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| **JOB HAZARD ANALYSIS** | JOB: Ceramic Arts and Pottery | DATE: 11/20/2019 | Page \_\_1\_\_ of \_\_\_\_3\_ pages | X NEW☐ REVISED |
| **Instructions on Reverse Side** | Title of Person Who Does Job:Teacher or Student | Supervisor:Principal or Teacher | Analyzed By:Safety Manager |
| School DistrictSite Location: High School | Approved by Activity Director/Commander: |
| Recommended Personal Protective Equipment: Safety glasses, splash goggles, gloves, apron |
| SEQUENCE OF BASIC JOB STEPS | POTENTIAL HAZARDS | RECOMMENDED ACTION OR PROCEDURE |
| Clay | * Respiratory Hazards
* Entanglement if using a mixer to mix clay and water
* Lifting, back pain or strain
* Awkward positions of hands, carpal tunnel syndrome
* Hand contact with wet clay can result in abrasion and dryness of fingertips and hands. Moving parts of kickwheels can cause cuts and abrasions.
 | * Use premixed clay to avoid exposure to large quantities of clay dust.
* Clay storage and mixing should take place in a separate room. Bags of clay (and other pottery materials) should be stacked on pallets or grids off the floor for easier clean-up.
* All clay mixers should be equipped with local exhaust ventilation to remove fine silica dust particles from the air.
* Clay mixers should be equipped with proper machine guards so that they cannot be opened to add clay or water while the mixer blades are turning.
* Avoid contact of clay with broken skin. Use a skin moisturizer and or gloves.
* To prevent back problems, always lift with knees bent.
* Keep wrists in a neutral position as much as possible to prevent carpal tunnel syndrome. Take frequent work breaks.
* Be careful of the moving parts on kickwheels.
* Recondition clay by cutting still-wet clay into small pieces, letting them air-dry, and soak in water.
* Finish green ware while still wet or damp with a fine sponge instead of sanding when dry. Do not sand greenware containing fibrous talc.
* Wet mop/wet vac floors and work surfaces daily to minimize dust levels.
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| [G](https://ehs.princeton.edu/health-safety-the-campus-community/art-theater-safety/art-safety/ceramics#g)lazes | * Respiratory hazard from inhalation of dust (silica, potash) and Flux and potential metals in colors.
* Lead-glazed may leach (lead Glaze is not recommended. Glaze should be labeled “Lead Safe”.
* Dipping and pouring, skin irritation and accidental ingestion.
* Glazes containing solvents are both flammable and hazardous.
 | * Use lead-free glazes. If the glaze does not state "lead-free" or "leadless" on the label, assume it contains lead until proven otherwise.
* Lead glazes should only be used on non-foodware items. Design lead-glazed pieces so that they won't be used for food or drink. Lead-glazed pottery should be labeled as lead-containing.
* If possible, don't use colorants that are known human carcinogens and avoid probable human carcinogens. There is no known safe level of exposure to carcinogens.
* Consider wearing respiratory protection when weighing and mixing powdered. Wet glazes are not an inhalation hazard. Good housekeeping procedures and cleanup of spills reduce the risk of inhalation or ingestion of toxic dusts. Wet mop spilled powders.
* Gloves should be worn while handling wet or dry glazes.
* Good dilution ventilation or local exhaust ventilation should be available when applying solvent-containing glazes.
* Basic personal hygiene rules should be followed including restricting eating, drinking, or smoking in the studio, and wearing personal protective equipment such as gloves, and separate work clothes or coveralls. Wash hands after work. Leftover glazes and glaze scrapings can be homogenized, combined, tested, and used as a glaze.
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| Kilns | * Respiratory hazards from fumes
* Hot kilns produce infrared radiation, which is hazardous to the eyes.
* Heat generated by the kiln can cause thermal burns.
* fires.
 | * Infrared goggles approved by the American National Standards Institute (ANSI) or hand-held welding shields should be worn when looking into the operating kiln. Shade number from 1.7 to 3.0 is recommended
* Do not use lead compounds at stoneware temperatures since the lead will vaporize.
* Lumber, paper, solvents, or other combustible and flammable materials should not be stored in kiln areas.
* Always check that the kiln has shut off.
* If gas leaks are suspected (e.g. gas odor): shut off gas at the source; shut off power to the kiln room at the circuit breaker and call maintenance.
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| In case of malfunction: If the Kiln does not perform as anticipated, or makes an unfamiliar sound, or creates any safety concerns lockout and tag out of use on the printer and submit a work order for maintenance.  |

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| **INSTRUCTIONS FOR COMPLETING JOB HAZARD ANALYSIS FORM** |

Job Hazard Analysis (JHA) is an important accident prevention tool that works by finding hazards and eliminating or minimizing them before the job is performed, clarification and hazard awareness, as a guide in new employee training, for periodic contracts, and for retraining of senior employees, as a refresher on jobs which run infrequently, as an accident investigation tool, and for informing employees of specific job hazards and protective measures.

 Set priorities for doing JHAs: Jobs that have a history of many accidents, jobs that have produced disabling injuries, jobs with high potential for disabling injury or death, and new jobs with no accident history.

 Here is how to do each of the three parts of a Job Hazard Analysis:

SEQUENCE OF BASIC JOB STEPS

Break the job down into steps. Each of the steps of a job should accomplish some major task. The task will consist of a set of movements. Look at the first set of movements used to perform a task, and then determine the next logical set of movements. For example, the job might be to move a box from a conveyor and putting it on a hand truck is one logical set of movements, so it is one job step. Everything related to that one logical set of movements is part of that job step.

The next logical set of movements might be pushing the loaded hand truck to the storeroom. Removing the boxes from the truck and placing them on the shelf is another logical set of movements. And finally, returning the hand truck to the receiving area might be the final step of this type of job.

Be sure to list all the steps in a job. Some steps might not be done each time – checking the casters on a hand truck for example. However, that task is a part of the job as a whole, and should be listed and analyzed.

POTENTIAL HAZARDS

Identify the hazards associated with each step. Examine each step to find and identify hazards-actions, conditions, and possibilities that could lead to an accident.

It is not enough to look at the obvious hazards. It is also important to look at the entire environment and discover every conceivable hazard that might exist.

Be sure to list health hazards as well, even though the harmful effect may not be immediate. A good example is the harmful effect of inhaling a solvent or chemical dust over a long period of time.

It is important to list all hazards. Hazards contribute to accidents, injuries, and occupational illnesses.

In order to do part three of a JHA effectively, you must identify potential and existing hazards. That is why it is important to distinguish between a hazard, an accident, and an injury. Each of these items has a specific meaning.

**HAZARD** – A potential danger. Oil on the floor is a hazard.

**ACCIDENT** – An unintended happening that may result in injury, loss, or damage. Slipping on the oil is an accident.

**INJURY** – the result of an accident. A sprained wrist from the fall would be an injury.

Some people find it easier to identify possible accidents and illnesses and work back from them to the hazards. If you do that, you can list the accident and illness types in parentheses following the hazard. But be sure you focus on the hazard for developing recommended actions and safe work procedures.

RECOMMENDED ACTION

Using the first two columns as a guide, decide what actions are necessary to eliminate or minimize the hazards that could lead to an accident, injury, or occupational illness.

Among the actions that can be taken are:

1) engineering the hazard out; 2) providing personal protective equipment; 3) job instruction training; 4) good housekeeping; and 5) good ergonomics (positioning the person in relation to the machine or other elements in the environment in such a way as to eliminate stresses and strains).

List recommended safe operating procedures on the form, and also list required or recommended personal protective equipment for each step of the job.

Be specific. Say exactly what needs to be done to correct the hazard, such as, “lift using part of your leg muscles.” Avoid general statements like “be careful.”

Give a recommended action or procedure for every hazard.

If the hazard is a serious one, it should be corrected immediately. The JHA should then be changed to reflect the new conditions.