

Gulfof**Mexico**



Operations: HSE

Health and Industrial Hygiene

Laboratory Safe Work Practice

AMENDMENT RECORD

Amendment Date	Revision Number	Revision Number	Amendment
08/11/2016	4	Authority: Health Manager Custodian: Industrial Hygienist	Updated format. Explained why the OSHA Lab standard does not apply to GoM labs. Added sections on Eyewash and Shower, Fire, General Hazards. Included information on compressed gases and added items such as glassware disposal, prohibiting pipetting by mouth, the requirement for using only approved chemicals, etc. Added the Training section. Updated the reference section. Updated authority and custodian.
06/04/2012	3	Authority: GoM Director Health & Safety Custodian: Health/IH Team Leader	Updated Authority and Custodian. Included new definitions. Sec. 4. Made responsibilities more specific to titles. Sec. 5 included No Food or Drinks. Included link to HAZCOM document. Label exclusion for containers for short term chemical handling. Included information on Fume Hood. Appendix 1 includes fume hood inspection procedures.
06/16/2011	2	Authority: GoM VP HSSE & Engineering Custodian: GoM Health and Safety Manager	Under 5.0 Procedure #10 included reference to 5.3 of HAZCOM for chemical container labeling. Updated hyperlink for 1910.1450 Under Sec. 6. Formatted Header and Footer to new format.
01/31/2006	1	Authority: S. Garner/S. Tink/R. DeLeonardis/C. Jackson Custodian: Jack Kogut	Initial posting on the GoM HSSE Website.
01/15/2002	0	Authority: GoM H&S Director Custodian: GoM Health & Industrial Hygiene Team	Initial posting on the GoM HSSE Website.

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1 Purpose/Scope

This document provides guidance on safe laboratory practices. It specifically defines requirements for facilities with laboratories where analytical techniques are conducted such as the testing and analysis of oil and gas samples. Laboratories on BP production facilities are for quality control purposes, as a part of the production process. The Occupational Safety and Health Administration (OSHA) Standard 29 CFR 1910.1450, Occupational Exposure to Hazardous Chemicals in Laboratories, does not apply to quality control laboratories since they are adjuncts of production operations. Although BP GoM is not required to meet the requirements of this standard, it was used for “best practices” to develop this safe work practice.

2 Key Responsibilities

2.1 Offshore Installation Manager (OIM)/Person In Charge (PIC)

The OIM/PIC has the overall responsibility for the implementation of the Control of Work Policy at the installation.

- Verifies that the proper assessments have been made with regard to laboratory safety.

2.2 Issuing Authority (IA)

The IA is responsible for management of the permit to work process within their defined area and skill set.

2.3 Performing Authority (PA)

The PA is the responsible person for the activity being carried out under the Work Control Certificate (WCC). The PA may be the person performing or supervising the task.

- Verifies that workers are properly trained in anticipating, recognizing, evaluating and controlling laboratory safety hazards and that laboratory equipment is maintained and utilized according to manufacturer guidelines and instructions.

2.4 H&S Site Lead

The H&S Site Lead will assist management, supervisors and employees with requests regarding training and personal protective equipment use/supply and shall be available for consultation on anticipating, recognizing, evaluating and controlling laboratory hazards.

2.5 Industrial Hygienist

The Industrial Hygienist is responsible for providing informative consultation to the field on laboratory chemical exposure control, including the development of a laboratory safety practice, training media, interpretation of regulations and internal procedures, professional resources to conduct workplace exposure assessments and general support, as requested.

2.6 Employees

When performing jobs with a reasonable expectation for exposure to laboratory chemicals, employees are expected to be in compliance with this procedure and utilize engineering controls, personal protective equipment and appropriate administrative controls (e.g., decontamination procedures, as applicable).

3 General Requirements

Laboratory safety is part of managing chemical safety and is covered by the GoM Hazard Communication SWP. The laboratories and chemicals used shall be maintained in accordance with this practice

4 Procedure

4.1 Housekeeping

Housekeeping is critical to laboratory safety. The majority of incidents that occur can be traced back to poor housekeeping practices.

- No food or drinks shall be permitted in the laboratory.
- Spilled material, whether liquid or solid, shall be cleaned up promptly and completely according to established response procedures.
- Waste, rags, broken glassware, waste oils, reagents, etc. must be properly disposed of in approved safety waste receptacles on a daily basis. Glassware, syringes and chemical containers must be placed in disposal containers.
- Areas around eyewash fountains, emergency showers, fire-fighting equipment, electrical controls, etc. are to be kept free of obstructions.
- Non-laboratory related apparel, such as coats, hats, overshoes, etc. shall be kept in lockers or some other place away from the laboratory.

4.2 Glassware

- When using glassware, protect your hands by using gloves, heavy cloth or rubber hand protectors.
- Laboratory flasks, beakers, or other containers shall never be used as containers for food or drink.
- Suitable laboratory jacks or tripods are to be used rather than ring clamps, whenever possible, for the physical support of large flasks, beakers or other glass items. Provide proper rigidity/support by using additional clamping devices.
- Glass equipment used in testing, analysis or experimental work shall be properly shielded if there is any possibility of rupture due to chemical reaction or pressure.
- Damaged glassware is to be disposed of and not used for any purpose.
- Dispose of broken glassware in a plastic bucket or box with lid.
- Contact the Environmental Advisor for assistance on disposing glassware contaminated with chemicals.

4.3 Chemicals

- Chemicals used in the laboratory must be approved for BP use, regardless of the quantity purchased or used.
- Pipetting by mouth is strictly prohibited.
- Only a minimum amount of flammable liquids required for the job or short-term operational needs shall be kept in the work area to reduce the potential fire hazard.
- Containers of chemicals must be properly labelled as described in the GoM Hazard Communication SWP document. This includes glassware containing stock chemicals. Containers used for short term handling of chemicals (e.g. shake out samples) do not apply.
- Flammable liquid spills require immediate action to assure that vapors do not reach a source of ignition. In the event of a spill, eliminate sources of ignition and shut off electrical devices (from a remote location if possible).
- Surplus or waste flammable liquids must not be poured into sink or sewer drains. Such liquids shall be accumulated in approved marked containers for later disposal and they must have a self-closing lid to prevent escape of vapors.
- The handling of chemicals which might emit toxic fumes, vapors or gases shall be performed in a fume hood. Refer to the Safety Data Sheet (SDS) for guidance.
- Toxic, flammable and other dangerous materials shall be properly stored in an approved safe location. Only quantities necessary for short-term operations needs shall be kept in the work area.
- Suitable eye and face protection shall always be worn in laboratory operations, when appropriate and according to the SDS for chemicals used.
- Contact the Environmental Advisor for assistance on disposing laboratory chemicals.

4.4 Eyewash and Shower

- If chemical burns or a splash occurs, immediately flood the affected area with large quantities of water. Remove clothing if necessary so water will reach the affected area. Inform your supervisor of any chemical exposure.
- OSHA requires that facilities for the quick drenching or flushing of the eyes and body be provided in the work area for immediate use.
- ANSI's Eyewash Standard states that flushing equipment must be located in areas that are accessible within 10 seconds (roughly 55 feet).
- Showers and eyewashes must be on the same level as the laboratory and the path to them must not be obstructed.
- If there is a door in between the laboratory and shower/eyewash, it must open in the direction of travel.
- Refer to the ANSI Z358.1 Emergency Eyewash and Shower Equipment Standard for further requirements.

4.5 Fume Hood

Fume hoods shall be evaluated for proper air flow at least annually by a properly trained person. This shall be documented on the fume hood with date and name of tester. See Appendix 1 for Ventilation System Testing Procedures.

4.6 Fire

Personnel must know the location of the nearest fire extinguisher and fire alarm. Fire extinguishers must be placed within 75 feet for Class A fire risk (ordinary combustibles like wood, paper, trash,

etc.) and within 50 feet for high-risk Class B fire risk (flammable or combustible liquids and gases). Refer to OSHA's Portable Fire Extinguishers standard, 29 CFR1910.157 for more information.

4.7 Additional Laboratory Hazards

- Heat and burns from burners. Personnel must use oven mitts as needed.
- Cuts from sharp tools. Personnel must use cut resistant gloves as needed.
- Compressed gases. Personnel must follow safe work practices as detailed in the Compressed Gases and Air Safe Work Practice UPS-US-SW-GOM-HSE-DOC-0132-2.
- Cryogenic Materials that can cause cold contact burns, explosions, or asphyxiation. Consult with the Industrial Hygiene Team for technical assistance in safe handling, PPE, etc.
- Electrical Hazards such as from electrical cords, power near sinks, etc. Personnel must know the location of the circuit breakers in the lab. Never plug or unplug energized equipment when hands are wet per 29 CFR 1910.334(a)(5)(i). Outlets must have GFCIs when located near sinks.
- Slips, Trips, and Falls. Consider the use of mats with holes to keep walking surfaces dry until they can be mopped up.
- Ergonomic issues such as awkward postures, standing for long periods, visual issues, etc.

5 Definitions

Terms	Description
Laboratory	A facility where the laboratory use of hazardous chemicals occurs. It is a workplace where relatively small quantities of hazardous chemicals are used on a non-production basis.
Scale	Work with substances in which the containers used for reactions, transfers and other handling of substances are designed to be easily and safely manipulated by one person. This excludes those workplaces whose function is to produce commercial quantities of materials.

6 Training

Personnel receive annual training on chemical safety in compliance with the Hazard Communication Standard 29CFR1910.1200. Other sources of information include chemical labels and Safety Data Sheets (SDS).

7 Key Documents, Tools, References

1. 29 CFR 1910.1450 Laboratory Safety
2. 29 CFR 1910.1200 Hazard Communication Standard
3. 29 CFR 1910.132 Personal Protective Equipment Standard
4. 29 CFR 1910.133 Eye and Face Protection Standard
5. 29 CFR 1910.134 Respiratory Protection Standard
6. 29 CFR 1910.138 Hand Protection Standard
7. 29 CFR 1910.157 Portable Fire Extinguishers Standard
8. 29 CFR 1910 Subpart D – Walking-Working Surfaces
9. CGA P-1: Safe Handling of Compressed Gases, by the Compressed Gas Association
10. 29 CFR 1910.101 Compressed Gases (General Requirements)
11. Compressed Gases and Air Safe Work Practice UPS-US-SW-GOM-HSE-DOC-0132-2
12. ANSI Z358.1 Emergency Eyewash and Shower Equipment Standard
13. 29 CFR 1910.151(c) Medical Services and First Aid
14. https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=20160 (Letter of Interpretation regarding the applicability of 29 CFR 19101450)
15. BP GoM Offshore Laboratory Management Philosophy Guideline

8 Appendices



Ventilation System
Testing.pdf

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