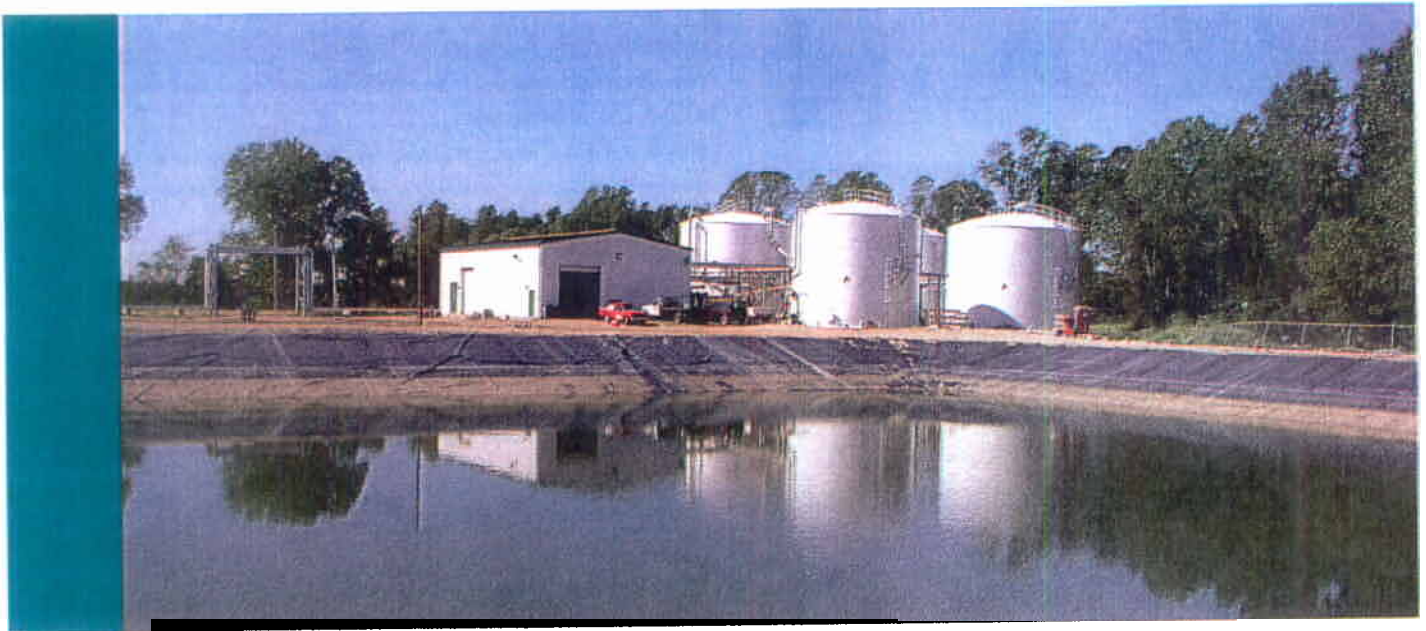


# Ciba® Expert Services

Providing solutions and consultancy for wastewater treatment applications



Ciba® Expert Services are provided by a global network of experts who help clients in highly regulated industries achieve compliance, efficiency and sustainable business success.

Through our three service lines - EHS, Regulatory and Testing - we help clients around the world meet and maintain optimal levels of compliance, from R&D activities and throughout the value chain. The Expert Services organisation includes CANTOX Health Sciences International, Pira International and Intertech Corporation.

Ciba® EHS Services are supplied by teams working throughout the world offering professional, conceptual and detailed technical support for all aspects of Environment, Health and Safety in the industry. Our passion to deliver helps our clients achieve compliance, efficiency and sustainable success in their business through:

- *Pollution Prevention and Compliance Solutions, IPPC*
- *Sustainability and Resource Efficiency*

- *Environmental Technology*

- *Powder handling consulting and testing*

Our emphasis is on integrated solutions, and our approach to Environmental, Health and Safety management covers the entire life cycle of chemical constituents from cradle to grave. This big picture approach combined with our many years of experience guarantees our customers ecologically and economically preferred solutions.

## Environmental Technology

Our EHS experts have implemented a wide range of innovative wastewater and off gases/waste air/flue gas treatment solutions tailored to the client's requirements. Our integrated approach considers both treatment and source control to deliver the most cost-effective solutions. We cover the entire cycle from situation analysis to commissioning. We evaluate the most effective technologies independently from equipment suppliers. Solution and processes include a wide range of technologies such as biological treatment.

membrane bioreactors, chemical-physical treatment and advance oxidation.

Our process off gases/waste air/flue gas projects include: the incineration of waste gases from production, the separation of gases from chemical production and biological trickling filtration for the treatment of airborne chlorinated compounds. Our know-how in this field helps clients to achieve a significant reduction of investment and operational costs through an integrated pollution strategy as opposed to end-of-pipe technologies.

We also conduct treatability studies, laboratory testing and pilot testing both in-house and at the customers' site.

## IPPC - Integrated Pollution Prevention Control

The experts from Ciba® EHS Services have helped numerous companies and organisations across Europe to comply with IPPC and BAT (Best Available Technology) conditions.

Conventional pollution control is costly and environmentally inefficient as it focuses primarily on the treatment of residues, otherwise known as "end-of-pipe treatment". End-of-pipe treatment is often necessary to comply with legal requirements but may be designed in size and cost effectively if source control has been applied efficiently.

Ciba® EHS Services delivers efficient pollution control solutions that are optimised combinations of source control and end-of-pipe treatment work services.

In general, source control is the most efficient measure, since it optimises production processes by reducing waste loads and disposal costs. Source control may lead to better yield, better product quality, more capacity and so finally to increased profit.

We have also achieved VOC reduction in large chemical production plants and ecologically efficient solutions that deal with ammonia problems at source.



## Sustainability & resource efficiency

Successful organisations recognise the benefits of building sustainable principles into their business strategy and operations. Sustainability involves such aspects as setting clear targets and measuring progress towards them, maximising operational efficiency, thinking 'outside the box' about opportunities for further economic and environmental benefit, and achieving the buy-in and recognition of stakeholders. These are key features of any forward-thinking business, irrespective of the environmental dimension. Ciba's EHS Services team has developed tools and expertise to identify potential risks and opportunities for improvement and innovation such as resource use, energy consumption, toxicity, greenhouse gas emissions, end-of-life, and waste management.

By combining our technical, business and strategic capacities with your comprehensive knowledge of your products, we seek to help our customers to achieve:

- *Increased competitiveness*
- *Reduced risk, cost & liability*
- *Improved resource efficiency*
- *Focused product innovation*
- *Better stakeholder relations*
- *Increased employee motivation and retention*

## Powder handling consulting and testing

Ciba® EHS Services can provide the necessary training, consulting and testing on all aspects of powder handling and processing operations. We offer full-service, world class, complete explosion and process safety testing based on the latest ASTM and ISO standards (Minimum ignition energy -MIE-, Dust explosivity -LEL, pMax, Kst, LOC-, Minimum auto-ignition temperature of dust clouds -MAIT-, Burning tests).

Our technology development and practical experience can help improve your operational safety, from pneumatic transfer to bulk bag discharge. Much of our laboratory equipment is custom designed by our professional staff. We also work within the industry to help develop methods and standards for explosivity measurement and ratings. ■

To learn more about how we can address your specific needs, contact Ciba® Expert Services  
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