

## Studies on Biodegradation

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### Toxicity to Microorganisms

The toxicity of a test item is determined via measuring the oxygen consumption in the Activated Sludge Respiration Inhibition test. This test is performed according to OECD guideline No. 209.

### Biodegradability

Determination of biodegradability is of importance in various circumstances e.g. during registration of chemicals (REACH). Testing on biodegradability is performed according to the latest OECD and EC 440/2008 guidelines.

### Ready Biological Degradation

The Closed Bottle Test according to OECD guideline 301 D is performed routinely and is suitable for most test items. The measured parameter is oxygen consumption. The test item is ready biodegradable if the ratio of oxygen consumption and chemical oxygen demand (COD) is  $\geq 60\%$ . The COD is a calculated value (if the test item is pure and the structure available) or an analysed one (in case of mixtures or unknown structure).



The Manometric Respirometry Test according to OECD guideline 301F is applicable for soluble and insoluble substances as well as for substances with a high volatility. It is performed routinely in a BSBdigi Incubator by constantly measuring the oxygen consumption.

Further tests on aerobic biodegradation like the CO<sub>2</sub> Evolution Test (OECD 301B) or on inherent biodegradability with the Zahn-Wellens-Test (OECD 302B) or Anaerobic Degradation (OECD 311) are offered in collaboration with partner laboratories.

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