

Job Safety Assessment Form
Department of Chemical Engineering
Michigan Technological University

Equipment Name:	JSA Author:
Room Number/Building:	Faculty Supervisor:
Revision #:	Revision Date:

Purpose of Experiment / Equipment: Briefly describe what this experiment is designed to achieve and the types of data collected.

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Personal Protective Equipment (PPE) – Check all PPE worn during the entire experiment. Do not list these in the procedure section.

<input type="checkbox"/> Long Pants	<input type="checkbox"/> Safety Glasses	<input type="checkbox"/> Hard Hat	<input type="checkbox"/> Apron
<input type="checkbox"/> Long Sleeves	<input type="checkbox"/> Splash Goggles	<input type="checkbox"/> Insulated Gloves	<input type="checkbox"/> Ear Protection
<input type="checkbox"/> Non-porous Shoes	<input type="checkbox"/> Face Shield	<input type="checkbox"/> Chemical Gloves	<input type="checkbox"/> Other:

Hazard Summary – Check all general hazards that are likely to be encountered during this experiment and list the major source of the hazard.

Hazard	Major Source of Hazard
<input type="checkbox"/> Toxicity	
<input type="checkbox"/> Fire/Flammability	
<input type="checkbox"/> Reactivity	
<input type="checkbox"/> Pressure Hazard	
<input type="checkbox"/> Electrical Shock	
<input type="checkbox"/> Mechanical Hazard	
<input type="checkbox"/> Hot Surfaces/ High Temp > 150 F	
<input type="checkbox"/> Biohazard	
<input type="checkbox"/> Laser Radiation	
<input type="checkbox"/> Ionizing radiation	
<input type="checkbox"/> Other: _____	
<input type="checkbox"/> Other: _____	

Expected Operating Conditions –

Temperature	Pressure
Normal:	Normal:
Minimum:	Minimum:
Maximum:	Maximum:

Special Operating Conditions - Check all that apply and consult department Safety Manual.

Unattended Operation: <input type="checkbox"/>	Drying Oven: <input type="checkbox"/>
Regulated Chemicals: <input type="checkbox"/>	Class 3b or 4 Lasers: <input type="checkbox"/>
Pressures Exceeding 35 atm (515 psia) or Equipment Specifications: <input type="checkbox"/>	
Temperatures Exceeding 1000°C or Equipment Specifications: <input type="checkbox"/>	

Available Safety Equipment – Provide the location of each item shown below. Show the location of this equipment on the attached floor plan. If not available, type “NA” in the field.

Item	Location
Fire Extinguisher:	
Eyewash:	
Safety Shower:	
Telephone:	
First Aid Kit:	
Other:	
Other:	

Spill Response Supplies - Provide the location of each item shown below. Show the location of this equipment on the attached floor plan. If not available, type “NA” in the field.

Item	Location
Spill Kit:	
Floor-Dri:	
Spill Dikes:	
Sodium Bicarbonate:	
Drain Plugs:	
Spill Pillows:	
Mercury Spill Kit:	
Other:	
Other:	

Required Attachments:

<input type="checkbox"/> Diagram of process or equipment Label all valves and identify all equipment for reference in procedure.
<input type="checkbox"/> Laboratory Floor Plan Identify the location of your experiment and all safety and spill response equipment.
<input type="checkbox"/> Equipment Specifications Include materials of construction, maximum temperature and pressure, standard operating values, and any other specifications important to the safe operation.
<input type="checkbox"/> Material Safety Data Sheets (MSDS) Include for all reactants, products and any intermediate or other chemicals which may occur.

Additional Attachments: As necessary.

<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

Chemical Information Page

Fill in as much data below as available. If data are not available, leave the field blank.
List all chemicals, including reactants, products, intermediates, solvents, and any others used.

Chemical Properties and Hazards

Chemical Name	Physical State S, L, G	NFPA Ratings*				Incompatible Chemicals List chemicals present within the laboratory, and any others that may come in contact.	Flash Point Temp.	Flammability Limits	
		H	F	S	Sp.			LFL	UFL

*NFPA Ratings: **H** – Health, **F** – Flammability, **S** – Stability, **Sp.** – Special

Chemical Toxicology, Regulation and Disposal: List the same chemicals that appear above, in the same order.

Chemical Name	Toxicology			Hazardous Waste Number#	Regulated? See Safety Manual	Personal Protective Equipment Specific to this Chemical
	TWA	PEL	Other			
					<input type="checkbox"/>	
					<input type="checkbox"/>	
					<input type="checkbox"/>	
					<input type="checkbox"/>	
					<input type="checkbox"/>	
					<input type="checkbox"/>	
					<input type="checkbox"/>	
					<input type="checkbox"/>	

#See Chemical Engineering Hazardous Waste Manual.

Chemical Reactions: Provide details below on any chemical reaction(s) that occur in your process. Please show the species involved, the stoichiometry and the heat of reaction, if available. Also list side reactions and any other reactions that may impact safety. You cannot type subscripts in the form field provided – use the names for the species and the stoichiometric coefficients.

**Job Safety Assessment Form
Safe Operating Procedures Page**

Sequence of Steps	Potential Hazards	Procedure to Control Hazard	PPE or Equipment Required
Emergency Shutdown			
Start-up Procedure			
Run Time Procedure			
Shutdown Procedure			
Cleanup / Waste Disposal			