

MARS 6 Vessel Use Guidelines

Maximum Working Volume: 70% of reaction vial
 Minimum Working Volume: 50mL
 Maximum Control Temperature: 300 °C

General guidelines for 100% power:
 50mL-500 mL: 500 W
 500mL-1.5L: 1000 W
 1.5L-3.5L : 1800 W

Total Minimum Load: (Total volume of solvent in the MARS 6 cavity)
 50 mL with low and medium absorbing solvents

1. Place all reagents into a round-bottom flask with a stir bar.
2. Ensure the cavity is clean.
3. Place Teflon disk flat in the cavity with the center hole placed over the drive lug.
4. Place the round bottom flask with the reaction and a stir bar into the cavity.
5. If required, attach a condenser and the applicable extension glassware.



6. Install the fiber optic probe.
7. Close the door of the MARS 6 instrument.
8. Select or create the desired method. For instructions on method creation, refer to the MARS 6 Operation Manual.
NOTE: Do not program temperature any higher than the boiling point of the lowest boiling solvent being utilized.
9. Press **Start** to begin the synthesis.

Vessel Removal:

1. Wait until the cool-down cycle has terminated and the reaction has returned to a safe temperature.
 - Do not remove the flask from the instrument cavity until the reaction has completed the cool-down cycle and the flask is at a safe temperature to remove it from the microwave cavity.

WARNING

To prevent the possibility of severe burns, wear insulated gloves and protective gear as outlined in the user's safety program.

2. Open the door of the MARS 6 instrument.
3. Remove the fiber optic probe.
4. If applicable, remove the condenser.
5. Remove the round bottom flask.
6. Perform the reaction work-up.

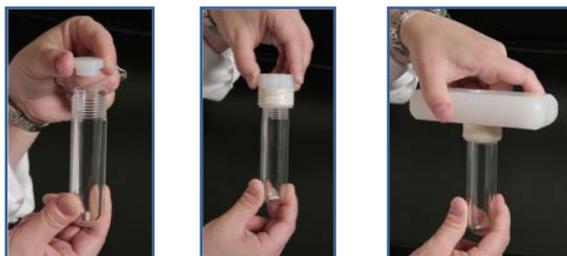
MARS 6 Vessel Use Guidelines

Vessel Volume: 20 mL
 Maximum Working Volume: 14 mL
 Minimum Working Volume: 3 mL
 Maximum Control Temperature: 180 °C
 Maximum Pressure Rating: 200 psi

General guidelines for 100% power:
 1-4 vessels: 500 W
 5-10 vessels: 1000 W
 11-24 vessels: 1800 W

Total Minimum Load: (Total volume of solvent in the MARS 6 cavity)
 50 mL with low and medium absorbing solvents
 10 mL with high absorbing solvents

- Following the appropriate safety precautions for the reagents used, place all the reaction components and a Teflon® coated magnetic stir bar into the GlassChem 20 vessel.
- Place the vent plug inside the top of the reaction vessel. Place the vessel top on the reaction vessel and tighten finger tight. Using the preset torque tool, tighten the top until an audible click can be heard from the tool.



- For the control vessel, place the fully assembled control top with an installed control plug and thermowell onto the reaction vessel. Tighten the control top finger tight. Using the preset torque tool, tighten the top until an audible click can be heard from the tool.



- If applicable, insert the composite sleeve into the receptacle of the turntable. Insert the vessels into the sleeves.
- Place the turntable shield on the turntable. Slide the four pins into place through the four pegs.

NOTE: The control vessel may be placed in any position around the turntable.



- Place the turntable into the MARS 6 cavity. Ensure that the turntable is properly seated on the drive lug.
- Slide the fiber optic probe into the thermowell nut.
- Close the door of the MARS 6 instrument.
- Select or create the desired method. For instructions on method creation, refer to the MARS 6 Operation Manual.
- Press **Start** to begin the method.

Vessel Removal:

- Following completion of a microwave heating method, allow the vessels to cool below 50 °C prior to venting.
- Remove the fiber optic probe from the control vessel.
- Remove the turntable from the microwave cavity and remove the turntable shield.
- Open the vessels slowly with the top pointed toward the back of a fume hood. Do not rapidly loosen the vessel top to prevent permitting gases to escape quickly, resulting in potential injury.
- Perform the reaction work-up.