

Technical Datasheet

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| Analysis Name: | Pesticides Analyses by GC |
| Method Number: | LIBR 023 |
| Scope Application: | Description of a reference multiresidue method for the low level determination of organochlorine, organophosphorus, and organonitrogen pesticides, as well as pyrethroids residues in fatty foods (milk powder, cocoa powder, vegetable and animal fats and oils) and non-fatty foods (fruits, fruit juice concentrates, vegetables, purees, cereals, spices, green coffee, tea). |
| Description: | Fatty and non-fatty fresh or dried samples are extracted with acetone (after appropriate addition of water so as to ensure a constant acetone/water ratio of (2:1) v/v) and partitioned into cyclohexane - ethyl acetate (1+1),. Vegetable, animal fats and oils are directly dissolved in ethyl acetate. The organic phase is concentrated and cleaned up by gel permeation chromatography (GPC) on a polystyrene gel, using a mixture of cyclohexane and ethyl acetate as eluant. The residue-containing fraction is concentrated and analyzed for organophosphorus and organonitrogen pesticides by gas chromatography with flame photometric or nitrogen-phosphorus detection. For analysis of organochlorine pesticides and pyrethroids by electron capture detection, a supplemental cleanup on a silicagel minicolumn is necessary. In this cleanup step, the other compounds are also separated in several fractions, thus providing additional leads for identification |
| Sample Weight Required: | 100 g |
| Method Reference: | - |
| Analytical Platform: | GC |
| Special Information: | Method in process for accreditation ABNT ISO 17025: 2017 |

| Analyte Reported | Alias | Unit of Measure | Typical Limit of Quantification | Uncertainty |
|------------------|-------|-----------------|---------------------------------|-------------|
| Aldrin | - | mg/kg | 0.010 | < 50 % |
| Pesticides | - | mg/kg | 0.010 | < 50 % |

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|------------------------------|---|-------|-------|--------|
| Cyfluthrin (I+II+III+IV) | - | mg/kg | 0.010 | < 50 % |
| Bromophos (Bromophos-Methyl) | - | mg/kg | 0.010 | < 50 % |
| Bromofós-Etil | - | mg/kg | 0.010 | < 50 % |
| Carbofenotion | - | mg/kg | 0.010 | < 50 % |
| Chlordane, Total | - | mg/kg | 0.010 | < 50 % |
| Clordan, Alfa-(Cis Clordano) | - | mg/kg | 0.010 | < 50 % |
| Clorotalonil | - | mg/kg | 0.010 | < 50 % |
| Clorpirifós-Metil | - | mg/kg | 0.010 | < 50 % |
| Coumafós | - | mg/kg | 0.010 | < 50 % |
| Cipermetrina (A+B+T+Z) | - | mg/kg | 0.010 | < 50 % |
| DDD, O,P'- | - | mg/kg | 0.010 | < 50 % |
| DDD, P,P'- | - | mg/kg | 0.010 | < 50 % |
| DDE, P,P'- | - | mg/kg | 0.010 | < 50 % |
| DDT, O,P'- | - | mg/kg | 0.010 | < 50 % |
| DDT, P,P'- | - | mg/kg | 0.010 | < 50 % |
| Deltametrina | - | mg/kg | 0.010 | < 50 % |
| Diazinon | - | mg/kg | 0.010 | < 50 % |
| Dichlofluanid | - | mg/kg | 0.010 | < 50 % |
| Diclorvós | - | mg/kg | 0.010 | < 50 % |
| Dicloran (Botram) | - | mg/kg | 0.010 | < 50 % |
| Dieldrin | - | mg/kg | 0.010 | < 50 % |
| Dimethoate | - | mg/kg | 0.010 | < 50 % |
| Disulfoton | - | mg/kg | 0.010 | < 50 % |
| Alfa-Endosulfano | - | mg/kg | 0.010 | < 50 % |
| Beta-Endosulfano | - | mg/kg | 0.010 | < 50 % |
| Sulfato De Endosulfano | - | mg/kg | 0.010 | < 50 % |
| Endrin | - | mg/kg | 0.010 | < 50 % |
| Ethion | - | mg/kg | 0.010 | < 50 % |
| Ethoprophos | - | mg/kg | 0.010 | < 50 % |
| Phenothrin | - | mg/kg | 0.010 | < 50 % |
| Fenitrotrion | - | mg/kg | 0.010 | < 50 % |
| Fenthion | - | mg/kg | 0.010 | < 50 % |
| Fenvalerate I | - | mg/kg | 0.010 | < 50 % |
| Hch Total | - | mg/kg | 0.010 | < 50 % |
| Alfa-Hch | - | mg/kg | 0.010 | < 50 % |
| Beta-Hch | - | mg/kg | 0.010 | < 50 % |
| Delta-Hch | - | mg/kg | 0.010 | < 50 % |
| Gama-Hch (Lindano) | - | mg/kg | 0.010 | < 50 % |
| Heptaclor | - | mg/kg | 0.010 | < 50 % |
| Cis-Heptaclor Epóxido | - | mg/kg | 0.010 | < 50 % |
| Hexaclorobenzeno (Hcb) | - | mg/kg | 0.010 | < 50 % |
| Iprodione | - | mg/kg | 0.010 | < 50 % |
| Iodofenphos | - | mg/kg | 0.010 | < 50 % |
| Malation | - | mg/kg | 0.010 | < 50 % |
| Methacrifos | - | mg/kg | 0.010 | < 50 % |
| Methamidophos | - | mg/kg | 0.010 | < 50 % |

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|---------------------------|---|-------|-------|--------|
| Methoxychlor | - | mg/kg | 0.010 | < 50 % |
| Mevinphos Phosdrin | - | mg/kg | 0.010 | < 50 % |
| Mirex | - | mg/kg | 0.010 | < 50 % |
| Monocrotophos | - | mg/kg | 0.010 | < 50 % |
| Omethoate | - | mg/kg | 0.010 | < 50 % |
| PARATION (Parthion Ethyl) | - | mg/kg | 0.010 | < 50 % |
| Paration Metil | - | mg/kg | 0.010 | < 50 % |
| Permethrin (Cis+Trans) | - | mg/kg | 0.010 | < 50 % |
| Phosalone | - | mg/kg | 0.010 | < 50 % |
| Pirimifós-Metil | - | mg/kg | 0.010 | < 50 % |
| Procymidone | - | mg/kg | 0.010 | < 50 % |
| Pyrazophos | - | mg/kg | 0.010 | < 50 % |
| Tolyfluanid | - | mg/kg | 0.010 | < 50 % |
| Trichlorfon | - | mg/kg | 0.010 | < 50 % |
| Vinclozolin | - | mg/kg | 0.010 | < 50 % |
| PCB 028 | - | mg/kg | 0.010 | < 50 % |
| PCB 052 | - | mg/kg | 0.010 | < 50 % |
| PCB 101 | - | mg/kg | 0.010 | < 50 % |
| PCB 118 | - | mg/kg | 0.010 | < 50 % |
| PCB 138 | - | mg/kg | 0.010 | < 50 % |
| PCB 153 | - | mg/kg | 0.010 | < 50 % |
| PCB 180 | - | mg/kg | 0.010 | < 50 % |
| PCB 128 | - | mg/kg | 0.010 | < 50 % |
| PCB 149 | - | mg/kg | 0.010 | < 50 % |
| PCB 151 | - | mg/kg | 0.010 | < 50 % |
| PCB 170 | - | mg/kg | 0.010 | < 50 % |
| PCB 018 | - | mg/kg | 0.010 | < 50 % |
| PCB 183 | - | mg/kg | 0.010 | < 50 % |
| PCB 187 | - | mg/kg | 0.010 | < 50 % |
| PCB 194 | - | mg/kg | 0.010 | < 50 % |
| PCB 044 | - | mg/kg | 0.010 | < 50 % |
| Clorpirifós | - | mg/kg | 0.010 | < 50 % |
| Bioallethrin (Allethrin) | - | mg/kg | 0.010 | < 50 % |
| Lambda-Cyhalothrin | - | mg/kg | 0.010 | < 50 % |
| Fenpropathrin Danito | - | mg/kg | 0.010 | < 50 % |
| Bifenthrin | - | mg/kg | 0.010 | < 50 % |