

**ENVIRONMENTAL  
LIABILITY:  
CONTAMINATED  
LAND**

**RISK DIRECTORY  
2021/2022**



# ENVIRONMENTAL LIABILITY: CONTAMINATED LAND RISK DIRECTORY 2021/2022

## INTRODUCTION

**Environmental liability usually arises out of the legal obligation to rectify environmentally damaged or polluted surroundings. It is often based upon the principal that the polluter pays, i.e. those that cause pollution are responsible for the clean-up costs. Additional liabilities can also arise from civil action and criminal fines. Pollution can be defined as ‘the introduction or presence of harmful substances or products into the environment, which because of their properties or quantity, cannot be absorbed by the ecosystem’**

Environmental pollution can affect land, water or air, or a combination of these. Pollution can be either sudden or gradual. Sudden pollution can be caused by a single act, event or emission, such as the toxic sludge spillage by MAL Zrt in Hungary in 2011. Gradual pollution takes place over a period of time and consists of numerous or continuous events. An example would be a leaking oil tank that may only release low levels of pollutant but cause significant cumulative damage.

This guidance seeks to provide details of how land can become contaminated, key legislation, risk reduction and control measures and land remediation methods.

# LAND CONTAMINATION



In order for pollution to occur all three of the following must be in place:

- **Source**, such as a hazardous substance.
- **Pathway**, i.e. the route the source takes to the receptor.
- **Receptor**, i.e. that which is harmed by the source.

Example sources of land contamination include:

SOURCE	POLLUTANT	EFFECT
Metal working sites, mines, iron and steel works	<b>Toxic metals, such as cadmium, lead and mercury</b>	Harmful to human health if ingested directly or indirectly
Scrap yards, breakers' sites, shipbuilding	<b>Other metals, such as zinc, copper and nickel</b>	Can restrict or prevent the growth of plants
Power stations, railway land, gas works	<b>Combustible substances, such as coal and coke dust</b>	Potential for underground fires
Chemical works, refineries, tar distilleries	<b>Oils and tar</b>	Contamination of water supplies
Industrial buildings and waste disposal sites	<b>Asbestos</b>	Harmful to human health if inhaled

Examples of land contamination pathways include:

- Direct contact with contaminated soils.
- Uptake by crops and subsequent ingestion by animals and humans.
- Transfer through soils and plastic pipes into drinking water supplies.
- Migration into ground and surface water.
- Permeation of gases through soils.

Examples of receptors include people, animals, plants, ecosystems and controlled waters.

## KEY LEGISLATION

This includes:



### ENVIRONMENTAL PROTECTION ACT 1990 (AS AMENDED)

The legislation consists of several parts, relevant elements of which include:

- A definition of contaminated land as:
  - 'any land which appears to the local authority in whose area it is situated to be in such a condition, by substances in, on or under the land, that:*
    - *significant harm is being caused or there is a significant possibility of such harm being caused, or*
    - *significant pollution of the water environment is being caused or there is a significant possibility of such pollution being caused.'*
- A scheme for the identification and compulsory remedial action of contaminated land by the appropriate person. There are two classes of appropriate persons:

**Class 'A' Persons**      Those who caused or knowingly permitted the pollutant(s) to be in, on or under the land.

**Class 'B' Persons**      The current owner(s) or occupier(s) of the land.

If the enforcing authority cannot identify a Class 'A' person, a Class 'B' person may become liable for the remediation of the site.

- Prescribing and setting limits on certain processes and substances. The operation and use of prescribed processes and substances is prohibited without approval.
- Providing a set of criminal offences concerning litter.

It should be noted that parts of this legislation have now been superseded or implemented via further legislation, for example the scheme for the identification and compulsory remediation of contaminated land in England is covered by the Contaminated Land (England) Regulations 2006 (as amended).



## ENVIRONMENTAL PERMITTING REGULATIONS (ENGLAND AND WALES) 2016 (AS AMENDED)

The Regulations define those activities requiring an environmental permit or registration of exemption before they can be undertaken in England and Wales. Full details of activities covered are available here:

[CLICK HERE](#)



Whilst similar duties apply in Scotland and Northern Ireland, environmental permits are referred to as pollution prevention and control (PPC) permits.

## ENVIRONMENTAL DAMAGE (PREVENTION AND REMEDIATION) (ENGLAND) REGULATIONS 2015

These Regulations, which are applicable in England only, implement the principle of the polluter pays. Similar legislation is in place in Wales, Scotland and Northern Ireland, and are available here:

[WALES](#)



[SCOTLAND](#)



[NORTHERN IRELAND](#)



The Regulations only apply in respect of pollution which occurred since 1st March 2009 when the original legislation was introduced and in relation to operators of defined activities contained within Schedule 2. The list of defined activities can be viewed here:

[CLICK HERE](#)



The Regulations specifically define 'environmental damage' as:

*'... damage to:*

- a) protected species or natural habitats, or a site of special scientific interest,*
- b) surface water or groundwater,*
- c) marine waters, or*
- d) land.'*



Under the Regulations, operators of an activity must take all practicable steps to prevent damage where there is an imminent threat and notify the appropriate enforcing authority. The enforcing authority can serve notice on the operator detailing the measures required to prevent damage and the timescales for completion. Where environmental damage has already been caused, the operator must take all practicable steps to prevent further damage, and again must inform the relevant enforcing authority who may serve notice on the operator to prevent further damage.

All investigations into the cause and extent of the environmental damage are to be undertaken by the enforcing authority. If the damage is deemed to be environmental damage, the operator will be notified. The operator must then submit proposals for the remediation of the environmental damage to the enforcing authority, including timescales. A remediation notice is then served on the operator, specifying: the damage; remediation measures; time period for the remediation measures to be taken; whether any ongoing monitoring or investigations are to be undertaken; and the right to appeal against the notice. Further remediation notices may be served if necessary.

The Regulations stipulate three types of remediation:

<b>Primary Remediation</b>	Any remedial measures which return the damaged area to the condition it would have been had the damage not occurred.
<b>Complementary Remediation</b>	Consists of measures, including at alternative sites, where primary remediation does not fully reinstate the damage caused.
<b>Compensatory Remediation</b>	Consists of measures to compensate for the loss of natural resources or impaired services from the date of damage until remediation has achieved its objective.

Persons found guilty of an offence under these Regulations are liable to fines and/or imprisonment, up to a maximum of two years. Where a body corporate is found guilty, negligent responsible persons of that body corporate can also be found guilty.



## CONTROL OF POLLUTION (OIL STORAGE) (ENGLAND) REGULATIONS 2001

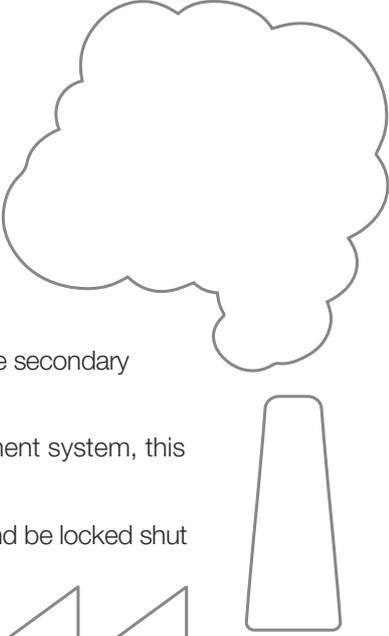
These Regulations relate to bulk storage of oils in excess of 200 litres on industrial and commercial premises in England. Similar legislation applies in Scotland and Northern Ireland but not Wales.

The requirements include:

- Oil should be stored in a sufficiently strong container.
- There must be a secondary containment system, or bund.
- Any valves, filters or similar devices must be located within the secondary containment system.
- Where a fill pipe is located outside the secondary containment system, this must be provided with a drip tray.
- Taps and valves on mobile bowsers to be fitted with a lock and be locked shut when not in use.

It should be noted that the Regulations do not apply to the storage of waste oil or storage within buildings.

All existing environmental legislation in Great Britain (England, Scotland and Wales), has been retained under the European Union (Withdrawal) Act 2018, but reference to the European Union has been removed from individual pieces of legislation where appropriate.

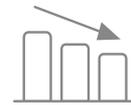


**ESTIMATED TOTAL  
CLEAN-UP COSTS FOR  
UK CONTAMINATED LAND  
IS UP TO £20 BILLION**



# RISK

## RISK REDUCTION AND CONTROL MEASURES



**The storage and transportation of potentially polluting substances in tanks, drums, pipes etc. should be subject to strict controls. Examples of good practice include:**

- Minimising the use and storage of potential pollutants.
- Locating bulk storage facilities away from areas vulnerable to environmental damage.
- Whenever possible, avoiding underground storage and pipework, as leaks can be difficult to identify and repair. Where these cannot be avoided, regular monitoring of contents should be undertaken.
- Providing secondary containment facilities, such as bunds, double-skinned tanks etc. Secondary containment should have a minimum capacity of 110% of the total tank volume. Where there is more than one tank in the same bund, the bund should have a capacity of 110% of the largest tank, or 25% of the total capacity of all tanks, whichever is greater.
- Labelling receptacles with their content and capacity.
- Conducting regular inspections and planned preventive maintenance.
- Supervising all deliveries. These should take place away from the surface water drains. Catch pits with isolating valves may need to be fitted at the delivery point. Automatic cut-off valves and alarms can also be fitted to delivery points to prevent over-filling.
- Considering the use of non-interchangeable colour-coded connections or pipework.
- Ensuring good levels of site security, such as perimeter fencing, CCTV, intruder alarms, lockable valves etc.



## POLLUTION INCIDENT RESPONSE PLANS

The environmental impact of leaks and spills can be minimised if effective measures are undertaken. A Pollution Incident Response Plan would normally address all environmental impacts, not only those relevant to land contamination.

Areas to consider as part of the plan include:

- Emergency contact details.
- Inventory and location of potential pollutants.
- Site layout.
- Site drainage plan.
- Location of emergency response equipment, such as drain covers and spill kits.
- Emergency procedure protocol.
- Incident reporting procedure (including emergency services).

It is recommended that environmental site surveys be undertaken prior to land acquisition or occupation.

THERE IS OVER  
**400,000**  
HECTARES OF  
CONTAMINATED LAND  
IN THE UK

# LAND REMEDIATION METHODS

There are a variety of methods available to remediate contaminated land.

These include:

- Removal of contaminated soil.
- Covering contaminated land with barren soil.
- On-site remediation.
- Remediation by reducing bioavailability.

## REMOVAL OF CONTAMINATED SOIL

This involves the removal of all contaminated soil from a site, which can then be either sent to landfill, or cleaned by thermal or chemical means. This is an expensive solution and is usually only used for small areas of contaminated land.

Soil cleaning methods include:

- Superheated steam to remove hydrocarbons and organic micro pollutants.
- Incineration, to leave ash and mineral particles.
- Washing with selected extractants to remove the pollutant.

These methods destroy the soil's organic matter, which will require time to redevelop.

## COVERING CONTAMINATED LAND WITH BARREN SOIL

A layer of clean soil is applied over the contaminated soil, usually to a depth of at least one metre. A plastic membrane separates the clean and contaminated soil.

This method prevents contaminated soil being displaced by wind and water and allows plants to grow on top of the contaminated land. However, it is expensive to transport large quantities of clean soil, and it is not considered to be a long-term solution.

## ON-SITE REMEDIATION

This method involves treatment of the contaminated land on-site and prevents the need for transportation. Treatment methods include:

- Irrigation of the soil by chemical reagents, with contaminants removed via an underground drainage system.
- Use of cultures to decompose organic pollutants.

These methods are relatively inexpensive but can be slow.

## REMEDICATION BY REDUCING BIOAVAILABILITY

This is widely used where the contaminated land contains metals. This can be achieved by liming soil to a pH value of 7 or more, which immobilises metal contaminants.



## GRIFFITHS & ARMOUR RISK MANAGEMENT SERVICES

Risk management is a cornerstone of Griffiths & Armour's proposition. Simply put, good quality risk management practices lead to fewer incidents and claims, which in turn help minimise premium spend and retained costs. Our guiding principles for risk management are innovation, practicality and focus on your desired end result, which can be anything from premium reduction to legal compliance. This, coupled with our core belief that you should get the very best we have on offer from day one, ensures a strong partnership based on communication, trust and transparency. Specialisms include:



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**BUSINESS CONTINUITY AND SUPPLY CHAIN**



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If you would like to discuss any of these risk management services please contact us on 0151 236 5656 or by [email](#).



## ACKNOWLEDGEMENTS, REFERENCES AND RECOMMENDED FURTHER READING

- Environmental Management Systems - ISO 14001 - BSI: <https://www.bsigroup.com/en-GB/iso-14001-environmental-management/>
- Environmental Permitting - Core Guidance for the Environmental Permitting (England and Wales) Regulations 2016
- Gov.UK: <https://www.gov.uk/government/publications/contaminated-land-statutory-guidance>

## LEGAL NOTICE

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**SUPPORTIVE**

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**PERSONAL**

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**PROACTIVE**

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**RELIABLE**

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& that's the difference