

BIOLOGY

Topic Summary

LT4 - THE EMULSION TEST

Sometimes it is necessary to test if lipids are present in a sample, this can be done using the emulsion test.

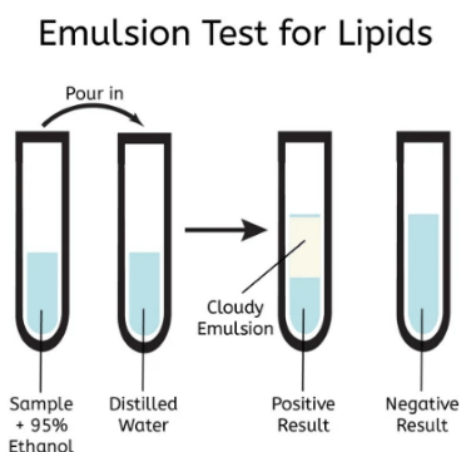
Method:

- 1) Crush the sample into a fine powder (if solid) and add 2 spatulas (or use a pipette to add 2cm³) of the sample to a clean test tube.
- 2) Use a pipette to measure out 2cm³ of 95% ethanol and add this to the sample, this will extract any lipids in the sample by dissolving them.
- 3) Shake the test tube vigorously for at least 10 seconds.
- 4) Leave the test tube in a rack for 2 mins to allow the sample to settle.
- 5) Pour the solution into another test tube and use a pipette to measure out and add 2cm³ of distilled water.

Results:

If the solution remains clear and no emulsion is seen the sample does not contain lipids. This is a negative result.

If the a layer of cloudy white suspension forms at the top of the solution, the sample contains lipids. Upon closer inspection you may notice small lipid droplets suspended in the solution, this is an emulsion. This is a positive result.



From Tuttee at: <https://www.tuttee.co/blog/biol-biological-molecules-carbohydrates-proteins-and-lipids>

From Biology IGCSE at: <https://biology-igcse.weebly.com/-food-test-3---emulsion-ethanol-test-for-fats.html>



▲ *LEFT: a diagram showing the emulsion test as well as a positive and negative result. RIGHT: a photo showing what a positive result of the emulsion test looks like.*