Environmental Health and Safety
http://www.jjay.cuny.edu/ehs

This form can only be saved when completed in Internet Explorer

John Jay College of Criminal Justice

Exercise: Chemical Specific Training using GHS Hazard Information

Name: _____ Email_____

Name of Chemical: _____

The Globally Harmonized System of Classification and Labeling of Chemicals (GHS), a system for standardizing the labeling and classification of chemicals around the world, creates a common framework to help reduce confusion surrounding these chemicals. OSHA has incorporated use of GHS into its Hazard Communication Standard.

This exercise is one part of John Jay's laboratory safety training program. General GHS information and requirements have been incorporated into Laboratory Safety Training.

Instructions: Complete the following chart for each chemical of interest. Use Information from the European Chemicals Agency website: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database . Enter the name of the chemical in the search criteria field and then check off the disclaimer. All of the information can be found in the first four tables **in green** for each chemical. (Don't include information from the lower tables **in orange**, which contain data entered by manufacturers.) Hypertext **links** are provided below for people who would like information on how each category is defined.

1. HEALTH HAZARDS: Check the hazard categories that apply					
Hazard Class	**Hazard Category with Pictogram and Signal Word**				
Acute Toxicity Oral, Dermal, Inhalation	☐ 1 danger	☐2 danger	☐3 danger	☐4 warning	☐5 none warning
Skin corrosion/Irritation	☐1A danger	☐1B danger	☐1C danger	☐2 warning	☐3 none warning
Serious Eye Damage/ Eye Irritation	☐ 1 danger	☐2A warning	☐2B none warning		
Respiratory or Skin Sensitization	☐ 1 danger	☐1 warning			
Germ Cell Mutagenicity	☐1A danger	☐1B danger	☐2 warning		
Reproductive/Toxicity/Fertility	☐1A danger	☐1B danger	☐2 warning	☐Lactation none none	
Carcinogenicity	☐1A danger	☐1B danger	☐2 warning		
Specific Target Organ Toxicity Single Exposure	☐1 danger	☐2 warning	☐3 warning		
Specific Target Organ Toxicity Repeated Exposure	☐1 danger	☐2 warning			
Aspiration Hazard	☐1 danger	☐2 warning			

2. Health: Check the applicable hazard statements that apply

- ☐H300: Fatal if swallowed
- ☐H301: Toxic if swallowed
- ☐H302: Harmful if swallowed
- ☐ H303: May be harmful if swallowed
- ☐ H304: May be fatal if swallowed and enters airways
- ☐ H305: May be harmful if swallowed and enters airways
- ☐ H310: Fatal in contact with skin
- ☐ H311: Toxic in contact with skin
- ☐ H312: Harmful in contact with skin
- ☐ H313: May be harmful in contact with skin
- ☐ H314: Causes severe skin burns and eye damage
- ☐ H315: Causes skin irritation
- ☐ H316: Causes mild skin irritation
- ☐ H317: May cause an allergic skin reaction
- ☐ H318: Causes serious eye damage
- ☐ H319: Causes serious eye irritation
- ☐ H320: Causes eye irritation
- ☐ H330: Fatal if inhaled
- ☐ H331: Toxic if inhaled
- ☐ H332: Harmful if inhaled
- ☐ H333: May be harmful if inhaled
- ☐ H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
- ☐ H335: May cause respiratory irritation
- ☐ H336: May cause drowsiness or dizziness
- ☐ H340: May cause genetic defects
- ☐ H341: Suspected of causing genetic defects
- ☐ H350: May cause cancer
- ☐ H351: Suspected of causing cancer
- ☐ H360: May damage fertility or the unborn child
- ☐ H361: Suspected of damaging fertility or the unborn child
- ☐ H362: May cause harm to breast-fed children
- ☐ H370: Causes damage to organs
- ☐ H371: May cause damage to organs
- ☐ H372: Causes damage to organs through prolonged or repeated exposure
- ☐ H373: May cause damage to organs through prolonged or repeated exposure

3. OSHA Particularly Hazardous Substance (PHS)? ☐ Yes ☐ No Check applicable codes below.

☐Select Carcinogen[1] (350, 351)	☐Acutely Toxic (300, 310, 330)	☐Reproductive Toxin (360, 361, 362)

The Globally Harmonized System **does not** utilize the OSHA term, "Particularly Hazardous Substance." If the chemical has the codes listed above you can assume that the OSHA PHS additional precautions requirements would apply.

[1]**Note:** Certain chemicals with code 351 and all chemicals with code 350 should meet the OSHA criteria to be labeled a select carcinogen: Select Carcinogen Criteria: It is regulated by OSHA as a carcinogen; or the Annual Report on Carcinogens, published by the National Toxicology Program (NTP), lists it as a carcinogen; or It is listed as a Group I (carcinogenic to humans) by the International Agency for Research on Cancer (IARC) Monographs; or It is listed as a Group2A or 2B by IARC, or is listed as "reasonably anticipated to be carcinogens" by NTP AND causes statistically significant tumor incidence in animals when tested using criteria stated in the OSHA Laboratory Safety Standard.

4. Physical Hazards: Check the hazards that apply							
Hazard Class	**Hazard Category/Division**						
Explosives	☐ Unstable danger	☐ Div 1.1 danger	☐ Div 1.2 danger	☐ Div 1.3 danger	☐ Div 1.4 warning	☐ Div 1.5 None danger	☐ Div 1.6 None none
Flammable gases	☐ 1 danger	☐ 2 none warning					
Flammable aerosols	☐ 1 danger	☐ 2 warning					
Oxidizing gases	☐ 1 danger						
Pressurized Gas: Compressed Gas	☐ 1 warning						
Pressurized Gas: Liquefied Gas	☐ 1 warning						
Pressurized Gas: Refrigerated Liquefied Gas	☐ 1 warning						
Pressurized Gas: Dissolved Gas	☐ 1 warning						
Flammable liquids	☐ 1 danger	☐ 2 danger	☐ 3 warning	☐ 4 none warning			
Flammable solids	☐ 1 danger	☐ 2 warning					
Self-reactive substances and mixtures	☐ Type A danger	☐ Type B danger	☐ Type C danger	☐ Type D danger	☐ Type E warning	☐ Type F warning	☐ Type G None none
Pyrophoric liquids and solids	☐ 1 danger						
Self-heating substances & mixtures	☐ 1 danger	☐2 warning					
Substances & mixtures which in contact with water emit flammable gases	☐ 1 danger	☐ 2 danger	☐ 3 warning				
Oxidizing liquids and solids	☐ 1 danger	☐ 2 danger	☐ 3 warning				
Organic peroxides	☐ Type A	☐ Type B	☐ Type C	☐ Type D	☐ Type E	☐ Type F	☐ Type G none
Corrosive to metals	☐ 1 warning						

 Name: Chemical Name:

5. **Physical Hazard Statement: Check the applicable hazard statements that apply**
☐ H200: Unstable explosive
☐ H201: Explosive; mass explosion hazard
☐ H202: Explosive; severe projection hazard
☐ H203: Explosive; fire, blast or projection hazard
☐ H204: Fire or projection hazard
☐ H205: May mass explode in fire
☐ H220: Extremely flammable gas
☐ H221: Flammable gas
☐ H222: Extremely flammable aerosol
☐ H223: Flammable aerosol
☐ H224: Extremely flammable liquid and vapour
☐ H225: Highly flammable liquid and vapour
☐ H226: Flammable liquid and vapour
☐ H227: Combustible liquid
☐ H228: Flammable solid
☐ H229: Pressurized container: may burst if heated
☐ H230: May react explosively even in the absence of air
☐ H231: May react explosively even in the absence of air at elevated pressure and/or temperature
☐ H240: Heating may cause an explosion
☐ H241: Heating may cause a fire or explosion
☐ H242: Heating may cause a fire
☐ H250: Catches fire spontaneously if exposed to air
☐ H251: Self-heating; may catch fire
☐ H252: Self-heating in large quantities; may catch fire
☐ H260: In contact with water releases flammable gases which may ignite spontaneously
☐ H261: In contact with water releases flammable gas
☐ H270: May cause or intensify fire; oxidizer
☐ H271: May cause fire or explosion; strong oxidizer
☐ H272: May intensify fire; oxidizer
☐ H280: Contains gas under pressure; may explode if heated
☐ H281: Contains refrigerated gas; may cause cryogenic burns or injury
☐ H290: May be corrosive to metals

6. Environmental - Aquatic Toxicity: **Check the hazards that apply**				
Hazard Class	**Hazard Category/Division**			
Acute	☐ 1  warning	☐ 2 none none	☐ 3 none none	
Chronic	☐ 1  warning	☐ 2  warning	☐ 3 None none	☐ 4 none none

7. Environmental Hazard Statements: Check the applicable hazard statements that apply
☐ H400: Very toxic to aquatic life
☐ H401: Toxic to aquatic life
☐H402: Harmful to aquatic life
☐H410: Very toxic to aquatic life with long lasting effects
☐H411: Toxic to aquatic life with long lasting effects
☐H412: Harmful to aquatic life with long lasting effects
☐H413: May cause long lasting harmful effects to aquatic life
☐H420: Harms public health and the environment by destroying ozone in the upper atmosphere

8. Supplementary Hazard Code: If there are any supplementary hazard codes listed in the 4th column of the second table type the codes and their corresponding statements below.

SUBMIT TO EHS