

TLC wine set

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Chromatographic rapid test for evaluating of the conversion of malic acid to lactic acid

TLC wine set (REF 814500) consists all chemicals and the equipment for the determination of malic acid, lactic acid and tartaric acid in wine (evaluating of the conversion of malic acid to lactic acid, 2nd fermentation). Below the easy procedure of the test is described. If you have any questions after reading this manual, please call our service / technical support.

Content of TLC wine set (REF 814500)

1	instruction leaflet	1	developing chamber	50	capillaries (1 µL)
3	vials (10 mL)	100 mL	solvent	1	rubber cap
1	spatula	50	TLC ready-to-use sheets	8 mL	reference solution
1	exchange resin	1	spotting guide	1	transparency for evaluation

Pretreatment of the wine sample

Fill about 1 mL of the wine sample into the 10 mL vial (filling height about 1 cm) and add one spatula tip of the exchange resin. Close the vial with the snap-on cap, shake for about 10 s, add another spatula tip of the resin and shake again for 10 s.

Close the resin accurately, in order to avoid desiccation!

Preparation of the developing chamber

Fill the developing chamber (glass with screw cap) with about 8 mL of the solvent (the bottom should be just well covered). The filling height should be about 5 mm, it should never exceed 1 cm.

Always close developing chamber and solvent bottle accurately!

Store solvent in a cool place!

Change the solvent after 3–4 times of use!

Procedure of the test

With the 1 µL capillary (if necessary use a rubber cap) and the spotting guide, apply the reference solution and wine samples to the position 1–4 onto the TLC ready-to-use sheet as shown in the figure 1.

Place the capillary on the sheet carefully and vertically in order to achieve a complete emptying of it!



Fig. 1: Applying of samples on to a TLC sheet with capillary and spotting guide



Fig. 2: TLC sheet in the developing chamber

- Position 1: 1 capillary with reference solution (tartaric acid, malic acid, lactic acid)
 Position 2: 1 capillary with wine sample
 Position 3: 1 capillary with next wine sample
 Position 4: 1 capillary with further wine sample

After applying of the samples, dry the sheet for 2 min in air. Then place it in to the developing chamber. Carefully close the screw cap (see figure 2). By capillary action the solvent rises through the layer and transports the acids to different heights. The acids are seen as yellow zones on a blue background. The separation can already be observed after a few minutes and after around 20 min the sheet can be removed from the developing chamber.

Result

The conversion of malic acid to lactic acid can be evaluated by the reference solution, containing tartaric acid, malic acid and lactic acid. It is finished, when the yellow spot in the middle disappeared. This is the end of the 2nd fermentation (see figure 3, position 4). With the transparency for evaluation the test result can be evaluated additionally.

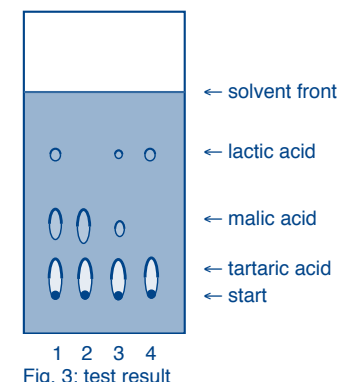


Fig. 3: test result

Safety instructions

Dangerous goods of TLC wine set and replacement solvent, as well as respective hazard and precautionary statements are listed in the following table in accordance with GHS (Globally Harmonized System of Classification, Labeling and Packing of Chemicals).

Corresponding MSDS (Material Safety Data Sheets) can be downloaded under www.mn-net.com/msds.

REF	Dangerous good	GHS symbols + signal word	Hazard statements	Precautionary statements
TLC wineset 814500 replacement solvent 814501 814501.100	ethanol 38 % + 2-propanol 38 %	DANGER	225, 319	210, 233, 280, 305+351+338, 337+313, 403+235

Hazard statements	
225	Highly flammable liquid and vapour.
319	Causes serious eye irritation.
Precautionary statements	
210	Keep away from heat / sparks / open flames / hot surfaces. – No smoking.
233	Keep container tightly closed.
280	Wear protective gloves / eye protection.
305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
337+313	If eye irritation persists: Get medical advice / attention.
403+235	Store in a well-ventilated place. Keep cool.