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	<b>INSTRUMENT:</b> MELTING POINT APPARATUS	<b>PAGE NO.:</b> 01-02
	<b>MAKE:</b> ConTech <b>MODEL:</b> CDMP-300-01 <b>PROCURED ON:</b> 10-08-2020	<b>EFFECTIVE DATE:</b> 01/01/2022
	<b>SUBJECT:</b> <b>SOP FOR MELTING POINT APPARATUS</b>	<b>REVIEW PERIOD:</b> 31/12/2022

### Objective:

The following document describes the standard operating procedure for Melting point apparatus.

### Scope:

Melting Point Apparatus measures the melting point of a solid substance i.e. the temperature at which the state of the substance changes from solid to liquid. This is an indication of the purity of a substance

### Procedure:

1. Plug in to ensure the power supply.
2. Switch **ON** the main power supply and instrument mains.
3. The screen displays the starting temperature and rate of heating as per the previous setting (setting before the instrument was switched off last time).
4. Initial temperature can be changed by entering required temperature through the keyboard and the press **ENTER** key (↵).
5. Cursor moves to "**RATE**" (heating rate). Input the rate of heating in °C per minute and the press **ENTER KEY** (↵).
6. The temperature starts rising at a higher heating rate till the set value of starting temperature & settles at the initial temperature value.
7. At this stage insert the capillary filled with sample upto 3mm height (for consistency of melting point results loading height should be consistently maintained) & press **START** key.
8. Now the temperature starts rising slowly as per the set value of rate of heating.

9. The screen displays the graph of light transmittance(y axis) v/s melting point temperature (x axis) with initial melting point (S Melt) & Final melting point (F Melt) in °C. The current value of temperature at capillary is also displayed on the top of the screen with ↑indicating increase in the temperature. The screen records the initial and final melting values along with the graph. After the detection of final melting value the heating stops & the temperature settles at the set initial temperature.
10. In case the capillary is not inserted while starting the test (pressing **START** key) the screen displays an error.
11. This instrument allows maximum 3 tests to be carried for finding average value of melting point results.

**Precautions:**

- Ensure that the capillary tube is **SEALED** on one end and **OPEN** on the other end.
- **DO NOT** fill the capillary tube more than 25% of its capacity.

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