

## **Santa Fe Community College Health and Safety Training In the Biofuels Industry**

**Purpose:** Provide health and safety training to workers/entrepreneurs entering the Biofuels industry.

### **Objectives:**

1. Provide required training necessary to issue OSHA General Industry Standards 10 hour Certification to workers entering the Biofuels industry.
2. Provide information to potential employees regarding common hazards identified with startup and operations found in the Biofuels industry.
3. Develop skills in hazard identification and preparation of job hazard analyses to identify engineering controls, work practices and personal protective equipment necessary to eliminate or control potential hazards.
4. Introduce potential employees/employers in the developing Biofuels industry to regulations applicable and resources available for safety and health hazards.

### **Course Description:**

This two day course will provide the basic information regarding hazards and regulations potentially applicable to the developing Biofuels industry. Completion of the course taught by an OSHA Authorized Instructor in General Industry Standards will provide the attendee with an OSHA 10 hour Certification in General Industry Standards. In addition, attendee's will be able to identify and prepare Job Hazard Analyses for a wide range of workplace hazards.

### **Materials:**

OSHA 10 hour General Industry Standards Training Manual including:

Intro to OSHA (<http://www.osha.gov/dte/outreach/teachingaids.html>)

[http://www.osha.gov/dcsp/compliance\\_assistance/quickstarts/general\\_industry/index\\_gi.html](http://www.osha.gov/dcsp/compliance_assistance/quickstarts/general_industry/index_gi.html)

<http://www.osha.gov/dep/greenjobs/biofuels.html>

[http://www.osha.gov/dep/greenjobs/bio\\_fireexplosion.html](http://www.osha.gov/dep/greenjobs/bio_fireexplosion.html)

[http://www.osha.gov/dep/greenjobs/bio\\_chemical.html](http://www.osha.gov/dep/greenjobs/bio_chemical.html)

[http://www.osha.gov/dep/greenjobs/bio\\_toxicity.html](http://www.osha.gov/dep/greenjobs/bio_toxicity.html)

### **Reference Materials:**

Job Hazard Analysis: <http://www.osha.gov/Publications/osh3071.pdf>

### **Standards Covered:**

1910 Subparts D, H (1910.119, 1910.120), I (1910.146, 1910.147), K, L, N, S, Z (1910.1200).

**Course Layout:**

|       |             | Day 1 (8 am-4:30 pm)                               |         | Day 2 (8am-4:00 pm)                                   |         |
|-------|-------------|----------------------------------------------------|---------|-------------------------------------------------------|---------|
|       | Morning     |                                                    | minutes |                                                       | Minutes |
| 8:00  |             | Introductions/Sign In/Class Overview               | 10      | Personal Protective Equipment                         | 30      |
| 8:10  |             | Developing a Safety and Health Program             | 30      | Personal Protective Equipment: Respiratory Protection | 30      |
| 9     |             | Intro to OSHA                                      | 30      | Material Handling                                     | 30      |
| 9:30  |             | Intro to OSHA                                      | 30      | Ergonomics                                            | 30      |
|       | Break       |                                                    |         |                                                       |         |
| 10    |             | Intro to OSHA                                      | 30      | Electrical Safety                                     | 30      |
| 10:30 |             | Intro to OSHA                                      | 30      | Electrical Safety                                     | 30      |
| 11    |             | Hazard Communication                               | 30      | Permit Required Confined Spaces Identification        | 30      |
| 11:30 |             | Hazard Communication: MSDS                         | 30      | Process Safety Management (PSM)                       | 30      |
| 12    | Lunch Break |                                                    |         |                                                       |         |
| 12:30 |             | Walking Working Surfaces                           | 30      | Flammable and Combustible Chemicals in Biofuels       | 30      |
| 1:00  |             | Walking/Working Surfaces including Fall Protection | 30      | Highly Reactive Chemicals in Biofuels                 | 30      |
| 1:30  |             | Fire Prevention                                    | 30      | Toxicity of Biofuels                                  | 30      |
|       | Break       |                                                    |         |                                                       |         |
| 2:00  |             | Emergency Action Plans                             | 30      | Job Hazard Analysis in Startups                       | 30      |
| 2:30  |             | Hazardous Materials                                | 30      | Job Hazard Analysis in Operations                     | 30      |
|       | Break       |                                                    |         |                                                       |         |
| 3:00  |             | Hazardous Materials                                | 30      | Exercise: Analysis and Preparation of JHA             | 30      |
| 3:30  |             | Introduction to Industrial Hygiene                 | 30      | Demonstration of Understanding                        | 30      |
| 4:00  |             | Introduction to Industrial Hygiene                 | 30      |                                                       |         |
| 4:30  |             | End                                                |         | End                                                   |         |
|       |             |                                                    | =       |                                                       |         |
|       |             | Daily Total Hours                                  | 7.5     |                                                       | 7.0     |
|       |             | Total Class hours                                  | 15.00   |                                                       |         |
|       |             | Breaks                                             |         |                                                       |         |
|       |             | Lunch                                              | 30      |                                                       |         |
|       |             | Breaks (total)                                     | 30      |                                                       |         |
|       |             |                                                    |         |                                                       |         |
|       |             | Contact Teaching time                              | 450     |                                                       |         |
|       |             |                                                    |         |                                                       |         |

Below are the Department of Labor OSHA requirements for issuing an OSHA 10 hour General Industry Standards Certification. Next to each requirement, the hours for the Biofuels GI class are listed in red italics.

- A. **10-Hour General Industry – Designated Training Topics.** This training program is intended to provide entry level general industry workers information about their rights, employer responsibilities, and how to file a complaint as well as how to identify, abate, avoid and prevent job related hazards on a job site. The training covers a variety of general industry safety and health hazards which a worker may encounter. Training should emphasize hazard identification, avoidance, control and prevention, not OSHA standards. Learning objectives on some of these topics are on the CD which is distributed in all OSHA General Industry trainer classes, and available for download at the Outreach Training Program website ([www.osha.gov/dte/index.html](http://www.osha.gov/dte/index.html)). Instructional time must be a minimum of 10 hours. The minimum topic requirements are as follows:

1. **Mandatory - 7 hours**

a. **Introduction to OSHA – 2 hours. (*2 hours*)**

1. OSHA has [required training content](#) for this module.
2. Covers workers' rights, employer responsibilities and how to file a complaint. It includes helpful worker safety and health resources. It also provides samples of a weekly fatality and 3 catastrophe report, material data safety sheet and the OSHA Log of Work-Related Injuries and Illnesses.
3. Materials include an Instructor Guide, PowerPoint slides, student handouts, and participatory activities.

b. **Walking and Working Surfaces, including fall protection – 1 hour. (*1 hour*)**

c. **Exit Routes, Emergency Action Plans, Fire Prevention Plans, and Fire Protection – 1 hour. (*1 hours*)**

d. **Electrical – 1 hour. (*1 hour*)**

e. **Personal Protective Equipment – 1 hour. (*1 hour*)**

f. **Hazard Communication – 1 hour. (*1 hours*)**

Total: 7 hours

2. **Elective - 2 hours.** Must present at least two hours of training on the following topics. At least two topics must be presented. The minimum length of any topic is one-half hour.

a. **Hazardous Materials (*1 hour*)**

b. **Materials Handling (*.5 hour*)**

c. **Machine Guarding**

d. **Introduction to Industrial Hygiene (*1 hour*)**

e. **Bloodborne Pathogens**

f. **Ergonomics (*.5 hour*)**

g. **Safety and Health Program (*.5 hour*)**

h. **Fall Protection (included in Walking/Working Surfaces)**

Total: 3.5 hours

3. **Optional - 1 hour.** Teach other general industry hazards or policies and/or expand on the mandatory or elective topics. The minimum length of any topic is one-half hour.
- a. **Permit Required Confined Spaces introduction (.5 hour)**
  - b. **Process Safety Management (PSM) (.5 hour)**
  - c. **Job Hazard Analyses (1.5 hour)**
  - d. **Biofuels Industry Hazards (1.5 hours)**

**Total: 4 hours**

**Certify to 14.5 hours**

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