

JOB SAFETY ANALYSIS

Safety Information for the University of California, Berkeley

DEPARTMENT OF MECHANICAL ENGINEERING OPERATING A 3D PRINTER DISSOLVE TANK

TASK	HAZARDS	CONTROLS
1. Assess work area; is it clear of obstructions and slip/trip/fall hazards?	<ul style="list-style-type: none"> Slip, trip, or fall 	<ul style="list-style-type: none"> Remove any obstructions or slip/trip/fall hazards. Maintain a dry floor.
2. Assess path to emergency eye wash station; is the path clear and free of obstructions?	<ul style="list-style-type: none"> Not immediately able to access emergency eyewash station if needed 	<ul style="list-style-type: none"> Remove any obstructions and maintain clear pathway
3. Select and don personal protective equipment	<ul style="list-style-type: none"> Exposure of corrosive solution to eyes or skin. 	<ul style="list-style-type: none"> Use of PPE is required and mandatory
4. Select items/parts needing dissolve support removed and place in appropriate soak basket	<ul style="list-style-type: none"> Loss of parts within solution tank 	<ul style="list-style-type: none"> Use appropriate basket
5. Place the basket into the dissolve tank a). Do not allow observers within splash area while parts are being put into or being removed from the dissolve tank	<ul style="list-style-type: none"> Corrosive solution spills out onto floor creating a slipping hazard Exposure of corrosive solution to eyes or skin. Exposure of corrosive solution to eyes or skin of observers 	<ul style="list-style-type: none"> Immediately dry up spilled solution with a paper towel and place appropriate “wet floor signs” if spill is large Work in a slow and deliberate manner, always have your PPE on Insist observers maintain a 10 ft perimeter anytime the tank lid is removed
6. Set timer and temperature control on solution tank control	<ul style="list-style-type: none"> Dissolve tank not dissolving support material properly Excessive sound levels if using the ultrasonic tanks 	<ul style="list-style-type: none"> Verify timer and temperature controls are set and operating Wear hearing protection if necessary
7. Maintain tank water levels within the manufacturers specifications	<ul style="list-style-type: none"> Possible exposure of corrosive solution to eyes or skin. 	<ul style="list-style-type: none"> Don personal protective equipment, remove solution tank lid, and replace/remove water as necessary.

	8. Draining solution from tanks as necessary	<ul style="list-style-type: none"> Solution spilled outside of solution tank creates slipping hazard Exposure of corrosive solution to eyes or skin. 	<ul style="list-style-type: none"> Immediately dry up spilled solution with a paper towel and place appropriate “wet floor signs” if spill is large Don personal protective equipment Constantly monitor disposal container; do not overfill
	9. Mixing and adding new solution to tanks	<ul style="list-style-type: none"> Possible exposure of corrosive solution to eyes or skin. 	<ul style="list-style-type: none"> Don personal protective equipment
	<p>Required Training (see “Other Information” below):</p> <p>Student Shop Safety Training Program</p> <p>Must complete additional training under guidance of a qualified Student Shop Laboratory Mechanician</p> <p>Read and understand SDS on Stratasys P400SC Sodium Hydroxide</p> <p>Read and understand how to operate the Fendall Porta Stream II Emergency Eyewash Station</p> <p>Read and understand operation manual for proper and safe use of dissolve tank.</p>	<p>Required Personal Protective Equipment (PPE)</p> <ul style="list-style-type: none"> Heavy Duty Neoprene Gloves (gauntlet style) Safety Glasses Full Face Splash Shield Liquid resistant lab coat Ear plugs, ear muffs 	
<p>Other Information:</p> <p>Contributors:</p> <p>Created:</p> <p>Updated:</p> <p>JSA Library Number:</p>	<p>Stratasys P400SC SDS, SCA Dissolve Tank Manual, Eyewash Station Manual</p> <p>Scott G. McCormick; R&D Engineering Manager, Jacob Gallego; Principal Lab. Mech.</p> <p>10/2015</p> <p>7/2020</p> <p>(EH&S will insert number here, if applicable)</p>		
<p>For more information about this JSA, contact the <i>Office of Environment, Health and Safety</i> at UC Berkeley, 317 University Hall #1150, Berkeley, CA 94720-1150 (510) 642-3073 • http://www.ehs.berkeley.edu</p>			