Experiment A: Chitosan and Fat/ Fatty Acids

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| **Equipment:** |
| 6 test tubesTest tube rack6 stopper 2 small pipettes 2 10 ml measuring cylinderspatula balance |
| **Reagents and materials:** |
|  | **H-phrases** | **P-phrases** | **Danger symbol** |
| Chitosan  |  |  |  |
| Oleic acid |  |  |  |
| Sunflower oil |  |  |  |
| Diluted hydrochloric acid, c = 0,1 mol/l |  |  |  |
| Diluted sodium hydroxid solution, c = 0,1 mol/l |  |  |  |
| Lipase |  |  |  |
| Demineralised water |  |  |  |
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| **Procedure:** |
| **j0346317[1] Do not forget safety glasses and lab coat!** This experiment will help to study the reaction between fats or fatty acids and chitosan in solutions of different pH-values. 1. Fill 5 ml of the above mentioned hydrochloric acid into a test tube and add dropwise 0.2 ml oleic acid. Shake the mixture and watch. After shaking add 0.1 g solid chitosan.
2. In a second test tube prepare a solution of 5 ml water with 5 drops oft he above mentioned sodium hydorxid solution. Add 0.2 ml oleic acid. Shake the mixture and watch After shaking add 0.1 g solid chitosan.
3. Fill 5 ml water into a third test tube and add 0.2 ml oleic acid. Shake the mixture and watch. After shaking add 0.1 g solid chitosan.
4. Repeat the experiments while replacing the oleic acid by sunflower oil.
5. You may also repeat the experiments by changing the pH-values, using other fats and oils, using a fat soluble dye to make the process better visible.
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| **Disposal of wastes:** |
| The solutions can be poured down the sink. |
| **Quelle:** |
| Gräber, W. & Ledwig, G. (2011/ 2012), current work, IPN Kiel. |