

Tetrachloroethylene for IR spectroscopy

Ozone-layer friendly solvent

The **determination of oils and fats⁽¹⁾** is a routine analysis **in treated and untreated wastewater**, which is necessary to adapt the purification treatment thereof and to minimize the environmental impact.

There are several analysis methods⁽²⁾ according to the level and type of oil and fat present in the water.

The partition and IR detection method is the most commonly used when the samples contain volatile hydrocarbons or with low levels of oil and fats (<10 mg/L).

The solvents that have been used routinely for carrying out the extraction are trichlorotrifluoroethane and carbon tetrachloride; however, because they are substances that deplete the ozone layer⁽³⁾, it is recommended to minimize their use.

Tetrachloroethylene is an appropriate alternative solvent which does not damage the ozone layer.

- (1) Oil and fats: any material recovered as a substance soluble in a solvent. Therefore, oils and fats are defined by the method used for their determination (Standard Methods, 22nd Edition, 5520 Oil and Grease, p. 5-38).
- (2) Standard Methods, 22nd Edition, 5520 Oil and Grease, p. 5-38 - 5-46.
- (3) Its use is regulated in the European Union by the Regulation (EC) No. 1005/2009 of 16 September 2009.



It is excellent for determining hydrocarbon levels in water by IR spectroscopy

At ITW Reagents we have developed a new tetrachloroethylene that is ideal for use in this method.

This solvent can be used for determining oils and fats by IR spectroscopy because it does not have C-H bonds in its structure which can interfere with the analysis.

Our tetrachloroethylene does not contain traces of hydrocarbons which can distort the results.

It is transparent in the working range of 3200 cm^{-1} to 2700 cm^{-1} ensuring the maximum peak at 2930 cm^{-1} is lower than 11 ppm of hydrocarbons, related to the standard hexadecane:isooctane:benzene (37.5%:37.5%:25.0%).

We offer it in **2.5 L glass bottles**, which is an adequate container format for most laboratories.

Product code	Product name	CAS number	Pack size
331455.1612	Tetrachloroethylene for IR	127-18-4	2.5 L



Specifications of PanReac AppliChem Tetrachloroethylene for IR spectroscopy	
Minimum assay (G.C.)	99.8%
Density at 20/4	1.620 - 1.624
APHA colour	10
Acidity	0.0005 meq/g
Non-volatile matter	0.001%
Chlorine	Passes test
Chloride (Cl)	0.0001%
Hydrocarbons (absorbance of the maximum peak at 2930 cm ⁻¹ ; range 3200-2700 cm ⁻¹ , related to hexadecane:isooctane:benzene)	11 ppm
Water (H ₂ O)	0.005%

Product microfiltered (0.2 µm) and packaged under nitrogen atmosphere.

IP-001EN

AppliChem GmbH
Ottoweg 4
DE-64291 Darmstadt
Germany
Phone +49 6151 9357 0
Fax +49 6151 9357 11
info.de@itwreagents.com

Nova Chimica Srl
Via G. Galilei, 47
I-20092 Cinisello Balsamo
(Milano) Italy
Phone +39 02 66045392
Fax +39 02 66045394
info.it@itwreagents.com

PanReac Química SLU
C/ Garraf 2, Polígono Pla de la Bruguera
E-08211 Castellar del Vallès
(Barcelona) Spain
Phone +34 937 489 400
Fax +34 937 489 401
info.es@itwreagents.com

