

<b>CITY AND COUNTY OF DENVER</b>	<b>POLICY</b>	<b>DENVER FIRE DEPARTMENT</b>
Subject: <b>FLAMMABLE/COMBUSTIBLE LIQUID STORAGE/USE, INCLUDING USTs, ASTs, AND USE/STORAGE AT CONSTRUCTION SITES -- PERMIT REQUIREMENTS</b>		
Reference: <b>IFC 34&amp;27, Denver Amendments, and NFPA 30, 33, 704</b>		
Approved: Joseph L. Gonzales, Division Chief, Fire Prevention and Investigation Division		
Number: <b>IFC-3403-1</b>	Effective Date: <b>February 1<sup>st</sup> 2012</b>	Page: <b>1 of 8</b>

**This policy is meant to provide basic information for most common conditions and situations. In any given occupancy, many other Fire Code requirements may be enforced. These will be addressed by the Fire Inspector during a premises inspection. Questions can be addressed to the Fire Prevention Division Office between 6:30 a.m. and 4:30 p.m. Monday thru Friday at (720) 913-3474 or at [DFDFPB@DENVERGOV.ORG](mailto:DFDFPB@DENVERGOV.ORG). Permits may ONLY be obtained Monday thru Friday, between 6:30 a.m. and 9:00 a.m. from the 1<sup>st</sup> floor at 745 West Colfax Avenue.**

## **I. SCOPE**

This policy covers installation, maintenance, operation, and permitting requirements as they pertain to the use and storage of flammable and combustible liquids within the City and County of Denver.

UST's and AST's, flammable and/or combustible liquids, storage, and use over exempt amounts are covered in this policy.

## **II. DEFINITIONS**

**Flammable liquid** is a liquid having a closed cup flash point below 100 degrees Fahrenheit. The category of flammable or combustible liquids does not include compressed gas or cryogenic fluids. Flammable liquids are further categorized into a group known as Class I liquids, subdivided as follows:

**Class I-A** liquids include those having a flash point below 73 degrees F and having a boiling point below 100 degrees F.

**Class I-B** liquids include those having a flash point below 73 degrees F and having a boiling point at or above 100 degrees F.

**Class I-C** liquids include those having a flash point at or above 73 degrees F and below 100 degrees F.

**Combustible liquid** is a liquid having a flash point at or above 100 degrees F., subdivided as follows:

**Class II liquids** are those having closed cup flash point at or above 100 degrees F and below 140 degrees F.

**Class III-A liquids** are those having closed cup flash points at or above 140 degrees F and below 200 degrees F.

**Class III-B liquids** are those having a closed cup flash point at or above 200 degrees F.

<b>CITY AND COUNTY OF DENVER</b>	<b>POLICY</b>	<b>DENVER FIRE DEPARTMENT</b>
Subject: <b>FLAMMABLE/COMBUSTIBLE LIQUID STORAGE/USE, INCLUDING USTs, ASTs, AND USE/STORAGE AT CONSTRUCTION SITES -- PERMIT REQUIREMENTS</b>		
Number: <b>IFC-3403-1</b>	Effective Date: <b>February 1, 2012</b>	Page: <b>2 of 10</b>

### III. ANNUAL PERMIT (for permanent site)

The following permit(s) must be obtained from the Denver Fire Department, Fire Prevention Division:

**ANNUAL- Flammable and Combustible Liquids Use/Storage Permit**

**TEMPORARY PERMIT (for construction site)**

**TEMPORARY - Flammable and Combustible Liquids Use/Storage Permit**

#### EXCEPTIONS:

If you have less than 1 unit of Flammable/Combustible liquids, a permit is not required.

### IV. TO OBTAIN PERMIT

A permit shall be obtained from the Denver Fire Department, Fire Prevention and Investigation Division. The permit shall be kept on site for inspection. To obtain a permit, the following information must be provided:

- Business name, address, phone number, fax number and email address
- Contact name, phone number, and fax number
- Property/business owner's name, address, phone number, fax number and email
- Site address
- List the use of flammables/combustibles, i.e. diesel generator tank
- List the size of tank(s); include the volume, in gallons, of each tank
- List total gallons of flammables/combustibles on site; include inside and outside use and/or storage, i.e. 61 gallons Class II (diesel) equals 1 unit; total on site 1 unit
- Diagram of site location indicating flammable/combustible use/storage area
- Show distances from all buildings, property lines, utility poles, power lines, etc. (For storage area include distance from all building openings: windows, doors, vents, etc.)
- Presence/absence of Code complying/functional sprinkler system

CITY AND COUNTY OF DENVER	POLICY	DENVER FIRE DEPARTMENT
Subject: <b>FLAMMABLE/COMBUSTIBLE LIQUID STORAGE/USE, INCLUDING USTs, ASTs, AND USE/STORAGE AT CONSTRUCTION SITES -- PERMIT REQUIREMENTS</b>		
Number: <b>IFC-3403-1</b>	Effective Date: <b>February 1, 2012</b>	Page: <b>3 of 10</b>

## V. FIRE DEPARTMENT PERMIT

To obtain the required Denver Fire Department permit(s), owner, contractor, or responsible party shall complete the Flammable and Combustible Permit Application Form (attached) and include form with initial packet submitted to Denver Fire Prevention Division, Flammables Section. All required permits shall be current and posted on site.

Make check payable to **Denver Manager of Finance**. **Walk-in** permit processing is located at 745 West Colfax Avenue from 6:30 a.m. to 9:00 a.m. Monday - Friday. **Mail-in** permit application to:

Denver Fire Prevention Division  
 Attn: Flammables Unit  
 745 W. Colfax Avenue  
 Denver, CO 80204

## VI. SITE INSPECTION

Upon approval of Flammable and Combustible Liquid Use and Storage Permit Form, a Denver Fire Department Fire Prevention Inspector will conduct a field inspection of the site. Compliance with **all** Fire Code requirements shall be maintained at all times. Permits shall be kept on site and posted. Permit is valid for business/property owner, time frame, and site address indicated on the permit.

### **A permit may be revoked when:**

1. Any of the conditions or limitations set forth in the permit have been violated.
2. Compliance with written orders has not been achieved.
3. False statements or misrepresentations of information provided in the permit application are discovered.
4. The permit is issued in error or in violation of a City ordinance, or a Fire Code violation exists.

CITY AND COUNTY OF DENVER	POLICY	DENVER FIRE DEPARTMENT
Subject: <b>FLAMMABLE/COMBUSTIBLE LIQUID STORAGE/USE, INCLUDING USTs, ASTs, AND USE/STORAGE AT CONSTRUCTION SITES -- PERMIT REQUIREMENTS</b>		
Number: <b>IFC-3403-1</b>	Effective Date: <b>February 1, 2012</b>	Page: <b>4 of 10</b>

**VII. BASIC REQUIREMENTS AND CONDITIONS:**

1. "NO SMOKING" and "FLAMMABLE" or "COMBUSTIBLE" signs shall be posted conspicuously and warnings strictly enforced.
  - \* Warning signs shall be of a durable material with white lettering on a red background. Letters shall not be less than 3 inches in height and ½ inch in stroke **IFC 3403.5.**
  - \* All sources of ignition shall be eliminated within 25 feet of areas used for the storage, use or dispensing of flammable liquids **2703.7.1**
  - \* Tanks on construction sites shall be marked with:
    - The name of the product they contain and the words:
    - "FLAMMABLE – KEEP FIRE AND FLAME AWAY" and:
    - "KEEP 50 FEET AWAY FROM BUILDINGS"
      - **IFC 3406.2.2**
  
2. Portable fire extinguishers shall be provided in accordance with **IFC 906.**
  - \* Minimum Size 3A 40BC
  - \* Travel Distance to an extinguisher shall not be less than 10 feet or more than 50 feet from areas where flammable liquids are stored/dispensed.
  - \* Mounted with the top of the extinguisher no more than 5 feet above the ground.
    - **IFC 3404.3.7.5.2**
  
3. Vehicle Protection shall be provided in accordance with **IFC 312 - Approved Vehicle Protection for LPG cylinders/tanks. Jersey Barriers for temporary LPG use. Guard post for permanent use.**
  - \* Post's shall be constructed of steel not less than 4 inches in diameter and be concrete-filled
  - \* Spaced not more than 4 feet between posts on center
  - \* Set not less than 3 feet deep in a concrete footing of not less than a 15-inch diameter
  - \* Set with the top of post not less than 3 feet above ground. Located not less than 5 feet from the tank
    - **IFC 312.2 & 312.3**
  
4. The storage area shall be kept free from weeds, debris, and combustible materials for a minimum distance of 15 feet **IFC 3404.4.6.**

CITY AND COUNTY OF DENVER	POLICY	DENVER FIRE DEPARTMENT
Subject: <b>FLAMMABLE/COMBUSTIBLE LIQUID STORAGE/USE, INCLUDING USTs, ASTs, AND USE/STORAGE AT CONSTRUCTION SITES -- PERMIT REQUIREMENTS</b>		
Number: <b>IFC-3403-1</b>	Effective Date: <b>February 1, 2012</b>	Page: <b>5 of 10</b>

5. Secondary containment shall be provided according to **IFC SECTION 27** Required when an individual vessel exceeds 55 gallons or the aggregate capacity of multiple vessels exceeds 1000 gallons. **IFC 2704.2.2**
6. Outdoor control areas – shall be located not closer than 20 feet from a lot line, public alley or public way. **IFC 2703.12**
7. The storage of empty tanks and containers previously used for the storage of flammable or combustible liquids, unless free from explosive vapors, shall be stored as required for filled tanks and containers. Tanks and containers, when emptied, shall have the covers or plugs immediately replaced in openings **IFC 3404.4.8**
8. Class I, II, or III-A liquids, including stock for sale, shall not be stored near an exit, access doorway, stairway, or in a location that would impede egress. **IFC 3404.3.3.3**
9. Tanks over 100 gallons in capacity, permanently installed or mounted and used for the storage of Class I, II, or III-A liquids shall bear a label or placard identifying the material **IFC 3404.2.3.2**.  
Placards shall be in accordance with **NFPA 704**
9. Storage of flammable and combustible liquids shall be separated from incompatible materials in accordance with **IFC 2703.9.8**.
10. Electrical Service at construction sites
  - Electrical service to electric pumps shall be protected from physical damage. Any electrical within three (3) feet of the pump or any damage area shall be at least Class I, Division I.
  - At construction sites, vent stacks shall extend a minimum of three (3) feet above any electrical service and a minimum of three (3) feet above any electrical pump head.
11. Venting of tanks containing flammable liquids / vapors shall be in accordance with **IFC 3404.2.7.3.3** – Vapors may not be released less than 12 feet above finished ground level

<b>CITY AND COUNTY OF DENVER</b>	<b>POLICY</b>	<b>DENVER FIRE DEPARTMENT</b>
Subject: <b>FLAMMABLE/COMBUSTIBLE LIQUID STORAGE/USE, INCLUDING USTs, ASTs, AND USE/STORAGE AT CONSTRUCTION SITES -- PERMIT REQUIREMENTS</b>		
Number: <b>IFC-3403-1</b>	Effective Date: <b>February 1, 2012</b>	Page: <b>6 of 10</b>

## **VIII. GENERAL INFORMATION ON FLAMMABLE LIQUIDS**

1. Class I, II, and III-A liquids in excess of ten (10) gallons that are used for maintenance purposes and the operation of equipment shall be stored in an approved container, location, and UL listed flammable liquid storage cabinet. Not to Exceed 120 gallons total **IFC 3404.3.2.2**
2. Class I liquids shall not be stored below grade or in basement areas
  - **NFPA 30 – 9.3.6**
3. Containers for flammable liquids shall be either the original shipping container or an approved “safety container.”
  - Shall be made of metal
  - Containers shall not exceed 5 gallons of capacity
  - Shall not be used to increase maximum allowable quantity total.**IFC 3404.3.6.1&.2 / IFC 2703.9.10**
4. Class I, II, or III-A liquids shall not be stored (including stock for sale) near exit doorways, stairways, or in locations that would impede egress. **IFC 3809.4 / 3404.3.3.3**
5. The storage and dispensing of flammables and combustibles shall be limited to no more than 10 gallons in approved safety containers for the use in maintenance and operation of equipment in assembly buildings, hotels, apartment houses, one- and two-family dwellings, lodging Houses, and in drinking and eating establishments. **IFC 3404.3.4.4**
6. It is unlawful for any person to sell or offer for sale Class I or Class II liquids with a flash point of 100 degrees F or less for the express purpose of domestic cleaning. **IFC 3405.3.6.1**
7. Class I and Class II liquids with a flashpoint below 110 degrees F shall not be used within a building for cleaning parts or degreasing, unless used in an approved closed machine or in a room specifically designed for open use of flammables. **IFC 3405.3.6.2**
8. When heated, sprayed, or mixed, Class II and Class III liquids may assume the characteristics of lower flash point liquids, and therefore required to meet additional requirements as set forth in the IFC and NFPA.

<b>CITY AND COUNTY OF DENVER</b>	<b>POLICY</b>	<b>DENVER FIRE DEPARTMENT</b>
Subject: <b>FLAMMABLE/COMBUSTIBLE LIQUID STORAGE/USE, INCLUDING USTs, ASTs, AND USE/STORAGE AT CONSTRUCTION SITES -- PERMIT REQUIREMENTS</b>		
Number: <b>IFC-3403-1</b>	Effective Date: <b>February 1, 2012</b>	Page: <b>7 of 10</b>

9. Liquids which have unusual burning characteristics or that are subject to self-ignition or are highly reactive or are subject to explosive decomposition, or have other special properties shall also be regulated by **IFC Chapter 27**.
10. Reactive materials, those which will react with water or other liquids to produce a hazard, shall not be stored in the same room with flammable or combustible liquids. **IFC 2703.9.8**
11. Information on flammable liquid storage cabinets and storage control areas may be found in **IFC Section 34**.

**IX. THE FOLLOWING IS A LIST OF THE MOSE WIDELY USED LIQUIDS GROUPS, ACCORDING TO THEIR RESPECTIVE CLASS:**

<u>CLASS IA</u>	<u>FLASH POINT</u>	<u>BOILING POINT (F)</u>
BENZINE	0	95-140
ETHYL ETHER	-40	95
NAPHTHA (PETROLEUM)	0	95-140
PENTANE	-40	97
VINYL ETHYL ETHER	-50	96
PETROLEUM	0	95-140

<u>CLASS IB</u>	<u>FLASH POINT</u>	<u>BOILING POINT (F)</u>
ACETONE	0	134
<b><u>ALCOHOL:</u></b>		
BUTYL ALCOHOL	52-84	181
DENATURED ALCOHOL	60	175
ETHYL (GRAIN) ALCOHOL	55	173
METHYL ALCOHOL	52	147
WOOD ALCOHOL	52	147
BENZENE (BENZOL)	12	176

<u>CLASS IB</u>	<u>FLASH POINT</u>	<u>BOILING POINT (F)</u>
CARBON BISULFIDE	-22	115
DIETHYL KEYTONE	55	217
GASOLINE	-45	100-400
GIN	62-144	
HEXANE	-7	156

<b>CITY AND COUNTY OF DENVER</b>	<b>POLICY</b>	<b>DENVER FIRE DEPARTMENT</b>
Subject: <b>FLAMMABLE/COMBUSTIBLE LIQUID STORAGE/USE, INCLUDING USTs, ASTs, AND USE/STORAGE AT CONSTRUCTION SITES -- PERMIT REQUIREMENTS</b>		
Number: <b>IFC-3403-1</b>	Effective Date: <b>February 1, 2012</b>	Page: <b>8 of 10</b>

ISOPROPYNOL	53	181
JP4 (JET FUEL)	30	250
LACQUER	0-80	190-225
LACQUER THINNER	20-34	190-225
METHYL-ETHYL KETONE (M-E-K)	21	176
OCTANE	56	258
PERFUMES	55	173
PETROLEUM (CRUDE OIL)	20-90	
PROPYL ACETATE	58	215
PROPANAL	15-19	120
RESIN (ACRYLIC DENTURE)	51	
RESIN (SURFACE COATING)	39-76	
RUBBER CEMENT	15-50	100-280
RUBBER SOLVENT	-40	100-280
RUM	55	173
SHELLAC	40-70	
TOLUENE (TOLUOL)	40	231
VARNISH SHELLAC	40-70	
WHISKEY	55	173
WINE	55	173

**CLASS IC**

**FLASH POINT**

**BOILING POINT (F)**

AMYL AGETATE (BANANA OIL)	77	
BRANDY	84	
TRICHLORETHYLENE	90	
TURPENTINE	95	
VARNISH	80-103	
XYLENE	81-90	

**CLASS II**

**FLASH POINT**

**BOILING POINT (F)**

ACETIC ACID	109	
DIESEL FUEL OIL	100-130	
KEROSENE	100	
M-E-K PEROXIDE	110-155	
MINERAL SPIRITS	104	
NAPHTHA (COAL TAR)	107	
NAPHTHA (SAFETY SOLVENT)	100-110	
PAINT REMOVER	116	
PAINT THINNER	100-125	
SOLVENT (CLEANING)	138	

<b>CITY AND COUNTY OF DENVER</b>	<b>POLICY</b>	<b>DENVER FIRE DEPARTMENT</b>
Subject: <b>FLAMMABLE/COMBUSTIBLE LIQUID STORAGE/USE, INCLUDING USTs, ASTs, AND USE/STORAGE AT CONSTRUCTION SITES -- PERMIT REQUIREMENTS</b>		
Number: <b>IFC-3403-1</b>	Effective Date: <b>February 1, 2012</b>	Page: <b>9 of 10</b>

**CLASS IIIA (COMBUSTIBLE LIQUIDS)**      **FLASH POINT (F)**

BENZALDEHYLE	148
PHENOL	175
PINE OIL	172

**CLASS IIIB (FP 200° F OR OVER)**      **FLASH POINT (F)**

CASTER OIL	
CODLIVER OIL	
LUBRICATING OIL	
NEATS FOOT OIL	
NITROCHLOROBENNZE	
OIL OF WINTERGREEN	
OLIVE OIL	
PEANUT OIL	175
QUENCHING OIL	138-172
ROSIN OIL	
SOYBEAN OIL	
TRANSFORMER OIL	

**Visit [DenverGov.org/DFD](http://DenverGov.org/DFD) and select “Fire Safety Permits” for current Fire Permit Fee Calculation Tables.**

<b>CITY AND COUNTY OF DENVER</b>	<b>POLICY</b>	<b>DENVER FIRE DEPARTMENT</b>
Subject: <b>FLAMMABLE/COMBUSTIBLE LIQUID STORAGE/USE, INCLUDING USTs, ASTs, AND USE/STORAGE AT CONSTRUCTION SITES -- PERMIT REQUIREMENTS</b>		
Number: <b>IFC-3403-1</b>	Effective Date: <b>February 1, 2012</b>	Page: <b>10 of 10</b>

**FLAMMABLE/COMBUSTIBLE LIQUIDS PERMIT APPLICATION FORM**

**THIS FORM SHALL BE FILLED OUT AND SIGNED BY A REPRESENTATIVE OF THE SITE APPLYING FOR FLAMMABLE AND COMBUSTIBLE LIQUID PERMITS. A PERMIT WILL NOT BE ISSUED IF THIS FORM IS NOT COMPLETE AND ACCOMPANIED WITH BUILDING DEPARTMENT APPROVAL.**

NAME OF BUSINESS: \_\_\_\_\_

BUSINESS ADDRESS: \_\_\_\_\_ CITY, STATE, ZIP CODE: \_\_\_\_\_

PERMIT SITE ADDRESS: \_\_\_\_\_ DENVER, COLORADO \_\_\_\_\_

CONTACT'S NAME: \_\_\_\_\_

CONTACT'S PHONE NUMBER: \_\_\_\_\_ FAX: \_\_\_\_\_

LIST THE AMOUNT OF FLAMMABLES/COMBUSTIBLE LIQUIDS (IN GALLONS) ON SITE: \_\_\_\_\_

TOTAL NUMBER OF UNITS: \_\_\_\_\_

I HAVE READ AND UNDERSTAND THE DENVER FIRE DEPARTMENT'S POLICY REGARDING FLAMMABLE AND COMBUSTIBLE LIQUIDS. I ALSO UNDERSTAND THAT A SITE INSPECTION WILL BE CONDUCTED BY DENVER FIRE PREVENTION DIVISION PERSONNEL, AND IF THE INSTALLATION DOES NOT COMPLY WITH DENVER'S FIRE CODE (2009 IFC WITH CITY AMENTMENTS), THE PERMIT MAY BE REVOKED WITHOUT A REFUND.

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_