

Is an SOP Needed? Is it a priority?

-A risk assessment tool

This is intended as a tool to aid in determining if an SOP should be developed for an activity, method, or piece of equipment. Consider the questions, and place marks in the three columns on the right, based on your best understanding of the likelihood and severity of a hazard, in the case of the method or piece of equipment you are considering. If you are unsure, review appropriate literature, and / or ask around to gather more information.

Hazard or Area of Concern	Probability and Severity of Concern		
	Severe or Likely	Moderate	Minor or Unlikely
Chemical Hazards:			
Are there reactive materials involved (e.g. 5% hydrogen peroxide)?			
Are there toxic or carcinogenic materials involved (e.g. hydrogen sulfide, benzene)?			
Are there flammable materials involved (e.g. acetone, ethanol)?			
Do any of the materials involved have severe incompatibilities (e.g. sodium and water, sodium hypochlorite and ammonia)?			
Are there corrosive materials involved (e.g. sulfuric acid)?			
Are there radioactive materials involved (hey we have to ask)?			
Do any of the materials potentially decompose or degrade (e.g. chlorine dioxide)?			
Can you identify any other material or chemical properties of concern?			
Mechanical			
Are there elevated pressures involved (consider your equipment and your chemicals)?			
Are there extreme temperatures involved (consider your equipment and chemicals, e.g. acetone develops pressure at 58°C) ?			
Is there a possibility of being mechanically injured (pinched by, dragged into, cut by, hit by, fall into, fallen on by equipment)?			
Are there ingoing nips, especially unguarded ones (if you don't know what this is, go look it up, this is a common hazard) ?			
Does the equipment or materials store energy (e.g. springs, capacitors)?			
Radiation			
Are there radioactive materials involved (some equipment has radiation based sensors)?			
Are lasers or other high intensity light sources involved?			
Is UV or IR light used?			
Are other forms of radiation involved (E-beam, X-Rays, radio frequency, etc.)?			
Process			
Are materials being mixed or reacted? Can it run away? Is it exothermic? Are products potentially hazardous?			
Are large volumes of reactants being used?			
Are the components of the system near their operating limits?			

Now that you have reached this point, consider a few points. First, have the MSDS sheets for all chemicals used / produced been reviewed? If not, review them, and reconsider the chemical hazards! You do not want to work with a chemical you do not know! Have hazards been appropriately mitigated (e.g. pressure vessels have reliefs, small UV light sources are properly shielded, experiment using toxic materials conducted in hood)? Have you identified the PPE you need?

Now, if there are more than **3 or 4 Severe or Likely concerns**, you should probably develop an SOP immediately. If you have **one or two, and a few moderates**, consider doing one, but do not prioritize it. If all concerns are minor or unlikely, an SOP is likely not required. If you feel that even a single specific risk justifies an SOP: Do IT.