Critical Work Function: Maintain a safe and productive work environment	
Key Activities:	Follow relevant safety policies, guidelines, and regulation (e.g. company, OSHA, EPA, CDC)
	Select appropriate PPE to use to protect self from biological, chemical and/or physical hazards
	Access and use SDS and other safety information sources

Assessment:

Present the students with a scenario in which they will be working with a hazardous chemical and ask them to:

1. Obtain the pertinent MSDS or SDS
2. Identify what PPE should be worn
3. Describe any special handling procedures that should be followed
4. Describe any special hazardous waste procedures that should be followed

Example:
You are working in a research lab and are asked to purify RNA from mammalian cells by using Trizol. This is your first time working with Trizol so you need to familiarize yourself with the relevant safety precautions and handling procedures.

1. Locate the official safety information for Trizol online and print the document.
   Answer: The student should print off and submit the manufacturer's MSDS (SDS).
2. List all PPE that should be worn when working with Trizol.
   Answer: When working with Trizol, the following PPE should be worn: (1) gloves, (2) safety goggles, (3) laboratory coat, (4)
3. Describe any special handling procedures that should be followed.
   Answer: Trizol poses an acute inhalation toxicity and therefore should be used only inside of a chemical fume hood.
4. Describe any special hazardous waste procedures that should be followed.
   Answer: Trizol's MSDS states, "Dispose of contents/containers in accordance with local regulations." Students can be asked to find the disposal procedures used by a specific institution (e.g. a local university). Generally, liquid waste should be collected in a labeled container for future disposal by a regulatory unit (e.g. a department of environmental health and safety housed at a university). Plastic ware and/or glassware can usually be rinsed by submerging in a large volume of water which can then be poured down a regular laboratory sink. Plastic ware can then be disposed of in the trash.

Resources for teaching:

- Seidman, L.A., M.E. Kraus, D.L. Brandner, J. Mowery. 2011. Laboratory Manual for Biotechnology and Laboratory Science Pearson Education, Inc., San Francisco, CA.

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