

AUTOIGNITION TEMPERATURE OF LIQUID CHEMICALS

Test Method

Determines the lowest temperature at which the vapors of a liquid or solid chemical sample will self-ignite under prescribed laboratory conditions. The temperatures at which 'cool flame' and 'hot flame' ignitions occur, as evidenced by sudden temperature increases in the sample flask, are measured and recorded, and the delay time between introduction of the sample and ignition is timed.

Autoignition Apparatus

- Conforms to ASTM E659 specifications
- Digital furnace temperature control
- Digital flask temperature display

Modified crucible furnace with digital thermocouple readout of flask temperature at prescribed points per ASTM specifications. Linearized analog output permits connection to a strip chart recorder or datalogging instrument. Furnace provides rapid response and $\pm 1^{\circ}\text{C}$ stability throughout the operating range from Ambient to 750°C . Cylindrical heating chamber provides excellent radial temperature uniformity. Furnace cover has ports for flask exterior thermocouples, and a borosilicate glass thermocouple tube is provided to assure correct positioning of the gas temperature thermocouple inside the test flask. Thermocouples plug directly into the furnace control unit for quick disconnection when removing the flask. A hinged holder in the cover facilitates handling of the test flask. Adjustable mirror permits safe viewing of the flask interior during testing. Control panel has temperature controls and digital thermocouple readout with four-position selector switch.

Specifications

Conforms to the specifications of:

ASTM E659

Temperature Range: Ambient to 750°C

Temperature Control: digital setpoint solid state controller accurate to within $\pm 1^{\circ}\text{C}$

Flask Temperature Display: $0-750^{\circ}\text{C}$, with four position selector switch

Electrical Requirements: 220-240V 50/60Hz, Single Phase, 7.7A $\text{C}\epsilon$

Included Accessories

Borosilicate Test Flask, 500mL

Thermocouples (4)

Dimensions l x w x h, in. (cm)

Furnace: 15x15x22 (38x38x56)

Control Cabinet: 22x10x14 (56x25x36)

Net Weight: 72 lbs (32.8kg)

Shipping Information

Shipping Weight: 98 lbs (44.5kg)

Dimensions: 16.3 Cu. ft.



K47000 Autoignition Apparatus

Special apparatus for performing the Autoignition Test according to the ASTM D2155 test method is available. Please contact Koehler Customer Service for additional and ordering information.

Ordering Information

Catalog No.	Description	Quantity
K47000	Autoignition Apparatus, 220-240V 50/60Hz	1
Accessories		
362-001-000	Syringe, 1mL	1
K470-0-1-14	Needle, 6", stainless steel	1
K70015-1A	Recorder, 115V/230V 50/60Hz	1
374-115-001	Hot Air Gun, 115V 60Hz	1
374-230-001	Hot Air Gun, 220-240 50/60Hz	1
332-003-008	Quartz Test Flask, 500mL	1
K470-0-1-8	For purging product gases between tests	1
	For high temperature testing over 600°C	
	Quartz Thermocouple Guide	



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