BP Wind Energy	***Document Number: HSSE 50.10.01***
Chemical Hazard Communication	

BP WIND ENERGY
POLICIES AND PROCEDURES

Chemical Hazard Communication Procedure

Document Control Details

Chemical Hazard Communication

1.0 Purpose/Scope

1.1 The purpose of this procedure is to define the manner in which employees and contractors are provided with information relative to chemical hazards at BPWE sites.

1.2 The OSHA Hazard Communication Standard regulates all chemical substances that present a physical or health hazard as defined in this procedure. Employees and contractors covered by this standard are to be informed of the following;

- The properties of any hazardous chemicals at the facility,
- The location of hazardous chemicals at the facility,
- How to determine necessary precautions for protection from hazardous chemicals and,
- The necessary actions and information required when bringing a new chemical into the facility.

1.3 Chemicals, stored or used at BPWE facilities will meet the requirements defined in this program.

1.4 This program does not apply to chemicals regulated by the Consumer Product Safety Act, tobacco, or foods.

- The Consumer Products Safety Act includes chemicals that can be purchased publicly, will be used in the same manner and quantity as a normal consumer, and which results in a duration and frequency of exposure that is not greater than a normal consumer would experience.
- Examples of chemicals excluded from this program would include bathroom deodorizers, white out, WD-40, and dish soap.

1.5 This procedure applies to all employees and on-site contractors.

2.0 Reference

2.1 HSSE 20.10.01 Personal Protective Equipment (PPE).

2.2 29 CFR 1910.1200, Hazard Communication,

2.3 29 CFR 1926.59, Hazard Communication.

3.0 Responsibilities

3.1 Site Manager (Facility/Project)

A. Site Managers have overall accountability to ensure that the requirements of this procedure are being followed by all site employees and contractors within their respective organizations.

3.2 Line Managers (All site managers, BP and Contractor)

It is the responsibility of each supervisor or manager, who supervises employees to:

A. Communicate MSDS's to the appropriate Hazard Communication Coordinator promptly upon arrival at the site.

B. Ensure that employees are properly trained on the contents of this procedure and the

area-specific Hazard Communication Program,

C. Ensure that employees are trained in the recognition of hazardous materials and the methods and means to protect themselves from these hazards,

D. Continuously monitor the work to assure compliance with this procedure and the site-specific Hazard Communication Program, and

E. Confirm that each job is properly prepared and that employees are aware of any hazardous substances that may be encountered as part of their work or as a result of someone else's work in the area.

3.3 Employees and Contractors

A. Employees must know and be able to recognize hazards associated with their work and to ensure that these hazards are properly addressed according to this procedure.

B. Employees must be trained in specific safety precautions that must be taken for the chemicals or materials they may be exposed to.

C. Employees must know where the MSDS's are located for chemicals used in the workplace.

D. Employees must be able to understand all forms of labeling and warning for hazards in the workplace.

E. Contractors must communicate the chemical names and MSDS's to the appropriate Hazard Communication Coordinator or Line Manager.

3.4 Hazard Communication Coordinator

A. Maintain Master Chemical Inventory List of all workplace chemicals in use,

B. Ensure labels are affixed to workplace chemical containers and that they remain legible as long as the chemical remains on site,

C. Maintain Material Safety Data Sheets for the workplace chemicals to which personnel in his or her area may be exposed,

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4.0 Procedure

4.1 General

A. The purpose of Hazard Communication is to communicate the hazards of workplace chemicals and communicate protective measures to control the hazards. Hazard Communication is accomplished by:

- Maintaining a list of all workplace chemicals,
- Labeling workplace chemical containers,
- Maintaining Material Safety Data Sheets for the workplace chemicals, and
- Implementing a training program to communicate the hazards of chemicals and appropriate protective measures.

B. Prior to beginning work activities, **Job Safety and Environmental Assessments (JSEAs)** shall be conducted to identify hazards associated with both routine and special tasks and projects to confirm that hazards and required controls are communicated to work crews. Chemical hazard assessments should be completed as part of the JSEA process.

4.2 Material Safety Data Sheets (MSDS)

A. A Material Safety Data Sheet will be maintained in the workplace for each hazardous chemical used by an employee. The MSDS will include:

- The chemical name and common name of all ingredients, which are health hazards,
- The chemical name and common name of all ingredients which are physical hazards,
- The physical and chemical characteristics of the hazardous chemical such as vapor pressure, flash point,
- The physical hazards of the hazardous chemical including fire, explosion, reactivity,
- The primary routes of entry,
- The Permissible Exposure Limit, Threshold Limit Value, and other exposure limit used by the manufacturer,
- Whether the hazardous chemical is listed in the National Toxicology Program Annual report on Carcinogens, International Agency for the Research on Cancer Monographs or by OSHA,
- Applicable precautions for safe handling and use,
- Applicable engineering controls, work practices, or personal protective equipment control measures known to the manufacturer,
- Emergency and first aid procedures,
- Date the MSDS was prepared and name, address and telephone number of the manufacturer.

B. MSDS's shall be readily available and accessible either in hardcopy binders in a central location and electronically if desired.

- MSDS binders shall have an index page listing products by material (product

name) in alphabetical order and manufacturer.

- Binders will use alphabetical dividers and materials will be separated by their material (product) name.
- Binders shall be maintained regularly and new materials shall be listed in the appropriate location in the index and the MSDS placed in the binder under the appropriate divider.

4.3 New Chemicals

A. Before a new chemical is purchased or delivered for use at a BPWE facility or project, the health, safety and environmental risks associated with the chemical must be assessed.

B. Prior to purchasing a new chemical the employee or contractor requesting the chemical is responsible for obtaining a copy of the MSDS.

C. Upon arrival of the new chemical, the responsible Line Manager shall ensure copies of the MSDS sheets are provided to the appropriate Hazard Communication Coordinator for inclusion in the area specific and master Hazard Communication plans and the MSDS binder/index.

4.4 Chemical Inventory List

A. As a requirement of the OSHA Hazard Communication Standard each site must develop and maintain a current written chemical inventory list.

B. The inventory process describes chemicals in use at or introduced to a worksite and where and when they are used.

C. The chemical inventory can also serve as a tool to assist facilities in identifying out-of-date, unneeded, or unnecessarily hazardous products and remove or replace them.

D. The site chemical inventory list is used to verify that MSDS's are available for all products in stock or use.

E. The product name and manufacturer on the inventory should be identical to the MSDS and container label.

F. Chemical inventories shall be updated as new chemicals are introduced or removed at a worksite.

4.5 Container Labeling

A. All chemical containers received from vendors are labeled and delivered with an MSDS, unless a current MSDS is on location.

B. The labels must be legible, written in English, and prominently displayed on the container, or readily available in the work area.

C. Labels provided by the manufacturer, importer, or distributor must include:

- Identity of the chemical or common name as it appears on the MSDS,
- Hazard warnings conveying the physical and/or health hazards, including target organ effects associated with that chemical and,
- Contact information, name and address of the chemical manufacturer, or importer in case of spill or accident.

D. Use of portable containers is discouraged and should only be used with the responsible line manager's approval.
E. In the event portable containers are necessary, such as the use of portable fuel cans, the container shall be labeled with the same required information listed in the bullets above

4.6 Contractor Program

A. It is the responsibility of the Line Manager overseeing contractor operations to inform the contractor's representative at the start of a project, or upon assignment, of the hazards associated with the chemicals that the contractor's employees may encounter during their work at the facility.
B. This training shall be included as part of the contractor's orientation process.
C. Each contractor shall be notified of where the MSDS's are located as well as the location of the chemicals.

Note: 4.5

Contractors must provide a copy of the MSDS to the appropriate Site Manager for any chemicals utilized by the contractor that may present an exposure hazard to site employees.

5.0 Training

5.1 Training on the content and requirements of the Hazard Communication Program shall be conducted upon hiring and/or assignment to a job with exposure to hazardous materials, and new contractor orientation.

5.2 Training is also required when a new hazardous material is initially added to the work area.

5.3 Training will include methods and observations to detect a hazardous chemical in the workplace, the physical and health hazards of the hazardous chemicals in the workplace, the measures employees can take to protect themselves, and an explanation of the labeling system and MSDS's.

5.4 Recordkeeping

A. All training shall be documented by the trainer and copies shall be sent to the BP VTA Administrator for entry into VTA.
B. Training may also be completed using Computer Based Training (CBT) and electronically input into VTA.
C. Training records shall be maintained for the length of employment plus 30 years.

6.0 Auditing

6.1 The requirements called for in this procedure are subject to periodic inspection by the BP site manager and annually during the BPWE site specific audit.

6.2 This procedure shall be audited every three years.

7.0 Acronyms and Definitions

Acronyms Table

Acronym	Definition
ASTM	American Society for Testing Materials
CBT	Computer-Based Training
HAZCOM	Hazard Communication
IARC	International Agency for Research on Cancer
JSEA	Job Safety Environmental Analysis
LD	Lethal Dose
MOC	Management of Change
MSDS	Material Safety Data Sheet
NTP	National Toxicology Program
OSHA	Occupational Health and Safety Administration
VTA	Virtual Training Assistant

Definitions Table

The types of chemicals defined below constitute an OSHA defined hazardous chemical.

Term	Definition
Aerosol, Flammable	An aerosol that, when tested by the method described in 16 CFR 1500.45, yields either a flame projection exceeding 18 inches at full valve opening or a flashback (a flame extending back to the valve) at any degree of valve opening.
Carcinogen (Cancer Causing Agent)	A chemical that has been evaluated by the International Agency for Research on Cancer (IARC) and has been determined to be a carcinogen or potential carcinogen; or a chemical that is listed as a carcinogen or potential carcinogen in the annual report on carcinogens published by the National Toxicology Program (NTP) (latest edition); or a chemical that is regulated by OSHA as a carcinogen.
Combustible Liquids	Any liquid having a flash point at or above 100°F (37.8°C), but below 200°F (93.3°C), *except* any mixture having components with flash points of 200°F (93.3°C) or higher, the total volume of which makes up 99 percent or more of the total volume of the mixture.
Compound	A material formed by the chemical combination of elements in defined proportions. Compounds can be chemically decomposed into simpler substances.
Compressed Gases	A gas or mixture of gases having, in a container, an absolute pressure exceeding 40 psi at 70°F (21.1°C); or a gas or mixture of gases having, in a container, an absolute pressure exceeding 104 psi at 103°F (54.4°C), regardless of the pressure at 70°F (21.1°C); or a liquid having a vapor pressure exceeding 40 psi at 100°F (37.8°C) as determined by American Society for Testing Materials (ASTM) D-323-72.
Corrosive	A chemical that causes visible destruction of or irreversible alterations in, living tissue by chemical action at the site of contact.
Explosives	A chemical that causes a sudden, almost instantaneous release of pressure, gas, and heat when subjected to sudden shock, pressure, or high temperature.
Gas, Flammable	A gas that, at ambient temperature and pressure, forms a flammable mixture with air at a concentration of 13% by volume or less, or a gas that, at ambient temperature and

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Term	Definition
	pressure, forms a range of flammable mixtures with air wider than 12% by volume, regardless of the lower limit.
Hazardous Chemical	A substance or material determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety and property when transported in commerce, and which has been so designated under Federal Hazardous Material transportation law. The Department of Transportation (DOT) publishes a table of Hazardous Materials in 49 CFR 172.101. Contact the HSSE Advisor for further clarifications.
Hazardous Material	Any substance or compound that has the capability of producing adverse effects on the health and safety of humans.
Health Hazard	A chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed workers. The term “health hazard” includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, and agents which could damage the lungs, skin, eyes or mucous membranes.
Highly Toxic	A chemical is considered highly toxic if it falls within any of the following categories: • It has a median lethal dose (LD_{50}) of 50 milligrams or less per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each, • It has a median lethal dose (LD_{50}) of 200 milligrams or less per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between 2 and 3 kilograms each, or • It has a median lethal dose (LD_{50}) in air of 200 parts per million by volume or less of gas or vapor, or 2 milligrams per liter or less of mist, fume, or dust, when administered by continuous inhalation for one hour (or less if death occurs within one hour) to albino rats weighing between 200 and 300 grams each.
Irritant	A chemical which is not corrosive but which causes a reversible inflammatory effect on living tissue by chemical action at the site of contact. A chemical is a skin irritant if when tested on the intact skin of albino rabbits by the methods of 16 CFR 1500.41 for four hours exposure or by other appropriate techniques results in an empirical score of five or more. A chemical is an eye irritant if so determined under the procedure listed in 16 CFR 1500.42.
Job Safety Environmental Analysis (JSEA)	A job-related safety and environmental analysis that is intended to identify hazards and provide actions to eliminate or mitigate these hazards. It is a systematic look at a task to be performed; breaking it down to individual task steps, identifying potential hazards, and methods to control those hazards. A job related safety and environmental analysis is intended to identify hazards and provide actions to mitigate all known hazards with a particular task.
Liquid, Flammable	Any liquid having a flash point below 100°F (37.8°C), *except* any mixture having components with flash points of 100°F (37.8°C) or higher, the total of which makes up 99 percent or more of the total volume of the mixture.
Material Safety Data Sheet (MSDS)	A document that provides information about how to safely use, handle, and store hazardous chemicals. It also provides health hazard and first aid information, precautionary measures, and emergency procedures. MSDS are available from the

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Term	Definition
	manufacturer, importer, or distributor.
Organic Peroxide	An organic compound that contains the bivalent O-O structure and which may be considered to be a structural derivative of hydrogen peroxide when one or both of the hydrogen atoms has been replaced by an organic radical.
Oxidizer	A chemical, other than a blasting agent or explosive, as defined in 29 CFR 1910.109(a), that initiates or promotes combustion in other materials, thereby causing fire either of itself or through the release of oxygen or other gases.
Physical Hazard	A chemical for which there is scientific evidence that it is a combustible liquid, a compressed gas, an organic peroxide, an oxidizer, or is explosive, flammable pyrophoric, unstable (reactive) or water-reactive.
Pyrophorics (Iron Sulfide)	A chemical that will ignite spontaneously in air at a temperature of 130°F (54.4°C) or below.
Sensitizer	A chemical that causes a substantial proportion of exposed people or animals to develop an allergic reaction in normal tissue after repeated exposure to the chemical.
Solid, Flammable	A solid, other than a blasting agent or explosive as defined in 29 CFR 1910.109(a), that is likely to cause fire through friction, absorption of moisture, spontaneous chemical change, or retained heat from manufacturing or processing, or which can be ignited readily and, when ignited, burns so vigorously and persistently as to create a serious hazard. A chemical shall be considered to be a flammable solid if, when tested by the method described in 16 CFR 1500.44, it ignites and burns with a self-sustained flame at a rate greater than one-tenth of an inch per second along its major axis.
Toxic	A chemical is considered toxic if it falls within any of the following categories: • It has a median lethal dose (LD_{50}) of more than 50 milligrams per kilogram but not more than 500 milligrams per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each, • It has a median lethal dose (LD_{50}) of more than 200 milligrams per kilogram but not more than 1,000 milligrams per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between 2 and 3 kilograms each, or • It has a median lethal concentration (LD_{50}) in air of more than 200 parts per million but not more than 2,000 parts per million by volume of gas or vapor, or more than two milligrams per liter but not more than 20 milligrams per liter of mist, fume, or dust, when administered by continuous inhalation for one hour (or less if death occurs within one hour) to albino rats weighing between 200 and 300 grams each.
Unstable (Reactive)	A chemical that, in its pure state or when produced or transported, will vigorously polymerize, decompose, condense, or will become self-reactive under conditions of shock, pressure, or temperature.
Water-Reactive	A chemical that reacts with water to release a gas that is either flammable or presents a health hazard.

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Attachment 1 - Hazard Communication Plan

Once completed, this form serves as the required area specific Hazard Communication Plan in accordance with the BPWE Hazard Communication Procedure.

The responsible Site Manager identified in this plan has accountability for implementation of the plan and has delegated the responsibility of maintaining the plan to the designated Hazard Communication Coordinator identified in this plan.

Department or Area: _____

This plan was last updated on: _____(mm/dd/yyyy)

Responsible Line Manager: _____

Designated Hazard Communication Coordinator: _____

Location of this Plan: _____

New chemicals shall be communicated to _____(BPWE Site Manager or designated Lead Hazard Communication Coordinator), prior to use in this area or department.

Discontinued chemicals shall be communicated immediately to _____ BPWE Site Manager or designated Lead Hazard Communication Coordinator).

Attachments to this plan:

- A copy of the BPWE Hazard Communication Procedure
- A current inventory list of all chemicals maintained by the department alphabetized by the chemical's common name.
- An MSDS for every chemical on the inventory list arranged alphabetically by the chemical's common name.

Any questions regarding this plan or the BPWE Hazard Communication Procedure may be directed to:

Haz-Com Coordinator: _____ Phone: _____

Site or Area Manager: _____ Phone: _____

OEM HSSE Contact: _____ Phone: _____

BPWE HSSE Contact: _____ Phone: _____

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