Test Result Reading

Accessories in Box

Two Groups of Pesticide Test Kit

in Vegetables, Fruits and Whole Grains

Organochlorine and Pyrethroid Groups

Water Bath System

G9 CO., LTD

www.asianmedic.com

It is a test method for organochlorine and pyrethroid pesticides in vegetables, fruits and whole grains.

Principle

It uses TLC separation principle and test by chemical reactions and expose to UV with wavelength of 254 nm to create colour. If there is organochlorine and pyrethroid pesticide, grey, brown-black spots on the TLC sheet will occur.

Chemical Solutions	**contain: 30 Test/Kit**
1. Solvent	3 bottle
2. GPO-TM 4	3 bottle
3. GPO-TM 5	2 bottle
4. GPO-TM 5.1	1 bottle

Apparatus inside the Box

1. TLC Sheet	6 sheet
2. Capillary Tube	30 tube
3. 3 ml plastic dropper	2 droppers
4. 1 ml plastic dropper	1 dropper
5. Test kit manual	1 set

Additional apparatus

1. Water Bath System
Temperature adjustable water bath at 48±2 °C includes rack.
2. UV Box (UV 254 nm)
3. TLC Tank
4. Metal cup
5. Sample bottle and dropper
6. Knife and chopping board for chopping the sample.
7. Forcept8
8. Glove
9. Timer

Test Solution Preparation

Draw 10 ml of GPO-TM 5 solution and 2 ml of GPO-TM 5.1 into the TLC Tank. Shake well and let it sits for at least 30 minutes before the test.

Test Procedure

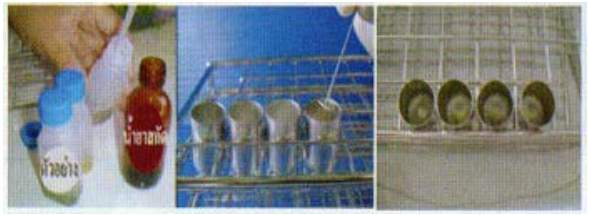
1Sample Preparation and Extraction

1.1 Chop vegetables and fruits. For vegetables and fruits use 5 grams of fine chopped or about 4 lines on the bottle. For juicy vegetables and fruits use 2.5 grams of coarse chopped or about 2 lines on the bottle. For whole grains, use 0.5 grams of grinded sample. Put the prepared sample in the bottle. Label every sample bottle.

1.2 Use a dropper to draw 5 ml of the solvent in to the sample bottle. Shake well for 1 minute and let it sit for 5 minutes.

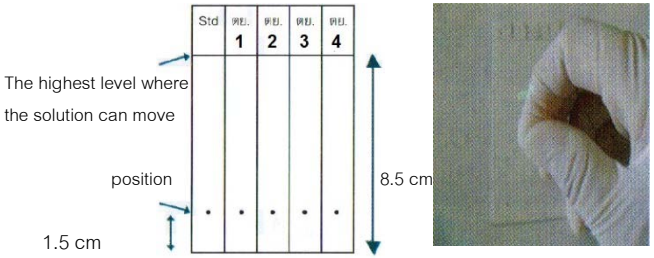
2. Evaporation

Use the plastic dropper to draw 1 ml of the clear extract in 1.2 into the metal cup which is placed on the rack. Leave the rack in the water bath at 48±2 °C. Wait until the extract in the metal is almost all evaporated or is about 2 drops left.



3. TLC Aluminum Sheet Preparation

3.1 Write the sample ID on the TLC aluminum sheet. Do not touch the TLC sheet directly with your hands. This will create grease on the sheet and interfere the test.



4. Test

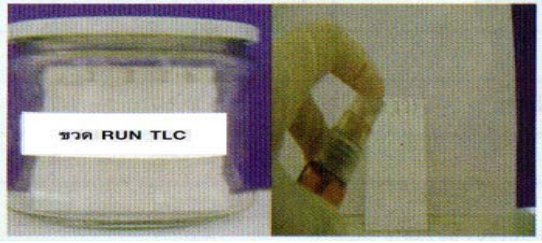
4.1 Use the capillary tube to draw the sample extract in 2 (if the solution in the metal cup are dried, drop 2 drops of the solvent into the cup. Tilt the metal cup gently to dissolve all the dried extraction inside the cup.). Drop all the extract by touching the tip of the capillary tube to the spotting position marked on the TLC sheet. Raise the capillary tube up and wait until the spotted extract dried. Repeat about 4-6 times until the extraction runs out.

4.2 Use forcept to place TLC aluminum sheet in to the TLC tank. Lean it to the side of the bottle and close the lid (Do not shake or move the bottle).

4.3 When the solution moves to the specified level, open the lid and use the forcept to take the TLC sheet out.-Let it dry.

5. Color Test

5.1 Spray the TLC aluminum sheet with GPO-TM 4 at the distance of 4.5 inches until it soaks. Let it dry (1 minute).



5.2 Place the TLC sheet under UV at the wavelength of 254 nm for 3-5 minutes (if expose too long, the sheet will burn).

UV System

6. Interpretation

Positive: Found grey, brown-black spots on the TLC aluminum sheet. This shows that there is organochlorine and pyrethroid pesticides.

Negative:No spot on the TLC sheet was found. This shows that there is no Organochlorine and Pyrethroid pesticide.

Precaution and Storage

1. Should test under well-ventilated and far from heat or flash sources area.
2. Every chemical are hazardous. Direct inhalation or skin contact should be avoided.
3. Used solution, if contact with hands, wash immediately with water or if contact with eyes, irrigate with water and consult physician immediately.
4. Place the kit out of reach of children and keep in well-ventilated storage.

Limited of Detection Results

Standard Name	LOD (mg/kg)	Rf of the Standard
1. Cypermethrin	3.1	0.5, 0.53, 0.58
2. Permethrin	1.9	0.71, 0.83
3. Deltamethrin	2.2	0.91
4. Endrin	0.3	0.82
5. Endosulfan	0.73	0.89
6. DDT	0.19	0.94