

Instruction sheet

AFFINIMIP® SPE Picolinic Acids herbicides cartridges

FORMAT 6mL

CLEAN-UP PROCEDURE OF HERBICIDES FROM COMPOST

Users should read all instructions before using this kit.

For laboratory use only

AFFINIMIP® SPE Picolinic Acids herbicides is developed and manufactured by **AFFINISEP**

E-mail: contact@affinisep.com

Technical support: tech.support@affinisep.com

www.polyintell.com

Version 1.1

Method for Selective Phase Extraction of Herbicides using Molecularly Imprinted Polymers

1. INTRODUCTION

This instruction sheet describes a protocol for the selective extraction of Herbicides (Aminopyralid, Clopyralid, Picloram) from Compost. The protocol is still under development. By using **AFFINIMIP® SPE Picolinic acids herbicides**, the expected result is a clean-up and a pre-concentration of the sample at trace levels.

2. PRINCIPLE OF AFFINIMIP® SPE

AFFINIMIP® SPE is a solid phase obtained by a polymerisation process to create a three-dimensional network that recognizes the shape and functional group positions of a template molecule. The **AFFINIMIP® SPE** selectivity comes from the technology of molecularly imprinted polymer (MIP) used during the synthesis.

3. PRODUCT INFORMATION

Description of the kit

Each solid phase extraction (SPE) cartridge **AFFINIMIP® SPE Picolinic acids herbicides** of this kit contains 60mg of sorbent in a 6mL cartridge.

Information and storage

Storage: Room temperature.

Each cartridge has a single use.

4. PRECAUTIONS FOR USE

SPE methods developed for C18 or other sorbents are not appropriate for **AFFINIMIP® SPE**. **The extraction procedure described below has been optimized for the extraction of Herbicides from Compost. For the treatment of another kind of matrix, please contact us to adapt the extraction procedure.**

5. GENERAL INSTRUCTIONS FOR SPE

5.1. Equipments required

In addition to standard laboratory materials, the following equipments are required for the use of **AFFINIMIP® SPE** cartridges:

- SPE vacuum manifold
- Nitrogen Mini-vap evaporator or centrifugal concentrator to dry the collected samples

5.2. Flow rate

It is very important to follow the flow rate given in the protocol.

Most especially for the loading, if the sample flow rate is too high, components may not interact sufficiently with the sorbent and the analyte recovery yield will be lower.

6. CLEAN-UP PROCEDURE:

6.1. Preparation of solutions

- Solution 98/2 Ethyl acetate/Trifluoroacetic acid (v/v)

In a 100mL-volumetric flask, add 2mL of Trifluoroacetic acid and complete with Ethyl acetate.

6.2. Preparation of the compost

Weigh 5.0 ± 0.05 g of the compost sample. Add 100 mL of HPLC water.

Shake the sample for a minimum of 60 minutes. Centrifuge the sample for 10 minutes at 3000 rpm. Then filter the solution on filter paper (4-7 μ m).

6.3. Protocol for the clean-up:

| Step (Flow rate) | AFFINIMIP® SPE Picolinic acid herbicides (100mg/6mL) |
|---------------------------------------|--|
| Equilibration with (2 drops/s) | <ul style="list-style-type: none"> ▪ 3mL Acetonitrile ▪ 2mL Water ▪ Do not allow the cartridge to dry during conditioning |
| Loading (L) | Up to 6mL of Compost (1 drop every 2 seconds) |
| Washing of interferents (1 drop/s) | <ul style="list-style-type: none"> • 3mL ultrapure Water |
| Drying : | Force the solution down into the cartridge and out the bottom (For this step, you can apply vacuum 1 minute) |
| Washing of interferents (1 drop/s) | <ul style="list-style-type: none"> • 3mL Acetonitrile |
| Elution (E) (1 drop/s) | <ul style="list-style-type: none"> • 6mL 98/2 Ethyl acetate/Trifluoroacetic acid |