

CTL 019 - Auto Ignition Temperature Test Apparatus (AIT) Data Sheet



ASTM E659-78 AIT

The Auto Ignition Temperature Test is performed to enable determination of hot and cool flame auto ignition temperatures of a liquid chemical (and solid chemicals*) in air at atmospheric pressure in a uniformly heated vessel. * Within certain limitations, the test can also be used to determine the auto ignition of solid chemicals which readily melt and vaporise at temperatures below the test temperature. Auto Ignition is defined as the ignition of a material commonly in air as the result of heat liberation due to an exothermic oxidation reaction in the absence of an external ignition source such as a spark or flame.

The following test standards (each with slight differences) are applicable to the test:
ASTM E659-78 (re-approved 2005) (the most internationally used standard) IEC 60079-4 and EC test A15 DIN 51794, January 1978. (DEKRA Process Safety can supply equipment to this standard). IEC 60079-4 and EC test A15



DIN 51794 AIT

Benefits

- Testing to ASTM/IEC/DIN standards is possible. Relevant oven supplied (see different designs below)
- Compact oven size
- Used within our own process safety test laboratories, therefore well proven
- Simple to use

Functional specification & deliverables

- (ASTM Method spec covered here. For DIN standard apparatus deliverables please contact us)
- 220-240 V 50 Hz single phase furnace 310 x 310 x 500 mm
- 150-650 °C (standard operating range)
- Capable of controlling the flask temperature within +/-1 °C up to 350 °C and +/-2 °C from 350 °C to 650 °C
- Temperature uniformity is better than +/- 4 °C measured on the outside of an aluminium clad flask at 3 positions
- 10 x round bottom borosilicate flasks
- Data acquisition hardware and AIT software supplied (ASTM method only)
- Supplied with Vapour temperature thermocouple (ASTM), spare thermocouple and sample injection syringe set
- Pre-calibrated
- Mini-PC with Windows 11 supplied as standard
- Training services

Optional extras

- Spare vessels for ASTM (round bottom) or DIN (conical)
- Spare syringes
- Spare thermocouples
- Spare oven insulation



DEKRA Organisational & Process Safety

Contact

DEKRA Organisational and Process Safety are a behavioural change and process safety consultancy company. Working in collaboration with our clients, our approach is to assess the process safety and influence the safety culture with the aim of making a difference.

In terms of behavioural change, we deliver the skills, methods, and motivation to change leadership attitudes, behaviours, and decision-making among employees. Supporting our clients in creating a culture of care and measurable sustainable improvement of safety outcomes is our goal. The breadth and depth of expertise in process safety makes us globally recognised specialists and trusted advisors. We help our clients understand and evaluate their risks, and we work together to develop pragmatic solutions. Our value-adding and practical approach integrate specialist process safety management, engineering, and testing. We seek to educate and grow client competence in order to provide sustainable performance improvement. Partnering with our clients, we combine technical expertise with a passion for life preservation, harm reduction and asset protection.

We are a service unit of DEKRA SE, a global leader in safety since 1925 with over 48,000 employees in 60 countries and five continents. As a part of the world's leading expert organisation DEKRA, we are the global partner for a safe world.

We have offices throughout North America, Europe, and Asia.

For more information visit
www.dekra-uk.co.uk

+44 (0)23 8076 0722

instruments-uk@dekra.com

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