CONN-OSHA QUARTERLY

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Top Stories

Other Info

The Importance of Training Powered Industrial Truck Operators

By Lisa Kortfelt, Occupational Safety Officer

In 2023, the Bureau of Labor Statistics (BLS) reported 67 worker deaths associated with incidents involving powered industrial trucks (PIT). According to OSHA, forklift overturns are the leading cause of fatalities involving forklifts. Overturns accounted for about 25% of all PIT-related fatalities. See the Hazard Corner on Page 6 relating to a PIT overturn. A seatbelt is designed to keep you inside the PIT in case of a rollover. Often operators will try to jump clear or are thrown out of the PIT and get crushed between the forklift and other surfaces/materials, resulting in death or severe injury. In 2021 – 2022, there were 24,960 non-fatal powered industrial truck injuries reported. According to the National Safety Council, the top 5 causes of PIT injuries for 2021 – 2022 were contact with object/equipment, struck by an object, falls/slips/trips, struck against an object, and caught in object/equipment/material. By providing training and workplace evaluations, the rate of PIT fatalities and injuries can be significantly reduced.

Powered Industrial trucks (PITs) are mobile, power-propelled trucks used to carry, push, pull, lift, stack, or tier material. This includes, but is not limited to, forklifts, pallet jacks, and powered hand trucks. The best way to reduce fatalities and injuries involving PITs is to ensure operator training and evaluation of safe operation at the worksite. Each PIT has its own hazards, and an operator must be trained and evaluated on each PIT that they are tasked with operating prior to assigning work requiring PIT operation.

29 CFR 1910.178 - Powered Industrial Trucks requires employers to develop and implement a training program based on the general principles of safe truck operation, the types of vehicle(s) being used in the workplace, the hazards of the workplace created by the use of the vehicle(s), and the general safety requirements of the OSHA standard. Employees must be provided with documented training on all of the types of PITs that they will be operating. Trained operators must know how to do the job properly and do it safely. Prior to operating the truck in the workplace, the employer must evaluate the operator's performance and determine that the operator is competent to operate a powered industrial truck safely at their worksite.

Formal and practical training must be provided. An employer may not rely on the previous employer-provided PIT training. Employers must certify that each operator has received the training and perform an operator worksite evaluation on all PITs operated by each operator at least once every three years.

Continued on Page 2

PIT-related training topics would include, but are not limited to:

- Operating instructions, warnings, and precautions for the types of trucks the operator will be authorized to operate (to include use of the provided seatbelt)
- Differences between the truck and the automobile
- Truck controls and instrumentation: where they are located, what they do, and how they work
- Engine or motor operation
- Steering and maneuvering
- Visibility (including restrictions due to loading)
- Fork and attachment adaptation, operation, and use limitations
- Vehicle capacity
- Vehicle stability
- Any vehicle inspection and maintenance that the operator will be required to perform
- Refueling and/or charging and recharging of batteries
- Operating limitations

Worksite-specific training would include, but is not limited to:

- Surface conditions where the vehicle will be operated
- Composition of loads to be carried and load stability
- Load manipulation, stacking, and unstacking.
- Pedestrian traffic in areas where the vehicle will be operated
- Narrow aisles and other restricted places where the vehicle will be operated
- Hazardous (classified) locations where the vehicle will be operated
- Ramps and other sloped surfaces could affect the vehicle's stability
- Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation

Refresher training is needed whenever an operator demonstrates a deficiency in the safe operation of the truck. The training shall consist of a combination of formal instruction, practical training, and an evaluation of the operator's performance in the workplace (29 CFR 1910.178(l)(2)(ii)).
In addition to the required operator training and evaluations, the employer should ensure that workplace safety inspections are routinely conducted by a person who can identify hazards and conditions that are dangerous to workers. Hazards include obstructions in the aisle, blind corners and intersections, and forklifts that come too close to workers on foot. The person who conducts the inspections should have the authority to implement prompt corrective measures.

OSHA.gov has a Powered Industrial Truck (Forklift) eTool that specifically provides information on OSHA's Powered Industrial Truck requirements and industry best practices. The eTool has many helpful links that include “Developing your own training program” as well as “How workplace conditions can affect safe operation”.

Reducing the risk of Powered Industrial Truck incidents requires a safe work environment, a safe forklift, comprehensive worker training, and safe work practices.

Requesting a Consultation

To learn more or request your free consultation from CONN-OSHA:

Call us at 860-263-6900, or visit our webpage

Safety Cans and Flammable Liquid Containers: OSHA Requirements and Workplace Use

By Benjamin Stephens, Occupational Hygienist

Introduction

Safety cans and fuel containers are commonly used across general industry and construction worksites. However, confusion often arises regarding what constitutes an "approved" container, particularly under the Occupational Safety and Health Administration (OSHA) regulations. This article focuses on OSHA's General Industry Standard, 29 CFR 1910.106, and the Construction Standard, 29 CFR 1926.155. It clarifies definitions, requirements for container approval, flammable liquid classifications, and the proper use and handling of these containers in the workplace.

The early 20th century saw a surge in industrial accidents that galvanized public and governmental interest in workplace safety. Prior to the formalization of workplace safety standards, flammable liquids were commonly stored in open or poorly sealed containers, resulting in frequent fires and explosions. Manufacturers began to develop specialized containers with built-in safety mechanisms, including spring-loaded lids, flame arresters, and pressure-relief valves. These innovations marked the beginning of what would become standardized safety cans.

OSHA Definitions

OSHA defines several key terms in 29 CFR 1910.106:

- Container: "Any can, barrel, or drum" used to hold flammable or combustible liquids 29 CFR 1910.106(a)(29)
- Approved: "Listed or approved by a nationally recognized testing laboratory" (NRTL) 29 CFR 1910.106(a)(35)
- Safety Can: "An approved container, of not more than 5 gallons capacity, having a spring-closing lid and spout cover and designed so it will safely relieve internal pressure when subjected to fire exposure" 29 CFR 1910.106(a)(34)

The Construction Standard (29 CFR 1926.155(l)) adds that a safety can must also include a flash-arresting or flame-arresting screen.

OSHA Flammable Liquid Classification (29 CFR 1910.106(a)(19) and 1926.155)

OSHA classifies flammable liquids based on flash point and boiling point:

Category	Flash Point	Boiling Point	Examples
1	< 73.4°F	≤ 95°F	Ethyl ether
2	< 73.4°F	> 95°F	Gasoline
3	73.4–140°F	N/A	Paint thinner
4	140–199.4°F	N/A	Diesel fuel

Nationally Recognized Testing Laboratories (NRTLs)

NRTLs, as defined by OSHA in 29 CFR 1910.7, are independent organizations authorized to perform safety testing and certification. Two laboratories that test and certify safety cans are Underwriters Laboratories (UL) and FM Approvals (FM).

Flame-Arresting Screen Interpretation Letter

A key difference between the General Industry and Construction Standard safety can definitions is the flame-arresting screen requirement. While UL does not or did not mandate flame arrestors for certification, FM requires them, leading to distinctions between containers compliant under different NRTLs.

In an Enforcement Directive, OSHA clarified that the use of UL-approved safety cans without flame arrestors is considered a de minimis violation or an infraction without a direct relationship to safety or health and thus not subject to citation. However, removing a screen from a can designed with one by the manufacturer may result in a citation.

Continued on Page 4

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Design and Functionality of Safety Cans

Safety cans are typically constructed of steel or high-density polyethylene (HDPE) and feature a range of safety mechanisms. Flame arresters prevent external ignition sources from igniting vapor inside the can, while self-closing lids reduce the likelihood of spillage and vapor escape. Pressure relief features ensure that the can does not rupture under high internal pressure.

Two primary types of safety cans exist:
Type I and Type II. Type I cans have a single opening for both pouring and filling, whereas Type II cans feature separate openings and include metal flexible dispensing spouts. These variations allow for more precise control in specific applications, from laboratories to construction sites.

OSHA Color Coding and Identification (29 CFR 1910.144)

Safety cans for flammable liquids with a flash point at or below 80°F must be painted red, with either a yellow band or the name of the contents stenciled in yellow.

Industry best practice color coding for containers:

Color	Contents
Red	Flammable liquids (e.g., gasoline)
Yellow	Diesel fuel
Blue	Kerosene
Green	Oils

Container Size Limits

Under 29 CFR 1910.106(e)(2)(ii):

- Category 1 liquids: Max size = 2 gallons
- Category 2–4 liquids: Max size = 5 gallons

These limits apply to safety cans used in labs, maintenance shops, and other work environments.

Bonding and Grounding Requirements

For flammable liquids with flash points below 100°F, OSHA requires bonding and grounding during dispensing to prevent static discharge 29 CFR 1910.106(e)(6)(ii):

- Bonding connects the dispensing container and receiving container
- Grounding ensures both containers are at the same electrical potential
- Metal safety cans are naturally conductive
- High-Density Polyethylene (HDPE) safety cans can include internal conductive paths for grounding

Hazards of Consumer Fuel Containers

Improper use of consumer containers in the workplace poses serious hazards that include:

- Vapor release can cause flashback ignition
- Pressure buildup may lead to rupture or explosion
- Flame jetting or a sudden flame projection during pouring, especially near ignition sources

Only NRTL-approved safety cans should be used for handling flammable liquids in the workplace.

Conclusion

Safety cans are indispensable tools in the safe storage and handling of flammable liquids. Their development has been closely tied to the historical recognition of industrial hazards and the evolution of regulatory requirements. The use of NRTL-approved safety cans and proper work practices that include labeling, bonding and grounding, and the adherence to capacity limits play a vital role in reducing the risk of fire and injury in the workplace.

Fatality & Casualty Reporting

State & Town:

- **Report to CONN-OSHA**
- **(860) 263-6946**

Private Employers:

- **Report to Federal OSHA**
- **(800) 321-OSHA (6742)**

Virtual Training Schedule

Respiratory Protection *11/20/25*	Even though personal protective equipment should be used as a last resort for the protection of a worker, we do find ourselves having to utilize such protection. We will discuss the requirements of the OSHA Respiratory Protection standard, 29 CFR 1910.134, to help provide a better understanding. Required versus voluntary use will also be covered.
Intro to OSHA *12/11/25*	What is OSHA? Why are they here? What will they ask for? What gives them the right to…? These are questions that are often asked and during this session these questions will be answered. We will also address the topic of "Hazard Recognition" and what that should mean to you and the people that are close to your hearts which is the real reason to "work safe". The 10 most frequent citations issued last year and what they cost will also be covered.
OSHA Reporting and Recording Requirements *1/22/26*	The purpose of this workshop is to introduce the requirements and procedures related to OSHA Injury & Illness Recordkeeping, including the electronic reporting of injuries and illnesses requirements. The class will help develop skills to accurately report occupational injuries and illnesses. Resources and reference materials will be provided. If you are responsible for completing the documents required by this rule (OSHA 300, OSHA 300A and OSHA 301), or if you supervise the person that completes the forms, or if you are a safety committee member, this class is a must.
Fire Protection and Life Safety *2/5/26*	An introduction to the requirements of 29 CFR 1910 Subpart E - Exit Routes and Emergency Planning, and 29 CFR 1910 Subpart L - Fire Protection, will be covered. Topics include Emergency Action Plans, Fire Prevention Plans, and NFPA 101 Life Safety Codes. Details of the chemistry of fire, means of egress, detection and alarm systems, fire brigades, and emergency action and fire prevention plans will be discussed.
New England Roundtable *Every Wednesday of the Month*	Bringing business together to network and share ideas in the occupational safety and health community. The roundtable meetings are held from 9:00 am to 10:15 am every Wednesday. For more information on the New England Roundtable visit: oshaedne.com/roundtables

Visit this link for more info and to sign up.

Hazard Corner: Forklift Driver Pinned Under an Overturned Forklift Dies

Case Summary

A 46-year-old Hispanic male was killed when he backed an 8,670-pound, propane-powered Toyota Model 426FGCU25 forklift over the edge of a loading dock, which then overturned and landed on him. The dock plate had two standard guardrails on either side with a chain across the dock opening. There were no witnesses to the events prior to the incident or to the incident itself. The decedent was discovered when another employee traveling through the area noticed the forklift's lights shining on the wall and the truck's forks up and against the wall in the truck well. This employee summoned others to the area when he discovered the decedent pinned face down between the concrete floor and the overhead guard. Several employees manually lifted the forklift enough to move the decedent from under it. It is assumed that the forklift was traveling in reverse, because neither the forks nor the mast appeared bent, as would have been the case if he had been traveling forward and drove off of the dock edge. It is unknown if he jumped or was thrown from the operator's seat. 911 was called and paramedics pronounced him dead at the scene.

Recommendations for Prevention

- Employers should install drop-off protection capable of withstanding forklift impact on a loading dock entrance when the dock entrance is near a normal path of travel for a forklift or pedestrian.
- Employers should enforce employee use of the operator restraint provided by the forklift manufacturer (in this case, a seatbelt).
- If the truck is not transporting a load that obstructs forward vision, forklift operators should limit the distance that the truck travels in reverse.

Farewell to Anne Bracker

Anne Bracker will be retiring from state service on December 1. During her 15 years with CONN-OSHA, Anne has worked as a consultant in the public and private sectors and as the program manager for CONN-OSHA's private sector on-site consultation program. As program manager, she has overseen a team that helps small employers identify and control workplace hazards and prevent work-related injuries, illnesses, and fatalities.

Anne has devoted her career to protecting working people from occupational safety and health hazards. Before joining CONN-OSHA, Anne worked for the Division of Occupational and Environmental Medicine (DOEM) at UConn Health in Farmington, CT, and at Federal OSHA in Hartford, CT. During her 35 years in the field, Anne has conducted over 750 industrial hygiene surveys, and she has provided hundreds of workers, managers, and clinicians with occupational health education and training. She has had a special interest in emerging topics such as silica exposure during the fabrication of engineered stone countertops, heat illness prevention programs, metalworking fluid hazards, and control banding.

Anne has had a lifelong commitment to preventing injuries and illnesses in the workplace. Through her work as a health and safety consultant, a clinical industrial hygienist, and a compliance officer, she has focused on this health and safety goal. She has benefited from her collaboration with her talented CONN-OSHA colleagues and the employers, workers, and health professionals she has been privileged to work with.

Anne looks forward to new adventures and opportunities over the coming years. She plans to play her oboe, work as a volunteer in the national parks, and, most importantly, spend more time with her family. In addition, she would very much like to stay in touch with the health and safety community.

She will be greatly missed.