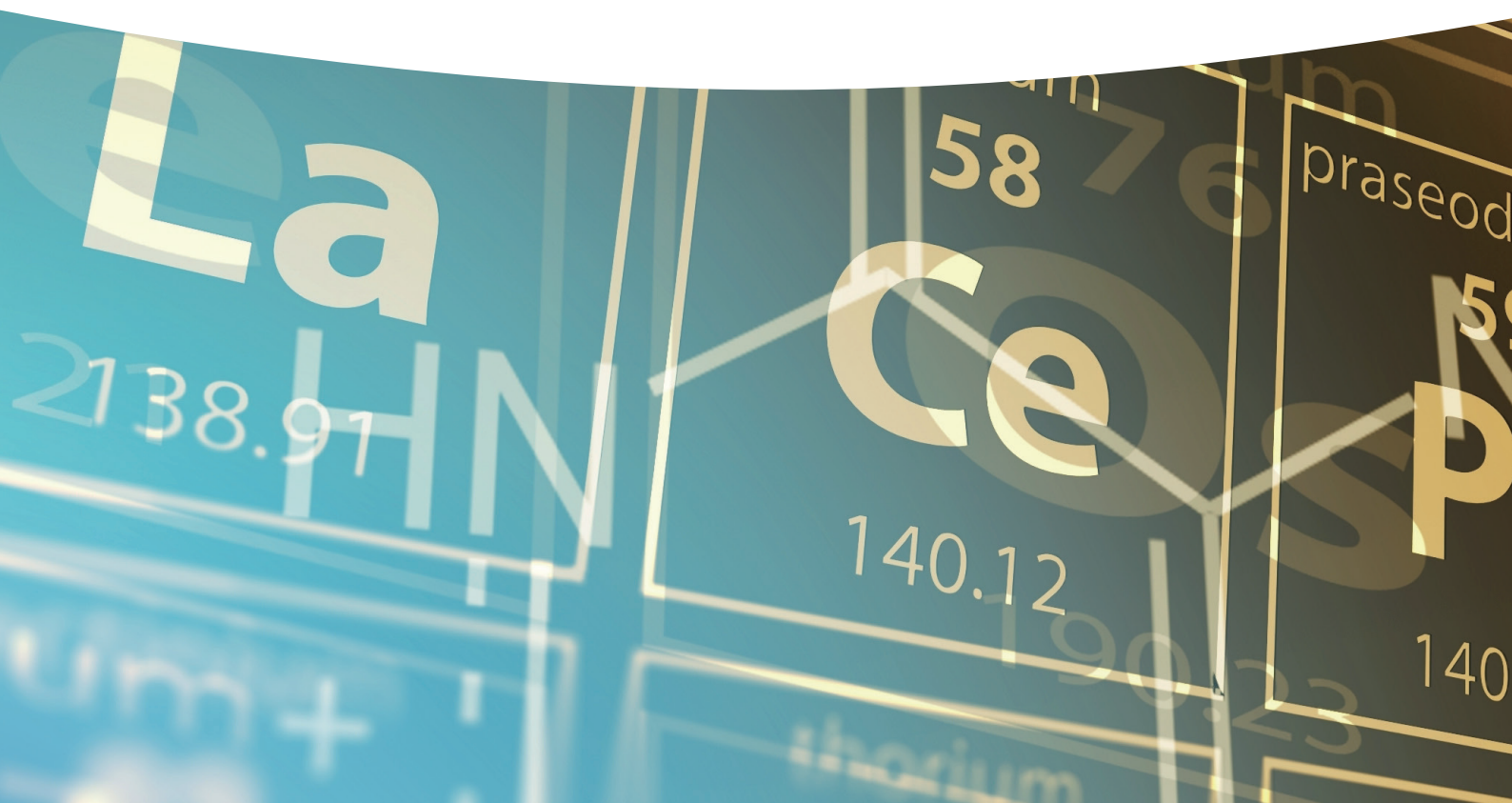
Prop 65 services include analytical testing and consultancy to help businesses comply with regulations on over 800 chemicals known to cause cancer, birth defects, or reproductive toxicity. TÜV Rheinland monitors Prop 65 developments and settlements, enabling proactive and comprehensive compliance programs. Our services identify Prop 65-listed chemicals in products, providing advice on strategies for compliance, protecting customers, and ensuring a safer and more sustainable future.



### LFGB 食品级测试 LFGB Food Grade Test

此服务基于 EC 1935/2004 和 EC 76/769/EEC 两个框架指令，它们确定了基本测试和文件要求，以及对某些危险物质的使用限制。德国莱茵 TÜV 超越基本测试和合规认证，可提供量身定制的测试计划，扩展到所有食品接触材料的测试范围。我们经过认可的测试实验室会以提供强大的技术支持和失败测试建议，确保客户满足最高安全标准并保护消费者的健康。

Our service is based on two framework directives: EC No. 1935/2004 and EC Directive 76/769/EEC, which identify basic testing and documentary requirements, as well as restrictions on the use of certain dangerous substances. TÜV Rheinland go beyond basic testing and compliance certification, offering tailor-made testing programs that extend the scope of food contact testing for all materials. Our accredited testing laboratories provide strong technical support and advice on failed tests when possible, ensuring that our customers meet the highest safety standards and protect consumers' health.





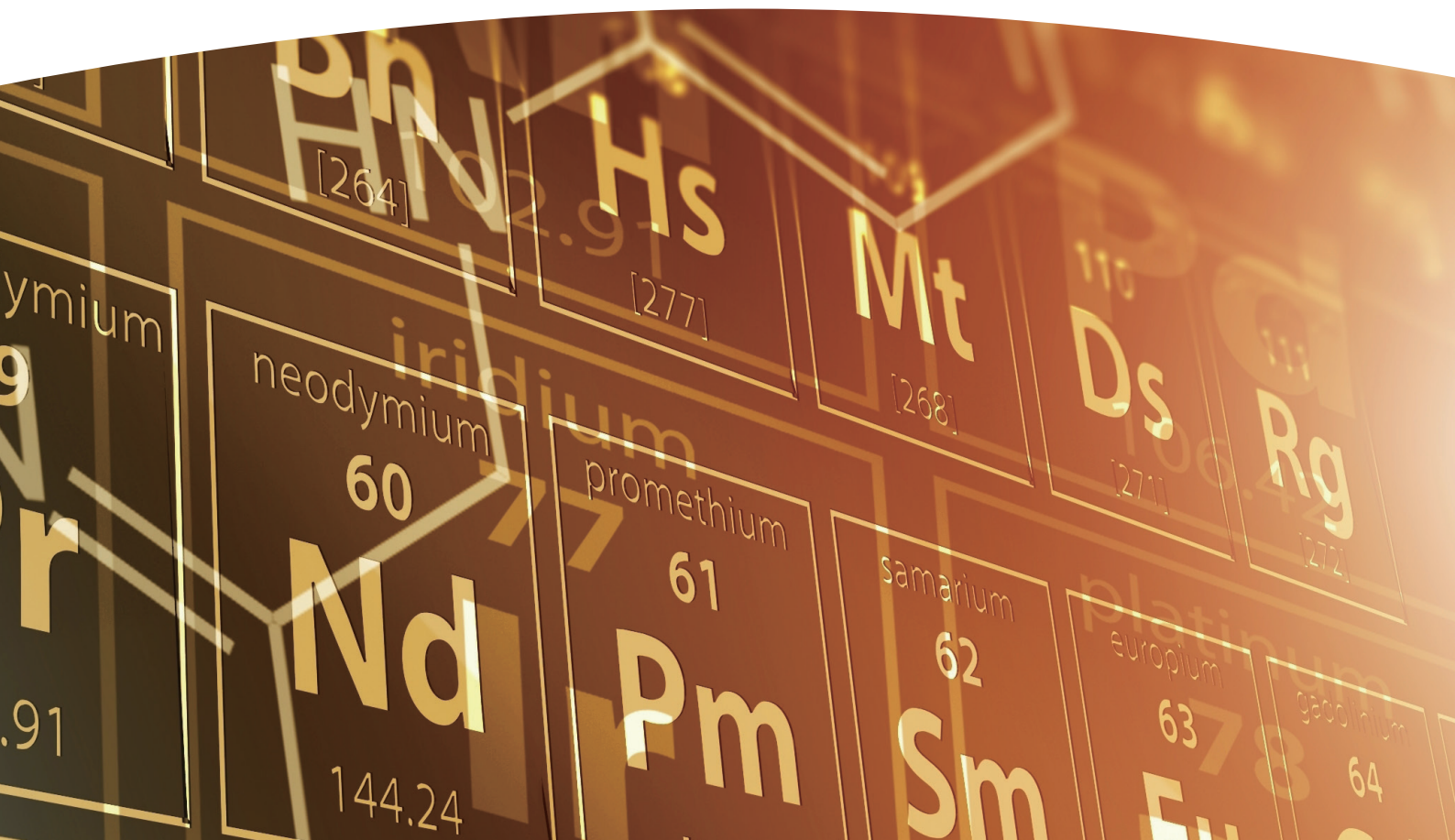


## 挥发性有机化合物 (VOC)

### Volatile organic compounds (VOC)




许多国家已经制定了关于建筑材料和家具产品挥发性有机化合物、甲醛和其他有害物质释放的强制性或自愿性评估计划。德国莱茵 TÜV 的测试，确保符合所有相关法规和标准，包括 EN 717-1、EN 16516、ASTM D-6007-02、DIN 16000-3、6、9、11、28、BIFMA X7.1、GEV、EMICODE、M1、AFFSET、法国法规、AgBB、BREEAM、Nordic Swan、Blue Angel 等。我们的测试服务使企业能够证明他们对消费者和环境的健康和安全的承诺，同时确保遵守全球法规和标准。

Many countries have established mandatory or voluntary assessment programs regarding the release of VOCs, formaldehyde, and other hazardous substances from construction materials and furnishings. Our impartial testing is managed by experts who ensure compliance with all relevant regulations and standards, including EN 717-1, EN 16516, ASTM D-6007-02, DIN 16000-3, 6, 9, 11, 28, BIFMA X7.1, GEV, EMICODE, M1, AFFSET, French Regulation, AgBB, BREEAM, Nordic Swan, Blue Angel, and more. Our testing services enable businesses to demonstrate their commitment to the health and safety of consumers and the environment while ensuring compliance with global regulations and standards.



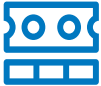




## 各种产品类别的化学要求

## Chemical requirements for various product categories

产品类别 PRODUCT CATEGORIES	化学要求 CHEMICAL REQUIREMENTS
 玩具 Toys	<ul style="list-style-type: none"><li>▪ Toy Safety Directive 2009/48/EC</li><li>▪ EU REACH Regulation 1907/2006/EC (Evaluation and testing for Substances of Very High Concern SVHCs / Evaluation and testing for restricted substances in Annex XVII)</li><li>▪ EU RoHS directive 2011/65/EU</li><li>▪ POPs Regulation (EU) 2019/1021</li><li>▪ Packaging Directive EU 94/62/EC</li><li>▪ AfPS GS 2019:01 PAK</li><li>▪ EU New WEEE Directive 2012/19/EU</li><li>▪ China GB 6675</li><li>▪ China RoHS GB/T 26572-2011</li><li>▪ ASTM F963-17</li><li>▪ ASTM F2923</li><li>▪ Consumer Product Safety Improvement Act of 2008 (CPSIA)</li><li>▪ California Proposition 65 (CP65)</li><li>▪ Chemical of High Concern to Children (CHCC)</li></ul>
 纺织品和鞋子 Textiles and Shoes	<ul style="list-style-type: none"><li>▪ EU REACH Regulation 1907/2006/EC (Evaluation and testing for Substances of Very High Concern SVHCs / Evaluation and testing for restricted substances in Annex XVII)</li><li>▪ POPs Regulation (EU) 2019/1021</li><li>▪ Packaging Directive EU 94/62/EC / USTPCH (CONEG Legislation)</li><li>▪ AfPS GS 2019:01 PAK</li><li>▪ Consumer Product Safety Improvement Act of 2008 (CPSIA)</li><li>▪ California Proposition 65 (CP65)</li><li>▪ Chemical of High Concern to Children (CHCC)</li><li>▪ Toxic Substances Control Act (TSCA)</li><li>▪ China GB 18401</li><li>▪ China GB 31701</li><li>▪ China GB 30585</li><li>▪ China GB 20400</li><li>▪ AFIRM</li><li>▪ CADS</li><li>▪ ZDHC MRSL level 1/2/3</li><li>▪ PFAS Screening</li></ul>
 PPE (衣服、手套、鞋子) PPE (Clothes, Gloves, Shoes)	<ul style="list-style-type: none"><li>▪ EN ISO13688:2013+A1:2021</li><li>▪ EN ISO 21420:2020</li><li>▪ EN ISO 20345:2022</li><li>▪ EN ISO 20346:2022</li><li>▪ EN ISO 20347:2022</li><li>▪ China GB 21148</li><li>▪ REGULATION (EU) 2016/425 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC</li><li>▪ EU REACH Regulation 1907/2006/EC (Evaluation and testing for Substances of Very High Concern SVHCs / Evaluation and testing for restricted substances in Annex XVII)</li></ul>



产品类别 PRODUCT CATEGORIES	化学要求 CHEMICAL REQUIREMENTS
 <p>材料 Materials</p>	<ul style="list-style-type: none"> <li>▪ EU RoHS directive 2011/65/EU</li> <li>▪ EU REACH Regulation 1907/2006/EC (Evaluation and testing for Substances of Very High Concern SVHCs / Evaluation and testing for restricted substances in Annex XVII)</li> <li>▪ POPs Regulation (EU) 2019/1021</li> <li>▪ Packaging Directive EU 94/62/EC / US TPCH (CONEG Legislation)</li> <li>▪ AfPS GS 2019:01 PAK</li> <li>▪ Microbial-Antibacterial/sterilization JIS Z 2801, ISO 22196, GB/T31402, GB 21551.2, EP/ USP, etc.</li> <li>▪ German LFGB</li> <li>▪ French DGCCRF</li> <li>▪ Italian DM</li> <li>▪ US FDA</li> <li>▪ Formaldehyde Emission test (EN717-1, DIN EN 16516, ASTM D6007, etc.)</li> <li>▪ VOC Emission test (ISO16000-3,-6&amp;-9, etc. for AgBB/DiBt, Blue Angel, French VOC regulation, FloorScore etc.)</li> <li>▪ Compostable test (DIN EN 13432, ASTM D 6400, GB/T 19277-2, etc. for DIN CERTCO, BPI, ABA certificate)</li> <li>▪ ELV-End of Life of Vehicle</li> <li>▪ ZDHC MRSL level 1/2/3</li> <li>▪ VDA 270,275,277,278</li> <li>▪ VOC testing of Bag method</li> </ul>
 <p>家庭用品和厨具 Houseware &amp; Kitchenware</p>	<ul style="list-style-type: none"> <li>▪ EU RoHS directive 2011/65/EU</li> <li>▪ China RoHS GB/T 26572-2011</li> <li>▪ EU REACH Regulation 1907/2006/EC (Evaluation and testing for Substances of Very High Concern SVHCs / Evaluation and testing for restricted substances in Annex XVII)</li> <li>▪ POPs Regulation (EU) 2019/1021</li> <li>▪ Packaging Directive EU 94/62/EC / US TPCH (CONEG Legislation)</li> <li>▪ Battery Directive 2006/66/EC / US Public Law 104-142</li> <li>▪ AfPS GS 2019:01 PAK</li> <li>▪ EU New WEEE Directive 2012/19/EU</li> <li>▪ California Proposition 65 (CP65)</li> <li>▪ Toxic Substances Control Act (TSCA)</li> <li>▪ Microbial-Antibacterial/sterilization JIS Z 2801, ISO 22196, GB/T31402, GB 21551.2</li> <li>▪ China GB 4806</li> <li>▪ EU Regulation (EC) No 1935/2004</li> <li>▪ German LFGB</li> <li>▪ French DGCCRF</li> <li>▪ Italian DM</li> <li>▪ US FDA</li> <li>▪ Formaldehyde Emission test (EN717-1, DIN EN 16516, ASTM D6007, etc.)</li> <li>▪ VOC Emission test (ISO16000-3,-6 &amp; -9, ASTM D5116, etc. for AgBB/DiBt, Blue Angel, French VOC regulation, BIFMA, FloorScore, etc.)</li> <li>▪ Compostable test (DIN EN 13432, ASTM D 6400, GB/T 19277-2, etc. for DIN CERTCO, BPI, ABA certificate)</li> </ul>
 <p>建筑产品 Building Products</p>	
 <p>运动休闲 Sports &amp; Leisure</p>	
 <p>机械产品 Mechanical Products</p>	

<div>产品类别</div> <div>PRODUCT CATEGORIES</div>	<div>化学要求</div> <div>CHEMICAL REQUIREMENTS</div>
<div data-bbox="228 230 320 309"></div> <div data-bbox="159 318 399 380"> <div>信息技术 / 音频和视频</div> <div>IT / Audio &amp; Video</div> </div>	<ul style="list-style-type: none"> <li>▪ EU RoHS directive 2011/65/EU</li> <li>▪ China RoHS GB/T 26572-2011</li> <li>▪ EU REACH Regulation 1907/2006/EC (Evaluation and testing for Substances of Very High Concern SVHCs / Evaluation and testing for restricted substances in Annex XVII)</li> <li>▪ POPs Regulation (EU) 2019/1021</li> <li>▪ Packaging Directive EU 94/62/EC / USTPCH (CONEG Legislation)</li> <li>▪ Battery Directive 2006/66/EC / US Public Law 104-142</li> <li>▪ AfPS GS 2019:01 PAK</li> <li>▪ EU New WEEE Directive 2012/19/EU</li> <li>▪ California Proposition 65 (CP65)</li> <li>▪ Toxic Substances Control Act (TSCA)</li> <li>▪ Microbial-Antibacterial/sterilization JIS Z 2801, ISO 22196, GB/T31402, GB 21551.2</li> <li>▪ Substances of CMR subject to the Medical Device Regulation: Regulation (EU) 2017/745, Annex I, Chap. II, section 10.4.1</li> <li>▪ China GB 4806</li> <li>▪ EU Regulation (EC) No 1935/2004</li> <li>▪ German LFGB</li> <li>▪ French DGCCRF</li> <li>▪ Italian DM</li> <li>▪ US FDA</li> <li>▪ South America – Mercosur</li> </ul>
<div data-bbox="236 409 312 488"></div> <div data-bbox="159 497 399 560"> <div>家电</div> <div>Household Appliances</div> </div>	
<div data-bbox="252 589 312 667"></div> <div data-bbox="178 676 379 739"> <div>灯具 / LED</div> <div>Luminaires / LEDs</div> </div>	
<div data-bbox="236 768 312 846"></div> <div data-bbox="213 855 341 918"> <div>电动工具</div> <div>Power Tools</div> </div>	
<div data-bbox="240 947 312 1025"></div> <div data-bbox="207 1034 347 1097"> <div>零部件</div> <div>Components</div> </div>	
<div data-bbox="236 1126 312 1205"></div> <div data-bbox="186 1214 368 1276"> <div>电力电子</div> <div>Power Electronic</div> </div>	
<div data-bbox="240 1305 312 1384"></div> <div data-bbox="186 1393 368 1456"> <div>医疗设备</div> <div>Medical Devices</div> </div>	
<div data-bbox="236 1709 312 1787"></div> <div data-bbox="159 1796 399 1886"> <div>汽车及相关部件</div> <div>Automotive &amp; Related Components</div> </div>	<ul style="list-style-type: none"> <li>▪ EU RoHS directive 2011/65/EU</li> <li>▪ China RoHS GB/T 26572-2011</li> <li>▪ EU REACH Regulation 1907/2006/EC (Evaluation and testing for Substances of Very High Concern SVHCs / Evaluation and testing for restricted substances in Annex XVII)</li> <li>▪ Polycyclic-aromatic hydrocarbons (PAH) test for Tyre or Tyre oil. <ul style="list-style-type: none"> <li>▪ AfPS GS 2019:01 PAK</li> <li>▪ ISO 21461:2012</li> <li>▪ EN 16143:2013</li> </ul> </li> <li>▪ ELV-End of Life of Vehicle</li> <li>▪ ECO Interior Material testing and certification for vehicle interior materials</li> <li>▪ Jaguar requirement of STJLR.51.5232: TÜV Toxproof Certification Requirements for Interior Materials.</li> <li>▪ VOC Emission test <ul style="list-style-type: none"> <li>▪ GB/T 27630-2011</li> <li>▪ VDA standard</li> <li>▪ JASO M902-2007</li> <li>▪ ISO 12219-2-2012</li> </ul> </li> </ul>





## 莱茵 TÜVed，值得托付的

德国莱茵TÜV是全球提供独立检验服务的领导者，拥有150年历史，在全球各地设有分支机构，员工总数超过2万人。服务涵盖工业服务与信息安全、交通服务、产品服务、管理体系服务、培训与咨询服务。安全与品质是TÜV莱茵人的一致追求，我们希望成为全球最佳检测、检验、认证、咨询和培训服务提供商，可持续且独立。



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