infoPoint

Reagents for gas chromatography (GC)

Reagents for residue analysis

The **PanReac AppliChem range of high purity reagents** has been specifically designed for the analysis of pesticide residues in the food industry and in environmental control, for example in drinking water.

They are strictly controlled by gas chromatography from 500-fold concentrated samples using ECD and FID detectors.

- Using an ECD detector in the range from lindane to DDT, no peaks are obtained greater than the equivalent of 5 ng/l lindane.
- Employing an FID detector in the range from 2-Octanol to Tetradecanol.

These solvents are carefully packed and the liquid only gets in contact with glass and teflon. The pesticide analysis program includes Sodium Sulfate anhydrous with the same guarantee level of pesticide impurities.

Range of reagents for pesticide analysis

Product number	Product name	CAS number	Pack sizes
321007	Acetone for pesticide analysis	67-64-1	2.5 L
321881	Acetonitrile for pesticide analysis, ACS	75-05-8	2.5 L
321250	Cyclohexane for pesticide analysis	110-82-7	2.5 L
321254	Dichloromethane stabilized with ~ 20 ppm of amylene for pesticide analysis	75-09-2	1 L, 2.5 L, 4 L
321318	Ethyl Acetate for pesticide analysis	141-78-6	2.5 L
322062	n-Heptane for pesticide analysis	142-82-5	2.5 L
323242	n-Hexane 95% for pesticide analysis	110-54-3	2.5 L, 10 L, 30 L
322064	Isooctane for pesticide analysis	540-84-1	2.5 L
321315	Petroleum Ether 40-60°C for pesticide analysis	64742-49-0	2.5 L
325709	Sodium Sulfate anhydrous, for pesticide analysis	7757-82-6	1 kg
321745	Toluene for pesticide analysis	108-88-3	2.5 L

PanReac AppliChem
ITW Reagents

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Solvents for analysis of residual solvents

During the manufacturing of actives or excipients, or during the preparation of medicinal products, solvents that are used may not be completely removed. These solvents may have harmful effects on human health or on the environment and must be removed to the maximum extent possible. ICH's Q3C guide (International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use) establishes the acceptable levels of residual solvents in pharmaceuticals and classifies them according to their toxicity (see class 1, 2 and 3 solvents lists on the back).

It also describes the official methods for content analysis of said solvents in actives, excipients and/or medicines. The European Pharmacopoeia and the USP have adopted these same guidelines (Ph. Eur. method 2.4.24 and USP <467>).

The method normally consists of dissolving the sample in an appropriate solvent (water, dimethyl sulfoxide or dimethyl formamide, among others) to remove the residual solvent. Subsequent analysis is done by Headspace Gas Chromatography.

Therefore it is important that the solvent to be used for dissolving the sample has maximum purity and contains none of the residual solvents to be analyzed.

At PanReac AppliChem we are experts on solvent purification and control; we offer four of the most frequently used solvents in the preparation of samples for subsequent analysis by Headspace Gas Chromatography.

To ensure the utmost quality of these new solvents it has been necessary to develop new, more demanding manufacturing and packaging protocols.

Solvent range for residual solvent analysis

Product number	Product name	CAS number	Pack sizes
753145	N,N-Dimethylacetamide for Headspace GC	127-19-5	1 L
751785	N,N-Dimethylformamide for Headspace GC	68-12-2	1 L, 2.5 L
751954	Dimethyl Sulfoxide for Headspace GC	67-68-5	1 L, 2.5 L
753080	1-Methyl-2-Pyrrolidone for Headspace GC	872-50-4	1 L

According to their risk to human health, residual solvents have been grouped into 3 categories:

Class 1: Solvents that should be avoided.
Class 2: Solvents to be limited.
Class 3: Solvents with low toxic potential.

IP-071EN

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