



**ENVIRONMENT  
AND HERITAGE  
SERVICE**

# **THE GROUNDWATER REGULATIONS (NORTHERN IRELAND) 1998**

**DOE (NI) GUIDANCE NOTE 2**

**Disposal of List I and II Substances to  
Land: General Guidance on Compliance**

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#### 1. Background

Groundwater is of increasing importance as a source of good quality drinking water, as well as a vital component of the wider aquatic environment. Groundwater and surface water are interlinked and pollution of one can affect the quality of the other. Groundwater therefore needs to be protected. There is concern that the incorrect use and disposal of certain substances, including, for example, agrochemicals, solvents, petrol and hydrocarbon based fuels, could lead to the pollution of groundwater.

**“Groundwater” means all water which is below the water table.** Groundwater is present, at various depths, in all land throughout Northern Ireland.

To provide additional protection for groundwater the Government has introduced The Groundwater Regulations, which came into force on 1 January 1999. The Regulations require that disposal (and tipping for the purpose of disposal) of List I and II substances to land be subject to a formal system of authorisation.

The regulations will be implemented in Northern Ireland by Environment and Heritage Service, an agency within the Department of the Environment for Northern Ireland.

## 2. **Activities likely to require authorisation**

Any acts of disposal, or tipping for the purpose of disposal, of List I or List II substances which could result in these substances either directly or indirectly entering groundwater, will be covered by the Groundwater Regulations. This includes the disposal of List I and II substances to land by surface application. The presence of List I and II substances in a waste can be checked with reference to Annex 1.

Under the Regulations, a higher level of control is required for List I substances. The disposal of List I substances will only be authorised if the disposal will not lead to the substances entering groundwater. The disposal of List II substances will only be authorised if the disposal does not lead to the pollution of groundwater.

Any such disposal activity which has been carried out without an authorisation is a criminal offence, and as such, will be subject to the Department's enforcement policy under the Regulations.

Certain activities do not require authorisation:

- **Discharges to the underground stratum** subject to **consent under the Water (Northern Ireland) Order 1999.**
- **Sewage sludge** applied to land in accordance with the **Sludge (Use in Agriculture) Regulations (Northern Ireland) 1990.**

- Discharges subject to **authorisation under the Industrial Pollution Control Order (Northern Ireland) 1997.**

### **3. Do you require authorisation?**

Yes; if you intend to dispose of List I and II substances to land, an authorisation is required. Only one authorisation is required to cover multiple disposals at different areas within a site.

If the waste being disposed of contains List I and II substances in a quantity and concentration so small so as to obviate any present or future deterioration in groundwater quality, an authorisation is not required. This could be the case, for example, if the concentration of a substance was less than the drinking water standard for that substance. Dilution to achieve this condition is impractical in all but exceptional cases.

**An application form is available from:**

**Environment and Heritage Service  
Water Management Unit  
Calvert House  
23 Castle Place  
Belfast  
BT1 1FY**

**Please retain this guidance note and refer to it when making an application.**

**If you are a farmer, or grower, you should refer to Guidance Note 1.**

## 4. Choosing a site

Before complete the application form, the area of land to be used for disposal must be assessed to ensure that the land is suitable for the disposal of List I and II substances and there is no risk of entry of the chemicals into groundwater.

Particular care must be taken in selecting disposal sites.

### **Suitable sites should be :-**

- Under grass or stubble
- Flat or gently sloping (a slope of less than 1:5 or 20% or 11°)
- At least 10m from rivers, streams or open drains
- At least 50m from any spring, well or borehole
- At least 500m from a drinking water supply
- Moderate or free draining soil at least 0.6m (2 ft) deep
- On loamy, clay or peaty soils with a pH of 5.0 – 7.5

### **Don't choose sites which are: -**

- ❖ Under setaside, lying fallow or which are within 10 m of a public path.
- ❖ Steeply sloping
- ❖ Close to rivers, streams, open drains, springs or boreholes
- ❖ Well drained or have sandy, gravelly, free draining soil
- ❖ Within areas designated for nature conservation (e.g. ASSIs)
- ❖ On shallow soils overlaying limestone or gravel

## **5. How do you apply for authorisation?**

The application form must be accompanied by a 1:10,000 scale map of the property showing the boundary of the area(s) marked in red, on which disposal is proposed.

On completion of your application form, return it to Environment and Heritage Service (EHS) with a copy of your map. It may be necessary for EHS to undertake site visits in response to some applications to verify the information contained within them.

It should be noted that EHS may require a more detailed hydrogeological assessment to be submitted in support of the application.

## **6. When do you apply?**

Applications for authorisation can be made to EHS immediately. Applications made before 1 April 1999 will be treated as authorised on 1 April 1999 if they are valid and relate to a disposal activity which is substantially the same as before 1 April 1999, at the same place to which the application refers. In practice, this means that such activities can continue to be undertaken. When processed, an application may be authorised or refused.

For applications made after 1 April 1999, it will be illegal to dispose List I and II substances to land until the authorisation has been granted. EHS has 4 months to process these applications unless an extension period is agreed with the applicant in writing.

**It is therefore in your best interest to apply for authorisation prior to 31 March 1999.**

## 7. What happens after an Application has been made?

All applications made to EHS for authorisation will be acknowledged in writing. The acknowledgement of applications received before 31 March 1999 will state that the activity is deemed authorised until informed otherwise by EHS, and may therefore continue. The acknowledgement of applications received after 1 April 1999 will indicate that it is an offence to carry out the activity described in the application until an authorisation has been granted.

## 8. Conditions of Authorisation

Authorisation by EHS will not be granted without a completed application form and map.

In certain cases, particularly where the disposal area is sited on or near a groundwater vulnerable zone, drinking water supply or sensitive abstraction, there may be a requirement for additional investigation before authorisation is considered. This may involve a site visit by EHS staff, monitoring work and/or a requirement for further hydrogeological assessment of the disposal area(s). Furthermore, evidence of any technical precautions taken to prevent discharge may be requested.

EHS may also require that the applicant, at his/her own cost, should advertise the application **before** authorisation is considered.

On the basis of the assessment of the application form and on the vulnerability of groundwater, EHS will authorise or refuse the disposal of List I and II substances on the site. The authorisation will specify:

- i) the area(s) of land to be used for disposal
- ii) the method of disposal used
- iii) essential precautions to be taken and/or conditions under which disposal is to take place
- iv) the maximum quantity of List I and II substances to be disposed of during one or more specified periods of time
- v) precautions to be implemented to prevent any pollution of groundwater
- vi) if necessary, measures for monitoring the groundwater.

If authorisation is refused the applicant may appeal, within 3 months of the decision, to the Water Appeals Commission against the refusal of authorisation to dispose waste chemical to the selected area(s) of land.

Authorisation may be granted for a limited period only and will be reviewed by EHS when deemed necessary, but at least once in every four years. When an authorisation is reviewed, it may be renewed, amended or revoked.

Any change in circumstances, such as the sale or transfer of the trade or business or any other alteration to the disposal activity specified in the application, must be notified in writing to EHS when these occur.

## **1. List I Substances**

1.(1) Subject to sub-paragraph (2) below, a substance is in List I if it belongs to one of the following families or groups of substances:

- (a) organohalogen compounds and substances which may form such compounds in the aquatic environment;
- (b) organophosphorus compounds;
- (c) organotin compounds;
- (d) substances which possess carcinogenic, mutagenic or teratogenic properties in or via the aquatic environment; (\*)
- (e) mercury and its compounds;
- (f) cadmium and its compounds;
- (g) mineral oils and hydrocarbons;
- (h) cyanides.

1.(2) A substance is not in List I if it has been determined by the Department to be inappropriate to List I on the basis of a low risk of toxicity, persistence and bioaccumulation.

(\*) Where, any substance which would otherwise be in list II is carcinogenic, mutagenic or teratogenic, it is included in this category in list I

## 2. List II Substances

2.(1) A substance is in List II if it could have a harmful effect on groundwater and it belong to one the following families or groups of substances:

(a) the following metalloids and metals and their compounds:

Zinc	Tin
Copper	Barium
Nickel	Beryllium
Chromium	Boron
Lead	Uranium
Selenium	Vanadium
Arsenic	Cobalt
Antimony	Thallium
Molybdenum	Tellurium
Titanium	Silver

(b) biocides and their derivatives not appearing in List I;

(c) substances which have a deleterious effect on the taste or odour of groundwater, and compounds liable to cause the formation of such substances in such water and to render it unfit for human consumption;

(d) toxic or persistent organic compounds of silicon, and substances which may cause the formation of such compounds in water, excluding those which are biologically harmless or are rapidly converted in water into harmless substances;

- (e) inorganic compounds of phosphorus and elemental phosphorus;
- (f) fluorides;
- (g) ammonia and nitrites.

2.(2) A substance is also in List II if:

- (a) it belongs to the families and groups of substances set out in paragraph 1(1);
- (b) it has been determined by the Department to be inappropriate to List I under paragraph 1(2); and
- (c) it has been determined by the Department to be appropriate to be classed in List II having regard to toxicity, persistence and bioaccumulation.

### **3. Notes**

The Department shall from time to time publish a summary of the effect of its determinations under this schedule in such a manner as it considers appropriate and shall make copies of any such summary available to the public free of charge.

*Reproduced from the Schedule attached to the Groundwater Regulations (Northern Ireland) 1998.*