

Can we use living things to clean up waste and pollution caused by industry, without stopping industrial development?

Who can help us find micro-organisms (tiny living things) that can be used in recycling or used to break down and remove toxins from waste?

The Environmental Biotechnologist!

Meet Patricia Molipane, a Biotechnologist specialising in waste water treatment at Sasol's Research and Development Department in Secunda
BSc (Microbiology and Biochemistry), BSc Hons (Biotechnology), MSc (Biotechnology)

... the challenge of the job:

"The industrial research programme is shorter than in many other research environments and focuses on practical aspects and not fundamental research."

... a common misconception:

"The responsibility of the job is sometimes underestimated. Important decisions are taken based on your recommendations!"



What does Patricia do?

Sasol is an international chemical and fuel company that uses a lot of water for cooling. This results in a lot of different types of waste water (sewage). Patricia's job is to evaluate new technologies and to find the best and cheapest ways of cleaning this waste water. Some of the water is cleaned using "biological treatments" – meaning that micro-organisms are used. These 'bugs' use the carbon in the wastewater as an energy source.

What do I need to be an environmental biotechnologist?

Characteristics: Team player, good interpersonal skills, independent problem-solving abilities, assertive and self-motivated

Important school subjects: Mathematics, Biology, Physical Science

Qualifications:

BTech – Biotechnology; BSc – Biochemistry/Biotechnology/Microbiology/Chemical and Biological Sciences or similar

Note: Some employers require a minimum of a BSc Honours degree.

You need a Masters or PhD for higher positions in lecturing and research.

Where can I get a job as an environmental biotechnologist?

Companies in the chemical, paper, sugar and electricity domains as well as some universities

Related careers:

Industrial Microbiologist, Biochemist, Biotechnologist, Bioprocess Engineer