# Appendix B

***List I & II Substances***

**EC Groundwater Directive (80/68/EEC)**
(Council Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution caused by certain dangerous substances.)

**http://europa.eu.int/eur-lex/en/lif/dat/1980/en_380L0068.html**

## LIST I OF FAMILIES AND GROUPS OF SUBSTANCES

List I contains the individual substances which belong to the families and groups of substances enumerated below, with the exception of those which are considered inappropriate to List I on the basis of a low risk of toxicity, persistance and bioaccumulation. Such substances which with regard to toxicity, persistance and bioaccumulation are appropriate to List II are to be classed in List II.

1. Organohalogen compounds and substances that may form such compounds in the aquatic environment
2. Organophosphorus compounds
3. Organotin compounds
4. Substances which possess carcinogenic, mutagenic or teratogenic properties in or via the aquatic environment[1]
5. Mercury and its compounds
6. Cadmium and its compounds
7. Mineral oils and hydrocarbons
8. Cyanides

## LIST II OF FAMILIES AND GROUPS OF SUBSTANCES

List II contains the individual substances and the categories of substances belonging to the families and groups of substances listed below which could have a harmful effect on groundwater.

1. The following metalloids and metals and their compounds:

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

2. Biocides and their derivatives not appearing in List I.
3. Substances which have a deleterious effect on the taste and/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.
4. 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.
5. Inorganic compounds of phosphorus and elemental phosphorus.
6. Fluorides.
7. Ammonia and nitrites.

[1] Where certain substances in List II are carcinogenic, mutagenic or teratogenic, they are included in category 4 of this List.

**EC Dangerous Substances Directive (76/464/EEC)**
(Directive 76/464/EEC of 4 May 1976 *on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community*)

**http://europa.eu.int/water/water-dangersub/76_464.htm**

The Directive covered discharges to *inland surface waters, territorial waters, inland coastal waters and ground water*. In 1980 the protection of groundwater was taken out of 76/464/EEC regulated under the separate Council Directive 80/68/EEC *on the protection of groundwater against pollution caused by certain dangerous substances*.

The Directive introduced the concept of List I and List II substances, which were listed in the Annex to the Directive, and which are discussed below.

The purpose of the Directive is to eliminate pollution from List I substances and to reduce pollution from List II substances.

## LIST I OF FAMILIES AND GROUPS OF SUBSTANCES

List I contains certain individual substances which belong to the following families and group of substances, selected mainly on the basis of their toxicity, persistence and bioaccumulation, with the exception of those which are biologically harmless or which are rapidly converted into substances which are biologically harmless:

1. organohalogen compounds and substances which may form such compounds in the aquatic environment,
2. organophosphorus compounds,
3. organotin compounds,
4. substances in respect of which it has been proved that they possess carcinogenic in or via the aquatic environment
5. mercury and its compounds,
6. cadmium and its compounds,
7. persistent mineral oils and hydrocarbons of petroleum origin, *and*
8. *(for the purpose of implementing Articles 2, 8, 9 and 14 of this Directive)* persistent synthetic substances which may float, remain in suspension or sink and which interfere with any use of the water.

## LIST II CONTAINS:

- **substances belonging to the families and groups of substances in List I** for which the limit values referred to in Article 6 of the Directive **have not been** determined *(N.B. only 18 substances have been regulated under the specific Directives. Consequently, all the groups of substances under List I and the other substances on the "candidate-List I" are part of List II)*;

- **certain individual substances** and categories of substances belonging to the families and group of substances listed below, which have a deleterious effect on the aquatic environment, which can, however, be confined to a given area and which depend on the characteristics and location of the water into which they are discharged.

## Families and groups of substances referred to in the second indent

1. The following metalloids and metals and their compounds:

| | | | |
|---|---|---|---|
| 1.1 Zinc | 1.6 Selenium | 1.11 Tin | 1.16 Vanadium |
| 1.2 Coppe | 1.7 Arsenic | 1.12 Barium | 1.17 Cobalt |
| 1.3 Nickel | 1.8 Antimony | 1.13 Beryllium | 1.18 Thallium |
| 1.4 Chromium | 1.9 Molybdenum | 1.14 Boron | 1.19 Tellurium |
| 1.5 Lead | 1.10 Titanium | 1.15 Uranium | 1.20 Silver |

2. Biocides and their derivatives not appearing on List I. *(N.B. including pesticides)*
3. Substances which have a deleterious effect on the taste and/or smell of the products for human consumption derived from the aquatic environment.

and compounds liable to give rise to such substances in water.

4. Toxic or persistent organic compounds of silicon, and substances which may give rise to such compounds in water, excluding those which are biologically harmless or which are rapidly converted in water into harmless substances.
5. Inorganic compounds of phosphorus and elemental phosphorus.
6. Non persistent mineral oils and hydrocarbons of petroleum origin.
7. Cyanides, fluorides.
8. Substances which have an adverse effect on the oxygen balance, particularly: ammonia, nitrites.