



# OH&S Safety Matters

## Additive Manufacturing

The emergence of new technologies, such as additive manufacturing (3D printing) is having a profound impact on the world of work.

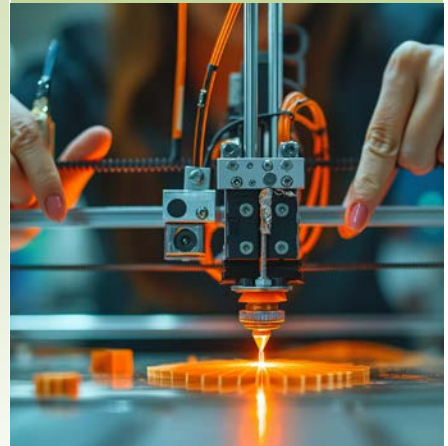
The evolution of 3D printing has seen a rapid growth in the number of companies adopting the technology. The applications and use cases vary across industries, but broadly include tooling aids, visual and functional prototypes — and even end-use parts.

Technically, additive manufacturing can refer to any process where a product is created by building something up, such as molding, but it typically refers to 3-D printing. Additive manufacturing was first used to develop prototypes in the 1980s — these objects were not usually functional. This process was known as rapid prototyping because it allowed people to create a scale model of the final object quickly, without the typical setup process and costs in creating a prototype. By the early 2000s, additive manufacturing was being used to create functional products.

To create an object using additive manufacturing, someone must first create a design. This is typically done using computer aided design, or CAD, software, or by taking a scan of the object you want to print. Software then translates the design into a layer-by-layer framework for the additive manufacturing machine to follow. This is sent to the 3-D printer, which begins creating the object immediately. Additive manufacturing uses any number of materials, from polymers, metals, and ceramics to foams, gels, and even biomaterials.

Engineers can print out prototypes, architects can make 3D models of their structures, and educators with access to a 3D printer can print out teaching aids. 3D printing is now transforming classrooms at every level, from elementary school to colleges that are offering 3D-printing courses. 3D printing can supplement a curriculum, increase problem-solving skills, and foster a more profound, foundational knowledge of complex subjects. How will 3D printing change and shape the future of continuing education.

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## Minor Spills Leaks and Releases

Minor Spills Leaks and Releases Level 1 Worker Response for general industry safety training is designed to provide general information to workers, members of joint safety committees, supervisors, and managers.

The scope of level 1 training is to convey particulars for responding to a minor spill, leak, or release, to discuss the applicable safe work procedures for protection of workers from minor spills, leaks or release of hazardous products in the workplace.

**The objective of level 1 minor spill training is to impart worker knowledge regarding:**

- The essential role spill response procedures play in protecting the health & safety of workers.
- Controlling spill incidents to minimise their effects and to limit danger to workers, the environment and property.
- Understand how spills may cause injury or illness.
- Strategies for removing and controlling hazards.
- Understanding environmental hazards of spills.
- Selection of hazardous spill PPE.
- Spill containment safe work practices.
- Use and selection of spill response containment and clean-up materials.
- Packaging and labelling of spill clean-up materials for disposal.

### Three levels of emergency

The term emergency is defined as an accidental situation involving the release or imminent



release of dangerous goods or other substances that could result in serious adverse effects on the health and/or safety of persons or the environment.

An emergency may be the result of man-caused or natural occurrences such as process upsets, uncontrolled reactions, fires, explosions, threats, structural failures, earthquakes, floods, and storms.

The emergency coding that defines the severity and potential impact of an emergency may be identified as follows:

- **LEVEL 1:** minor spills requiring an on-site worker to respond and take necessary collective actions.
- **LEVEL II:** intermediate level spills requiring response by on-site or off-site trained staff but posing no danger to the public.
- **LEVEL III:** a major incident beyond the resources of a single facility, where there are subsidiary problems to complicate the situation such as

fire, explosion, toxic compounds, and threat to life, property and the environment. Assistance will be required from local, regional, and/or provincial organizations.

**Prevention is by far the most effective way of reducing or eliminating the potential for a spill**, as well as impact mitigation to reduce the impacts should a spill occur. Development of spill prevention measures (product loss control) and mitigation measures (buffer-zones, dangerous goods transportation corridors, land-use plans) are separate endeavours to a response plan and are beyond the scope of this safety training program.

The emergency response plan will identify the operational methods to manage an accidental spill or emission, as well as, and the location, capability, and limitations of equipment to be used.

Spills of hazardous substances must be absorbed, neutralized or controlled at the time of the incident in order to maintain workplace safety. Depending on the severity of the spill, it may be important to first control the spread of the product.

Containment berms are used to keep liquids confined. Once the spill has been properly contained, the next step is to work on cleaning it up.

To assist workers in the best choice of PPE for spill clean-up of hazardous products they are most likely to encounter, four levels of chemical risk have been determined. These levels range from unknown or highly hazardous, which requires complete protection, to non-hazardous, which requires basic work attire only.

Despite our best efforts, spills happen and when they do, it makes sense to respond to them as carefully and efficiently as possible. For many minor spills, you may be able to safely clean them yourself.

A minor spill is defined as one that:

- does not spread rapidly,
- does not endanger people or property except by direct contact, and
- does not endanger the environment.

Site-specific, written procedures that reduce the exposure must be readily available to workers. Safe work procedures must be site specific and they are to be task specific. Instruction and training of workers is necessary.

The Minor Spills Leaks and Releases Level 1 general industry safety training can be delivered in a 4:00 hour content format (inclusive of written exam) with a 15 minute nutrition break.

Upon successful completion a certification card will be issued with a 3 year validation period.

*Get Your Instructor Certification so that you can deliver more effective training !*



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## Crossword Puzzle Answers

Here are the answers to the February Safety Matters Crossword Puzzle.

### Ladder Safety

#### Across

2. Rungs
3. Marking
7. Extension
9. Fly
11. Mobile

#### Down

1. Ladder
2. Rail
4. Arms
5. Feet
6. Stepladder
8. Platform
10. Pitch

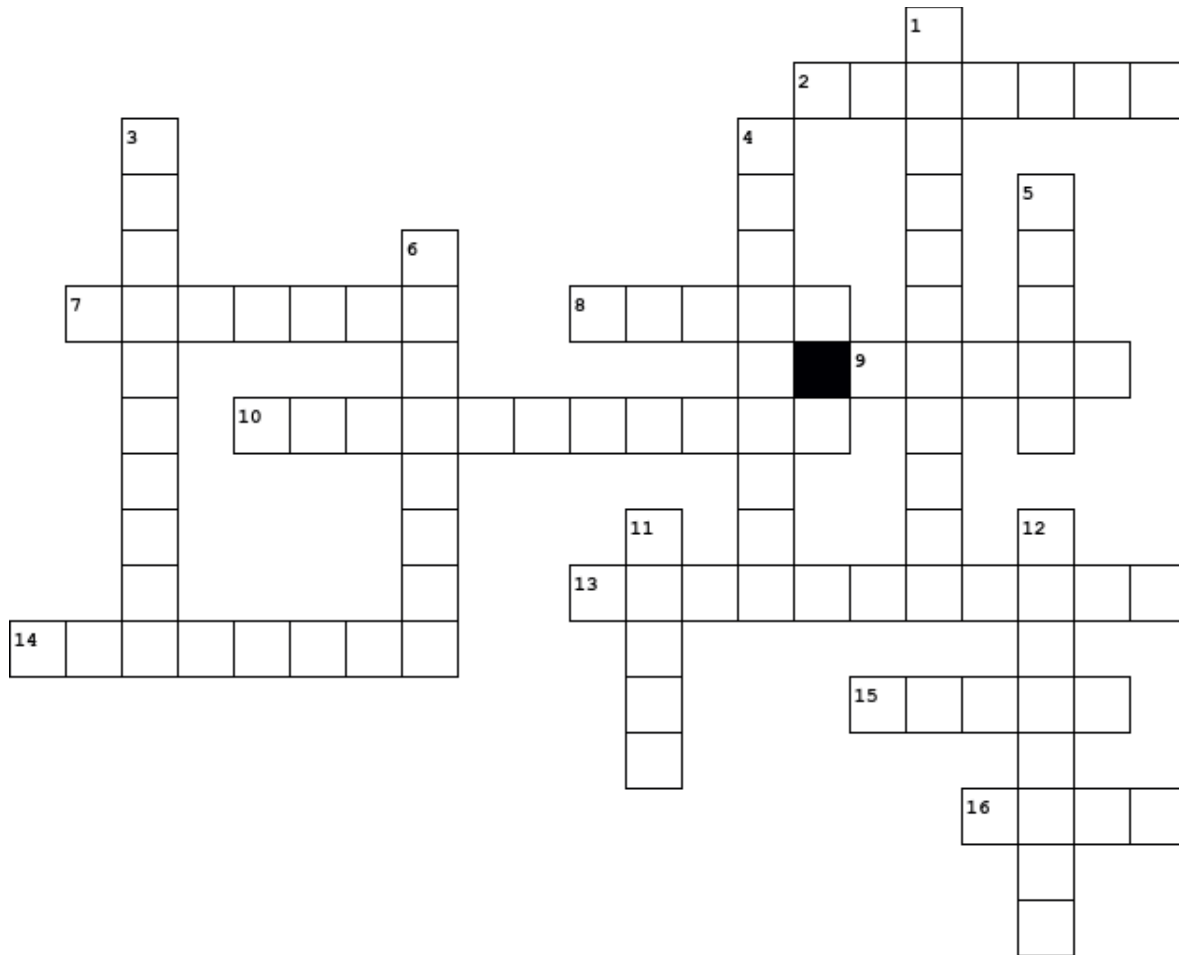
Upcoming challenge solve **Minor Spills Crossword Puzzle on the next page**  
**Play Now!**





## Minor Spills Crossword

The OHS Registry *Safety Matters* crossword puzzles are ideal for people who love words, general knowledge, and testing their problem-solving skills. So, what are you waiting for? Print the puzzle to play now !



**Clues for the Minor Spills Crossword Puzzle**

Select a clue from the 'across' or 'down' lists. Think up possible answers to the clue.

Each across and down clue is assigned a unique number. This number corresponds to the number for its answer in the grid. Words in the crossword puzzle will cross each other, this is the source of inspiration for the name of the game, crossword!

Who can complete the crossword challenge. Save your progress, the correct answers to the crossword challenge will be revealed in the next issue of *Safety Matters*

**Across**

2. The removal and treatment of hazardous substances, and the contaminated materials generated by a spill incident. This process can include barriers and berms, the use of sorbents or vacuums.
7. Is any spilling, leaking, emitting, or emptying that allows a harmful substance to enter the environment.
8. Is a discharge into the environment, from or out of a structure, vehicle or other container, that is accidental, abnormal or an inadvertent release of a pollutant from or out of a man-made container
9. A cistern or vault at the point where a pipe from inside a factory or a street gutter discharges. It's used to catch sediments for contaminant retention.
10. Those elements, compounds, or mixtures that dissolve, emulsify, neutralize, or otherwise mitigate the adverse effects of a pollutant on the environment.
13. The process of preventing the spread of contaminants beyond the area where it has been spilled to minimize pollution.
14. To restore, enhance, or maintain the functional characteristics and processes.
15. Refers to the size of a spill involving a quantity small enough that the emergency spill kit materials available are sufficient to contain and clean-up the spill.
16. A raised shoulder or dike around a tank or tank farm, providing a reservoir should any substances be discharged from the tanks.

**Down**

1. Also known as cleanup, remediation is the action taken to reduce, isolate, or remove contamination from an environment with the goal of preventing exposure to people or animals.
3. A survey to collect information about the type and degree of contamination, and spill-specific physical processes. Data is collected to provide recommendations to maximize recovery, and minimize risk.
4. Any material entering the water which is not a normal part of the local environment, or which is in a concentration that is not normal to the local environment.
5. This term is used for the state of matter or form of a material that has been spilled and can be cleaned up by dry sweep or vacuum.
6. All actions taken in carrying out responsibilities to spills such as receiving and making notifications; information gathering and technical advisory phone calls; direction of cleanup activities; damage assessments; report writing.
11. Though they are called this, these are not items that you wear, instead they are absorbent and used for spill control.
12. In spill cleanup, the entire process of any operation contributing to the physical removal of spilled materials from land, or water.

# The potential for violence is real

Some people are just not at their finest these days, and employee abuse at the hands of customers is on the rise in workplaces.

Customers may be experiencing feelings of anxiety, frustration and fear that have been building for weeks as they walk into your workplace. Under these kind of circumstances, even a neutral comment - "Would you like me to provide you with assistance?" could trigger an aggressive reaction.

Workplaces need to be prepared to deal with aggression before something happens. Update your workplace violence policy and risk assessment, develop new action steps, and train frontline supervisors and workers so they have the skills and knowledge to de-escalate a situation or get some help.

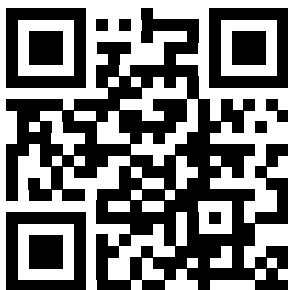


Instances of violent individuals and repetitive prolific offenders putting employees in physical danger is on the rise. It may just be an expression of frustration or fear, but that doesn't make the potential for violence less real.

While workplaces can't manage how their visitors or customers may feel, they can put measures in place to protect employees. So invest in safety precautions.

### For more Information

Point your smartphone camera at this QR code and take a picture to be redirected to the OH&S Registry Website. [www.ohsregistry.com](http://www.ohsregistry.com)



Head Office 825 – B Laval Crescent Kamloops, BC V2C 5P2  
Western Region [ph: 778.957.6407](tel:778.957.6407) Eastern Region [ph: 647.250.7646](tel:647.250.7646)



### 2024 e-Catalogue is Available

Are you ready to tap into a wider network of training programs. Get access to 100% of the OH&S safety training programs by simply sending an e-mail and asking for a FREE copy of the OH&S training course library!

[info@ohsregistry.com](mailto:info@ohsregistry.com)

## Staying in Touch

We want you to be aware that you always have the opportunity to opt-out from receiving OH&S Registry electronic communications. To opt-out, simply call the OH&S Registry at 778.957.6407 or email [markh@ohandscanada.ca](mailto:markh@ohandscanada.ca) and ask to be taken off the OH&S Registry Membership email list.

The OH&S Registry will never sell or rent your email address and should you decide that you no longer want to receive further electronic communications we will accommodate your decision to "unsubscribe".

We trust you will choose to continue to receive the *OH&S Safety Matters* newsletters and other promotional materials so you can stay up to date on new programs, best practice tips, and other OH&S Registry news.

We appreciate your business, and look forward to working with you to achieve your safety training goals. Thank you for being a subscriber!