



Development of soil legislation in Spain



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SPANISH ADMINISTRATIONS

General Administration
(State)

17 Autonomous Communities
(Regional Governments)

2 Autonomous Cities

8.105 municipalities



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LEGISLATION

199

3

DISTRIBUTION OF ENVIRONMENTAL COMPETENCES IN THE ADMINISTRATIONS

- STATE: LEGISLATION AND BASIC REGULATION
- REGIONS: EXECUTIVE COMPETENCES AND REGIONAL LEGISLATION
- MUNICIPALITIES: A PART OF THE EXECUTIVE COMPETENCES OF THE REGIONS, MAINLY REFERED TO HOUSEHOLD WASTES.

199

8

DIRECTIVE 91/156/EEC WAS ADAPTED TO INTERNAL REGULATION BY MEANS OF THE WASTE LAW

- TWO ARTICLES REGULATE THE SOIL CONTAMINATION

1995-2005

FIRST NATIONAL PLAN OF REMEDIATION OF CONTAMINATED SOILS

- IT WAS DEVELOPED BY REGIONS. THE MINISTRY OF ENVIRONMENT FINANCED 50 %.
- PUBLIC AND ORPHAN SOILS
- 150 M€ WERE INVESTED. 45 M€ OF THIS MONEY CAME FROM EU FUNDS
- 245 PUBLIC SOILS WERE REMEDIATED
- MOREOVER PRIVATE OWNERS REMEDIATED ABOUT 350 SOILS



LEGISLATION

**2005: ROYAL DECREE 9/2005, OF JANUARY 14th,
IS APPROVED**

**IT ESTABLISHES A LIST OF
POTENTIALLY SOIL POLLUTING
ACTIVITIES (PSPA) AND CRITERIA
AND STANDARDS FOR DECLARING
CONTAMINATED SITES**

**THE LEGISLATION TAKES ONLY
INTO CONSIDERATION
CONTAMINATED SOILS, NOT
POTENTIALLY CONTAMINATED**

**140.000 PSPA AND 35.000
CONTAMINATED SOILS ARE
ESTIMATED THAT COULD EXIST**

**ENGLISH VERSION IN
WEBPAGE:
WWW.MMA.ES
/LEGISLACIÓN /CALIDAD Y
CONTAMINACIÓN/ SUELOS
CONTAMINADOS**

NOWADAYS, SECOND REMEDIATION SOIL PLAN IS LAUNCHING

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LIST OF POTENTIALLY SOIL POLLUTING ACTIVITIES (II)

CNAE93-Rev1	DESCRIPTION
27.10	Manufacture of basic iron and steel and of ferro-alloy products
27.21	Manufacture of cast iron tubes
27.22	Manufacture of steel tubes
27.3	Other first processing of iron and steel
27.41	Production and first processing of precious metals
27.42	Production and first processing of aluminium
27.43	Production and first processing of lead, zinc and tin
27.44	Production and first processing of copper
27.45	Production and first processing of other non-ferrous metals
27.5	Casting of metals
28.1	Manufacture of structural metal products
28.2	Manufacture of tanks, reservoirs and containers of metal
28.3	Manufacture of central heating radiators and boilers
28.40	Manufacture of steam generators
28.5	Forging, pressing, stamping and roll forming of metals; powder metallurgy
28.6	Treatment and coating of metals
28.63	General mechanical engineering on behalf of third parties
28.7	Manufacture of cutlery, tools and general hardware
29.1	Manufacture of locks and hinges
29.2	Manufacture of other fabricated metal products, excluding furniture
29.3	Manufacture of machinery, equipment and mechanical material
29.4	Manufacture of other general-purpose machinery, equipment and mechanical material
29.5	Manufacture of agricultural machinery
29.6	Manufacture of machine tools
29.71	Manufacture of other special-purpose machinery
30.0	Manufacture of weapons and ammunition

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LIST OF POTENTIALLY SOIL POLLUTING ACTIVITIES (IV)

CNAE93-Rev1	DESCRIPTION
50.20	Maintenance and repair of motor vehicles
50.40	Sale, maintenance and repair of motorcycles and mopeds and related parts and accessories
50.50	Retail sale of automotive fuel when the seller has storage facilities
51.12	Agents involved in the sale of fuels, ores, metals and industrial chemicals
51.51	Wholesale of solid, liquid and gaseous fuels and related products
51.52	Wholesale of metals and metal ores
51.532	Wholesale of paints and varnishes
51.551	Wholesale of fertilizers and chemical products for agricultural use
51.553	Wholesale of industrial chemicals
51.57	Wholesale of waste and scrap
52.486	Retail sale of fuels
60.10	Transport via railways
60.2	Other land transport
60.3	Transport via pipelines
63.122	Storage and warehousing of hazardous goods
63.22	Other supporting water transport activities
63.23	Other supporting air transport activities
74.811	Laboratories for developing, printing and enlarging photographs
90.01	Collection and treatment of sewage
90.02	Collection and treatment of other waste
90.03	Sanitation, remediation and similar activities
93.01	Washing, cleaning and dyeing of textile and leather garments

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LIST OF MAIN CONTAMINANTS

	MAIN GROUPS OF POTENTIAL CONTAMINANTS
1	OIL DERIVATIVES (ALIPHATIC HYDROCARBONS, GAS)
2	AROMATIC HYDROCARBONS (BENZENE, TOLUENE, ETC)
3	POLYCYCLIC HYDROCARBONS (PCH)
4	OTHER NOT HALOGENATED HYDROCARBONS (FTALATES, STYRENE, ETC)
5	POLYCYCLIC HALOGENATED HYDROCARBONS, PCB´s, CHLORINATED CYCLIC HYDROCARBONS
6	VOLATILE CHLORINATED ALIPHATIC HYDROCARBONS
7	PESTICIDES (ORGANOCHLORINATED , NOT CHLORINATED)
8	EOCL (OTHER HALOGENATED HYDROCARBONS)
9	ORGANOMETALLIC COMPOUNDS (Sn, Hg, Si)
10	Hg, Cd
11	Pb, As, Sb, Sn, Be, U, Th, Te, Ag, Zn, Cu, Ni, Cr, Se, Mo, B, V, Ca, Ba, Ti.
12	VEGETAL OILS OR ANIMAL FATS
13	FLUORIDES
14	CYANIDES
15	AMMONIUM, NITRITES, NITRATES, NITROGENATED COMPOUNDS
16	ORGANOPHOSPHORUS COMPOUNDS (PESTICIDES EXCLUDES)
17	PHOSPHORUS INORGANIC (TOTAL)
18	SULPHIDES
19	SULPHATES
20	ACIDS, BASES, INORGANIC SALTS
21	ASBESTOS

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SELECTION OF SECTORS

CRITERIA FOR SELECTION

**HAZARDOUS CHARACTERISTICS
OF THE SUBSTANCES AND RAW
MATERIALS USED**

**FACILITIES' SIZE AND
POTENTIAL RISKS ASSOCIATED
TO THE PROCESSES INVOLVED
IN**

**IDENTIFICATION
OF MOST
RELEVANT
SECTORS
ACCORDING
TO**

**THE NUMBER OF EXISTING
COMPANIES**

**GROUPING OF ACTIVITIES
WHERE SIMILAR PROCESSES
ARE CARRIED OUT**



SELECTION OF SECTORS

Final selection of 18 main sectors:

- 1 Ferrous metallurgy
- 2 Non ferrous metallurgy
- 3 Printing and service activities related to printing
- 4 Wood and furniture
- 5 Treatment and coating of metals and other materials
- 6 Garages
- 7 Manufacture of capital goods: machinery, electric and electronic equipment
- 8 Fuel storage and distribution
- 9 Collection and treatment of sewage and other waste
- 10 Metal processing
- 11 Manufacture of refined petroleum products and other activities related to the petrochemical industry
- 12 Manufacture of coatings (paints, varnishes, etc.)
- 13 Other chemical industries (manufacture of pesticides, pharmaceutical products, etc.)
- 14 Manufacture and processing of textiles, fur and leather
- 15 Manufacture of glass and ceramic products
- 16 Production and distribution of electricity
- 17 Manufacture of vegetable and animal oils and fats
- 18 Manufacture of pulp, paper and paperboard

Moreover there are other PCPAs not aggregated

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PRELIMINARY REPORT

THE PRELIMINARY REPORT (PR)

MUST BE DONE BY EVERY COMPANY THAT CARRIES OUT POTENTIALLY SOIL POLLUTING ACTIVITIES

DO NOT DEMAND EXPENSES

- GENERAL DATA: IDENTIFICATION, ADDRESS
- RAW MATERIALS USED IN THE PROCESS
- PRODUCTS
- STORAGE:
 - SURFACE. SPILL CONTAINMENTS, DRAIN, COVERED
 - UNDERGROUND
 - SOIL PROTECTION
 - ACCESS
 - SECURITY
- WASTE MANAGEMENT
- HISTORICAL ACTIVITIES (IF THESE ARE KNOWN)

THE COMPETENT AUTHORITY TAKES INTO ACCOUNT THE SOIL COMPOSITION AND OTHER PHYSICAL AND CHEMICAL DATA:

- DISTANCE TO THE RIVER'S BED
- DISTANCE TO WATER WELLS
- DISTANCE TO DAMS
- DISTANCE TO POPULATION GROUPS
- QUALITY IN THE CLOSE WATER
- NATURAL SPACES
- RAINFALL

WHEN A SITE, WHICH A PSPA IS TAKING PLACE, IS TO BE SOLD, IS COMPULSORY TO MAKE A SOIL STATUS REPORT. ALSO WHEN THE FACILITIES ARE ENLARGED OR CLOSED

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CONTAMINATED SOIL

SOIL* WHOSE CHARACTERISTICS HAVE BEEN ALTERED AND IMPLY

UNACCEPTABLE RISK FOR HUMAN HEALTH OR THE ENVIRONMENT

AND HAS BEEN DECLARED AS CONTAMINATED BY EXPRESS DECISION

* SOIL INCLUDES GROUNDWATER



ACCORDING TO THE ACTUAL OR FUTURE LAND USE:

- INDUSTRIAL
- HOUSING
- WITHOUT RESTRICTIONS



RISK ASSESSMENT CASE BY CASE



PROTECTING:

- HUMAN HEALTH
- ENVIRONMENT



REFERENCE LEVELS FOR HAZARDOUS SUBSTANCES ARE SET UP



RISK ASSESSMENT OF GROUNDWATER



GENERIC REFERENCE LEVELS FOR PROTECTION OF THE HUMAN HEALTH BASED ON LAND USE

Substance	CAS number	Industrial use	Urban use	Other uses
		(mg/kg dry weight)		
Methylene chloride	75-09-2	60	6	0,6
1,1-Dichloroethane	75-34-3	100	70	7
1,2-Dichloroethane	107-06-2	5	0,5	0,05
1,1,2-Trichloroethane	79-00-5	10	1	0,1
1,1,2,2-Tetrachloroethane	79-34-5	3	0,3	0,03
1,1-Dichloroethene	75-35-4	1	0,1	0,01
Trichloroethene	79-01-6	70	7	0,7
Tetrachloroethene	127-18-4	10	1	0,1
1,2-Dichloropropane	78-87-5	4	0,5	0,05
1,3-Dichloropropene	42-75-6	7	0,7	0,07
Acenaphthene	83-32-9	100	60	6
Acetone	67-64-1	100	10	1
Aldrin	309-00-2	1	0,1	0,01
Anthracene	120-12-7	100	100	45
Benz[a]anthracene	56-55-3	20	2	0,2
Benzene	71-43-2	10	1	0,1

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GENERIC REFERENCE LEVELS FOR PROTECTION OF THE ECOSYSTEMS

Substance	CAS number	Soils organisms	Aquatic organisms (mg/kg dry weight)	Terrestrial vertebrates
1,1-Dichloroethane	75-34-3		0,06	4,18
1,2-Dichloroethane	107-06-2		0,16	0,24
1,1,2-Trichloroethane	79-00-5		0,16	0,30
1,1,2,2-Tetrachloroethane	79-34-5		0,04	0,02
Trichloroethylene	79-01-6		0,21	0,46
Tetrachloroethene	127-18-4	0,01	0,06	0,15
1,2-Dichloropropane	78-87-5	4,24	0,07	0,43
1,3-Dichloropropene	42-75-6		0,01	0,58
Acenaphthene	83-32-9		0,02	4,85
Acetone	67-64-1		0,54	6,71
Aldrin	309-00-2	0,01	0,01	0,01
Anthracene	120-12-7		0,01	22
Benz[a]anthracene	56-55-3	3,8	0,01	
Benzene	71-43-2	1	0,2	0,11
Chlorobenzene	108-90-7	1	0,03	7,66
1,2-Dichlorobenzene	95-50-1		0,11	3,15

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PROPERTY REGISTRY

- **THE SITES DECLARED AS CONTAMINATED MUST BE RECORDED IN PROPERTY REGISTRY**
- **THIS NOTE WILL BE DELETED WHEN THE SOIL IS DECLARED AS REMEDIATED**
- **WHEN A SITE, WHICH A PSPA TOOK PLACE, IS TO BE SOLD, IS COMPULSORY TO REPORT THESE ACTIVITIES TO REGISTRY**

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CURRENT SITUATION

MINISTRY OF ENVIRONMENT AND RURAL AND MARINE AFFAIRS

➤ **NOWADAYS THE SECOND NATIONAL PLAN OF REMEDIATION OF CONTAMINATED SOILS (2008- 2015) IS BEING LAUNCHED.**

➤ **STATE IS GOING TO CLEAN UP:**

- **IN PUBLIC SOILS:**

- **MILITARY HARBOURS (ZONES WITHOUT PRIVATE INDUSTRIES)**

- **PUBLIC SEA-LAND AREAS**

- **AIRPORTS (PCSA)**

- **RAILWAYS**

- **PUBLIC COMPANIES**

- **RIVER BANKS**

- **ORPHAN SOILS**

- **BROWNFIELDS**

➤ **THE PRELIMINARY REPORT HAS BEEN MADE IN EVERY PUBLIC SOIL FACILITY**

➤ **IN 2006-2007, A MORE DETAILED INVESTIGATION HAS BEEN MADE IN FORTY SIX MILITARY BASES, OVER A TOTAL OF 195 RISKED, AND 27 STATE HARBOURS**

➤ **AT PRESENT EIGHT MILITARY BASES ARE BEING CLEANED UP**

➤ **FINANCED BY MINISTRY OF ENVIRONMENT AND RURAL AND MARINE AFFAIRS**



CURRENT SITUATION

PRIVATE OWNERS:

- **COMPETENT AUTHORITY (AUTONOMOUS REGIONS) ARE LOOKING FOR THE POTENTIALLY POLLUTANT COMPANIES THAT DIDN'T ELABORATE THE PRELIMINARY REPORT.**
- **EXAMINED THIS REPORT, ADDITIONAL REPORTS AND MORE ACCURATE RESEARCHS CAN BE ASKED FOR IN ORDER TO ESTABLISH THE RISK OF THE SITE.**
- **PRIVATE OWNERS ARE RESPONSIBLES OF THE POLLUTION PRODUCED AS A RESULT OF THEIR ACTIVITIES, AND HAVE THE RESPONSIBILITY OF CLEANING UP THEIR SOILS**
- **POLLUTER PAYS PRINCIPLE. BUT PRIVATE OWNERS HAVE THE POSSIBILITY TO BE FINANCED. THEY MUST REFUND**
- **THE COMPETENT AUTHORITY MUST MONITOR THE REMEDIATION AND THE EVOLUTION OF THE WORK**



THANK YOU FOR YOUR ATTENTION

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Madrid, October 9th

