

Ecological Estates Safety Manual



Table of Contents

Purpose	2
Job Site Safety – Hazard Communication	2
Job Site Assessment (JSA)	2
Personal Protective Equipment (PPE)	2
First Aid	2
Fire Extinguisher.....	3
Working at Heights.....	3
Confined Spaces	3
Logout/Tagout	3
Safe Ladder Use	4
Ladder Inspection	4
Ladder Setup	4
Ladder Climbing and Standing	4
Proper Use of Ladders	4
Personal transportation	5
Distracted Driving.....	5
Parking	5
Cargo.....	5

Purpose

Ecological Estates views the safety and welfare of employees, interns, contractors, customers and visitors as integral to carrying out the mission of the company. The company will comply with federal, state and local safety regulations and will develop documented comprehensive plans, regulations, procedures and programs to ensure the continuing safety of the company community.

This document is to define the general guidelines established by Ecological Estates, to provide installation crews with safe operating practices and awareness for the work they perform in the course of their duties while onsite at a job site.

Job Site Safety – Hazard Communication

Job Site Assessment (JSA)

A JSA will be conducted each day, prior to work commencing at the job site. The job site assessment will:

- Identify site hazards
- Actions to mitigate site hazards
- Roles of job responsibilities of each crew member
- Determine an emergency response plan

Personal Protective Equipment (PPE)

Personal

- Safety helmets will be used when working in areas where there is a possible danger of head injury from impact, or from falling or flying objects, or from electrical shock and burns.
- ANSI Z87.1+ safety glasses will be used when operating power equipment.
- Gloves will be used when handling components with sharp edges such as metal sheeting and cut metal rails.
- Footwear is required on all job sites. Open toed and open heeled footwear is not permitted.

First Aid

First Aid is care given to an injured person to stabilize and keep him / her safe until he / she can receive professional medical attention. In case of an injury or medical emergency:

- Immediately contact 911 and be prepared to provide:
 - Your name
 - The emergency
 - The location of the emergency
 - Condition of the victim
- Do not move victim except in a life-threatening situation.

A commercial first aid kit will be made available at the job site and reviewed as part of the JSA.

Fire Extinguisher

Class C fire extinguisher (preferred CO₂) will be available at the job site during electrical work.

Working at Heights

- Don't work on the roof while alone at a job site. If an accident should happen there should be someone there to help.
- Avoid walking on a roof when it's wet since a wet roof can be very slippery. Remember that leaves on a roof can also create a slippery surface.
- Always wear a safety harness and make certain it is secure to a permanent structure.
- Wear sturdy shoes or boots with good traction to help reduce slipping. Use safety glasses and a hardhat.
- Keep the roof clear of debris and other objects. Clean up as you go. Nails and old shingles can create a hazard. Remove any tools that aren't being used from the immediate work site. They can pose a slipping or tripping danger.
- Tie off all tools to avoid drop hazards.
- Keep your eyes on the area you're working on to help prevent miss stepping or tripping.

Confined Spaces

A confined space has;

- Limited means of entry and/or exit,
- Is large enough for a worker to enter it, and
- Is not intended for regular/continuous occupancy.

For construction or reconstruction work, attics, crawl spaces and overhangs with limited ceiling space can be considered a confined space.

An installer is not allowed to enter a confined space.

Logout/Tagout

Electrical energy can be hazardous to workers. During the servicing and maintenance of machines and equipment, the unexpected startup or release of stored energy can result in serious injury or death to workers.

- All personnel will know, understand, and are able to follow the applicable provisions of the hazardous energy control procedures.
- All employees who are authorized to lockout machines or equipment and perform the service and maintenance operations need to be trained in recognition of applicable hazardous energy sources in the workplace, the type and magnitude of energy found in the workplace, and the means and methods of isolating and/or controlling the energy.

Safe Ladder Use

Ladder Inspection

Always check a ladder before using it. Inspect wood ladders for cracks and splits in the wood. Check all ladders to see that steps or rungs are tight and secure. Be sure that all hardware and fittings are properly and securely attached. Test movable parts to see that they operate without binding or without too much free play. Inspect metal and fiberglass ladders for bends and breaks. Never use a damaged ladder.

Ladder Setup

- Always place ladder feet firmly and evenly on the ground or floor. Make sure the ladder is sitting straight and secure before climbing it.
- Do not try to make a ladder reach farther by setting it on boxes, barrels, bricks, blocks or other unstable bases.
- Do not allow ladders to lean sideways. Level them before using.
- Never set up or use a ladder in a high wind, especially a lightweight metal or fiberglass type. Wait until the air is calm enough to insure safety.
- Never set up a ladder in front of a door unless the door is locked or a guard is posted.
- Do not use ladders on ice or snow. Use non-slip footwear on ladder feet whenever there is any possibility of slipping.

Ladder Climbing and Standing

- Always face a ladder when climbing up or down. Use both hands and maintain a secure grip on the rails or rungs.
- Do not overreach from a ladder, or lean too far to one side. Overreaching is probably the most common cause of falls from ladders. A good rule is to always keep your belt buckle inside the rails of a ladder. Work as far as you can reach comfortably and safely, then move the ladder to a new position.
- Never climb onto a ladder from the side, from above the top or from one ladder to another.

Proper Use of Ladders

- Do not leave tools or materials on top of ladders. If they fall you or others can be seriously injured.
- Never push or pull anything sideways while on a ladder. This puts a side load on the ladder and can cause it to tip out from under you.
- Allow only one person at a time on a ladder unless the ladder is specifically designed for two people.
- Never use a ladder as a horizontal platform, plank, scaffold or material hoist.
- Never use a ladder on a scaffold platform. If you need to reach higher, the scaffold should be higher.
- Never use a stepladder over 20 feet long.

- Do not stand higher than the second step from the top of a stepladder. Especially, do not stand or sit on the top cap, or stand on the pail shelf, or on the back of a stepladder.

Personal transportation

Distracted Driving

Distracted driving results in hundreds of injuries and deaths each year. Avoid cell phone use and use of other handheld devices while operating a moving vehicle.

Parking

While parking at a job site, ensure that all installer vehicles are a safe distance from the roadway and do not block or impede emergency response vehicles.

Cargo

All materials such as ladders and tools are transported secured inside a closed vehicle or secured to the vehicle by appropriate straps, nets or tie downs.

Ecological Estates Hazardous Chemical Communication Program



Table of Contents

Acronyms	2
Terms.....	2
Overview.....	2
Container Labeling.....	3
Safety Data Sheets (SDS)	3
Employee Information and Training	3
Hazardous Non-routine Tasks	4
Multi-Employer Work Places.....	4
List of Hazardous Chemicals.....	5

Acronyms

CFR – Code of Federal Regulation

HCS – Hazard Communication Standard

JSA – Job Safety Assessment

OSHA – Occupational Safety and Health Administration

PPE – Personal Protective Equipment

SDS – Safety Data Sheet

Terms

Safety Officer – The Safety Officer will be the person assigned by THE COMPANY to administer the safety policies and procedures of THE COMPANY.

Site Supervisor – The Site Supervisor is the onsite person responsible for job execution and may be an employee of THE COMPANY or person contracted to execute work on behalf of THE COMPANY.

Overview

Ecological Estates L.L.C (THE COMPANY) is committed to the prevention of exposures that result in injury and/or illness; and to comply with all applicable state health and safety rules. To make sure that all affected workers:

1. Know information about the dangers of any hazardous chemicals used or stored by THE COMPANY.
2. Are able to identify hazardous materials near and around a work site based on labeling practices as described in the OSHA's Hazard Communication Standard (HCS) 29 CFR 1910.1200.

Under this program, workers will be informed of the requirements of the HCS, the operations where exposure to hazardous chemicals may occur, and how workers can access this program, as well as labels and SDSs.

All work units of THE COMPANY and outside personnel or contractors involved in work supporting THE COMPANY will participate in the hazard communication program. Copies of the hazard communication program are available on THE COMPANY website for review by any interested worker. Hardcopies will be made available upon request.

This program applies to any chemical that is known to be present in the workplace in such a manner that workers may be exposed under normal conditions of use or in a foreseeable emergency. All work areas that involve potential exposure to chemicals are part of the hazard communication program.

The Safety Officer is the program coordinator, with overall responsibility for the program, including reviewing and updating this plan as necessary.

Container Labeling

“Label” means an appropriate group of written, printed or graphic information elements concerning a hazardous chemical that is affixed to, printed on, or attached to the immediate container of a hazardous chemical, or to the outside packaging.

The Safety Officer will verify that all containers received for use will be clearly labeled in accord with the requirements of HazCom 2012, including a product identifier, pictogram, hazard statement, signal word, and precautionary statements, as well as the supplier’s contact information (name and address).

It is the policy of THE COMPANY that no container will be released for use until the above procedure is followed.

Safety Data Sheets (SDS)

“Safety data sheet (SDS)” refers to the source of detailed information on hazardous chemicals. This includes information for many different audiences—employers, workers, safety and health professionals, emergency responders, government agencies, and consumers.

THE COMPANY will maintain SDSs for any hazardous chemical used by THE COMPANY employees. SDSs used by THE COMPANY will comply with the requirements of HazCom 2012.

Personnel contracted to execute work for THE COMPANY will provide a list of all chemicals used to support work for THE COMPANY prior to commencement of work OR provide the appropriate SDSs to all onsite workers at the time of execution.

The Safety Officer is responsible to establish and monitor the employer's SDS program. This person will review incoming SDSs for new or significant health and safety information. Copies of SDSs for all hazardous chemicals will be available on THE COMPANY website for review by any interested worker. Hardcopies will be made available upon request. If an SDS is not available or a new chemical in use does not have an SDS, immediately contact the Safety Officer.

Employee Information and Training

The Safety Officer is responsible for employee information and training. Every worker who will be potentially exposed to hazardous chemicals will receive initial training on the Hazard Communication standard and this program before starting work.

The training program for new workers will contain information on:

- Hazard Identification
- Job Safety Assessment

- Reading and understanding chemical labels and SDS based on the HazCom 2012
- The safety related policies of THE COMPANY
- Employer and Employee responsibilities regarding workplace safety

This training will be delivered by the Safety Officer and may be delivered in person or via an electronic training method.

Prior to introducing a new chemical hazard into any work area, each worker in that work area will be given information for the new chemical hazard. Communication will be in the form of a Job Safety Assessment (JSA). The JSA will include:

- Review of the SDS
- Identification of new hazard(s)
- Safety requirements (PPE, safe use and safe disposal)
- Determine an emergency response plan

Records of employee training will be documented and retained by the Safety Officer. Records of contract personnel training and/or a compliance agreement will be documented and retained by the Safety Officer.

Hazardous Non-routine Tasks

Periodically, employees are required to perform hazardous non-routine tasks. Prior to starting work on such projects, each affected employee will be given information, through a proper JSA by the Site Supervisor, about the hazardous chemicals he or she may encounter during these activities. For each activity, the specific chemical hazards, protective and safety measures the employee can use, and the steps required to reduce the hazards, including proper use of PPE will be determined.

Multi-Employer Work Places

It is the responsibility of Site Supervisor to provide employers of any other employees at the work site with the following information:

- Copies of SDSs (or make them available at a central location) for any hazardous chemicals that the other employer(s)' employee may be exposed to while working.
- Inform other employers of any precautionary measures that need to be taken to protect employees during normal operating conditions or in foreseeable emergencies.

List of Hazardous Chemicals

The following is a list of all known hazardous chemicals used by our employees.

Classifications of hazards include:

- Health
- Flame
- Irritant
- Pressure (gas)
- Corrosive
- Explosive
- Oxidizers
- Environmental
- Toxic

Product Name	Manufacturer	Classification	Use
Clear (F1212)	Chem Link Inc.	Irritant – Cat 2	Adhesive/sealant
DuraLink (F1260)	Chem Link Inc.	Irritant – Cat 2	Adhesive/sealant

Ecological Estates Energy Control Program



Table of Contents

PURPOSE	2
DEFINITIONS	2
SCOPE	2
RESPONSIBILITY	2
BASIC LOCKOUT PRINCIPLES	3
TRAINING	3
Affected employee	3
Authorized employee.....	3
LOCKOUT PROCEDURES	5
Sequence of Lockout.....	5
Restoration to Normal.....	5
PROGRAM INSPECTION AND REVIEW	5
OUTSIDE CONTRACTORS	6

PURPOSE

The purpose of this program is to protect employees of Ecological Estates L.L.C. (THE COMPANY) from injuries while servicing and maintaining equipment.

DEFINITIONS

Safety Officer – The Safety Officer will be the person assigned by THE COMPANY to administer the safety policies and procedures of THE COMPANY.

Site Supervisor – The Site Supervisor is the onsite person responsible for job execution and may be an employee of THE COMPANY or person contracted to execute work on behalf of THE COMPANY.

SCOPE

The program establishes requirements for hazardous energy control. It is to be used to ensure that equipment is isolated from all potentially hazardous energy sources whenever servicing or maintenance activities are in progress.

RESPONSIBILITY

1. The Safety Officer is designated as the Program Coordinator for THE COMPANY. Specific responsibilities include:
 - a. Provide Hazardous Energy Control training to employees.
 - b. Maintain a current listing of employees who have completed lockout training.
 - c. Maintain a current listing of all equipment that fall under the Hazardous Energy Control program. Listing is to be updated each time a change occurs.
 - d. Implement and enforce this program.
 - e. Maintain an adequate supply of padlocks and DANGER tags for use each time a lockout process is performed. Padlocks will be available at each job site as described in the equipment listing described in c. above.
 - f. Conduct the annual inspection and review as required by section VII.
2. Each Site Supervisor is responsible for the effective use of this program in the work group and to see that all required procedures are followed in every instance.
3. Each employee working on or around the job site under the Safety Program is responsible for learning and following the procedures and practices developed under this program. Notify the Program Coordinator prior to a lockout process.

BASIC LOCKOUT PRINCIPLES

All equipment must be locked out to protect against accidental or inadvertent operation, when operation could cause injury to personnel. Locks are to be applied and removed only by the authorized employee who is performing the servicing or maintenance.

No one should attempt to operate locked-out equipment.

Disciplinary action will be applied if any employee violates these procedures, regardless of whether or not physical harm or equipment damage results.

Lockout devices (padlocks) with an appropriate DANGER warning tag shall be used only for energy control. Prior to the servicing or maintenance of equipment a padlock and DANGER warning tag will be obtained from the Program Coordinator. Each padlock will be keyed differently with no master key or duplicate keys available.

TRAINING

Each authorized employee will be trained in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control.

Each affected employee shall be instructed in the purpose and use of the energy control procedure.

Affected employee

An affected employee is an employee whose job requires him/her to operate or use equipment on which servicing or maintenance is being performed under lockout or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

Authorized employee

An authorized employee is a person who locks out equipment in order to perform servicing or maintenance on that equipment. An affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance covered under the standard.

All other employees who do not work in areas where lockout may be used will be provided a brief overview of the lockout program.

Training in lockout will be given to all new employees as a part of their orientation. Retraining will be conducted whenever there is a change in job assignment, a change in equipment or process change that presents a new hazard.

Training records will be kept for all employees covered under the standard.

LOCKOUT PROCEDURES

Sequence of Lockout

The following are specific procedures to be followed for lockout.

1. Notify all affected employees that lockout is going to be utilized, and the reason why.
2. If the equipment is in operation, shut it down by the normal shutdown procedure.
3. Operate the appropriate switch, valve, etc., so that the equipment is isolated from the energy source.
4. Lock the energy isolating devices, using assigned locks and danger tags.
5. Release, restrain, or dissipate any stored energy.
6. Verify that energy isolation is complete, by attempting to start the affected equipment in the normal manner.
7. After testing, return all operation controls to the "neutral" or "off" positions.

Restoration to Normal

1. After service or maintenance is complete, check the area to ensure that no employees are exposed.
2. Remove all tools and repair equipment.
3. Ensure that all guards have been replaced and all safety interlocks reactivated (if so equipped).
4. Verify that the operating controls are in the "off" or neutral position.
5. Remove all lockout and tag devices and activate the energy isolation devices to restore energy.

PROGRAM INSPECTION AND REVIEW

At least annually, the Program Coordinator will verify the effectiveness of the energy control procedures. These inspections shall provide for a demonstration of the procedures and may be carried out through random audits and observations.

The inspector will review the Lockout Procedures with all authorized employees and actually observe the use of the procedure.

These inspections are to ensure that the energy control procedures are being properly used and to provide a check on the continued adherence to the procedures.

The Program Coordinator will certify that the prescribed inspections have been performed. Any deficiencies will be corrected immediately, either by modification of the procedure, retraining of employees, or a combination of both.

OUTSIDE CONTRACTORS

Outside personnel or contractors involved in lockout of equipment that affects our employees must submit their energy control procedures, in writing, to the Program Coordinator. All affected employees must be trained in and familiar with the contractor's submitted procedure.

In order to protect our employees, the contractor's work area will be isolated, and access by our employees will be restricted. If this is impractical or cannot be accomplished, the Program Coordinator must assure the contractor's compliance with proper work procedures, energy isolation procedures and contractor employee compliance.

Contractors failing to adhere to the provisions of the OSHA Hazardous Energy Control standard will be asked to terminate their work until their program is brought into compliance.