

Farm slurry safety

Purpose:

To promote safe working practices when working with or near slurry

Why:

To highlight the risks of slurry to help prevent serious incidents such as drowning, being overcome by toxic gases or injury from collapsing structures

TIAH Capability Framework area:

This aligns with the knowledge and skills in the Health and Safety area.

<https://tiah.org/tiah-capability-framework>

Talk leader instructions:

- Prepare to do the talk in a suitable/quiet location with no distractions
- Consider using some of the resources as part of the talk, e.g. showing a video
- Engage with participants, ask questions and give everyday examples
- Conclude with a brief review
- Get everyone to sign the form. Make sure to write the name of the farm and the date. Keep a copy in your Health and Safety records
- Ensure all participants have access to a copy of this document to refer to once the session has finished. This could be electronic and emailed or printed

Notes:

Background

Incidents involving slurry happen regularly on British farms. These include drowning from falling into slurry or liquid stores, being overcome by gases, or injury from collapsing structures. These incidents don't just happen to people who work on farms but also to members of the public and even animals.



Important: Only fully trained and competent staff/contractors should work with slurry.

Main learning points 9 minutes

Slurry contains a mix of noxious gases including methane, carbon monoxide, ammonia and hydrogen sulphide. Some gases are flammable, others are toxic and some cause asphyxiation as they displace oxygen.

These gases are always present and are released in higher levels when the slurry is disturbed, such as when using an agitator, a pump or emptying a store.

As soon as mixing starts, gas is released quickly and in large quantities. **The first 30 minutes** are the most dangerous so you must get away from the shed/mixing area immediately.



Q: How long should you stay away from the shed/mixing area after slurry mixing starts?

Response should be: **At least 30 minutes.**

Sometimes gases are released further away from where you're working, which can cause harm to others, so you must let others know when you are planning to work with slurry and ask them to stay well away.

These gases are also unpredictable, for example, agitation can suddenly cause an increase of high concentrations of hydrogen sulphide.

Q: What are the symptoms caused by hydrogen sulphide exposure?

Responses might include:

- Nausea
- Disorientation
- Unconsciousness
- Death

Hydrogen sulphide smells like rotten eggs, but in high concentrations you can't smell it and exposure to it can be fatal. It collects in poorly ventilated areas or enclosed spaces such as farm buildings, storage tanks and slurry pits or towers.

Slurry can also release more gases more rapidly if you add other substances to it such as silage effluent or if gypsum, including plasterboard waste comes into contact with it, so HSE recommend that gypsum products should not be used in animal bedding systems where it might be scraped into slurry stores.

Notes:

Be gas aware

Many accidents involve fatalities to rescuers as they can be overcome by gases too.

Important:



Never assume the gas levels will be safe for humans or animals. Before starting work, make sure to plan the job, assess the risks and decide on appropriate safety measures with your supervisor.

Never rely on facemasks, gas monitors or gas metres at the start of mixing, as a substitute for a safe method of working.



Remember:

Each time the pump is moved or is changed to mix another part of the tank, gases will be given off again. Stay out of the building or away from the area for at least another 30 minutes.

In an emergency

- Contact emergency services by dialling 999 but let them know that you're working with slurry so they can bring the right protective equipment
- If it's safe to do so, stop the pump or agitator
- If someone's overcome, try to get them away from the source as quickly as possible but **never put yourself in danger**

Optional: Watch this 5-minute video where farmer Alex Walker talks about his experience after being overcome by slurry gas.

<https://www.youtube.com/watch?v=77SXmVO4JJQ>

Maintenance

The collapse of both concrete and metal slurry towers have occurred on farms causing injury to workers. This can be avoided if facilities are regularly checked.

If you spot any of the following signs, you should report them immediately to your supervisor:

- Leaks
- Bowing or cracking on the outer skin
- Deterioration around the joints
- Signs of flaking concrete or rust staining
- Corrosion on the surface or underside of concrete slats and concrete covers to pits



There are also certain precautions you can take to ensure that storage facilities are well-maintained.

Q: What do you think these could be?

Responses might include:

- Checking the integrity and tension of fencing and gates
- Checking there are no small gaps at the bottom of fences or gates that a child could crawl through
- Checking that any swing flaps are in good condition and securely attached
- Keeping gates securely closed (with child resistant locks or latches) except during scraping or emptying
- Not stacking anything against the fence, wall or an above ground tank, that someone could climb over
- Not leaning any equipment against fencing that could cause it damage and potentially create easy access through the fence
- Removing ladders to tanks when not in use

Suggestions/ ideas:

Notes:

Discussion points 10 minutes

Discussion points:

Q: What safety precautions can you take to help keep you and others safe when working with slurry?

Responses might include:

- Always work with slurry on a breezy day or check with your supervisor that there's an effective ventilation method in place
- Ensure that everyone on the farm knows when you're working with slurry and understands the dangers to help keep them safe too. That includes visitors and contractors. Suitable warning signs can help with this
- Ensure livestock are moved out of slatted buildings or buildings with slurry stores – gases can kill livestock too
- Check that no one is in buildings connected to slurry storage systems before you start any work
- When mixing, make sure you and others aren't standing over mixing points, pits or other areas where gas might escape (such as slats) – even if outdoors
- Cover mixing points and reception pits in case you or someone else falls in
- Some slurry gases are flammable so avoid anything that can cause a spark or flame such as welding and avoid smoking
- Never enter a slurry tank or storage system. Only those that have received highly specialised training including the use of air-fed respiratory protective equipment (RPE), a harness and lifeline can do so

Drowning in slurry lagoons and other similar areas has resulted in many fatalities. Children and drivers of scraper tractors are particularly at risk.

Q: What other precautions can farmers take to help reduce the risk of accidents and fatalities?

Responses might include:

- Installing walls or child-deterrent fences to prevent unauthorised people (including children) and livestock from entering the area
- Completely covering underground stores such as reception tanks when they're not in use
- Ensuring covers can withstand heavy traffic loads such as cattle or vehicles
- For underground stores ensuring there are no gaps greater than 75mm
- Securing extraction pipes in position so they can't fall into the pit
- Installing suitable warning signs on or close to the covers – e.g., 'no access for unauthorised persons'
- Providing a tractor stop barrier on the scraping ramp

Suggestions/ ideas:

Download the information leaflets below for further information on:

- Slurry mixing safety
- Perimeter protection
- Scraping points/ramps
- Maintenance of stores



HSE – Managing slurry on farms: <https://www.hse.gov.uk/pubns/ais9.pdf>

Hseni - Slurry gas – mixing slurry safely: <https://www.hseni.gov.uk/publications/slurry-gas-mixing-slurry-safely>

Summary/Wrap-up

 1 minute

In summary all workers should be aware of the risks of slurry, even if not directly working with it. You must also know what precautions to take to help keep you and others safe and what to do in case of emergency.

Resources:

Yellow Wellies: Working with slurry: <https://www.yellowwellies.org/working-with-slurry/>

AHDB: Slurry Stores: health and safety: <https://ahdb.org.uk/knowledge-library/slurry-stores-health-and-safety>

GOV.UK: Storing silage, slurry and agricultural fuel oil: <https://gov.uk/storing-silage/slurry-and-agricultural-fuel-oil>

GOV.UK Helping farmers get ready for winter with slurry storage support:
<https://environmentagency.blog.gov.uk/2024/07/16/helping-farmers-get-ready-for-winter-with-slurry-storage-support/>

HSE: Managing slurry on farms: <https://www.hse.gov.uk/pubns/ais9.pdf>

hseni: Working safely with slurry: <https://www.hseni.gov.uk/articles/slurry-working-safely-slurry>

hseni: Slurry Gas: Mixing slurry safely: <https://www.hseni.gov.uk/publications/slurry-gas-mixing-slurry-safely>

Farmers Guide: The health and safety considerations when managing slurry:
<https://www.farmersguide.co.uk/business/farm-safety/health-and-safety-considerations-when-managing-slurry/>

Agriland (video): Top safety tips when working with slurry: <https://www.youtube.com/watch?v=U1BvrCAVSIQ>

CXCS: Health and Safety Tips: Mixing Slurry: <https://cxcs.co.uk/agriculture/blog/health-and-safety-tips-mixing-slurry/>

Toolbox Talk participants

Toolbox Talk: **Farm slurry safety**

Name of farmDate

Talk leader name.....

Name	Signature	Date