

INDIAN INSTITUTE OF TECHNOLOGY KANPUR
DEPARTMENT OF CHEMICAL ENGINEERING
PG Research lab
STANDARD OPERATING PROCEDURE
TGA

Start Up Procedure

- 1.1 Open Nitrogen Cylinder Valve and set pressure at 1 bar maximum
- 1.2 Turn on switches of the board named 'UPS-OP-TGA'
- 1.3 Switch on TGA (Switch is at rear side of the instrument)
- 1.4 Wait for control panel display
- 1.5 Switch on computer
- 1.6 Wait 30 mins before starting run
- 1.7 Open TA Instrument Explorer
- 1.8 Double Click on Instrument Icon
- 1.9 Under summery >> Procedure
Mode > SDT Standard
Test > Custom
- 1.10 Under Summery enter
(a) Sample Name, (b) Pan Type,
(c) Create data file at
Computer > Local Drive (C:) > TA > DATA > SDT > {Date} Directory
- 1.11 Click Procedure >> Click Editor
Please select previously saved method (.mth) file name from
Computer > Local Drive (C:) > TA > DATA > SDT
ELSE
Create new procedure
- 1.12 If Gas 2 (Air) to be used, please follow SOP for Air Flow Start-up.
- 1.13 Click Notes >> User name
- 1.14 Open Furnace by clicking 'Control > Furnace > Open' and place clean Pan
- 1.15 Close Furnace > Click Tare
- 1.16 Open Furnace
- 1.17 Place Sample in sample pan (Front one) (3 to 50 mg)
- 1.18 Close Furnace
- 1.19 Wait for balance to stabilize. Take and save screen shot if required.
- 1.20 Start run by clicking 'Run' Button (Ensure that 30 mins elapsed after step 1.5)

Next Sample Loading Procedure

- 2.1 Wait till temperature of furnace comes below 40°C
- 2.2 Open Furnace by clicking 'Control > Furnace > Open'
- 2.3 Remove the pan and clean it.
- 2.4 Place empty pan at sample port.
- 2.5 Close Furnace > Click Tare
- 2.6 Open Furnace
- 2.7 Place Sample in sample pan (Front one) (3 to 50 mg)
- 2.8 Close Furnace
- 2.9 Wait for balance to stabilize. Take and save screen shot if required.
- 2.10 Start run by clicking 'Run' Button

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Shut Down Procedure

- 3.1 Wait till temperature comes below 100°C
- 3.2 From Menu bar Go to Control >> Shut Down Instrument
Note: Ensure furnace is closed before proceeding for shut down
- 3.3 Shutdown Dialog opens. Click Start
- 3.4 After 'shut down complete' message appears in SDT Q600 Control Panel switch off instrument power.
- 3.5 Shutdown Computer
- 3.6 Close Purge gas(es) from regulator(s) as well as cylinder valves.
- 3.7 Isolate Instrument Power plug from board
- 3.8 If Gas 2 (Air) was used, please follow SOP for Air Flow Shut-off.

Air Flow Start-up Procedure

- 4.1 Switch on Air Dryer
- 4.2 Wait for 10 mins
- 4.3 Open the ball valve marked 'Moisture trap Valve'
- 4.4 Switch on the compressor

PLEASE DO NOT OPERATE 'AIR REGULATOR'
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Air Flow Shut-off Procedure

- 5.1 Close the ball valve marked 'Moisture trap Valve'
- 5.2 Wait for 10 mins
- 5.3 Switch off Air Dryer Switch