

# WATER ENVIRONMENT STANDARD SUBSTANCE SERIES PRODUCTS



## 产品类成果

# 水环境标准物质 系列产品

### 【创新性】

水环境标准物质系列产品中有 15 种标准物质填补了国内空白，改变了依赖国外进口的尴尬状况。沉积物 17 种二噁英标准物质获得国家一级标准物质证书，突破了水利系统量值溯源的瓶颈。以无机盐标准物质为代表的多组分混和标准物质，分别囊括 2-10 项水质指标，建立了混合标物配制技术，开创了水质监测质量控制的优化方案。利用创新性的设计配方，总氮总磷标准物质引入了有机氮、有机磷成分，模拟了天然水体氮磷的形态。创造性地研制了与 11 项水利标准方法配套的标准物质，奠定了标准方法实施的质量保障基础。

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获奖单位：水环境所

### 【影响力】

自 1986 年开始研制，至今已有 30 多年历史，中国水科院水环境所是水利部门标准物质研制的唯一重要基地。产品种类共有 174 种，每年生产批次从 5 批上升至约 90 批，年生产量从 0.5 万支上升至近 8 万支产品。已广泛地应用于全国各行业共 568 个实验室，其中涉及水利系统 331 个实验室。利用标准物质对水利系统实验室检测能力进行考核，内容包括：资质认定考核、实验室能力验证、质控考核、人员上岗考核，取得良好结果：60 余家实验室获得资质认定，400 余家实验室开展工作质控，300 余家实验室通过了能力验证，8000 余人获得上岗考核证书。该产品在全国范围内特别是水利系统的质量控制工作中起到不可忽视的作用，具有显著的影响力，产生了良好的社会、生态和经济效益。

### 【Innovation】

Among the water environment standard substance series products, 15 types of standard substances have filled in the domestic blank, and changed the awkward situation of dependence on foreign imports. 17 kinds of dioxins standards substances in the sediment have obtained the national first class standard substance certificates, which has broken the bottleneck of measurement traceability of the hydraulic system. Multi-component mixed standard substances represented by inorganic salts have respectively included 2-10 water quality indicators, established mixed standard substance preparation technology,

### 【Influence】

The Department of Water Environment, IWHR has had a history of development for 30 years since 1986, and is the only key base for the development of standard substances for water resources departments. It owns 174 product categories, with the production batch rising from five to about 90 batches each year, and the annual production growing from 5,000 to nearly 80,000, which are widely used by 568 laboratories in various industries across China, including 331 laboratories relating to the water resources system. Standard substances are used to examine the testing capability of these laboratories

and pioneered the optimization scheme on water quality monitoring and control. Based on the innovative design formula, total nitrogen and phosphorus standard substances have introduced organic nitrogen and phosphorus components, and simulated the nitrogen and phosphorus forms of natural water bodies. The Department has creatively developed standard substances in line with 11 standard methods for water conservancy, laying a foundation for the implementation of standard methods with quality guarantee.

relating to the water resources system, and the content includes qualification appraisal, laboratory capability verification, quality control appraisal and personnel on-the-job assessment, which have achieved good results: Nearly 60 laboratories have obtained qualification accreditation, nearly 400 laboratories carry out the quality control work, nearly 300 laboratories have passed the capability have passed the capability verification and nearly 8,000 people have been conferred their post appraisal certificate. This product has played a significant impact on the quality control of the water resources system nationwide, and produced excellent social, ecological and social benefits.

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