

Setaflash™

Small Scale Flash Point Testing



Fuels • Biofuel • Lubricants • Chemicals • Cosmetics
Waste • Pharmaceuticals • Environmental • Paints • Oils



What is Setaflash Small Scale Flash Point Testing?

Flash point is the lowest temperature of a liquid at which its vapours will form a combustible mixture with air. Flash point is a key property for petroleum products and chemicals and is included in many specifications.

Closed cup tests simulate an enclosed environment for example storage in a tank or sealed container, whilst open cup tests simulate an uncontained condition, for example a spillage. Closed cup tests are usually specified due to improved precision.

Setaflash methods cover flash point tests within the range -30 to 300°C using a small scale closed cup tester. The procedures can determine whether a product will or not (flash/no flash Method A) at a specified temperature, or the flash point of a sample (Method B).

Small scale tests are typically used to assist the rapid classification of potentially hazardous substances where storage, transport and disposal charges are based on flammability and where correct classification is vitally important and has significant cost and safety implications.

The small scale 'ramp' test method ASTM D7236 provides a definitive flash point result that has established correlation with ASTM D3828. Many specifications call for the use of these test methods as an alternative to ASTM D93 Pensky-Martens or ASTM D56 Tag and other flash point tests.



Watch a video demonstration:
www.stanhope-seta.co.uk/setaflash.html
 Or scan the QR code opposite.



Why measure Flash Point?

	<p>Quality Control – Checking for Contamination or Adulteration</p> <p>Petroleum and Chemical Industries are mostly affected by contamination problems which can occur during storage, handling and in pipelines throughout the distribution network.</p> <p>Changes in flash point indicate that a sample may have been contaminated or adulterated which can adversely affect consistency and product performance.</p>		<p>Transport & Storage Regulations to categorise product for Hazard Classification</p> <p>Flash point is used in shipping and safety regulations to define flammable and combustible materials and classify their hazard potential which has significant cost implications when transporting or storing products.</p> <p>Flash point can indicate the possible presence of highly volatile and flammable materials in a relatively non-volatile or non-flammable material.</p>
	<p>CLP Regulations</p> <p>CLP is a regulatory framework for the classification, labelling and packaging of substances and mixtures in the EU.</p>		<p>Waste Disposal Regulations</p> <p>Regulations now require rapid hazard classification of a sample (liquids, used oils and solids) before they can be disposed of.</p>

The advantages of Setaflash

- A safe & simple test which anyone can perform
- Rapid test result - in 1-2 minutes
- Small sample size - just 2 or 4ml
- 'Ramp' mode - tests for the unknown flash point
- Wide temperature range - suitable for most materials



All methods can be downloaded from the international standards organisation's website. Note IP/ISO/ASTM do not endorse any specific instruments, however these organisations develop global standards used by the industry.

Where is Setaflash used?

Setaflash is an internationally recognised and approved test method giving proven results, the instrument is specified in many international specifications and correlates with other closed cup methods, such as Pensky-Martens, Abel and Tag, for a wide range of products.

Setaflash is included in the following test methods;

ASTM D3278; ASTM D3828; ASTM D7236; ASTM E502; IP 523; IP 524; IP 534; IP 303 (obs); ISO 3679; ISO 3680; CLP Regulations EC No.1272/2008; USDOT; USEPA; US OSHA

Fuel | Diesel | Aviation Fuel | Marine Fuel | Biodiesel | FAME | Ethanol
 Oils - Lubricating, Hydraulic, Base, Mineral | Chemicals | Pharmaceuticals
 Paints | Cosmetics | Waste

Learn more online: www.stanhope-seta.co.uk/small-scale-flashpoint-testing.asp

Setaflash Series 3

- Temperature range 10 to 130°C or Ambient to 300°C (Depending on model)
- Sub-Ambient Tests and Rapid Cool Down
- Large format display
- Full touch screen display*
- Control via push button if preferred
- Barometric correction included*
- Portable, lightweight, compact design
- Realtime clock*
- Results storage – 1GB data capacity*
- USB output*
- Corrosion Resistant option*

*Model options

Setaflash Series 3 provides the fastest, most accurate range of flash point instruments at a cost effective price. A range of unparalleled features ensures ease of operation with only minimal operator skill required. It is ideal for performing product checks without the cost or delay of sending samples to third party test houses.

The Series 3 range includes options for Corrosion Resistant or Aluminium cups, Closed or Open Cup, a Ramp model and an ActiveCool version which offers peltier heating/cooling.



› Select test temperature



› Inject 2ml sample



› Press



› Dip test flame, flash detection is automatic

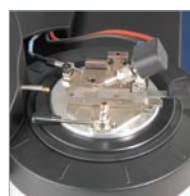
Setaflash Series 8

- Temperature range -20 to 130°C or Ambient +5 to 300°C (Depending on model)
- Small sample size, 2 or 4ml
- Corrosion Resistant cup option
- Electric ignitor (with gas option)
- Automatic dipping and flash detection
- ActiveCool electronic Peltier cooling
- 64 Test memory & RS232 interface
- °C or °F temperature display
- Barometric pressure correction

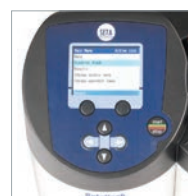
Series 8 Setaflash Tester allows automatic, rapid testing of multiple samples without the need for manual supervision during a test. The Series 8 is suited to users requiring to perform more than 30 tests per week.

Integral electric or gas ignition options mean the instrument can be used where a gas ignition is not practical. Results are recorded and stored for download to a pc or printer.

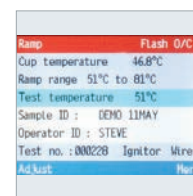
The ActiveCool model incorporates peltier heating and cooling which boosts cooldown allowing fast sample disposal and shorter test cycle. Users can choose Corrosion resistant or Aluminium cups.



› Electrical Ignitor



› Easy to use Menu System



› Easy to use Menu System



Setaflash Calibration & Verification

In conformance with ISO 17025 and mandatory test method requirements, Setaflash instruments must be verified annually using a sample with a known/certified flash point. Seta's Small Scale Certified Flash Point material (reference 99878-3) is recommended.

Verification of temperature display is checked using a suitable thermometer, the Seta digital thermometer (reference 30008-0) is recommended.

Applications: which instrument suits my sample?

Industry:	Application:	Temperature Range:	Seta Product Reference:
Petroleum & Derivatives Refining	Testing for QA/contamination where product is pumped through multi-product pipeline. Also used for H&S and transport regulations.	30°C to 399°C	30000-2, 33000-2
Lubricants	QC and research of lubes. Used oil analysis to detect evaporation/contamination by volatiles under working conditions.	30°C to 399°C	30000-2, 33000-2
Oil & Gas Rigs	Test quality of samples and for sump contamination of pumphead machinery.	30°C to 399°C	30000-2, 33000-2, 82000-0
Chemicals	Testing solvents used in production, H&S of finished product and safety classification for transport regulations.	Below 200°C	30000-0, 33000-0, 82000-0
Oil Treatment/Recovery	QC on base oils and checking contamination of used/recovered oils and fuels. Used oils are checked prior to storage and re-refining. H&S and transport regulations apply.	30°C to 399°C	30000-2, 33000-2, 82000-0
Road Tanker/Shipping Terminals	QC of storage tanks and deliveries. Safety classification for transport regulations.	30°C to 399°C	30000-2, 33000-2, 82000-0
Aviation & Aircraft	QC of incoming fuel and oils, H&S and transport. Specification conformance.	30°C to 399°C	30000-2, 33000-2, 82000-0, 82100-0
Biodiesel	Flash point testing checks that chemicals, such as methanol, used in the manufacturing process are below safe levels.	130°C	30000-2, 33000-2, 82000-0, 82100-0
Synthetic Resins	Resins are used for paints, varnish, glue, etc. Checked for QC, H&S and safety classification for transport regulations.	15°C to 150°C	30000-2, 33000-2, 82000-0, 82100-0
Paints & Varnishes	Research, QC and safety. Flammability classification for transport regulations. Recommended for water-borne paints.	Below 100°C	30000-2, 33000-2, 82000-0, 82100-0
Adhesives & Sealants	Testing esters and ketones for flammability classification for transport regulations. Also certification for Defence and Civil Aviation Authorities and Quality Audits to relevant standards.	Up to 150°C	30000-2, 33000-2, 82000-0, 82100-0
Perfumes, Flavours & Fragrances	Tests on solvent/water mixtures. Flammability classification for transport regulations and safety in use. Material tends to be expensive so SetaFlash 2ml sample size highly desirable.	Ambient to 110°C	30000-2, 33000-2, 33200-2, 82000-0, 82100-0
Formulated Pesticides	Used for flammability classification for transport regulations and R&D purposes.	Up to 150°C	30000-2, 33000-2, 82000-0
Soap & Synthetic Detergents	Used for research & testing of solvents in cosmetics & aftershaves. Used for QA, flammability classification for transport, H&S and R&D.	Under 200°C	30000-2, 33000-2, 82000-0
Chemical Products (polishes, cleaners)	Flash point criteria are specified in most products at R&D stage. Further tests are carried out for H&S and flammability classification for transport regulations.	30°C to 150°C	33000-2, 82000-0
Printing Inks	The lowest flashpoint solvent used is taken as the safety benchmark for flammability classification for transport regulations.	Below 100°C	30000-2, 33000-2, 33200-2, 82000-0, 82100-0
Waste Disposal	Tests used to classify waste prior to disposal.	Hexane <100°C, Pure Oil >300°C	30000-2, 33000-2, 82000-0, 82100-0
Transport Regulations	Flammability classification for road, rail, air and sea.	Extremely flammable <0°C Highly flammable <21°C Flammable <55°C	30000-2, 33000-2, 33200-2, 82000-0, 82100-0
Edible Oils & fats	Consumers and food manufacturers use these products at elevated temperatures during cooking and processing and hence flash point is checked to ensure refining processes and safety limits are correctly maintained.	Up to 30°C	30000-2, 33000-2, 82000-0, 82100-0
Pharmaceutical	Flash point tests are used by Pharmaceutical companies to check stated flash points on raw materials and finished products for consumer and regulatory requirements.	<100°C	30000-2, 33000-2, 33200-2, 82000-0, 82100-0
Energy & Power	Turbine and Transformer oils are routinely tested for flash point to confirm product integrity from contamination that may affect performance or safety.	Up to 20°C	30000-2, 33000-2, 82000-0, 82100-0
Bitumen & Asphalt	Used for shipping and safety regulations and to indicate the possible presence of more volatile or flammable compounds in an otherwise relatively non-volatile or non-flammable material.	>200°C	30000-2, 33000-2, 82000-0, 82100-0
Crude	Flash point testing provides an indication about the volatility of crude oil and therefore how safely it may be extracted, transported and stored, and the potential costs involved.	Below 0°C	82100-0

The Setaflash range

Seta Model:	Seta Part No:	Temperature Range:	Ramp Rate:	Cup Material:	Heating/Cooling Method:	Size (HxWxD) / Weight:
Series 3 Activecool	33200-2	10 to 130°C	2°C/min ramp	Aluminium	Peltier Cell	26 x 28 x 26cm / 5kg
Series 3 Activecool (Corrosion Resistant)	33250-2	10 to 130°C	2°C/min ramp	Corrosion resisting steel	Peltier Cell	26 x 28 x 26cm / 5kg
Series 3 'Plus' (Auto Ramp)	33000-2	Ambient to 300°C *(0 to 300°C with coolant module)	2°C/min ramp	Aluminium	External Cooling module (13870-0)	21 x 14 x 28cm / 3kg
Series 3 Open Cup	31000-0	Ambient to 300°C *(0 to 300°C with coolant module)		Aluminium	External Cooling module (13870-0)	26 x 28 x 26cm / 5kg
Series 3	30000-2	Ambient to 300°C *(0 to 300°C with coolant module)	NA	Aluminium	External Cooling module (13870-0)	21 x 14 x 28cm / 3kg
Series 8 High Temperature	82000-0	Ambient +5 to 300°C	2°C/min ramp	Aluminium	Ceramic Pad, Forced Air (post-test cooldown)	25 x 34 x 38cm / 8kg
Series 8 High Temperature (Gas)	82050-0	Ambient +5 to 300°C	2°C/min ramp	Aluminium	Ceramic Pad, Forced Air (post-test cooldown)	25 x 34 x 38cm / 8kg
Series 8 Activecool	82100-0	Air: 10 to 130°C Water Assisted: -20 to 130°C	2°C/min ramp	Aluminium	Peltier Cell	25 x 34 x 38cm / 8kg
Series 8 Activecool (Gas)	81150-0	Air: 10 to 130°C Water Assisted: -20 to 130°C	2°C/min ramp	Aluminium	Peltier Cell	25 x 34 x 38cm / 8kg
Series 8 Activecool (Corrosion Resistant)	82150-0	Air: 10 to 130°C Water Assisted: -20 to 130°C	2°C/min ramp	Corrosion resisting steel	Peltier Cell	25 x 34 x 38cm / 8kg
Series 8 Activecool (Corrosion Resistant, Gas)	82160-0	Air: 10 to 130°C Water Assisted: -20 to 130°C	2°C/min ramp	Corrosion resisting steel	Peltier Cell	25 x 34 x 38cm / 8kg