Revised: March 2024 (Apply/Pay)

FIRE DEPARTMENT • CITY OF NEW YORK

STUDY MATERIAL FOR THE EXAMINATION FOR

CERTIFICATE OF FITNESS FOR

C-94
Supervision of Storage, Handling and Use of Chemicals in Funeral Homes (Funeral Home Safety)

This book is provided to the public for free by the FDNY.

All applicants are required to apply and pay for an exam online before arriving at the FDNY. It can take about 30 minutes to complete.

Simplified instructions for online application and payment can be found here:

http://www1.nyc.gov/assets/fdny/downloads/pdf/business/fdny-business-cof-individuals-short.pdf

Create an Account and Log in to:

http://fires.fdnycloud.org/CitizenAccess

ALSO INCLUDED IN THIS BOOKLET YOU WILL FIND THE FOLLOWING:
NOTICE OF EXAMINATION (NOE)

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EXAM SPECIFIC INFORMATION FOR C-94 CERTIFICATE OF FITNESS

Save time and submit application online!

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Simplified instructions for online application and payment can be found here:

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Create an Account and Log in to:

http://fires.fdnycloud.org/CitizenAccess

REQUIREMENTS FOR CERTIFICATE OF FITNESS APPLICATION

General requirements:
Review the General Notice of Exam:
http://www1.nyc.gov/assets/fdny/downloads/pdf/business/general-notice-of-exam-cof.pdf

Special requirements for the C-94 Certificate of Fitness:

- Provide the graduate diploma/certificate issued by a school that is accredited through the American Board of Funeral Service Education. The accredited school list could be found on this website: http://www.abfse.org/html/dir-listing.html
- Submit a recommendation letter (see the sample letter) with the Funeral Home letterhead and signed by a NYS licensed funeral director. The funeral director registration number must be included in the recommendation letter or a copy of the NYS funeral director license must be attached.

Application fee (Cash is NO LONGER ACCEPTED):
Pay the **$25** application fee online or in person by one of the following methods:

- Credit card (*American Express, Discover, MasterCard, or Visa*)
- Debit card (*MasterCard or Visa*)
- In person: Personal or company check or money order (*made payable to the New York City Fire Department)*

A convenience fee of 2% will be applied to all credit card payments.

For fee waivers submit: ***(Only government employees who will use their COF for their work- related responsibilities are eligible for fee waivers.)***

- A letter requesting fee waiver on the Agency's official letterhead stating applicant full name, exam type and address of premises; ***AND***
- Copy of identification card issued by the agency

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<Sample of C-94 employer recommendation letter >

FIRM OR COMPANY NAME
BUSINESS ADDRESS

Date: _____

Fire Department
Bureau of Fire Prevention
9 Metro Tech Center
Brooklyn, NY 11201-3857

Dear Sir/Madam:

I am pleased to recommend _____ to apply for the C-94
(Applicant's name)

Certificate of Fitness for Supervision of Storage, Handling and Use of Chemicals in

Funeral Homes. He/she has _____ of experience and will be
(years, months)

working at _____ as a residency or intern
(Address of building where certificate is to be used)

under my supervision.

Applicant is of GOOD CHARACTER and is PHYSICALLY ABLE to perform the functions required by the holder of the Certificate of Fitness.

_____ _____ _____
(Printed name of Funeral Director) (**Funeral Director Registration No**) (Signature of Funeral Director)

NOTE 1: ***The recommendation letter should be on employer's letterhead. If not on employer's letterhead, signature must be notarized.***
NOTE 2: ***The funeral director registration number must be included.***

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REQUIREMENTS FOR ALTERNATIVE ISSUANCE PROCEDURE (AIP)

This Certificate of Fitness can be obtained by the alternative issuance procedure. Qualified applicants should review and complete the C-94 Certificate of Fitness Alternative Issuance Procedure Application Affirmation Form:

https://www1.nyc.gov/assets/fdny/downloads/pdf/business/cof-c94-aip.pdf

The AIP applicants must submit the application, required documents and payment on **FDNY Business**:

https://fires.fdnycloud.org/

EXAM INFORMATION

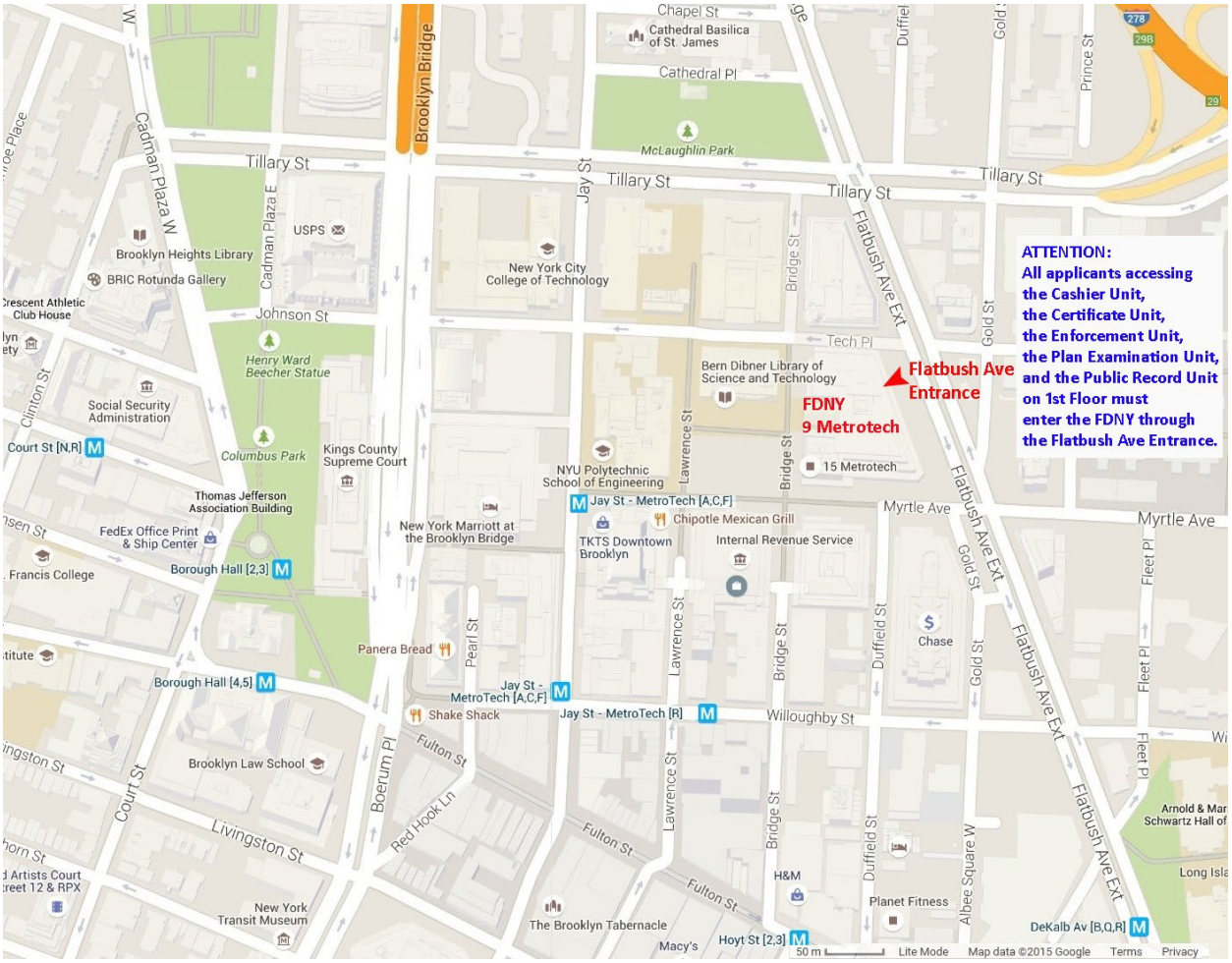
The **C-94** test will consist of **30** multiple-choice questions, administered on a "touch screen" computer monitor. It is a time-limit test. Based on the amount of the questions and reference material provided, you will have **47** minutes to complete the test. A passing score of at least 70% is required in order to secure a Certificate of Fitness.

Call (718) 999-1988 for additional information and forms.

> ***Special material provided during the exam:*** *The tables which appear in the booklet will be provided to you as a reference material when you take the exam at MetroTech, however, the booklet will not provide to you during the exam.*

Please always check for the latest revised booklet at FDNY website before you take the exam.
http://www1.nyc.gov/assets/fdny/downloads/pdf/business/cof-c94-noe-study-materials.pdf

EXAM SITE: **FDNY Headquarters,** 9 MetroTech Center, Brooklyn, NY. Enter through the **Flatbush Avenue entrance (between Myrtle Avenue and Tech Place)**.



RENEWAL REQUIREMENTS

General renewal requirements:
Review the General Notice of Exam:
https://www1.nyc.gov/assets/fdny/downloads/pdf/business/general-notice-of-exam-cof.pdf

Special renewal requirements. C-94 Certificate of Fitness: None

QUESTIONS?

FDNY Business Support Team: For questions, call 311 and ask for the FDNY Customer Service Center or send an email to FDNY.BusinessSupport@fdny.nyc.gov.

ABOUT THE STUDY MATERIAL

This study material will help you prepare for the written examination for the supervision of storage and handling of funeral home chemicals Certificate of Fitness exam. This study material includes information taken from the New York City Fire Code, Fire Department Rules, Industry standards and best practice. The study material does not contain all the information you need to know in order to perform the responsibilities of storage and handling of funeral home chemicals safely. It is your responsibility to become familiar with all applicable laws, rules and regulations of the federal, state and city agencies having jurisdiction, even though such requirements are not included in this study material. You need to be familiar with New York City Fire applicable sections of New York City Fire Code Chapters 2701-2703, which regulates the storage, handling and use of hazardous materials; Chapter 31, which regulates the storage, handling and use of Corrosive materials; Chapter 34, which regulates the storage, handling and use of flammable and combustible liquids, Chapter 36 which regulates the storage, handling and use of flammable solids and applicable sections of Chapter 37 which regulates the storage, handling and use of highly toxic and toxic materials in order to adequately prepare for the exam. **It is critical that you read AND understand this booklet to help increase you chance of passing this exam.**

ABOUT THE TEST

You must pass a multiple choice test to qualify for the certificate of fitness. A score of 70% correct is required in order to pass the test. All questions have four answer options. Only ***one*** answer is correct for each question. If you do not answer a question, or if you mark more than one answer to a single question, your answer to that question will be scored as incorrect. Read each question carefully before marking your answer. There is no penalty for guessing.

Sample Questions

The following questions represent the "format" of the exam questions, not the content of the real exam.

1. Which of the following are allowed to be used/displayed while taking a Certificate of Fitness examination at 9 Metro Tech Center?

I. cellular phone
II. study material booklet
III. reference material provided by the FDNY
IV. mp3 player

A. III only
B. I, II, and III
C. II and IV
D. I only

Only reference material provided by the FDNY is allowed to be used during Certificate of Fitness examinations. Therefore, the correct answer would be **A**. You would touch "**A**" on the computer terminal screen.

2. If you do not know the answer to a question while taking an examination, who should you ask for help?

A. the person next to you
B. the firefighters
C. the examiner in the testing room
D. you should not ask about test questions since FDNY staff cannot assist applicants

You should not ask about examination questions or answers since FDNY staff cannot assist applicants with their tests. Therefore, the correct answer would be **D**. You would touch "**D**" on the computer terminal screen.

3. If the screen on your computer terminal freezes during your examination, who should you ask for help?

A. the person next to you
B. the firefighters
C. the examiner in the testing room
D. the computer help desk

If you have a computer related question, you should ask the examiner in the testing room. Therefore, the correct answer would be **C**. You would touch "**C**" on the computer terminal screen.

1. Introduction

In July of 2014, a new Fire Code was adopted in New York City. Similar to the former code, this code also regulated the storage and use of chemicals in various locations, including funeral homes and adopted with certain modifications, the requirements of National Fire Protection Association Standard (NFPA) 909. The Fire Department administers a variety of certificate of fitness exams that cover the types of hazardous materials. These include:

(a) C-91 (covers most hazardous materials with the exception of flammable liquids, combustible liquids, compressed gases and cryogenic gases).

(b) C-92 (covers flammable and combustible liquids).

As you can see, it would be quite a hardship for most funeral homes if their personnel were not only required to secure multiple certificates but were also required take exams on chemicals and hazards that do not pertain to their line of work. For this reason, the Fire Code allows for a single certificate (C-94) that qualifies the person to provide supervision for all storage, handling and use of hazardous materials within a Funeral home setting.

The C-94 AIP was developed for Funeral Home Directors whose main responsibility will be to supervise the storage of the materials. The C-94 test was developed for the Embalmers other personnel who handle and use the chemicals commonly found in funeral homes. The holder of the C-94 Certificate of Fitness holder will be responsible for the general supervision (storage) as well as the personal supervision (handling and use) of the chemicals on the premises.

This Certificate of Fitness is *premise related* and will be required to be linked to a specific business address. If there is more than one address in which you supervise as a Funeral Director, you are able to purchase certificates for other locations.

This document outlines New York City Fire Department regulations for storage, handling and use of funeral home chemicals.

The storage of funeral home chemicals shall be conducted under the ***general supervision*** whereas the handling and use of funeral home chemicals shall be conducted by or under the ***personal supervision*** of a person holding a Certificate of Fitness. The Certificate of Fitness holder is responsible for making sure that all fire safety regulations and procedures are obeyed on the premises.

The booklet provides a brief overview of the safety precautions, rules, guidelines, work practices, and emergency procedures for the storage, handling and use of flammable liquids, combustible liquids, corrosive materials, flammable solids, highly toxic and toxic materials that are commonly used in funeral homes for body preparation (embalming). The Certificate of Fitness holder must know the properties of each of these materials and the proper storage, handling and use requirements. He or she must also know the procedures that must be followed when dealing with fire or spill emergencies for these materials.

The Certificate of Fitness holder is responsible for:

1. the safe storage, handling, use, operation, maintenance, inspection, testing, repair and/or supervision of the material, operation or facility, and emergency preparedness, for which the certificate is required, in accordance with this code, the rules, and any other applicable laws, rules and regulations.

2. notifying the department of any fire, explosion, reportable leak or other release of hazardous material, or other emergency related to the duties of his or her certificate.

3. keeping such certificate upon his or her person or otherwise readily available on the premises for inspection by any representative of the department, at all times while conducting or supervising the material, operation, facility or emergency preparedness for which the certificate is required.

2. Worst Case Scenario

Fire destroys family-owned funeral home
January 19, 2015
ELIZABETH CITY, N.C.

A shattered glass door, soot covered walls and piles of debris — that is what's left after fire destroyed a decades-old business in Elizabeth City.

Crews spent Monday night pulling debris and furniture from the burned Stallings Funeral Home building. For 39 years, the Stallings family has owned and operated the business in a building that was once a post office. Now it may take more than $200,000 to rebuild.

"When I got here, [there was] the initial hurt because I know the blood and sweat that has come behind this business," Funeral Director Timothy Stallings Jr. said.

"It didn't take long for fire to spread, so anything that was combustible, wood or whatever," he said. "This is a place of business that we do use chemicals, so it didn't take long."

Stallings said fire crews told him *an electrical problem in a utility room started the fire*, and the flames quickly spread through the ceiling. He said the family worked to salvage what they could, but so much of their livelihood is gone.

"We had a lot of technology, a lot of computers and a lot of televisions. We had a lot of caskets with no remains in them," he said.

Statistics
From 2007-2011
2/3 of US Fire Departments reporting

US Fire Departments reported to **1,780 fires in religious and funeral properties** in the years studied. Of those 1,780 4% (70) were in funeral parlors. These fires resulted in 2 civilian deaths, 19 civilian fire related injuries and $111 million in damages.

Although faulty electrical and lighting equipment are the cause of a high percentage of these fires, 8% have flammable or combustible equipment as being a frequent first item ignited. *19% of the fire related injuries were caused by flammable/combustible liquids being ignited.*

PREVENTION:
Fire prevention should be a priority. It is important that funeral properties ensure that all electrical and lighting equipment are up to code requirements and that any repairs or changes are completed by a qualified licensed electrician. All equipment including HVAC and heating should be inspected at annually (at a minimum) by a qualified tradesman.

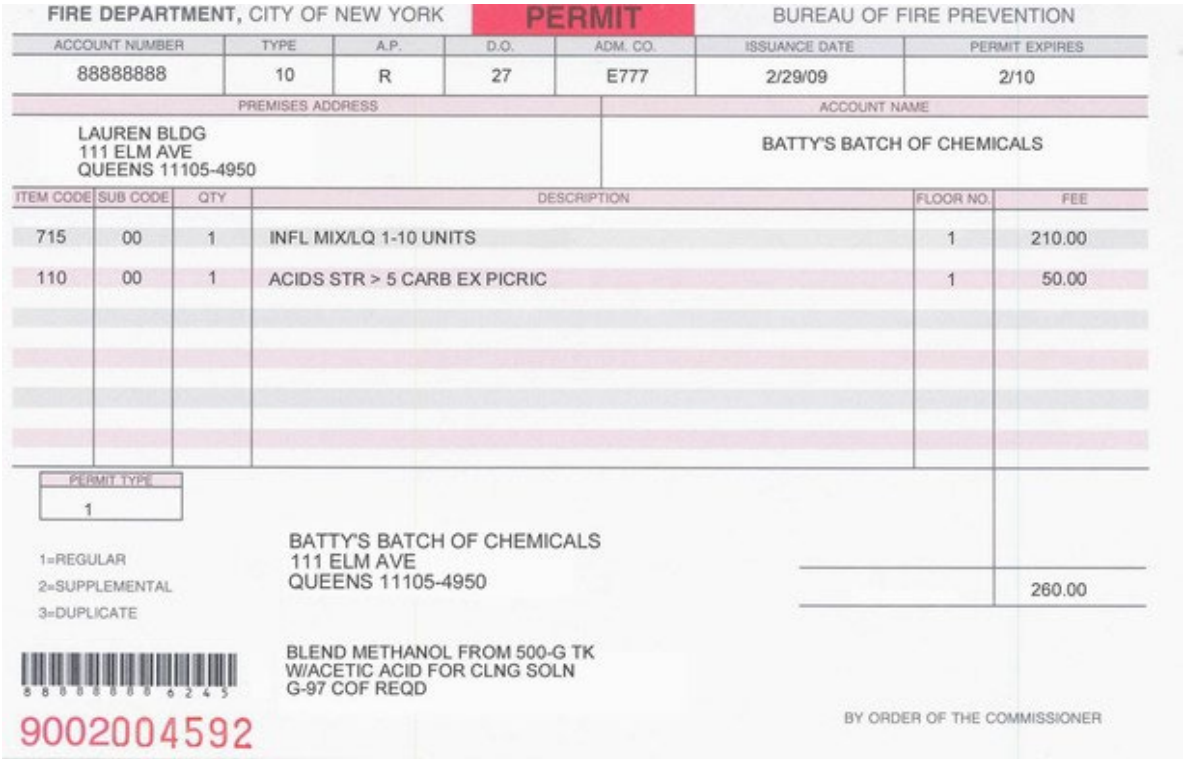
Candle fires are also a high risk for religious and funeral properties. This risk can be greatly reduced by using battery-operated flameless candles or by making sure that candles are kept a safe distance from combustible and flammable materials. All curtains, furniture, rugs and decorations should also be properly flame proofed (see COF C-15 exam).

3. Permits

An FDNY permit is required (and authorizes) to store, handle, use, or transport hazardous materials when required by the Fire Code. It also authorizes the permit holder to conduct an operation or maintain a facility at a specific premises or location, for which a permit is required by FC105.6.

Permits are not transferable and any change in occupancy, operation, tenancy or ownership must require that a new permit be issued. Permits and Certificates of Fitness shall be readily available on the premises for inspection by Fire Department representatives.

Site-specific permit. Such permit authorizes the permit holder to store, handle and use flammable and combustible liquids at a specific premises or location. A site-specific permit may be a permanent permit or a temporary permit. Permanent permits are valid for 12 months only. Every permit or renewal shall require an inspection and shall expire after twelve months. Temporary permits may be valid from one day to 12 months depending on the construction/operation needed.



FIRE DEPARTMENT, CITY OF NEW YORK — PERMIT — BUREAU OF FIRE PREVENTION

ACCOUNT NUMBER	TYPE	A.P.	D.O.	ADM. CO.	ISSUANCE DATE	PERMIT EXPIRES
88888888	10	R	27	E777	2/29/09	2/10

PREMISES ADDRESS	ACCOUNT NAME
LAUREN BLDG 111 ELM AVE QUEENS 11105-4950	BATTY'S BATCH OF CHEMICALS

ITEM CODE	SUB CODE	QTY	DESCRIPTION	FLOOR NO.	FEE
715	00	1	INFL MIX/LQ 1-10 UNITS	1	210.00
110	00	1	ACIDS STR > 5 CARB EX PICRIC	1	50.00

PERMIT TYPE: 1

1=REGULAR
2=SUPPLEMENTAL
3=DUPLICATE

BATTY'S BATCH OF CHEMICALS
111 ELM AVE
QUEENS 11105-4950

260.00

BLEND METHANOL FROM 500-G TK
W/ACETIC ACID FOR CLNG SOLN
G-97 COF REQD

9002004592

BY ORDER OF THE COMMISSIONER

Sample of a Fire Department Permit

The certificate of fitness holder is responsible for ensuring that all required permits are secured and posted in visible locations. The holder is responsible for complying with the requirements of the Fire code.

Current permits (or a legible copy) shall be posted in a conspicuous location on the premises and shall be readily available for inspection by any representative of the department.
Permits are valid for 12 months only. Enforcement action may be taken against the certificate of fitness holder when the required permits are not secured and posted. The enforcement actions may include fines and/or the revocation of the Certificate of Fitness.

Every permit or renewal shall require an inspection and shall expire after twelve months. Permits are not transferable and any change in occupancy, operation, tenancy or ownership shall require that a new permit be issued.

In addition to the requirements of Fire Code, all applicants for a permit must meet the requirements of the Department of Buildings. Other agencies such as NYC DEP, NYS DEC, and OSHA may have additional requirements.

Funeral homes within the 5 boroughs of the City of New York, may require a Fire Department storage permit as per Section **105.6** of the 2014 New York City Fire Code (see table below for permit requirements).

Type of Hazard	**Permit Quantity**	**COF Quantity**
Flammable Liquid Flashpoint <**100 ºF**	>5 gallons	>10 gallons
Flammable Solid	> 1 pound	> 1 pound
Combustible Liquid flashpoint **100 ºF -300ºF**	>10 gallons	>20 gallons
Combustible Liquid flashpoint **>300ºF***	>70 gallons	Not required
Highly Toxic Liquid	Any Amount	Any Amount
Highly Toxic Solid	Any Amount	Any Amount
Toxic Liquid	>10 gallons	>10 gallons
Toxic Solid	>100 pounds	>100 pounds
Corrosive liquid	>55 gallons	>55 gallons
Corrosive solid	>1000 pounds	>1000 pounds
Aerosols	>100 pounds	Requires A-49 COF

4. Definitions

Boiling Point - The temperature at which the vapor pressure of a liquid equals the atmospheric pressure of 14.7 pounds per square inch (psi) or 760 mm of mercury. Where a boiling point is unavailable for the material in question or for mixtures which do not have a constant boiling point, for the purposes of this classification, the 20-percent evaporated point of a distillation performed in accordance with ASTM D 86 shall be used as the boiling point of the liquid.

Chemical - An element, chemical compound or mixture of elements or compounds or both.

Closed Container - A container sealed by means of a lid or other device capable of preventing the escape of liquid, vapor or dusts in the ordinary course of storage, handling or use.

Container - For solid and liquid hazardous materials, a vessel of 60 gallons or less in capacity used for storage or transportation. For compressed gases, a cylinder, pressure vessel or tank designed for pressures greater than one atmosphere at 68°F. Pipes, piping systems, engines and engine fuel tanks associated with solid or liquid hazardous materials or compressed gases, shall not be deemed to be containers if in active use.

Combustible Liquid - For purposes of transportation, a combustible liquid, as defined in the regulations of the United States Department of Transportation, as set forth in 49 CFR Section 173.120. For all other purposes, a liquid, other than a compressed gas or cryogenic fluid, having a closed cup flash point at or above 100°F (38°C), classified as follows:

- **Class II.** Liquids having a closed cup flash point at or above 100°F (38°C) and below 140°F (60°C).
- **Class IIIA.** Liquids having a closed cup flash point at or above 140°F (60°C) and below 200°F (93°C).
- **Class IIIB.** Liquids having closed cup flash points at or above 200°F (93°C).

Corrosive Material - A material that causes full thickness destruction of human skin at the site of contact within a specified period of time when tested by methods set forth in Department of Transportation (DOT) regulations 49 CFR Sections 173.136 and 173.137, or a liquid that has a severe corrosion rate on steel or aluminum based on the criteria set forth in DOT regulations 49 CFR Section 173.137(c) (2).

Flammable Liquid - For purposes of transportation, a flammable liquid defined in the regulations of the United States Department of Transportation, as set forth in 49 CFR Section 173.120. For all other purposes, a liquid, other than a compressed gas or cryogenic fluid, having a closed cup flash point below 100°F (38°C), classified as follows:

- **Class IA.** Liquids having a flash point below 73°F (23°C) and having a boiling point below 100°F (38°C).
- **Class IB.** Liquids having a flash point below 73°F (23°C) and having a boiling point at or above 100°F (38°C).
- **Class IC.** Liquids having a flash point at or above 73°F (23°C) and below 100°F

(38°C). (e.g., acetone and ethyl alcohol.)

Flammable Solid. A solid, other than a blasting agent or other explosive, whether in elemental or alloy form, that is capable of causing fire through friction, absorption or moisture, spontaneous chemical change, or heat retained from manufacturing or processing, or which has an ignition temperature below 212°F (100°C) or which burns so vigorously and persistently when ignited as to create a serious hazard. A chemical shall be considered a flammable solid if upon testing using the method prescribed in CPSC regulations, as set forth in 16 CFR Section 1500.44, it ignites and burns with a self-sustained flame at a rate greater than 0.1 inch (2.5 mm) per second along its major axis.

Flammable Vapors Or Fumes - The concentration of flammable constituents in air that exceeds 25 percent of their lower flammable limit (LFL).

Flashpoint - The minimum temperature in degrees Fahrenheit at which a liquid will give off sufficient vapors to form an ignitable mixture with air near the surface or in the container, but will not sustain combustion. Flashpoint is an indication of the ability of a flammable/combustible liquid to produce flammable vapors - i.e., the lower the flash point, the greater the vapor production, and the greater the fire hazard. It is important to note that it is the vapors produced by the liquid that can ignite and explode, not the liquid itself.

General Supervision – Except as otherwise provided in Fire Code, supervision by the holder of any department certificate who is responsible for performing the responsibilities as outlined on page 8 but need not be personally present on the premises at all times.

Handling - The movement of a material in its container, the removal of the material from its container, or any other action or process that may affect the material, other than its storage or use.

Hazardous Material - Those chemicals or substances that are physical hazards or health hazards as defined and classified by the 2014 Fire Code, whether the materials are in usable or waste condition.

Health Hazard - The health hazard signal indicates the property of a material to cause direct or indirect injury; or incapacitation by contact, inhalation, or ingestion. The health hazards arise out of the inherent properties of the material and the toxic products created by the material's combustion or decomposition. The hazard signal is assigned based on the greatest hazard that could exist under fire or other emergency conditions.

Highly Toxic Material: a chemical that is lethal at the following doses or concentration, including the following:

- A chemical that has a median lethal dose (LD50) of 50 milligrams or less per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each; or
- A chemical that has a median lethal dose (LD50) 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

- A chemical that has a median lethal concentration (LC50) 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 1 hour) to albino rats weighing between 200 and 300 grams each.

Immediately Dangerous To Life And Health (IDLH) - The concentration of air-borne contaminants that poses a threat of death, immediate or delayed permanent adverse health effects, or effects that could prevent escape from such an environment, as established by the National Institute of Occupational Safety and Health (NIOSH) based on both toxicity and flammability. It generally is expressed in parts per million by volume (ppm v/v) or milligrams per cubic meter (mg/m3).

Incompatible Materials - Materials that, if mixed or combined, could explode, generate heat, gases or other byproducts, or react in a way hazardous to life or property.

LD50: LD stands for "Lethal Dose". A LD50 value is the amount of a solid or liquid material that it takes to kill 50% of test animals (for example, mice or rats) in one dose. It is a standard measurement of the short-term poisoning potential (acute toxicity) of a solid or liquid material. LD50 values are expressed in terms of the tests and animal used (i.e. LD50 (oral, rat), LD50 (skin, mouse)) other animals (dogs, hamsters, cats, guinea-pigs, rabbits, and monkeys) are sometimes utilized but the Fire Code is very specific regarding test species (oral-rats and skin-rabbets). The LD50 value is expressed as the weight of chemical administered per kilogram body weight of the animal, the test animal used and route of exposure. So, the example "LD50 (oral, rat) 5 mg/kg" means that 5 milligrams of that chemical for every 1 kilogram body weight of the rat, when administered in one dose by mouth, causes the death of 50% of the test group.
LC50: LC stands for "Lethal Concentration". A LC50 value is the amount of a gas, dust or mists that it takes to kill 50% of test animals (for example, mice or rats) in one dose. Like LD50 various tests and animals may be utilized. In addition the duration of exposure may vary. For the purposes of the Fire Code this is a one hour test utilizing rats.

Liquid - A material having a melting point that is equal to or less than 68°F (20°C) and a boiling point that is greater than 68°F (20°C) at 14.7 psia (101 kPa). When not otherwise identified, the term “liquid” includes both flammable and combustible liquids.

Safety Data Sheet (SDS) -The safety data sheet (SDS) contains specific information about the health and physical hazards of the material used, as well as safe work practices and required protective equipment. It may also describe the material's physical characteristics and procedures that should be followed in case of an emergency. For example, the SDS may list appropriate and inappropriate extinguishing agents. The Certificate of Fitness holder must refer to the SDS when questions arise about how to handle, use, or store hazardous chemicals or materials.

Maximum Allowable Quantity Per Control Area (MAQ) - The maximum amount of a hazardous material allowed to be stored or used within an indoor or an outdoor control area.

Non-Flammable or Non-combustible Solution - A non-flammable or non-combustible solution shall mean a solution which has no flashpoint when tested in a Tagliabue Open Cup Tester, suitably modified as to the heating medium.

Permit – A written statement issued by the commissioner authorizing the manufacturer, storage, handling, use or transportation of a hazardous material, or other material, or to conduct an operation or to maintain a facility, for which a permit is required by the fire code.

Personal Supervision- Except as otherwise provided in the New York City Fire Code, supervision by the holder of any department certificate who is required to be personally present on the premises, or other proximate location acceptable to the department, while performing the duties for which the certificate is required.

Permissible Exposure Limit (PEL) - The maximum permitted 8-hour time-weighted average concentration of an air-borne contaminant as established by the regulations of the United States Department of Labor, as set forth in 29 CFR Part 1910.1000, the Recommended Exposure Limit (REL) concentrations published by the U.S. National Institute for Occupational Safety and Health (NIOSH), the Threshold Limit Value-Time Weighted Average (TLV-TWA) concentrations published by the American Conference of Governmental Industrial Hygienists (ACGIH), the Workplace Environmental Exposure Level (WEEL) Guides published by the American Industrial Hygiene Association (AIHA), or other approved standard.

Physical Hazard - A chemical for which there is evidence that it is a combustible or flammable liquid; a flammable solid or gas; an explosive; an oxidizer; a water-reactive solid or liquid.

Portable Fire Extinguisher - A portable device, carried or on wheels and operated by hand, containing an extinguishing agent that can be expelled under pressure for the purpose of suppressing or extinguishing fire.

Personal protective equipment (**PPE**)- refers to protective clothing, helmets, goggles, gloves, shoes, or other garments or equipment designed to protect the wearer's body from injury or infection. The hazards addressed by protective equipment include physical, electrical, heat, chemicals, biohazards, and airborne particulate matter.

Solid - A material that has a melting point and decomposes or sublimates at a temperature greater than 68°F (20°C).

Toxic Material: A chemical that is lethal at the following doses or concentration:

- A chemical that has a median lethal dose (LD50) 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; or
- A chemical that has a median lethal dose (LD50) 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
- A chemical that has a median lethal concentration (LC50) 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 2 milligrams per liter but not more than 20 milligrams per liter of mist, fume or dust, when administered by continuous inhalation for 1 hour (or less if death occurs within 1 hour) to albino rats weighing between 200 and 300 grams each.

Travel Distance: is intended to be the actual walking distance along a normal path of travel to the extinguisher

5. Hazardous Identification

NFPA 704 Hazard Diamond Sign

The *transport* of hazardous materials is accompanied by the use of US DOT compliant placards and labels to assist identification of hazardous materials on the roadway, railway, waterway and in the air. In a similar manner the *storage, handling and use* of hazardous materials is accompanied in the Fire Code by a requirement for the use of consistent signage to alert people, including first responders, to the presence of hazardous materials in a facility. The intent of the signage is to provide an indication of both the *type* of hazardous material present and the relative *degree of harm* that the material may pose. This simplistic system uses symbols, colors and numbers to readily communicate these concerns in a visual manner, and recognizes the fact that a material may pose more than one type of hazard.

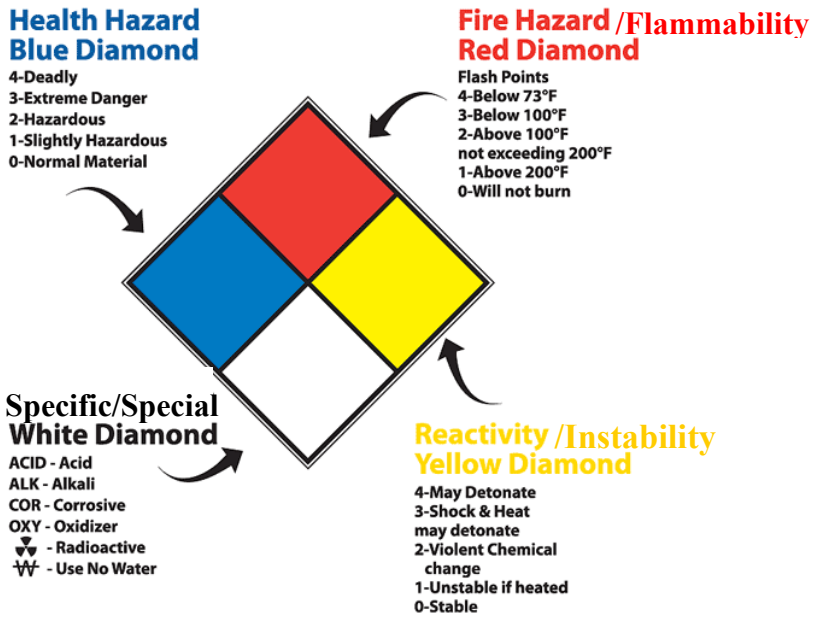
The basis of the system is a diamond-shaped sign that is divided into four color-coded quadrants. The left-most quadrant is colored blue and represents the *health* hazard posed by the material. The upper quadrant is red in color and indicates the relative *fire* hazard. The right-most quadrant is yellow and conveys the relative potential for *reactivity* of the material. The last quadrant, at the bottom, is white in color and serves to convey *"special"* or *"specific"* information such as "~~W~~" for use no water.

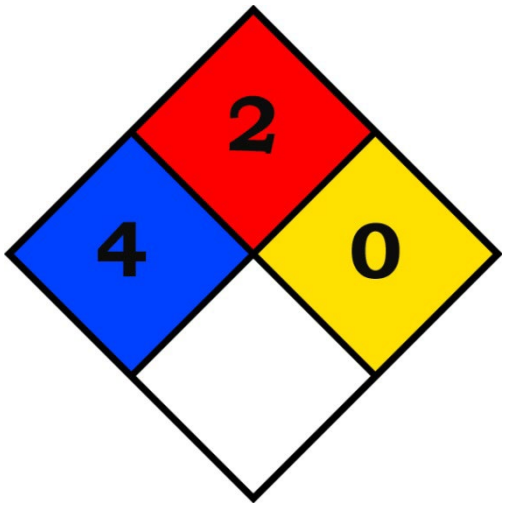
The diamond-shaped sign is required by the Fire Code to be conspicuously displayed at the entrance to locations where hazardous materials are stored, handled and used, and on stationary containers and aboveground tanks containing hazardous materials **in quantities requiring a permit**. Note that the sign requirement also applies to locations at which a hazardous material is dispensed.

The numbering system that is used to convey the hazards of a material uses a scale of 0 through 4 for each of the three hazard types (health, fire and reactivity). A number is

placed in each box, specific to the material at hand. In each quadrant, a "0" represents the least concern and "4" represents the highest degree of hazard posed by a material. For instance, a "0" in the upper quadrant indicates a material that will not burn, while a "4" in the same quadrant indicates a gaseous material that will burn very readily. Intermediate numbers represent increasing levels of hazard in all categories, such as the "4" that is present in the "health" quadrant of the example. This is indicative of a material that can be deadly upon exposure.

NFPA 704 HAZARD DIAMOND SIGN EXPLANATION





Sign with Hazards Indicated
(37% Formaldehyde)

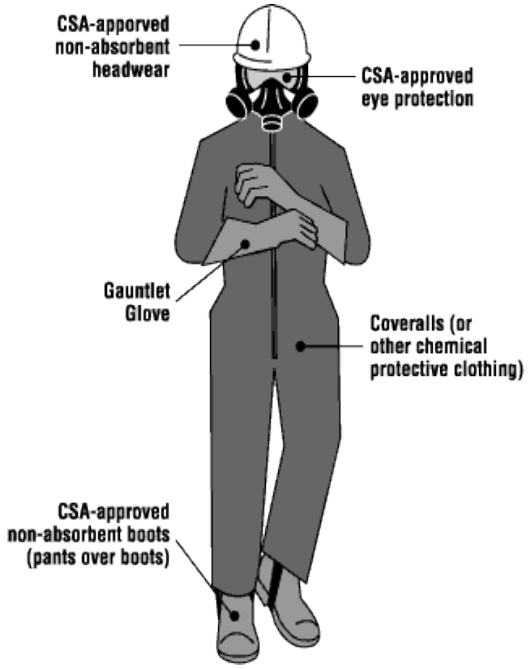
Personal Protection

It is recommended that "hazard assessment" be conducted of each work space to decide what type of personal protective equipment (PPE) is required.

The hazard assessment should begin with a walk-through of the preparation area to determine the proper types of PPE required at the worksite. The workplace should be periodically reassessed for any changes in conditions, including new equipment or that could affect occupational hazards. For specific requirements for PPE, refer to OSHA standards 29 CFR.

Employees should be trained on:

a. When PPE is necessary;
b. What PPE is necessary;
c. How to properly put on and take off, adjust, and wear PPE;
d. The limitations of the PPE; and,
e. The proper care, maintenance and disposal of PPE.



Emergency Eyewash and shower

An emergency eye wash and shower should be available in each embalming room. The emergency eye wash and shower provide on-the-spot decontamination. They allow workers to flush away hazardous substances that can cause injury. Emergency showers can also be used effectively in extinguishing clothing fires or for flushing contaminants off clothing.

When used properly, safety showers and eyewashes improve the medical prognosis and reduce the risk of long-term tissue damage. If delayed or cut short, however, first aid

treatment (shower/eyewash) may be less effective, and the full extent of the injury can become problematic.

Industry standards recommend that the location should be no more than 10 seconds travel time from anticipated exposure points. One hundred feet can be traveled in 10 seconds if the workplace has no obstacles. If there are doors or other obstructions present, the distance should be much less.

Emergency showers. Emergency showers are designed to provide a large amount of water at once; enough to encompass the entire body.

Emergency eyewash stations. Emergency eyewash stations are designed to for a controlled flow of water to flush both eyes simultaneously. Eyewash stations are designed to provide an uninterrupted, 15-minute supply of water.

Emergency eye/facewash stations. Similar to the eyewash station, an eye/facewash station, is designed to irrigate both the eyes and face simultaneously.

Some important factors of the Emergency Eyewash and shower are:

- Initiation: all emergency shower stations should be able to be operated by one hand and one action. Once water flow has been started it should continue, leaving both hands free.
- Location: Location should be clearly marked, well lighted, and easily accessible, i.e., no obstacles, doorways, or turns.
- Training: Routine drills are advised. At a minimum, employees should know the location and proper use of eyewashes and showers.

6. EXPOSURE

Risk = Toxicity x Exposure

Types of Exposure:

- **Acute exposure** refers to the intake of a single dose or to a series of exposures within a short period of time (e.g. one day). Acute exposures may be referred to as acute dermal, acute oral or acute inhalation poisoning. Usually the effects of acute exposure, if any, will occur within 24 hours.
- **Chronic exposure** is the exposure to chemicals over an extended period of time. Chemicals which have a tendency to accumulate, or which break down slowly in body tissues, usually represent the greatest chronic exposure hazard. Someone who is frequently exposed to low doses of such chemicals may develop symptoms of poisoning long after the first exposure. Chronic exposure may be referred to as chronic oral, chronic dermal or chronic inhalation poisoning.

Dermal Exposure:

In typical work situations, skin absorption is the most common route of poisoning from chemicals. As long as the chemicals remains in contact with the skin, absorption will continue. Each part of the body differs in the rate at which dermal absorption occurs. The head (especially the scalp and ear canal), the eyes and the genital areas are at high risk. This absorption may occur as a result of a splash or spill when mixing, loading or using a chemical. It may also result from exposure to residue on equipment, protective clothing or treated surfaces after chemical application. It is also easy to transfer chemical residues from one part of the body to another. When this occurs, the applicator increases the potential for chemical poisoning. The hazard from skin absorption increases when workers are mixing chemicals because they are handling concentrated chemicals that contain a high percentage of active ingredients.

To protect yourself from eye and skin contact or absorption:

- **ALWAYS** wear protective clothing and equipment when using chemicals or repairing contaminated equipment.
- If your clothes become contaminated, change **IMMEDIATELY**. Wash all affected areas of the skin.
- **ALWAYS** change clothes as part of the clean-up after chemical use.
- **ALWAYS** wash and shower after using chemicals.
- **ALWAYS** wear clean clothes at the start of each day during chemical application.
- **ALWAYS** wear eye protection when you measure or mix chemicals.
- **NEVER** wipe your eyes with contaminated gloves or hands.

Dermal First Aid Procedures:

If eye contact occurs - Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If skin contact occurs - Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Oral Exposure:

Chemicals can be ingested by accident, through carelessness, or intentionally. The most frequent cases of accidental oral exposure are when chemicals have been taken from their original labeled container and put into an unlabeled bottle or a food container. Workers handling chemicals or application equipment can also consume excessive levels of chemicals if they do not wash their hands properly before eating or smoking. Applicators must never try to clear a spray line or nozzle by blowing on it while holding it to their mouth.

To protect yourself from oral exposure:

- **ALWAYS** store chemicals in their original labeled containers.
- **NEVER** use your mouth to clear a hose or nozzle, or to siphon a chemical.
- **ALWAYS** wash hands after handling chemicals, before eating, drinking, smoking, or using the toilet.
- **NEVER** leave chemicals open or unattended.
- **ALWAYS** avoid splashes or dusts when mixing chemicals.
- **ALWAYS** label the measuring containers used for chemicals.
- **NEVER** put chemicals in an unlabeled bottle or food container.

Oral First Aid Procedures:

If ingested - Immediately call a poison control center or doctor for treatment advice. DO NOT give any liquid to the person. Do not induce vomiting unless told to do so by a poison control center or doctor. Never give anything by mouth to an unconscious person.

Inhalation Exposure:

Lungs may be exposed to chemicals by inhalation of powders, airborne droplets or vapors. Many chemicals give off a vapor when exposed to air. The hazard is greatest in enclosed spaces where there is little air movement. For example, high vapor levels could result from a spill in an unventilated storage area or application in a confined space such as an embalming room. Proper ventilation can greatly reduce vapor levels.

To protect yourself from respiratory exposure:

- **ALWAYS** wear an appropriate and properly fitting respirator:
  - If it is required on the label;
  - If chemicals are used or mixed in poorly ventilated areas;
  - If there is a possibility of inhaling spray droplets, vapor, or powder.
- **ALWAYS** ensure that ventilation is activated in embalming rooms.

Inhalation First Aid Procedures:

If inhaled - Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

The use of Formaldehyde

Formaldehyde is the most common chemical found in the embalming process. it is used as a disinfectant as well as a preservative in the embalming process. It is a chemical that has very dramatic effect on its surroundings. It is *toxic* by inhalation, skin contact as well as swallowing.

Formaldehyde has been found to be incompatible with many chemicals such as strong oxizders (e.g. bleach) and other acids. It is highly reactive, flammable gas that can possibly form explosive mixtures in air and is a fire hazard when exposed to heat or flame.

As with all other hazardous materials it is important to read the SDS for formaldehyde containing products. Ensure to use proper ventilation and personal protective equipment (PPE)

Common first aid practices when in contact with formaldehyde include:

- **Inhaled:** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
- **Eye:** In case of eye contact, hold eyelids apart and flush they eye continuously with running water. Continue flushing until advised to stop by Poisons Information Centre or a doctor, or at least for 15 minutes.
- **Skin:** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.
- **Swallowed:** If swallowed do NOT induce vomiting
- **First Aid facilities:** Ensure eye bath and safety showers are available and ready for use. For advice, contact New York Regional Poison Control Centers (800) 222-1222 (24/7) or a doctor at once.

Embalming room ventilation

Industry standards recommend requires that ventilated air be exhausted to the outdoors, at an approved location on the exterior of the building. 10-15 air changes per hour for preparation rooms is recommended with at least two of the air changes per hour be outdoor air.

This air change should be designed for ventilation to supply fresh air to workers breathing zone and dilute the contaminants in the local air (both chemical and biological). Air supply should be located above the head of the worker, coming down, and exhausting through the floor or near the floor.

Toxicity

Highly Toxic and Toxic chemicals are chemicals that can produce injury or death when inhaled, ingested, or absorbed through the skin. While damage may be acute or chronic the Fire Code is only concerned with acute lethality. The extent of lethality depends on the dose and duration of exposure. Exposure may enter the body through three routes: inhalation, ingestion, or contact with the skin and eyes.

One of the best sources of information regarding toxicity is a SDS. However the reporting of LD50/LC50 data on SDS is optional and there is no standard format when it is reported. Other reference materials are also available but care must be taken to ensure the relevance of the data. The following table is some examples on how this information is applied.

Categories of Acute Toxicity

Category	Signal Word Required on Label	Oral Ld50 Mg/kg	Dermal LD50 mg/kg	Inhalation LC50 mg/l	Approximate Oral dose that can Kill an Average Person
Highly toxic	DANGER- [Poison! Skull Crossbones]	<50	<200	< 2	A few drops to 1 teaspoon full [or a few drops on the skin]
Toxic	WARNING!	50 to 500	200 to 1000	2 to 20	Over 1 teaspoonful to 1 ounce
Slightly/ Non- Toxic	CAUTION!!	>500	> 1000	> 20	Over 1 ounce

Caution: It is the permit holder's responsibility to be knowledgeable in the toxicological information and the appropriate relevance of Fire Code requirements. The lack of LD50/LC50 information on an SDS does not imply such information does not exist or the Fire Code requirements for Toxic or Highly Toxic materials do not apply.

It is important to recognize that LD50/LC50 values will vary by route of exposure and animal species tested as well as from study to study. Additionally these values will vary by concentration of pure material in mixtures and commercial products. For example the oral LD50 for pure warfarin is much less than the oral LD50 for 0.025% warfarin in rat bait.

As a result it is important to refer to the specific tests required by the Fire Code when determining the toxicity of a particular material. The following is one examples of how toxicological information can be presented on SDS's.

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LD50, mg/L/4hr	Inhalation Dust/Mist LD50, mg/L/4hr	Inhalation Gas LD50, ppm
Paraformaldehyde - (30525-89-4)	592.00, Rat - Category: 4	10,000.00, Rat - Category: NA	No data available	1.10, Rat - Category: 4	No data available

For the purposes of Fire Code compliance, is it important to have supporting documentation regarding the toxicity of the specific materials being stored, handled or used. Generally this would be SDS's. Care should be exercised when changing material vendors as the SDS information may be different. It is the facility storing, handling or using these chemicals to know their toxicity and be able to demonstrate to an inspector that the appropriate classification and handling procedures are being used.

The level of toxicity of highly toxic and toxic materials may be reduced by diluting such materials with other materials, such as water, to a degree that the resulting mixture may no longer be Highly Toxic or Toxic.

For the purposes of Fire Code compliance, a mixture containing any amount of highly toxic and toxic material is presumed to be a highly toxic or toxic material, as applicable, unless it is otherwise certified and labeled by the manufacturer.
The Fire Code is not designed to regulate industrial hygiene in work areas. Employers are encouraged to consult the OSHA or the American Conference of Governmental Industrial Hygienists (ACGIH) exposure standards regarding routine work site exposures and personal protection equipment (PPE's) recommendations. These standards are expressed in terms of Threshold Limit Values (TLV), Time Weighted Average (TWA), Short Term Exposure Limit (STEL), and Ceiling Value, Immediately Dangerous to Life or Health (IDLH) and permissible exposure limits (PEL).

7. POTENTIAL HEALTH EFFECTS

Toxicity of chemicals can vary depending on the type of exposure; dermal, oral or inhalation (respiratory), but it is important to remember that, in each case, the danger usually increases as concentration and duration of exposure increases. The longer a chemical remains on the skin or in eyes, the more that is ingested or the longer it is inhaled, the greater the damage that is likely to result.
The U.S. Environmental Protection Agency (EPA) requires a ***signal word*** on most chemical product labels. They also require it to be printed on the front panel, in all capital letters to make it easier for users to find. The only chemical products that are not required to display a signal word are those that fall into the lowest toxicity categories by all routes of exposure.

Signal Words found on chemical labels can be either: **DANGER, WARNING or CAUTION.**

DANGER – Means the chemical product is highly toxic by at least one route of exposure. If the chemical is highly toxic when eaten, absorbed through the skin, or inhaled, the word "POISON" must be included in RED letters on the front panel of the product label.

WARNING - Indicates the chemical product is moderately toxic if eaten, absorbed through the skin, inhaled, or causes moderate eye or skin irritation.
CAUTION - Means the chemical product is slightly toxic if eaten, absorbed through the skin, inhaled, or it causes moderate eye or skin irritation.

8. Handling and Use

Handling - Take extreme precautions to avoid contact with skin, eyes, and clothing. Do not contaminate water or food by storage, handling or disposal. Read and observe all precautions and instructions on the label.

Work hygienic practices - DO NOT SMOKE, EAT, DRINK OR APPLY COSMETICS IN WORK AREA! Wash promptly if skin becomes contaminated. Wash at the end of each work shift and before eating, smoking and using the toilet.

9. Accidental Release Measures

Spills - Shut off all possible ignition sources. Stop release, if possible without risk. Dike or

contain release, if possible. Isolate and control access to the release area. Take actions to reduce vapors. Absorb with appropriate absorbent. Clean spill area of residues and absorbent.

An IMMEDIATE RESPONSE to a spill can prevent further damage or danger.

Waste disposal method - Contaminated absorbent and wash water should be disposed of according to local, state, and federal regulations.

Hazardous materials reporting:
The storage of hazardous materials shall be reported as required by the New York State General Municipal Law Section 209-u. The commissioner may require an application for a permit pursuant to this code to include a copy of the current filing pursuant to such New York State General Municipal Law for the facility or premises for which a permit is sought. The commissioner may also require an application for a permit to include a Hazardous Materials Inventory Statement (HMIS), such as a statement prepared for purposes of the Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III, ***Tier II Report***, or other approved statement. The HMIS shall include the following information:

1. Product name.
2. Chemical composition.
3. Chemical Abstract Service (CAS) number.
4. Location where stored or used.
5. Container size.
6. Hazard classification.
7. Quantity in storage.
8. Quantity in use-closed systems.
9. Quantity in use-open systems.

Such information can be reported on the "Hazardous Materials Report Form" (see Appendix B) and sent to:

Toxic Substance Unit
Haz-Mat Battalion FDNY
Division of Training, Building 8
Randall's Island, NY 10035

Notification of unsafe condition
The person responsible supervision and storage, handling and use of funeral home chemicals should notify their supervisor or site safety manager if an unsafe condition has been created. Any person who becomes aware of a fire, explosion, large spill, leak or any other emergency shall immediately report such emergency to the Fire Department (Call 911). No owner or other person shall issue any directive or take any action to prevent or delay the reporting of a fire or other emergency to the Fire Department. After calling the Fire Department, the supervisor or the site safety manager or other designated person should also be notified.

The Certificate of Fitness holder must know the locations of and how to operate all fire extinguishing devices, control devices, and fire alarm stations installed at the facility. In case of a fire, explosion, or emergency, the Certificate of Fitness (C of F) holder must notify the Fire Department by phone immediately. The Certificate of Fitness holder must know the telephone number of the Fire Department Borough Communication Office. The borough phone numbers are listed as follows. These phone numbers must be posted near the phones most likely to be used in case of an emergency.

- Manhattan (212) 999-2222
- Bronx (718) 999-3333
- Brooklyn (718) 999-4444
- Queens (718) 999-5555
- Staten Island (718) 999-6666

After notification by phone, the local fire alarm must be sounded. In some cases, the activation of the fire alarm will transmit a signal to the Fire Department via a FDNY approved central station company. The C of F holder shall initiate an orderly evacuation when necessary following a hazardous incident, and take reasonable steps to isolate the hazard until the Fire Department arrives. The Certificate of Fitness holder must answer any questions asked by Firefighters and officers when they arrive. For example, he or she must indicate the location of the fire, describe the type of fire protection devices available, and describe the materials stored on the fire floor. The Bureau of Fire Prevention must be notified as soon as possible after an explosion or fire has occurred. The Bureau of Fire Prevention may require a detailed report on the causes and the consequences of the explosion or fire. Generally, this report must be filed within ten days after the incident.

10. Storage

Storage - Store containers upright and closed. Store in areas that are cool, dry and well-ventilated. Keep away from heat, open flame, ignition sources. Emptied containers may retain product residues. Chemicals should always be stored in approved storage cabinets.

Dot Information

The USDOT regulates the transportation of hazardous materials and while these rules are not under the scope of the Fire Code certain portions of them can be a useful resource for material identification, in particular the shipping descriptions and hazard packaging labels. The following table summarizes the DOT hazard labels, typical shipping names/DOT classes and cross references to related Fire Code sections.

DOT LABELS	REFERENCE EXAMPLES	GHS Labels
	Fire Code Chapter 31 Corrosives Formaldehyde/Methanol Mixture *(Arterial Embalming Chemical)* *(Tissue Preservation)*	
	Fire Code Chapter 34 Flammable Liquids Glutaraldehyde/Methanol Mix *(Arterial Co-injection Chemical)*	
	Fire Code Chapter 34 Combustible Liquids Formaldehyde/Methanol Mixture *(Arterial Embalming Chemical)* *(Tissue Preservation)*	
	Fire Code Chapter 36 Flammable Solids Paraformaldehyde *(Embalming / Deodorizing Powder)*	
	Fire Code Chapter 37 Highly Toxics and Toxics Formaldehyde/ Ethyl Alcohol/Isopropyl Alcohol/Methanol Mixture *(All Purpose Fixative / Preserving Fluid)*	

If a particular material meets the definition of more than one DOT hazard class or division, compliance with each hazard class shall be required. Where a material is both a physical hazard and a health hazard, compliance with the requirements for each hazard class shall be required.

Location Storage Restrictions

Please note that the maximum allowable quantity (MAQ) of any hazardous material stored or used within an indoor control area. It is dependent on the floor location relative to the ground floor (the ground floor being the least restrictive location). The MAQ of any hazardous material in control areas located above the ground floor or below grade are strictly reduced by a fixed percentage as specified by Fire Code Section 2703.8.3. Furthermore, the same Fire Code section limits the number of control areas allowed on any specific floor relative to the ground floor (the ground floor being the least restrictive location).

MAQ for ground floor storage per control area*

Type of Hazard	MAQ
IA Flammable Liquid with a flashpoint <73 °F; boiling point <100 °F	30 gallons
IB Flammable Liquid with a flashpoint <73 °F; boiling point >100 °F	120 gallons
IC Flammable Liquid with a flashpoint <73-99 °F	120 gallons
Flammable Solid	125 pounds (lbs)
Combustible liquid with a flashpoint 100 °F -140°F	120 gallons (gal)
Combustible liquid with a flashpoint 141 °F- 199 °F	330 gallons (gal)
Combustible liquid with a flashpoint >200 °F	13,200 gallons (gal)**
Toxic liquid	50 gallons (gal)
Toxic solid	500 pounds (lbs.)
Highly Toxic Liquid	10 pounds (lbs.)
Highly Toxic Solid	10 pounds (lbs.)
Corrosive liquid	500 gallons
Corrosive solid	5000 pounds

***All quantities can be doubled in fully sprinklered buildings**
***All quantities can be doubled when stored in approved storage cabinets**
****Unlimited storage in fully sprinklered buildings**

The indoor storage of any hazardous material in excess of the MAQ in any one control area shall require that the control area be classified as a High Hazard occupancy.

General requirements for containers stored indoors.

Empty containers

Empty containers and tanks previously used for the storage of hazardous materials shall be free from residual material and vapor in compliance with the requirements of DOT, the Resource Conservation and Recovery Act (RCRA) or other governmental agencies having jurisdiction, or shall be stored, handled and used in compliance with the requirements of the Fire Code.

The storage of empty containers previously used for the storage of hazardous materials shall be stored as required for filled containers. Containers, when emptied, shall have the covers or plugs immediately replaced in openings, be removed to an outdoor location and, if not cleaned on the premises, the empty containers shall be removed from the premises as soon as practical, but at least daily.

Containers storage arrangement

Shelf storage of combustible liquids shall be maintained in an orderly manner. Shelving shall be of approved noncombustible construction, adequately braced and anchored. Seismic requirements shall be in accordance with the construction codes, including the Building Code.

Clearance from incompatible materials

The SDS's should be consulted regarding specific incompatibilities. Materials that will react with water or other liquids to produce a hazard shall not be stored in the same room/cabinet with combustible liquids. Incompatible materials, shall be separated while in storage except for stored materials in individual containers each having a capacity of not more than 5 pounds or 0.5 gallon. Separation shall be accomplished by:

- Segregating incompatible materials in storage by a distance of not less than 20 feet.

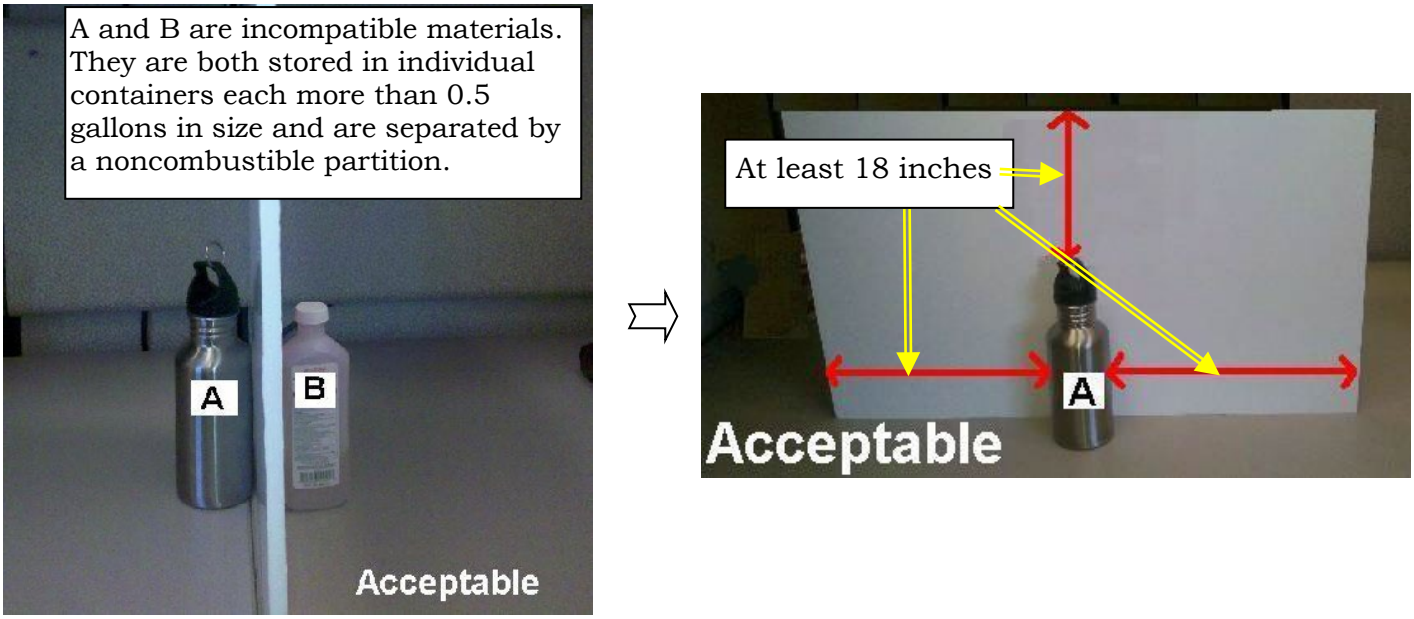
Or

- Storing liquid and solid materials in hazardous material storage cabinets. Materials that are incompatible shall not be stored in the same cabinet.

Or

- Isolating incompatible materials in storage by a noncombustible partition extending not less than 18 inches above and to the sides of the stored material.

Corrosives: Should never be stored with combustible or flammable materials. Mutually reactive items (such as sulfuric acid & sodium hydroxide) should be separated.



Means of access to an exit

It shall be unlawful to obstruct or impede access to any required means of egress. All required means of egress, including each exit, exit access and exit discharge, shall be continuously maintained free from obstructions and impediments to immediate use in the event of fire or other emergency. Storage of any liquids, including stock for sale, shall not be stored near or be allowed to physically obstruct the route of egress.

Flammable and Combustible Liquid Storage

Note: Does not apply to preexisting (pre 2008) installations and occupancies

Storage below grade.

Flammable liquids (Class I) cannot be stored in basements, cellars or all other areas that are below grade.

Class II and IIIA liquids are allowed to be stored in basements, cellars or other areas below grade provided area is protected throughout by a sprinkler and/or other approved fire protection system.

Class IIIB liquids may be stored in basements, cellars and other areas below grade that are not protected throughout by a sprinkler system when stored in a room or other area that is segregated, vertically and horizontally, from surrounding spaces by a fire separation of not less than 2-hour fire-resistance rating and such room or other area is protected throughout by a sprinkler system.

Quantity limits for indoor container storage

It shall be unlawful to store combustible liquids in containers with an individual capacity of greater than 60 gallons and only approved containers in compliance with NFPA 30 must be used for Class II and Class IIIA combustible liquids. *There are no container type or size restrictions for Class IIIB liquids.* It shall be unlawful to store combustible liquids in portable tanks, intermediate bulk containers and fiber drums.

A. Maximum allowable container capacity

	Flammable Liquids			**Combustible Liquids**	
Container Type	**IA**	**IB**	**IC**	**II**	**IIIA**
Glass[a]	1 pt	1 qt	1.3 gal	1.3 gal	5.3 gal
Metal (other than DOT drums) or approved plastic	1.3 gal	5.3 gal	5.3 gal	5.3 gal	5.3 gal
Safety cans	2.6 gal	5.3 gal	5.3 gal	5.3 gal	5.3 gal
Metal container (DOT specification)	60 gal	60 gal	60 gal	60 gal	60 gal
Polyethylene (DOT specification)	1.3 gal	5.3 gal	5.3 gal	60 gal	60 gal

a. Class IA and Class IB liquids shall be permitted to be stored in glass containers of not more than 1 gal capacity, if the required liquid purity (such as ACS analytical reagent grade or higher) would be affected by storage in metal containers or if the liquids can cause excessive corrosion of the metal container.

Highly Toxic and Toxic Materials Storage

The **storage** of highly toxic and toxic materials in quantities requiring a permit shall be under the **general supervision** of a certificate of fitness holder.

Common Abbreviations: The following table lists some common abbreviations utilized in toxicology information.

gm	gram
gpg	guinea pig
grb	gerbil
ham	hamster
idr	intradermal
kg	kilogram
L	liter
LC50	lethal concentration 50 percent kill
LCLo	lowest published lethal concentration
LD50	lethal dose 50 percent kill
LDlo	lowest published lethal dose
m3	cubic meter
ug	microgram
mg	milligram
mky	monkey
mL	milliliter

mus	mouse
NOAEL	No Observed Adverse Effect Level
ppb	parts per billion (v/v)
ppm	parts per million (v/v)
rat	rat
rbt	rabbit
scu	subcutaneous
skn	administration onto skin
STEL	short term exposure limit
TC	toxic concentration (other than lowest concentration)
TCLo	lowest published toxic concentration
TD	toxic dose (other than lowest toxic dose)
TDLo	lowest published toxic dose
TLV	Threshold Limit Value
TWA	time weighted average

Liquid storage cabinets

Where the Fire Department requires that liquid containers be stored in storage cabinets, such cabinets and storage shall be in accordance with the following:

The cabinet must be listed in accordance with UL 1275. All cabinets must be provided with a conspicuous label in red letters on contrasting background which reads: FLAMMABLE-KEEP FIRE AWAY. The door must be well fitted, self-closing and equipped with a three-point latch. The bottom of the cabinet must be liquid-tight to a height of at least 2 inches.

The combined total quantity of flammable and combustible liquids in a cabinet must not exceed 120 gallons. Maximum 3 cabinets is allowed to be located in a single fire area, except that in a Group F occupancy (e.g. a factory and industrial occupancy or

repair garage), additional cabinets are allowed to be located in the same fire area if the additional cabinets (or groups of up to 3 cabinets) are separated from other cabinets or groups of cabinets by at least 100 feet.
In all occupancies, quantities of combustible liquids requiring a permit, used for maintenance purposes and the operation of equipment, shall be stored in liquid storage cabinet. Quantities not requiring a permit shall be stored in approved containers and locations.

11. Fire Safety Requirements

Place of Assembly Fire Safety

FDNY *may* require at least one place of assembly safety person in the premises where the Certificate of Occupancy indicates that 75 or more members of the public may gather indoors. One particular issue of concern in a place of assembly is the occupant's lack of familiarity with the building design.

The acronym **ESCAPE** may be used as a reminder for doing an inspection of your occupancy:

E - Exits – All exits are unblocked, unlocked, and properly marked
S - Storage – The occupancy is clean, orderly and there is no excessive storage. No storage of combustible material and combustible waste in corridors. The hazardous materials are stored, handled or used only in the designated areas and are away from any ignition sources.
C - Capacity – The number of persons occupying the building or space does not exceed the posted capacity. Capacity certificates are properly posted.
A - Aisles – All aisles are free and clear at all times.
P - Protection – Smoke, fire alarm, sprinkler systems, and fire extinguishers are in proper working order and have up-to-date inspection and testing performed.
E - Emergency exit lighting – All exits signs and emergency exit lighting are working properly.

Examples of unacceptable situations

Blocked Exit

Locked Exit

Obstructed Aisle

Obstructed Manual Pull Station

An employee of the facility should monitor and be aware of the following:

(1) Possible overcrowding by monitoring the amount of people in your area of assembly. If you notice that your responsible area is excessively crowded, you should inform your supervisor immediately and follow his/her instruction.
(2) Confirm that the exit paths are always clear. **Required aisles must be unobstructed**. People should not be allowed to stand in or at the head of an aisle.
(3) Situations that could hinder evacuation in the event of an emergency.

Safety Signs

Several types of safety signs may be posted at various locations inside the building. These signs are designed to ensure the safety of occupants. For example these signs may indicate:

(a) the general fire safety procedures to be followed during a fire emergency.
(b) the location of fire extinguishers and emergency exits.
(c) how to use the fire extinguishers and related firefighting equipment.
(d) how to sound the fire alarm in case of an emergency.
(e) that elevators must not be used in case of a fire unless otherwise instructed by the Fire Department.
(f) the floor numbers.

The Certificate of Fitness holder should be familiar with the requirements for the fire safety signs. Having knowledge of these signs would help this person to perform his or her duties. He or she should also make sure that exit signs posted above doors are always illuminated. Examples of some of these signs are shown below.

Typical Safety Signs

Exit Signs

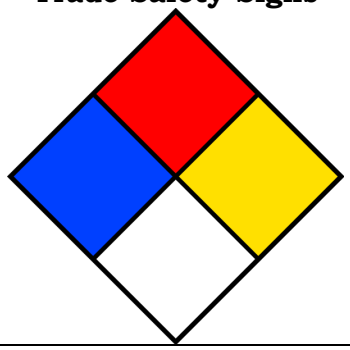
Special Exit Signs

Fire Extinguisher Sign

Elevator Warning Sign

No-smoking Sign

Trade Safety Signs



Facility Safety Checklist

List	Mark "x" if yes	Note
Pre-event		
1. Do you know the locations of the exits, stairways and evacuation routes?	□	If no, obtain such information before starting your duty.
2. Do you know how to notify the FDNY in case of emergency?	□	If no, obtain such information before starting your duty.
3. Do you know how to notify your supervisor in case of overcrowding and emergency?	□	If no, obtain such information before starting your duty.
4. **Exits and stairways**- Are they free of obstructions? Are exit doors/gates free of locks? Are self-closing doors all close, and is lighting in exit corridors adequate and fully operational?	□	If no, correct and comply
5. **Storage**- Is the area clean, orderly and no excessive storage? Are the hazardous materials stored, handled or used only in the designated areas and are away from any ignition sources?	□	If no, correct and comply
6. **Capacity certificate placard**- Is it posted?	□	If no, correct and comply
7. **Aisle** – Are aisles free and clear at all times?	□	If no, correct and comply
8. **Protection** – ▪ Is any fire extinguishers provided and are they operational?	□	If no, correct and comply
▪ Are fire alarm pull stations provided and operational in my area of responsibility?	□	If yes, where are they located? _____ If not required, what procedures will be used to notify the building occupants of a fire? _____
9. **Emergency exit lighting** – Are they operational?	□	If no, report to your supervisor
During-event inspection		
Exit and aisles – Are the exits and exit paths staying clear? Are all marked exits remained unlocked and unobstructed at all times?	□	If no, correct and comply
Potential hazards- any situation that could lead to challenges in the event of an emergency?	□	If yes, correct and comply

Emergency Notification Procedures:

- Call 911.
- Notify the building occupants by _____.
- The designated people (e.g. funeral director or building owner) for emergency situations. Their phone numbers are:

Name	Phone number
_____	_____
_____	_____

This study material is provided to the public for free by the FDNY.

Emergency Procedures

General emergency procedures

The safety personnel must have a method of communicating to the emergency services. The building owner or the designated person should provide a communication method for the safety personnel to notify FDNY in case of fire or other types of emergency. **Notifying by phone is the most direct and effective way to notify the Fire Department. The safety personnel must also sound the fire alarm pull station when available. Activating the pull station is the most effective way to notify the building occupants in case of a fire emergency.**

To report an emergency event by telephone, the safety personnel must dial 911. **After calling 911, the safety personnel should follow the emergency reporting protocols** provided by your supervisor or the designated responsible person. For example, the designated responsible person or the building owner should be notified. The designated responsible person or the building owner will also issue instructions to the safety personnel. The safety personnel must follow the instructions closely. For example, the responsible person may instruct the safety personnel how to take the safest evacuation route from the building.

Fire emergency

In case of a fire emergency, the most direct and effective way to notify FDNY are calling 911 and also activating the manual pull station when available. The fire alarm will send an alarm signal and it may also notify an approved central station company. The Fire Department should be contacted directly by phone or other approved device.

In case of a fire emergency, building occupants may have to be evacuated. If the safety personnel is responsible for assisting in the evacuation, the safety personnel should remain composed and in control of the situation. He/she should speak in a clear and concise manner when assisting with the evacuation. The safety personnel's instructions and his/her actions play an important role in reducing panic during an emergency. Occupants should be instructed to be calm and move quickly to the nearest exit in an orderly manner. The safety personnel should guide the occupants not to use the elevators and should identify the stairwells or other routes of egress for occupants and direct them to use only those stairwells or routes of egress.

In summary, the procedures should be:

- Call 911. Provide the following information:
  - Business name and street address.
  - Nature of fire: the extent of the fire (small, large, etc), and type of fire if you identify it (ordinal combustible, flammable liquids, electrical, etc)
  - The exact location of the fire (building and floor or room number), if known.
  - Telephone number for return call.

- Notify the building occupants by using the fire alarm pull station, if available.
- Notify the designated building personnel (e.g. funeral director or building owner).
- Follow the instruction of the Funeral Director or Building owner for evacuation. If the funeral director or building owner is not available, evacuate the area (in-building relocation, partial evacuation or evacuation of building occupants) along evacuation routes to assembly areas designated by the evacuation plan.

Medical emergency

In the case of injury or some other medical emergency, inform the designated person. Safety personnel should call 911 and also **follow the medical emergency reporting protocols.**
In summary, the procedures should be:

- Call 911
- State the immediate medical need and describe:
  - Your location and the location of victim(s) (if different from your location), including the business name, street address and room number if you know.
  - Telephone number for return call.
  - The number of victim(s).(if different from your location)
  - Nature of injury or illness or the victim(s)'s present condition (e.g. bleeding, breathing erratically, conscious/unconscious, etc)
  - Hazards involved.
- Follow the exact instructions of the 911 operators
- Alert trained responders/employees to respond to the victim's location and stay with the victim(s). Only the trained responders/employees should provide first aid assistance. If there are no trained responders/employees in the premises, designate a responsible person stay with the victim(s).
- Arrange for an elevator to be placed on standby (if necessary).
- Do no move the victim unless the victim's location is unsafe.
- Control access to the scene.
- Arrange a designated person to meet the ambulance at the nearest entrance or emergency access point; direct them to victim(s)

Chemical incident or release

- In case of a major spill, you must notify the Fire Department by calling 911 immediately. After calling 911, your supervisor or the designated person should be notified.
- Wait for the instruction from first responders.

12. General Housekeeping And Good Work Practices

Poor housekeeping & work practices are one of the leading causes of hazardous material incidents, work place accidents and fires. Poor housekeeping can result in fire accidents, lost tools/supplies, damaged equipment and contribute to higher operating costs. Good housekeeping minimizes fire, accidents, reduces waste & disposal costs, increases efficiency and generally results in cheaper production costs. Areas kept in neat & organized condition provides a positive impression on inspectors. The following is some guidance on good practices.

General Housekeeping and Standards:

- Access doors, aisles and exit doors clear of obstructions. Keep storage of items out of hallways and stairwells. The Fire Code contains various requirements for aisle spacing depending upon stacking arrangements.
- Secure storage areas to minimize liability and hazards of intrusion or dumping.
- Be familiar with the use, limitations and location of emergency equipment such as emergency eyewashes, safety showers, fire alarms, exits and fire extinguishers.
- Be aware of Fire Code storage requirements for permit and certificates of fitness.
- Safety Data Sheet (SDS) information should be readily available.

General Storage:

- Containers should be in good condition and closed when not in use.
- Defective containers shall be promptly removed from service or disposed of in approved manner.
- Chemicals should be stored per manufacturer's recommendations and in such a way to minimize the potential for tipping, tearing, puncture, or breakage.
- Combustible material must be stored away from open flame or other ignition sources.
- Do not store chemicals above eye level except for containers that are removed with mechanical equipment (e.g., fork-lift).
- Do not store unprotected glass containers on the floor.
- Don't stack equipment against containers.
- Segregate incompatible materials/wastes by hazard category to prevent reactions (e.g. acids and bases).
- Storage area should be checked periodically for container integrity, leaks, older stock, faded/missing labels etc.
- Know the characteristic of the material begin stored and possible interaction with other material stored.
- Piles of chemicals should be stacked in a secure manner, properly labeled in closed containers.

13. Fire Extinguishers

*In areas where flammable or combustible liquids are stored, handled and use*d, including dispensing, in quantities requiring a permit, the portable fire extinguishers shall be provided in accordance with the table below

Most funeral home occupancies (preparation room areas) are considered an "Ordinary (Moderate)" hazard and must follow the travel distance for the extinguisher rating stated below*

Flammable or combustible liquids with depths of less than or equal to 0.25-inch

Type of Hazard	Basic Minimum Extinguisher Rating	Maximum Travel Distance[d] to Extinguishers (feet)
Light (Low)[a]	5-B 10-B	30 50
*Ordinary (Moderate)[b]	10-B 20-B	30 50
Extra (High)[c]	40-B 80-B	30 50

a. Light(low) hazard occupancies consist of fire hazards having normally expected quantities of Class A combustible furnishings, and/or the total quantity of Class B flammable typically expected to be present is less than 1 gal in any room or area.

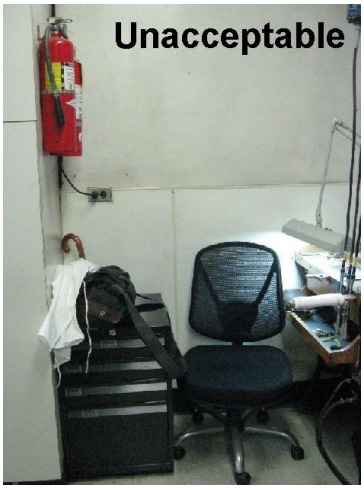
b. Ordinary(moderate) hazard occupancies consist of fire hazards having normally expected quantities of Class A combustible furnishings, and/or the total quantity of Class B flammable typically expected to be present is between 1 gal to 5 gal in any room or area.

c. Extra(high) hazard occupancies consist of fire hazards having normally expected quantities of Class A combustible furnishings, and/or the total quantity of Class B flammable typically expected to be present is more than 5 gal in any room or area.

d. The travel distance is intended to be the actual walking distance along a normal path of travel to the extinguisher.

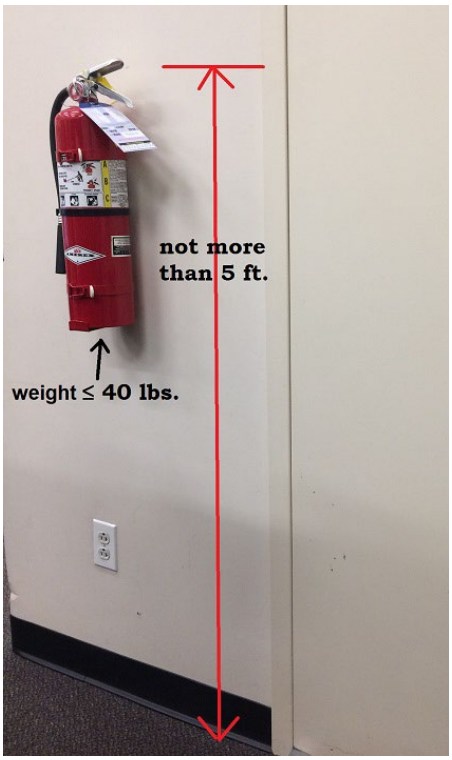
Location

Fire extinguishers must be located in conspicuous locations where they will be readily accessible and immediately available for use. These locations must be along normal paths of travel. Fire extinguishers having a gross weight 40 pounds or less must be installed so that the top of the extinguisher is not more than 5 ft above the floor. Hand-held fire extinguishers having a gross weight exceeding 40 pounds shall be installed so that their tops are not more than 3.5 feet above the floor. The clearance between the floor and the bottom of installed hand-held extinguishers shall not be less than 4 inches. In other words, **no fire extinguisher is allowed to be on the floor.**



(1) For the fire extinguisher having 40 pounds or less, its top must not be more than 5 ft. above the floor
(2) The fire extinguishers must be accessible and unobstructed.

(1) The bottom of the fire extinguisher must be at least 4 in above the floor.
(2) The fire extinguisher must be properly mounted.



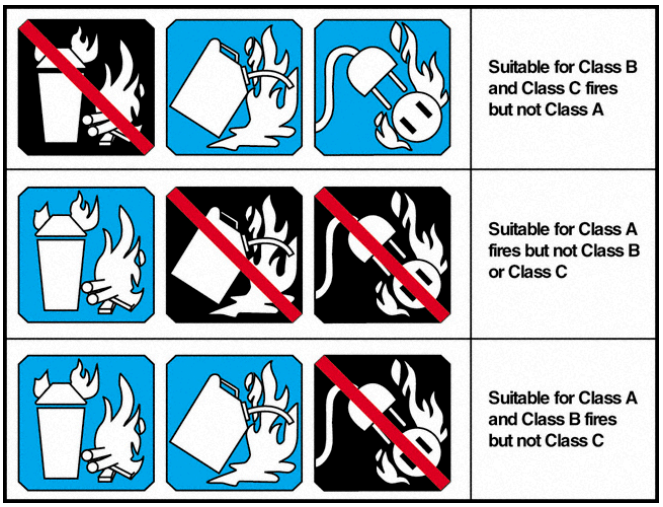
Classes of Fire Extinguishers

CLASSES OF FIRES	TYPES OF FIRES	PICTURE SYMBOL
A	Wood, paper, cloth, trash & other ordinary materials.	
B	Gasoline, oil, paint and other flammable liquids.	
C	May be used on fires involving live electrical equipment without danger to the operator.	
D	Combustible metals and combustible metal alloys.	
K	Cooking media (Vegetable or Animal Oils and Fats)	

A **<u>Multipurpose dry chemical</u>** fire extinguisher may be used to extinguish Class A, B, or C fires.

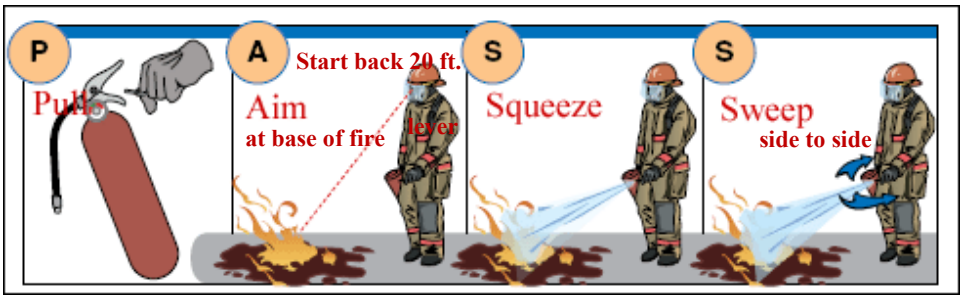
Typical Symbols Painted on Fire Extinguishers

The symbol with the shaded background and the slash indicate when the extinguisher must not be used. Symbols may also be painted on the extinguisher. The symbols indicate what kind of fires the extinguishers may be used on. The COF holder and watch person must understand these symbols. Examples of these symbols are shown below.



Generally, operation instructions are clearly painted on the side of the fire extinguisher. They clearly describe how to use the extinguisher in case of an emergency. An example of these instructions is shown below.

Fire extinguishers must be used in accordance with the instructions painted on the side of the extinguisher. They clearly describe how to use the extinguisher in case of an emergency. The Certificate of Fitness holder or watchperson should be familiar with the use of portable fire extinguishers. When it comes to using a fire-extinguisher just remember the acronym P.A.S.S. to help make sure you use it properly. **P.A.S.S. stands for Pull, Aim, Squeeze, Sweep.** An example of these instructions is depicted in the picture below.



In case of any fire, 911 must be called.

Portable Fire Extinguisher Inspections

MONTHLY

The portable fire extinguishers are required to be checked monthly. The owner of the business is responsible to select a person to do a monthly inspection. This monthly inspection is called a "quick check".

The **QUICK CHECK** should check if:
(1) the fire extinguisher is fully charged;
(2) it is in its designated place;
(3) it has not been actuated or tampered with;
(4) there is no obvious or physical damage or condition to prevent its operation.

The information of the monthly inspection record must include the date of the inspection, the name/initials of the person who did the inspection. This monthly quick check is documented on the back of the PFE tag or by an approved electronic method that provides a permanent record.

ANNUALLY

At least annually all Portable Fire Extinguishers must be checked by a W-96 Certificate of Fitness holder from FDNY approved company. After each annual inspection W-96 COF holder will replace the PFE tag. The information of the annual inspection record must be indicated on the new PFE tag.

Portable Fire Extinguisher tags

Installed portable fire extinguishers must have an FDNY standard PFE tag affixed. This tag will have important information about the extinguisher. By November 15, 2019, all portable fire extinguishers must have the new PFE tags. The FDNY will only recognize new PFE tags and will be issuing violations to business that have PFE installed without a proper tag.

The color of the fire extinguishers may be changed by the FDNY every few years. The FDNY recommends two ways to verify the tag's legitimacy:

1. Hologram:

A real hologram strip shown on the tag is 3 inches long by ¼ inch wide. Counterfeit tags will NOT have a high quality silver hologram. The hologram on a counterfeit tag will NOT change color as it is moved against the light.

2. QR code

IF you scan the QR code, it should direct you to the updated FDNY approved fire extinguisher company list. You can use the company list to verify if the company printed on the list is currently approved by the FDNY.

If your PFE tags cannot be verified via these two methods, contact your supervisor. If you suspect your PFE is a counterfeit, contact FDNY immediately by e-mail: Tags.Decal@fdny.nyc.gov

PFE tag (This tag is released for 2021-2023)

14. Lithium-ion safety

Lithium-ion batteries are rechargeable batteries found in electric bikes, scooters, cars, laptops, tablets, phones, and many other common household devices.

Lithium-ion battery fires have caused deaths, serious injuries, and devastating damage to property around the city. It's important to follow rules for safe storage, charging, and disposal for these types of batteries.

If you own a lithium-ion powered device or plan to buy one, the FDNY has important safety tips that you should follow. These tips apply to all devices powered by lithium-ion batteries, including phones, tablets, laptops, e-cigarettes, toys, high-tech luggage, and even robotic vacuum cleaners.

Immediately stop using or charging battery and call 911 if you notice:

- **Fire or Smoke**
- **Overheating**
- **Change in color or shape**
- **Odd noises**
- **Leaking**
- **Strange smell**

ALWAYS:

- purchase and use devices certified by a Nationally Recognized Testing Laboratory (NRTL).
- follow the manufacturer's instructions for:
  - charging and storage.
  - correct battery, cord, and power adapter
- keep exit path clear at all times.
- plug directly into a wall electrical outlet for charging.
- keep batteries and devices at room temperature.
- store and/or charge batteries away from anything flammable.
- keep away from heat sources.
- bring batteries to a **NYC Battery Recycling Center.** Visit nyc.gov/batteries for more information.

NEVER:

- use aftermarket batteries or chargers.
- use damaged or altered batteries
- plug into a power strip or overload an outlet.
- overcharge or leave battery charging overnight.
- charge a battery or device under your pillow, on your bed, or near a couch.
- leave e-bikes or e-scooters unattended while charging.
- block your primary way in or out of a room/space with e-bikes, e-scooters, wheelchairs, etc.
- place batteries in Trash or Recycling bin. **It is ILLEGAL.** Visit nyc.gov/batteries for disposal locations and information.

In the event of a Fire,
Leave and CLOSE the door.
Call 911 once you are in a safe location.

Charging Lithium Ion
Lithium-ion batteries do not have to be fully charged; partial charge is the most suitable.
When **charging more than five (5)** personal mobility devices or their removable batteries, it must be in a **dedicated room with ventilation** and a self-closing door. For a total battery capacity of 20 kilowatt-hours (kWh), a 2-foot separation between charging batteries is required. For a total battery capacity up to 50 kWh, a 3-foot separation is needed.

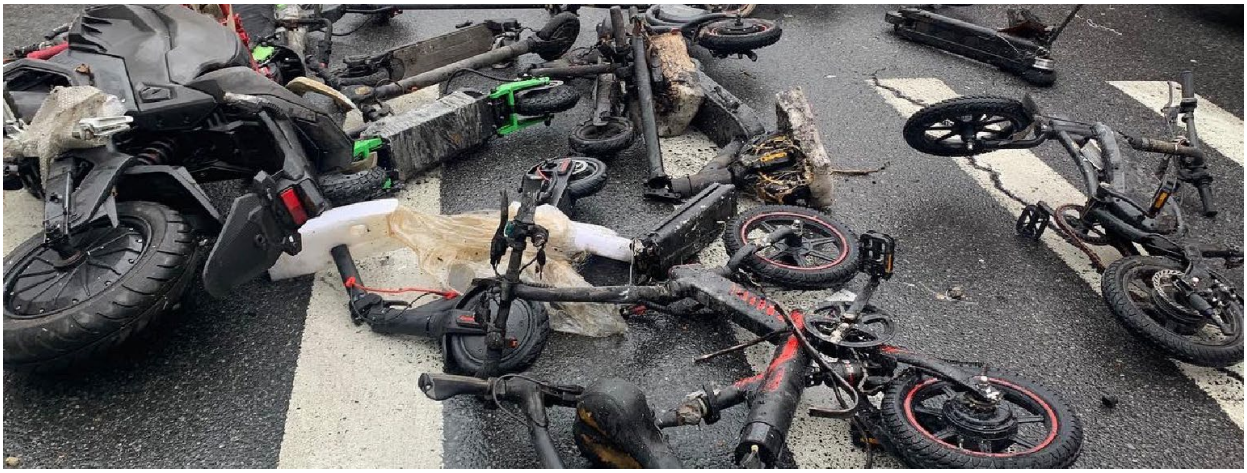
Chargers must only be used with a compatible battery pack. The original equipment manufacturer (OEM) charger interplays with the battery pack using the battery management system (BMS). The wrong battery/charger combination may not work safely. For example, the 100% cutoff to prevent overcharging, which damages batteries, may not work which can easily create hazardous conditions such as fires, explosions and/or injuries.

Always check with the manufacturer or retailer of the personal mobility device, an authorized repair shop or a testing laboratory such as Underwrites Laboratories (UL) to see if replacement is recommended or listed and safe for use with that device. Using unauthorized parts, including batteries and/or chargers, may cause damage, fire and possibly void your warranty.

Extinguishing Lithium-ion
Water may not prevent a battery from burning and spreading. Battery cells are known to explode and quickly spread to another battery. It can spread to another devices.

Fire Extinguishers
do not work
on lithium-ion batteries fires.

Unexpected Re-ignition.
Reignition is common. Lithium-Ion Batteries are known to unexpectedly re-ignite (without warning) minutes, hours and even days after all visible fire has been put out.
Lithium-ion batteries can enter an uncontrollable, self-heating state. This can result in the release of gas, cause fire and possible explosion.
These batteries may continue to generate heat even when there is no visible sign of fire.
Once heat reaches a certain level fire may reignite on the battery and surrounding area.



Appendix A. Sample SDS

Safety Data Sheet

Reaction

SDS Revision Date: 06/30/2016

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Identity	Reaction
Alternate Names	Embalming Deodorizing Powder/mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use	Embalming Deodorizing Powder
Application Method	See Technical Data Sheet.

1.3. Details of the supplier of the safety data sheet

Company Name	The Reactionary Co 9 Metro Plaza Billover, NC 02341
Emergency **CHEMTRUCK (USA)**	(800) 432-6789
Customer Service **The Reactionary Co**	(800) 345-6789, (978) 654-2310

2. Hazard identification of the product

2.1. Classification of the substance or mixture

Flam. Sol. 2;H228	Flammable solid.
Acute Tox. 4;H302	Harmful if swallowed.
Acute Tox. 4;H332	Harmful if inhaled.
Skin Irrit. 2;H315	Causes skin irritation.
Eye Dam. 1;H318	Causes serious eye damage.
Skin Sens. 1;H317	May cause an allergic skin reaction.
Carc. 2;H351	Suspected of causing cancer.
STOT SE 3;H335	May cause respiratory irritation.
Aquatic Chronic 1;H410	Very toxic to aquatic life with long lasting effects.

2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.

Danger

H228 Flammable solid.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H410 Very toxic to aquatic life with long lasting effects.

[Prevention]:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat / sparks / open flames / hot surfaces - No smoking.
P241 Use explosion-proof electrical / ventilating / light / equipment.
P261 Avoid breathing dust / fume / gas / mist / vapors / spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves / eye protection / face protection.

[Response]:

P301+310 IF SWALLOWED: Immediately call a POISON CENTER or doctor / physician.
P302+352 IF ON SKIN: Wash with plenty of soap and water.
P304+312 IF INHALED: Call a POISON CENTER or doctor / physician if you feel unwell.
P305+351+338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
P308+313 IF exposed or concerned: Get medical advice / attention.
P321 Specific treatment (see information on this label).
P330 Rinse mouth.
P333+313 If skin irritation or a rash occurs: Get medical advice / attention.
P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P362 Take off contaminated clothing and wash before reuse.
P363 Wash contaminated clothing before reuse.
P370+378 In case of fire: Use alcohol resistant foam, CO2, powder, water spray for extinction. Do not use water jet.
P391 Collect spillage.

[Storage]:

P403+233 Store in a well ventilated place. Keep container tightly closed.
P405 Store locked up.

[Disposal]:

P501 Dispose of contents / container in accordance with local / national regulations.

3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
DICHLOROBENZENE CAS Number: 0000106-46-7	25 - 50	Carc. 2;H351 Eye Irrit. 2;H319 Aquatic Acute 1;H400 Aquatic Chronic 1;H410	[1][2]
Paraformaldehyde CAS Number: 0030525-89-4	25 - 50	Flam. Sol. 2;H228 Acute Tox. 4;H302 Acute Tox. 4;H332 Skin Irrit. 2;H315 Skin Sens. 1;H317 Eye Dam. 1;H318 STOT SE 3;H335 Carc. 2;H351 Aquatic Acute 3;H402	[1]

[1] Substance classified with a health or environmental hazard.
[2] Substance with a workplace exposure limit.
[3] PBT-substance or vPvB-substance.

4. First aid measures

4.1. Description of first aid measures

General
Move victim to fresh air.
Call 911 or emergency medical service if deemed necessary.
Give artificial respiration if victim is not breathing.
Administer oxygen if breathing is difficult.
Remove and isolate contaminated clothing and shoes.
In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
Removal of solidified molten material from skin requires medical assistance.
Keep victim warm and quiet.
Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Inhalation
Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.

Eyes
Irrigate copiously with clean fresh water for at least 15 minutes, holding the eyelids apart and seek medical attention.

Skin
Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.

Ingestion
If the person is conscious, induce vomiting immediately by giving 2 glasses of water and pressing finger down the throat. Repeat until vomit is clear, then give milk. Contact a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

Overview	Effects of contact or inhalation may be delayed. Possible cancer hazard. Contains an ingredient which may cause cancer based on animal data (See Section 3 and Section 15 for each ingredient). Risk of cancer depends on duration and level of exposure. **INHALATION:** Highly irritating to upper respiratory tract. May cause inflammation to lining of nose, throat, and lungs, with bronchopneumonia and edema possible from extreme irritating exposure. **SKIN:** Contact with dust can cause reddening and swelling. Prolonged and repeated contact causes a hardening or tanning effect. May cause contact allergic dermatitis. **EYE CONTACT:** Exposure to high vapor concentrations or contact with liquid causes tearing and severe irritation. Contact with liquid causes severe burns. **INGESTION:** Poisonous if swallowed. Causes severe irritation to mouth, throat, and stomach. Severe stomach pains will follow with possible loss of consciousness. Blindness or death may occur. See section 2 for further details.
Inhalation	Harmful if inhaled. May cause respiratory irritation.
Eyes	Causes serious eye damage.
Skin	May cause an allergic skin reaction. Causes skin irritation.
Ingestion	Harmful if swallowed.

5. Fire-fighting measures

5.1. Extinguishing media

Recommended extinguishing media; alcohol resistant foam, CO^2, powder, water spray.
Do not use; water jet.

5.2. Special hazards arising from the substance or mixture

May form formaldehyde gas, chlorine, hydrogene chloride, carbon monoxide, carbon dioxide, and phosgene.

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat / sparks / open flames / hot surfaces - No smoking.

Use explosion-proof electrical / ventilating / light / equipment.

Avoid breathing dust / fume / gas / mist / vapors / spray.

5.3. Advice for fire-fighters

Wear positive pressure self-contained breathing apparatus (SCBA).
Structural firefighters' protective clothing will only provide limited protection.

Flammable/combustible material.
May be ignited by friction, heat, sparks or flames.
Some may burn rapidly with flare burning effect.
Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence.
Substance may be transported in a molten form at a temperature that may be above its flash point.
May re-ignite after fire is extinguished.

Fire may produce irritating and/or toxic gases.
Contact may cause burns to skin and eyes.
Contact with molten substance may cause severe burns to skin and eyes.
Runoff from fire control may cause pollution.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Prevent entry into waterways, sewers, basements or confined areas.

6.2. Environmental precautions

Do not allow spills to enter drains or watercourses.

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up

Vapor is heavier than air and may flow along surface to distant ignition source and flashback.

As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions.
Keep unauthorized personnel away.
Stay upwind.
Keep out of low areas.

Clean up solid/liquid material carefully. Remove absorbent material to a chemical disposal area.

7. Handling and storage

7.1. Precautions for safe handling

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

Avoid contact with eyes and skin and inhalation of vapors, mists, and fumes. Avoid direct sunlight. Avoid heat, flames, sparks, and other ignition sources.

See section 2 for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities

Handle containers carefully to prevent damage and spillage.

Store in a cool dry place.

Incompatible materials: Avoid contact with strong oxidizers, strong alkalies, strong mineral acids, phenol and urea.

See section 2 for further details. - [Storage]:

7.3. Specific end use(s)

No data available.

8. Exposure controls and personal protection

8.1. Control parameters	**Exposure**
	Omitted for Test taking Purposes
	Carcinogen Data
	Omitted for Test taking Purposes
8.2. Exposure controls	
Respiratory	Not necessary where area is properly ventilated.
Eyes	Wear safety eyewear, e.g. safety spectacles, goggles or visors to protect against the splash of liquids.
Skin	Overalls which cover the body, arms and legs should be worn. Skin should not be exposed. All parts of the body should be washed after contact. Wear PVC or rubber gloves.
Engineering Controls	Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.
Other Work Practices	Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

9. Physical and chemical properties

Appearance	Yellow crystalline Powder
Odor	Pungent Aromatic
Odor threshold	Not Measured
pH	NA
Melting point / freezing point (°C)	NA
Initial boiling point and boiling range (°C)	77-79C 171-175F
Flash Point	64-67C 148-152F
Evaporation rate (Ether = 1)	NA
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	**Lower Explosive Limit:** 2.5% **Upper Explosive Limit:** 73%
Vapor pressure (Pa)	Not Measured
Vapor Density	Greater than 1
Specific Gravity	0.900-0.950
Solubility in Water	Not Measured
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature (°C)	Not Measured
Decomposition temperature	Not Measured
Viscosity (cSt)	Not Measured
VOC %	53%

9.2. Other information No other relevant information.

10. Stability and reactivity

10.1. Reactivity

Hazardous Polymerization will not occur.

10.2. Chemical stability

Stable under normal circumstances.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Dust generation, excess heat

10.5. Incompatible materials

Avoid contact with strong oxidizers, strong alkalies, strong mineral acids, phenol and urea.

10.6. Hazardous decomposition products

May form formaldehyde gas, chlorine, hydrogene chloride, carbon monoxide, carbon dioxide, and phosgene.

11. Toxicological information

Acute toxicity

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LD50, mg/L/4hr	Inhalation Dust/Mist LD50, mg/L/4hr	Inhalation Gas LD50, ppm
DICHLOROBENZENE - (106-46-7)	No data available	No data available	No data available	No data available	No data available
Paraformaldehyde - (30525-89-4)	592.00, Rat - Category: 4	10,000.00, Rat - Category: NA	No data available	1.10, Rat - Category: 4	No data available

Item	Category	Hazard
Acute Toxicity (mouth)	4	Harmful if swallowed.
Acute Toxicity (skin)	---	Not Applicable
Acute Toxicity (inhalation)	4	Harmful if inhaled.
Skin corrosion/irritation	2	Causes skin irritation.
Eye damage/irritation	1	Causes serious eye damage.
Sensitization (respiratory)	---	Not Applicable
Sensitization (skin)	1	May cause an allergic skin reaction.
Germ toxicity	---	Not Applicable
Carcinogenicity	2	Suspected of causing cancer.
Reproductive Toxicity	---	Not Applicable
Specific target organ systemic toxicity (single exposure)	3	May cause respiratory irritation.
Specific target organ systemic Toxicity (repeated exposure)	---	Not Applicable
Aspiration hazard	---	Not Applicable

12. Ecological information

12.1. Toxicity

Very toxic to aquatic life with long lasting effects.

Aquatic Ecotoxicity

Omitted for Test taking Purposes

12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Bioaccumulative potential

Not Measured

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects

No data available.

13. Disposal considerations

13.1. Waste treatment methods

Do not allow into drains or water courses. Wastes and emptied containers should be disposed of in accordance with regulations made under the Control of Pollution Act and the Environmental Protection Act.

Using information provided in this data sheet advice should be obtained from the Waste Regulation Authority, whether the special waste regulations apply.

14. Transport information

Omitted for Test taking Purposes

15. Regulatory information

Omitted for Test taking Purposes

16. Other information

This document is a **SAMPLE** of a Safety Data Sheet (SDS) some information has been edited and omitted for test taking purposes.

Appendix B. Hazardous Materials Report Form

NEW YORK STATE DEPARTMENT OF STATE
OFFICE OF FIRE PREVENTION AND CONTROL

HAZARDOUS MATERIALS REPORT FORM
(General Municipal Law, § 209-u)

The information entered herein is essential to your local fire chief for the protection of your employees, the fire-fighters and citizens in the immediate area, and to reduce damage to your property in the event of a fire or an emergency.

Every fire insurance policyholder, engaged in commerce in this state, is required by law to report the presence of hazardous materials at their business address.

Failure to file in accordance with the provisions of section 209-u of the General Municipal Law could result in a fine.

A separate report is required annually for each business address.

WHEN COMPLETED, THIS FORM MUST BE SENT TO YOUR LOCAL FIRE DEPARTMENT.

Hazardous Materials Location*

Firm Name _____ Street Add. Only _____

Bus. Add. _____ Bldg. Name or No. _____

City, State, Zip _____ City, State, Zip _____

Tel. No. _____ Policy Anniv. Date _____

Name
Emergency Contact _____ Bus. Tel. _____ Home Tel. _____

_____
(Signature and Title of Person Completing Form)

*It is suggested that a separate form be filled out for each building that contains hazardous materials.

EXEMPTIONS

Requests for exemptions from this law must be made in writing, attached to this form, and filed annually with your local fire department not later than the anniversary date of your policy.

All exemptions approved shall expire on the next policy anniversary date.

Exemptions denied shall require that the insured file a completed hazardous materials report form within 15 days of denial.

FOR FIRE DEPARTMENT USE ONLY

Exemptions: Approved _____ Denied _____ Additional Information Needed _____

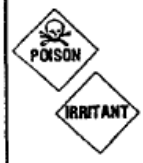
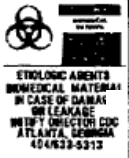
_____ _____
(Date) (Signature of Fire Chief)

_____ _____
(Fire Department Name and Address) (Print Name of Fire Chief)

New York State Department of State, Office of Fire Prevention and Control
DOS-0347 (12/02)

V Hazardous Material Listing (attach additional sheets if necessary)

Note: Definitions of symbols are on the second page of the instruction sheet.

Identifying Symbol	Material Description & Proper Shipping Name	Total Amount	Identifying Symbol	Material Description & Proper Shipping Name	Total Amount
					
					
					
					
					
					
					

VI Special Considerations/Remarks: