Flammable and Combustible Liquids Program

Reference Standard
Occupational Safety and Health Administration Hazardous Materials, Subpart H, including: 29 CFR 1910.106

Purpose
This procedure establishes the minimum procedures for the storage and use of flammable and combustible liquids. Flammable and combustible liquid use is incidental to our main business and as such, we strive to minimize use but meet all applicable safety standards.

Scope
This procedure applies to all of our company employees, all contractors and vendors performing work on company property, as well as all other individuals who are visiting or have business with our company.

Responsibilities
− Management is responsible for development and review of this program. Management is also responsible for appropriate employee training.
− Management and supervisors are responsible for enforcement of this program.
− Employees shall comply with all procedures outlined in this policy.
− Contractors and vendors shall comply with all procedures outlined in this policy.

Definitions
Aerosol: A material that is dispensed from its container as a mist, spray, or foam by a propellant under pressure.

Approved: A formal approval for flammable and combustible liquid from a nationally recognized testing laboratory.

Bonding: Connecting containers used to transfer liquids with a conductive wire (or similar device) in order to equalize the static charge.

Bulk Plant: The portion of a property where flammable or combustible liquids are received by tank vessel, pipelines, tank cars or tank vehicle, and are stored or blended in bulk for the purpose of distributing such liquids by tank vessel, pipeline, tank car, tank vehicle or container.

Chemical Plant: A large integrated plant or that portion of such a plant (other than a distillery or refinery) where flammable or combustible liquids are produced by chemical reactions or used in chemical reactions.

Combustible: Any liquids with a flashpoint at or above 100 degrees Fahrenheit. Combustible liquids are divided into two classes:

This policy is merely a guideline. It is not meant to be exhaustive nor be construed as legal advice. It does not address all potential compliance issues with federal, state, local OSHA or any other regulatory agency standards. Employers should customize this document to address all of their legal and contractual obligations, and to account for requirements that are specific to their industry, line of business or project. Consult your licensed Commercial Property and Casualty representative at Cool Insuring Agency, Inc. and New York Electrical Contractors Association Inc. or legal counsel to address possible compliance requirements. © 2005, 2011-2012 Zywave, Inc.
− **Class II Liquids**: Liquids with a flashpoint at or above 100 degrees Fahrenheit and below 140 degrees Fahrenheit, except for mixtures where 99 percent or greater of the mixture is composed of liquid with a flashpoint of 200 degrees Fahrenheit or greater.

− **Class III Liquids**: Liquids with a flashpoint at or above 140 degrees Fahrenheit. Class III liquids are divided into two subclasses:
  − **Class IIIA**: Liquids with a flashpoint at or above 140 degrees Fahrenheit and below 200 degrees Fahrenheit, except for mixtures where 99 percent or greater of the mixture is composed of liquid with a flashpoint of 200 degrees Fahrenheit or greater.
  − **Class IIIB**: Liquids with a flashpoint at or above 200 degrees Fahrenheit. This written program does not cover IIIB Liquids because of the minimal risk.

**Contractor**: A non-company employee being paid to perform work in our facility.

**Fire Area**: An area of a building separated from the remainder of the building by construction having a fire resistance of at least one hour and having communicating openings properly protected by an assembly which also has a fire resistance of at least one hour.

**Flammable Liquid**: A liquid having a flashpoint below 100 degrees Fahrenheit, except for mixtures where 99 percent or greater of the mixture is composed of liquid with a flashpoint of 100 degrees Fahrenheit or greater. Flammable liquids are referred to as Class I liquids and are divided into three classes:
  − **Class IA**: Liquids with a flashpoint below 73 degrees Fahrenheit and a boiling point below 100 degrees Fahrenheit.
  − **Class IB**: Liquids with a flashpoint below 73 degrees Fahrenheit and a boiling point above 100 degrees Fahrenheit.
  − **Class IC**: Liquids with a flashpoint at or above 73 degrees Fahrenheit and below 100 degrees Fahrenheit.

**Flashpoint**: The minimum temperature at which a liquid gives off vapor within a test vessel in sufficient concentration to form an ignitable mixture in air near the surface of the liquid.

**Grounding**: Connecting a flammable liquid transfer system to the ground through the use of a wire or similar device.

**Hot Work Permit**: A documented procedure that is followed prior to and during maintenance and repair work that could introduce ignition sources into flammable and combustible liquid storage and handling areas.

**Industrial Plant**: A plant where the use of flammable or combustible liquids is incidental to the principal business, or where flammable or combustible liquids are handled or used only in unit physical operations such as mixing, drying, evaporating, filtering, distillation, and other similar operations which do not involve chemical reaction.

**Safety Can**: An approved container of not more than 5 gallons, having a spring closing lid and spout cover and so designed that it will safely relieve internal pressure when subjected to a fire exposure.

**Vendor**: A non-company employee being paid to perform a service at our facility.

### Procedures

**Stationary Tank Storage**

− All stationary flammable or combustible liquid tank design, installation and operation in our facility will meet all the requirements of the law and our property insurance carrier.

− All storage tanks will have adequate ventilation and relief devices for anticipated excess pressure and vacuum.
- All tank areas will be secure to prevent unauthorized access.
- All tank areas will be free of weeds, debris and other combustible material that could contribute to fire ignition or growth.
- No non-metallic fittings will be used on flammable and combustible liquid storage tank systems.
- All systems will be evaluated for in order to ensure they are properly grounded. Bonding and grounding equipment will be provided at all liquid transfer locations.
- All tanks will be marked with permanent signs indicating the contents and the flammable or combustible nature of the product.
- Stationary tanks will not be filled unless attended by a knowledgeable operator watching for overfill unless a properly calibrated and functioning level indicator is installed to annunciate a full condition or remotely stop the transfer.
- Ignition sources (e.g. smoking, welding, regular service electrical equipment, etc.) will be controlled within the vicinity of tank storage:

**Small Container Storage**
- The maximum container size will be:

<table>
<thead>
<tr>
<th>Container type</th>
<th>Flammable liquids</th>
<th>Combustible liquids</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class IA</td>
<td>Class IB</td>
</tr>
<tr>
<td>Glass or approved plastic........</td>
<td>1 pt</td>
<td>1 qt</td>
</tr>
<tr>
<td>Metal (other than DOT drums).......</td>
<td>1 gal</td>
<td>5 gal</td>
</tr>
<tr>
<td>Safety cans.......</td>
<td>2 gal</td>
<td>5 gal</td>
</tr>
<tr>
<td>Metal drums (DOT specifications)....</td>
<td>60 gal</td>
<td>60 gal</td>
</tr>
<tr>
<td>Approved portable tanks.............</td>
<td>660 gal</td>
<td>660 gal</td>
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</tbody>
</table>

NOTE: Container exemptions: [a] Medicines, beverages, foodstuffs, cosmetics, and other common consumer items, when packaged according to commonly accepted practices, shall be exempt from the requirements of 1910.106(d)(2)(i) and (ii).

- Glass and plastic containers up to one gallon capacity are permissible if the material would become unfit if stored in metal and/or a legitimate process need exists.
- Storage areas for flammable or combustible liquids will be located at least 25 feet from ignition sources such as smoking areas, welding and grinding areas, ovens, open flames, etc.
- Not more than 60 gallons of Class I and Class II and not more than 120 gallons of Class III liquid will be stored in an approved flammable liquid storage cabinet.
- Storage in approved inside flammable and combustible liquid storage rooms will meet the following requirements:
<table>
<thead>
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<th>provided</th>
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<tr>
<td>Yes........</td>
<td>2 hours.....</td>
<td>500 sq. ft...</td>
<td>10</td>
</tr>
<tr>
<td>No..........</td>
<td>2 hours.....</td>
<td>500 sq. ft...</td>
<td>5</td>
</tr>
<tr>
<td>Yes........</td>
<td>1 hour.....</td>
<td>150 sq. ft...</td>
<td>4</td>
</tr>
<tr>
<td>No..........</td>
<td>1 hour.....</td>
<td>150 sq. ft...</td>
<td>2</td>
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</table>

Footnote (1) Fire protection system shall be sprinkler, water spray, carbon dioxide, or other system.

− All inside storage rooms will meet the following requirements:
− Be equipped with a self-closing, operating fire door;
− Be equipped with spill containment;
− Have a liquids tight floor to wall seam;
− At least one aisle of three feet or more;
− Approved electrical wiring for the Class of liquids stored;
− Ventilation to provide at least 6 air changes per hour; and
− Containers over 30 gallons will not be stored on top of each other.
− The maximum quantity of flammable and combustible liquid that may be located outside of an inside flammable room or cabinet in any one fire area (an area segregated by fire walls) of the building shall not exceed:
  − 25 gallons of Class IA liquids in containers
  − 120 gallons of Class IB, IC, II or III liquids in containers
  − 660 gallons of Class IB, IC, II or III liquids in a single portable container
− Oxidizers will be separated from flammable and combustible liquids by at least 25 feet.
− Storage will be prohibited in offices except for maintenance and operation.
− Flammable liquids will not be stored or used in basements.

**General Safety Considerations**
− Flammable liquid containers will not be stored adjacent to exit aisles and exit doors or where they will interfere with the emergency exit from an area or building.
− Areas where flammable and combustible liquids are transferred or used will be separated from other areas by distance or by construction that has adequate fire resistance.
− Drainage or containment will be used to control possible spills.
− Adequate ventilation (natural or mechanical) will be provided to control vapor concentrations to below 10% of the LEL.
− Dispensing of flammable and combustible liquids will be by approved pump or metal self-closing faucet.
− Liquids must be kept in closed containers when not in use.
− Spill and leak control procedures will be in place for every situation.
− Class I liquids will be used only where no open flame or other ignition source is in the possible path of the vapor.
Pressurizing flammable and combustible liquid containers to facilitate transfer will not be allowed.

All transfers of liquid will be attended by an employee who is trained to stop the transfer in the event of a spill or other upset condition.

Adequate fire extinguishers will be provided to control the Class B fire hazard created by our flammable and combustible liquid operations. In all cases travel will be 10 feet or less to reach a Class B rated fire extinguisher that contains at least 10 lbs. of extinguishing agent.

All fixed fire protection systems will be maintained operational whenever flammable and combustible liquids are being processed.

Welding, flame cutting, soldering, grinding, etc. and other flame, heat or spark producing work will not be allowed within 25 feet of liquid use and storage areas with the issuance of a Hot Work Permit.

Smoking is forbidden in all storage and handling areas and for a 25 foot radius around these areas, as well as in any areas determined to be smoke free.

Containers used to transfer Class I liquids will be bonded and the transfer system grounded.

The electrical wiring requirements for processing areas are as follow:

- Class I, Division 1: Locations where flammable vapor-air mixtures may exist under normal operations for 5 feet in all directions around the point(s) of vapor liberation and in pits (unless the pit is provided with mechanical ventilation).
- Class I, Division 2: Locations where flammable vapor-air mixtures may exist under abnormal conditions and for a distance beyond Class I, Division 1. These areas include an area within 20 feet horizontally, three feet vertically beyond a class I, Division 1 area and up to three feet above floor or grade level within 25 feet, if indoors or 10 feet if outdoors from any pump, bleeder, withdrawal fitting, meter or similar device handling Class I liquids.
- All electrical wiring in flammable and combustible liquid handling areas will meet requirements of our local fire prevention code and our property insurance carrier.

Proper housekeeping will be enforced in all areas including:

- Maintaining all aisles and walkways clear and passable at all times.
- Maintaining access to fire extinguishers and other emergency response equipment.
- Disposing of all flammable and combustible liquid wipes and garbage in closed metal containers.

All trash containers will be emptied daily and garbage is to be stored outside of our facility.

**Emergency Procedures**

Our Facility Emergency Plan will contain a response strategy for the following:

- Procedure to respond to anticipated flammable or combustible liquid spills, including:
  - Immediate actions to be taken by employees to contain and control the spill and eliminate ignition sources.
  - Evacuation:
    - Notification of the Fire Department; and
    - Contacting a contractor for final mitigation.
- Procedure to respond to a flammable or combustible liquid fire including:
  - Employee actions to contain the fire;
– Evacuation; and
– Notification of the Fire Department.

**Training**
– All personnel who work in liquid processing areas will receive training in the following:
  – Location of Material Safety Data Sheets (MSDS) and other reference material;
  – Personal Protective Equipment (PPE) requirements;
  – Ventilation requirements;
  – Bonding and grounding;
  – Control of ignition sources;
  – Operation of transfer and process equipment;
  – Chemical contact emergency procedures (eye and skin contact);
  – Use of eye wash stations and safety showers;
  – Spill emergency procedures; and
  – Fire emergency procedures.
– Training will be provided at the time of hire or initial assignment and whenever procedures, materials or responsibilities change or when management observations indicate the need for retraining.

**Revision History Record:**

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<th>Revision Number</th>
<th>Section</th>
<th>Revised By</th>
<th>Description</th>
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<td>0</td>
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