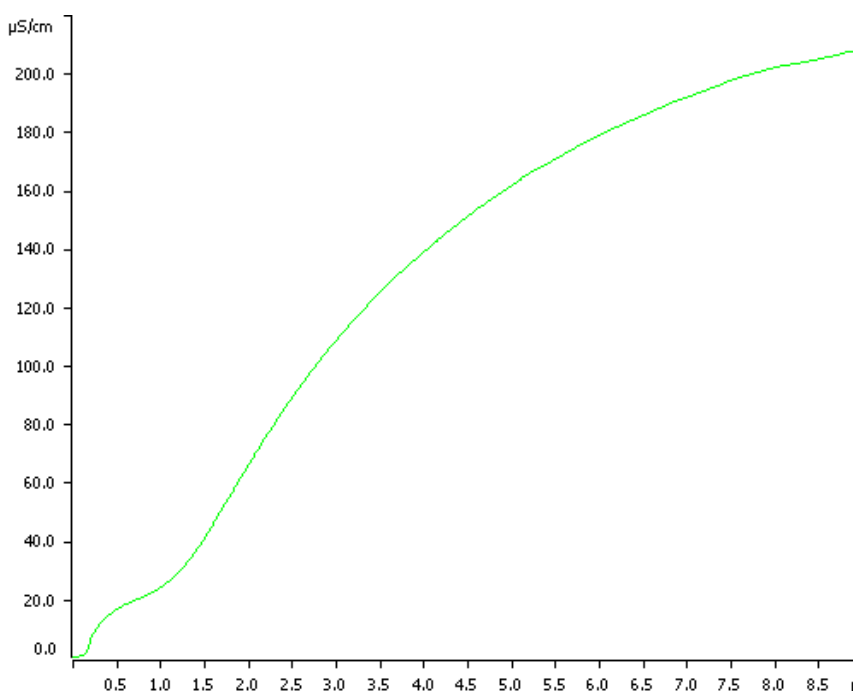


Stability Application Note R-023

Oxidation stability of animal feed

Fast determination of oxidation stability without sample preparation



Oxidation stability is an important parameter to assess the quality of animal feed. It provides information about the long-term resistance to degradation of the fatty acids, which can predict the storage stability of the product. Oxidation stability of many animal feeds can be directly and reproducibly measured by the Rancimat method, if polyethylene glycol (PEG) is used as the carrier material. The principle is based on the ability of the sample's own antioxidants to stabilize the induction time of the PEG. The induction time can therefore be directly related to the oxidation stability of the sample.

No sample preparation is required for this application. This Application Note describes the determination of oxidation stability of fish food and dog treats. More information on the Rancimat method can be found on the [Metrohm website](#).

Method description

Sample

Fish food, granular

Dog treats

Sample preparation

No sample preparation is required.

Configuration

892 Professional Rancimat	2.892.0010
Equipment for the determination of the temperature correction	6.5616.100
Measuring vessel cover with built-in conductometric measuring cell	6.0913.130

Analysis

3.0 g ± 0.10 g polyethylene glycol and 1.0 g ± 0.10 g sample is weighed in the reaction vessel and the analysis is started.

Parameters

Sample size	1.0 ± 0.10 g
Measuring solution	60 mL
Temperature	110 °C or 120 °C (refer to results table)
Temperature correction	auto
Gas flow (air)	20.0 L/h
Conductivity	300 µS/cm
Endpoint(s)	yes
Stop once all the criteria have been fulfilled	yes

Results

Sample (n = 4)	Temp. in °C	Mean value / h	s(abs) / h	s(rel) / %
Fish food	120	2.98	0.04	1.3
Dog treats	110	1.48	0.14	9.2