**Resources for assisting in developing SOPs**

January 2015 WMB

1. **Identifying hazards**:
2. <http://cenm.ag/hazard>
3. What is a hazardous chemical/hazardous waste?

* <https://www.osha.gov/SLTC/hazardoustoxicsubstances/index.html>
* <http://www.temple.edu/ehrs/docs/CHGIV.pdf>

1. **MSDS “Wear appropriate” PPE**:
2. Eye safety protection…

* When working with hazardous liquid chemicals;
* Undergraduates MUST wear indirect-vented goggles (by law).
* Graduates should model this safety practice. If assigned as a TA or GA, they must wear

indirect-vented goggles.

* Goggles should be worn when working with other potentially hazardous operations such as with pressure vessels unless additional safety shields are in place. (See Identifying hazards resource A.1.)
* For all other laboratory work;
* Undergraduates and graduates must wear safety glasses.

1. Hand safety protection…

* What is ‘appropriate’ glove protection?
* [http://pub.extranet.fsu.edu/sites/safety/safetywiki/Wiki Pages/OSHA Glove Selection Chart.aspx](http://pub.extranet.fsu.edu/sites/safety/safetywiki/Wiki%20Pages/OSHA%20Glove%20Selection%20Chart.aspx)
* <http://www.allsafetyproducts.com/asp-glove-selection-chart-chemical-break-through-times.html>

1. **SOP templates and examples**:
2. <http://www.safety.duke.edu/OHS/chemsopsTemplates.htm>
3. <http://www.bizmanualz.com/blog/how-to-create-a-standard-operating-procedure-template.html>
4. [www.epa.gov/quality/qs-docs/g6-final.pdf](http://www.epa.gov/quality/qs-docs/g6-final.pdf)

**Duke University’s SOPs and SOP Templates** <http://www.safety.duke.edu/OHS/chemsopsTemplates.htm>

**Physical Hazards**

[Compressed Gases](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20compressed%20gases.doc) *Revised 1/3/2013*[Cryogens](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20cryogens.doc) *Revised 10/8/2012*  
[Explosives](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Template%20Explosives.doc) (SOP Template - customization required) *Revised 10/8/2012* [Flammable materials](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20flammables%20and%20combustibles.doc) *Revised 2/26/2013*  
                [Diethyl Ether](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Diethyl%20ether.doc) *Revised 1/3/2013*  
                [Tetrahydrofuran](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Tetrahydrofuran.doc) *Revised 8/8/2013*  
                [b-Mercaptoethanol](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20b-mercaptoethanol.doc) *Revised 10/4/2012*  
[Oxidizers](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20oxidizers.doc) *Revised 1/3/2013*  
                [Aqua Regia](http://www.safety.duke.edu/OHS/Documents/SOP/SOPTemplateAquaRegia.doc) (SOP Template - customization required) *Revised 5/1/2013*  
                [Bleach](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20bleach.doc) *Revised 5/14/2012*  
                [Nitric Acid](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20nitric%20acid.doc) (SOP Template - customization required)*Revised 9/18/2012*  
                [Piranha](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Template%20Piranha.doc) (SOP Template - customization required) *Revised 11/26/2012*  
[Organic Peroxide-Formers](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20organic%20peroxide%20forming%20materials.doc) *Revised 5/1/2013*  
                [Diethyl Ether](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Diethyl%20ether.doc) *Revised 1/3/2013*  
                [Tetrahydrofuran](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Tetrahydrofuran.doc) *Revised 8/8/2013*  
[Pressure and Vacuum](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Pressure%20and%20Vacuum.doc) *Revised 2/26/2013*  
[Pyrophoric and other highly reactive materials](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Template%20pyrophoric%20and%20other%20highly%20reactive%20materials.doc) (SOP Template - customization required)*Revised 8/3/2012*  
[Water Reactives](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Template%20water%20reactives.doc) (SOP Template - customization required) *Revised 5/1/2013*

Health Hazards

[Asphyxiants](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Asphyxiants.doc) *Revised 1/2013*  
[Biologically-Derived Toxins](http://www.safety.duke.edu/OHS/Documents/SOP/Biotoxin%20SOP%20blank%20template%20and%20guidelines.doc) (SOP Template - customization required )*Revised 8/2013*  
[Corrosives](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20corrosives.doc) *Revised 10/8/2012*  
                [Aqua Regia](http://www.safety.duke.edu/OHS/Documents/SOP/SOPTemplateAquaRegia.doc) (SOP Template - customization required) *Revised 5/1/2013*  
                [Bleach](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20bleach.doc) *Revised 5/14/2012*  
                [Hydrofluoric Acid](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Template%20HF.doc) (SOP Template - customization required )*Revised 9/10/2012*  
                [Nitric Acid](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20nitric%20acid.doc) (SOP Template - customization required) *Revised 9/18/2012*  
                [Perchloric Acid](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Template%20Perchloric%20Acid.doc) (SOP Template - customization required)*Revised 9/25/2012*  
                [Piranha](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Template%20Piranha.doc) (SOP Template - customization required) *Revised 11/26/2012*  
                [Sulfuric Acid](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Template%20Sulfuric%20Acid.doc) (SOP Template - customization required) *Revised 9/10/2012*  
[Toxic Gases](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Template%20toxic%20gases.doc) (SOP Template - customization required) *Revised 5/1/2013*  
                [Phosgene](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Phosgene.doc) (SOP Template - customization required) *Revised 6/4/2014*  
[Toxic Liquids](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20%28and%20template%29%20for%20toxic%20liquids.doc) (Customized SOP required for [PHS](http://www.safety.duke.edu/OHS/phs.htm) liquids) *Revised 9/25/2012*  
                [Chloroform](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20template%20chloroform.doc) (SOP Template - customization required) *Revised 10/30/2013*  
                [Formalin and paraformaldehyde solutions and paraformaldehyde powder](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20template%20formalin%20and%20paraformaldehyde.doc) (SOP Template - customization required) *Revised 2/26/2013*  
                [Methylene Chloride/Dichloromethane](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Template%20Methylene%20Chloride.doc) (SOP Template - customization required)*Revised 7/12/2013*  
                [Phenol](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Template%20Phenol.doc) (SOP Template - customization required) [HAZARD ALERT - PHENOL BURNS CAN BE FATAL](http://www.safety.duke.edu/OHS/Documents/HazardAlertPhenolBurns.pdf) *Both Revised 10/30/2013*  
                [b-Mercaptoethanol](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20b-mercaptoethanol.doc) *Revised 10/4/2012*  
[Toxic Powders (and suspensions/solutions)](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Template%20toxic%20powders.doc) (Customized SOP required for [PHS](http://www.safety.duke.edu/OHS/phs.htm) powders) *Revised 9/25/2012*  
                [Acrylamide](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Template_Acrylamide.doc) (SOP Template - customization required) *Revised 8/2/2012*  
                [Ethidium Bromide](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Ethidium%20Bromide.doc) *Revised 1/3/2013*  
                [Hazardous Drugs](http://www.safety.duke.edu/OHS/Documents/SOP/SOPTemplateHazardousDrugs.doc) (Customization required for [PHS](http://www.safety.duke.edu/OHS/phs.htm) drugs) *Revised 10/3/2012*  
                [Nanomaterials](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20template%20nanomaterials.doc) (SOP Template - customization required) *Revised 5/1/2013*  
                [Sodium Azide](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Sodium%20Azide.doc) (Customization may be required) *Revised 10/3/2012*  
                [Osmium Tetroxide](http://www.safety.duke.edu/OHS/Documents/SOP/SOP%20Template%20Osmium%20Tetroxide.doc) (SOP Template - customization required) *Revised 5/1/2013*