



# Pollution inventory reporting – mining and quarrying guidance note

Environmental Permitting (England and Wales) Regulations 2010

Regulation 60(1)

Version 4 December 2012

We are the Environment Agency. We protect and improve the environment and make it a better place for people and wildlife.

We operate at the place where environmental change has its greatest impact on people's lives. We reduce the risks to people and properties from flooding; make sure there is enough water for people and wildlife; protect and improve air, land and water quality and apply the environmental standards within which industry can operate.

Acting to reduce climate change and helping people and wildlife adapt to its consequences are at the heart of all that we do.

We cannot do this alone. We work closely with a wide range of partners including government, business, local authorities, other agencies, civil society groups and the communities we serve.

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# 1. Introduction

If you operate an underground mine, or an opencast mine or quarry where the surface of the area effectively under extractive operation equals or exceeds 25 hectares, you will need to submit data to the Pollution Inventory.

You need to report each year. The system opens for reporting on 1 January and the deadline for submitting is 28 February.

Our general guidance sets out how to report and provides information applicable to all business and industries.

In this guidance you will find helpful information specific to the mining and quarrying sector.

The list of substances on the PI reporting form includes substances released from all processes reporting to the EPRTR - the majority will not be applicable for mines and quarries. You do **not** need to enter 'n/a' for substances that you are not reporting.

To help you answer question 1.5 on the reporting form we have included a list of relevant NACE codes in Appendix 1.

You can find additional information on the website: [www.environment-agency.gov.uk/pi](http://www.environment-agency.gov.uk/pi)

## 2. Releases to air

Table 1 shows the substances you are most likely to release to air. Use the table as a guide only and check if you release any other substances included on the reporting form.

Table 1: Potential releases to air from mining and quarrying	
Arsenic and compounds	Lead and compounds
Cadmium and compounds	Methane
Carbon dioxide	Nickel and compounds
Carbon monoxide	Nitrogen oxides (NO and NO <sub>2</sub> )
Chlorine and inorganic compounds as HCl	Particulate matter (PM <sub>10</sub> )
Chromium and compounds	Sulphur oxides (SO <sub>2</sub> and SO <sub>3</sub> )
Copper and compounds	

In recent years (1997-2006) the National Atmospheric Emissions Inventory (NAEI) PM<sub>10</sub> implied emission factor for all types of mineral recovery has been approximately **0.03 tonne/ktonne** (that is, 0.03 tonne of PM<sub>10</sub> emitted per thousand tonnes of production). This factor includes PM<sub>10</sub> emissions arising from overburden removal, extraction, loading/unloading, in-site movement and first processing (for example crushing) but excludes emissions from combustion activities (for example engines in quarry transport and machinery or combustion in dryers) and subsequent processing.

### 3. Releases to controlled waters

Table 2 shows the substances you are most likely to release to water. Use the table as a guide only and check whether you release any other substances included on the reporting form.

<b>Table 2: Potential releases to water from mining and quarrying</b>	
Arsenic and compounds	Nickel and compounds
Cadmium and compounds	Nitrogen (total)
Chlorides (as total Cl)	Phosphorus (total)
Chromium and compounds	Total organic carbon (TOC) (as total C or COD/3)
Copper and compounds	Zinc and compounds
Lead and compounds	

### 4. Off site waste transfers

You only need to report hazardous waste if you have sent more than 2 tonnes off site. For non-hazardous waste there is an annual reporting threshold of 2000 tonnes. If the tonnage is below 2000 tonnes then you do not need to report it.

You should classify your waste according to List of Wastes Regulations codes. A list of the codes we think you are most likely to need is given in Appendix 2. You can download a complete list of codes from our website. Use the relevant Waste Framework Directive Disposal and Recovery (D&R) codes in Appendix 3 to tell us where the waste is going.

**Appendix 1: NACE Codes for mining and quarrying**

	<b>Section B – mining and quarrying</b>
05.10	Mining of hard coal
05.20	Mining of lignite
07.10	Mining of iron ores
07.20	Mining of uranium and thorium ores
07.29	Mining of other non-ferrous metal ores
08.11	Quarrying of ornamental and building stone, limestone, gypsum, chalk and slate
08.12	Operation of gravel and sand pits; mining of clays and kaolin
08.91	Mining of chemical and fertiliser minerals
08.92	Extraction of peat
08.93	Extraction of salt
08.99	Other mining and quarrying n.e.c.
09.90	Support activities for other mining and quarrying

## Appendix 2: List of Wastes (LOW) Regulations and Waste Framework Directive Disposal and Recovery (D&R) codes

### List of Wastes Regulations Codes (shortened list\*)

Process / Industry	Sub-division	LOW code (waste type)	Description	Hazardous
01			<b>Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals</b>	
	<b>01 01</b>		<b>wastes from mineral excavation</b>	
		01 01 01	wastes from mineral metalliferous excavation	No
		01 01 02	wastes from mineral non-metalliferous excavation	No
	<b>01 03</b>		<b>wastes from physical and chemical processing of metalliferous minerals</b>	
		01 03 04	acid-generating tailings from processing of sulphide ore	Yes
		01 03 05	other tailings containing dangerous substances	Yes
		01 03 06	tailings other than those mentioned in 01 03 04 and 01 03 05	No
		01 03 07	other wastes containing dangerous substances from physical and chemical processing of metalliferous minerals	Yes
		01 03 08	dusty and powdery wastes other than those mentioned in 01 03 07	No
		01 03 09	red mud from alumina production other than the wastes mentioned in 01 03 07	No
		01 03 99	wastes not otherwise specified	No
	<b>01 04</b>		<b>wastes from physical and chemical processing of non-metalliferous minerals</b>	
		01 04 07	wastes containing dangerous substances from physical and chemical processing of non-metalliferous minerals	Yes
		01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07	No
		01 04 09	waste sand and clays	No
		01 04 10	dusty and powdery wastes other than those mentioned in 01 04 07	No
		01 04 11	wastes from potash and rock salt processing other than those mentioned in 01 04 07	No
		01 04 12	tailings and other wastes from washing and cleaning of minerals other than those mentioned in 01 04 07 and 01 04 11	No
		01 04 13	wastes from stone cutting and sawing other than those mentioned in 01 04 07	No
		01 04 99	wastes not otherwise specified	No
	<b>01 05</b>		<b>drilling muds and other drilling wastes</b>	
		01 05 04	freshwater drilling muds and wastes	No
		01 05 05	oil-containing drilling muds and wastes	Yes
		01 05 06	drilling muds and other drilling wastes containing dangerous substances	Yes
		01 05 07	barite-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06	No
		01 05 08	chloride-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06	No
		01 05 99	wastes not otherwise specified	No

\* This is a cut-down list of selected codes that are applicable to mining and quarrying activities. The complete list can be downloaded from the website: <http://www.environment-agency.gov.uk/business/topics/pollution/101829.aspx>

## Appendix 3: Waste Framework Directive Disposal and Recovery (D&R) codes

**Table 1 Waste disposal codes**

Code	Description
D1	Deposit into or onto land (for example, landfill, and so forth)
D2	Land treatment (for example, biodegradation of liquid or sludgy discards in soils, and so forth)
D3	Deep injection (for example, injection of pumpable discards into wells, salt domes or naturally occurring repositories and so forth)
D4	Surface impoundment (for example, placement of liquid or sludgy discards into pits, ponds or lagoons and so forth)
D5	Specially engineered landfill (for example, placement into lined discrete cells which are capped and isolated from one another and the environment and so forth)
D6	Release into a water body except seas/oceans
D7	Release into seas/oceans including sea-bed insertion
D8	Biological treatment not specified elsewhere in this table which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D12
D9	Physico-chemical treatment not specified elsewhere in this table which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D12 for example, evaporation, drying, calcinations and so forth)
D10	Incineration on land
D11	Incineration at sea
D12	Permanent storage (for example, emplacement of containers in a mine and so forth)
D13	Blending or mixing prior to submission to any of the operations numbered D1 to D12
D14	Repackaging prior to submission to any of the operations numbered D1 to D13
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced)



**Table 2 Waste recovery codes**

<b>Code</b>	<b>Description</b>
R1	Use principally as a fuel or other means to generate energy
R2	Solvent reclamation/regeneration
R3	Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)
R4	Recycling/reclamation of metals and metal compounds
R5	Recycling/reclamation of other inorganic materials
R6	Regeneration of acids or bases
R7	Recovery of components used for pollution abatement
R8	Recovery of components from catalysts
R9	Oil re-refining or other reuses of oil
R10	Land treatment resulting in benefit to agriculture or ecological improvement
R11	Use of wastes obtained from any of the operations numbered R1 to R10
R12	Exchange of wastes for submission to any of the operations numbered R1 to R11
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)

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