Reporting hazardous waste under the Basel Convention - guidance to states and territories

Final report

prepared for

Department of the Environment

17 June 2014

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Final report: P459
17 June 2014

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Abbreviations & glossary

Basel Convention	*The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal*. The Convention puts an onus on exporting countries to ensure that hazardous wastes are managed in an environmentally sound manner in the country of import.
Controlled Waste	Waste that falls under the control of the Controlled Waste National Environment Protection Measure. Generally equivalent to hazardous waste, although definitional differences of the latter exist across jurisdictions
Controlled Waste NEPM	National Environment Protection (Movement of Controlled Waste between States and Territories) Measure.
Hazardous waste	A hazardous waste, as defined in the Australian Government's *National Waste Policy: Less waste, more resources* (2009), is a substance or object that exhibits hazardous characteristics, is no longer fit for its intended use and requires disposal. Hazardous waste means: (a) waste prescribed by the regulations, where the waste has any of the characteristics mentioned in Annex III to the Basel Convention; or (b) wastes covered by paragraph 1(a) of Article 1 of the Basel Convention; or (c) household waste; or (d) residues arising from the incineration of household waste; but does not include wastes covered by paragraph 4 of Article 1 of the Basel Convention.
Interstate data	Data collected about hazardous waste generated in one jurisdiction and treated in another, through cross-border transport under the Controlled Waste NEPM
Intrastate data	Data collected about hazardous waste generated, transported and treated within the one jurisdiction
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
Tracked data	Hazardous waste collected under the arrangements of a tracking system
Tracking system	Jurisdiction-based hazardous waste tracking systems, which are in place in New South Wales, Queensland, South Australia, Western Australia and Victoria. These tracking systems can be either online, paper-based, or a combination of both these mechanisms.
Treatment	Treatment of waste is the removal, reduction or immobilisation of a hazardous characteristic to enable the waste to be reused, recycled, sent to an Energy from Waste facility or disposed.
Waste	(For data collation purposes) is materials or products that are unwanted or have been discarded, rejected or abandoned. Waste includes materials or products that are recycled, converted to energy, or disposed. Materials and products that are reused (for their original or another purpose without reprocessing) are not solid waste because they remain in use.
Waste Code	Three-digit code typically used by jurisdictions to describe NEPM-listed wastes. These are also referred to as 'NEPM codes' although it is noted that the actual codes do not appear in the NEPM itself.
Waste generation	Typically, waste generation = resource recovery (recycling + energy recovery) + disposal. For the purposes of this report however, waste generation means what has been reported by jurisdictional data providers as waste generation.

1. Introduction

1.1 What is this document?

This document provides and summarises guidance to the states and territories on how to contribute data for Australia's annual reporting under the *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal* (referred to hereafter as the Basel Convention). It also provides guidance to the Commonwealth on how to compile the data. The document accompanies two Microsoft Excel workbooks:

1. '**Basel data collection template - <JUR>**' (for states and territories), where '<JUR>' represents the jurisdiction's abbreviated name. These files are provided for jurisdictions to enter their hazardous waste data each year.
2. **'Collation workbook for Basel data'** is provided to the Australian Government to allow it to carry out relevant tasks such as data collation, quality assessment, quality assurance, estimation of data gaps and presentation of final data for submission to the Basel Secretariat.

This document and the workbooks were produced by consultants to the Department in 2013-14, in order to improve Australia's reporting under the Convention.

1.2 Why is guidance needed?

As a signatory to the Basel Convention, Australia has agreed to provide an annual report on tonnages of hazardous waste generated, broken down into the Convention's 'Y-code' classification. Hazardous waste in Australia is regulated by the states and territories, which variously describe these waste types as *controlled*, *trackable*, *prescribed*, *listed* or *regulated* wastes. Most operate a tracking system to ensure that hazardous waste is appropriately managed. The tracking system generates data that is relied upon to compile Australia's annual Basel Convention report.

Since the categories of hazardous waste used by the various jurisdictions differ, jurisdictional hazardous waste data needs to be translated into the categories defined by the Basel Convention (Y-codes), to obtain a nationally consistent report. Historically, each jurisdiction translated its own waste data into the national reporting spreadsheet, which was then collated by the Commonwealth. It is likely that this resulted in inconsistent translations that affected the quality of the reporting.

This document and the accompanying jurisdiction-specific workbooks were produced in consultation with the states and territories. Their aim is to make the annual task of submitting hazardous waste data to the Commonwealth easier, quicker and more consistent. This document and the workbooks are 'works in progress' and, it is hoped, will be incrementally improved over time. Jurisdictional feedback is welcomed.

1.3 How is your data translated to the Basel Y-codes?

The workbooks contain a worksheet for the jurisdiction in question. The worksheet lists the categories of hazardous waste and maps these to the Basel Convention Y-codes in a two-step process.

1. The jurisdictional codes are mapped to those used by the *National Environment Protection (Movement of Controlled Waste between States and Territories) Measure* (referred to hereafter as the NEPM). The NEPM supports the jurisdictional regulation of hazardous waste by providing a consistent approach for controlling hazardous waste that is transferred between jurisdictions. The NEPM establishes 75 categories for hazardous waste but requires reporting only within 15 broader categories. In general,

the translation of jurisdictional waste codes to NEPM codes is better established and understood than the direct translation to Basel Convention Y-codes.

2. The NEPM codes are mapped to the Basel Convention Y-codes.

More information on this process is given in section 3 of this document. The data translation process is automated – jurisdictional reporters need only to enter their data into the yellow highlighted cells provided in the relevant worksheet.

Basel Convention reporting is required on a calendar year basis whereas other jurisdictional reporting of these wastes, such as for the NEPM, typically collect and report data by financial year. In order to allow for the collation of the data, the worksheet requests that data is entered in six-month groups.

1.4 Using the guidance

The workbooks have been designed to be simple, self-explanatory and automated. Each workbook includes instructions on:

- how to enter your data
- contact details for queries to the Commonwealth
- quality assurance expectations
- submission timeframes.

This document provides supporting information on the Basel convention, the data translations that have been applied and justification for these translations where they are not obvious.

Waste information requested from states and territories

The jurisdictional workbooks have been designed to collect two types of waste flow data:

1. Waste generated within the jurisdiction (entered in '<insert jurisdiction> generated' worksheet
2. Waste received into the jurisdiction from the Northern Territory through interstate movements tracked under the Controlled Waste NEPM (entered in 'Rec'd (insert jurisdiction) worksheet).

Waste flow "1" is the information required by the Basel Convention to satisfy Australia's reporting requirement. Waste flow "2" is very closely-related information that allows hazardous waste generation data to be derived for the Northern Territory, which has no tracking system but exports its hazardous waste.

Definitional notes:

- **'(insert jurisdiction) generated' tab:** Data is sought from your jurisdiction on the waste that is generated within the jurisdiction, regardless of whether its end point management occurs within or outside your jurisdiction. Please ensure that the 'primary waste generation' data is included and that waste from transfer or consolidation is not double counted. Information on how waste is managed (i.e. treated, recycled, sent to landfill, or to another jurisdiction) is not sought. If you are unable to report only wastes that are generated within your jurisdiction please make note of this in the workbook.
- **'Rec'd from NT' tab:** in these tabs we are seeking data from your jurisdiction's recording systems on the wastes received from the Northern Territory under the *National Environment Protection (Movement of Controlled Waste between States and Territories) Measure.*

Guidance for the Australian Government

The '**Collation workbook for Basel data**' workbook has been provided to assist the Australian Government in carrying out its responsibilities as managers of the Basel data collection and submission process. The nature of this workbook and how it can be used is described in Section 4 of this document.

1.5 The structure of this document

The document is structured as follows:

Section 1 – Introduces the suite of guidance developed for both states and territories and the Australian Government, to assist in the provision of better quality hazardous waste data for annual reporting under the Basel Convention.

Section 2 – Provides a brief overview of the Basel Convention, its obligations on Australia and how Australia manages those obligations.

Section 3 – Provides both the justification for, and the outcomes of, a detailed translation process which maps individual jurisdictional waste codes to ultimate Basel Convention Y-codes, as adopted by all workbooks supplied in the guidance material suite. This approach is specific to each jurisdiction and provides a step-wise improvement in both efficiency for states and territories, as well as the quality of Australian data supplied to the Basel Secretariat.

Section 4 – Describes the Australian Government's responsibilities in managing the Basel data collection and submission process, and how these guidance materials assist in carrying out these tasks.

Appendices – Provide comprehensive and authoritative jurisdiction-by-jurisdiction lists of the waste codes used in tracking and managing hazardous wastes across Australia, including the classification system used by the Controlled Waste NEPM for interstate waste movements and the Basel Convention's listing of Y codes.

2. The Basel Convention and Australia's obligations

The Basel Convention, which regulates the movement of hazardous wastes across international boundaries, came into force in 1992. The Convention puts an onus on exporting countries to ensure that hazardous wastes are managed in an environmentally sound manner in the country of import. These obligations are placed on countries that are party to the Convention. 151 Countries have ratified the Basel Convention as at December 2002. The obligations are to:

- minimise generation of hazardous waste
- ensure adequate disposal facilities are available
- control and reduce international movements of hazardous waste
- ensure environmentally sound management of wastes
- prevent and punish illegal traffic.

Australia signed the Basel Convention in 1992. The Convention is implemented in Australia by the *Hazardous Waste (Regulation of Exports and Imports) Act 1989*, which is intended to ensure that exported, imported or transited hazardous waste is managed in an environmentally sound manner.

The Australian Government provides an annual report to the Secretariat of the Basel Convention on the details of the trans-boundary movements of hazardous wastes from Australia, including a national account of tonnages of these wastes expressed using the Basel Convention's classification system known as Y-codes. This data provides a baseline and backdrop to qualitative and (preferably) quantitative discussions about Australia's progress with efforts to better manage its hazardous waste.

State and Territory governments collect this data as part of their regulatory role in managing hazardous waste and its potential for impact on the environment and human health. As part of co-operative arrangements between states and territories and the Australian Government, this data has historically been supplied to the Australian government which then forwards nationally collated numbers to the Basel Secretariat in Switzerland.

3. Y-code mapping

For the most part the states and territories use waste categorisation codes and descriptions similar to those adopted by the *National Environment Protection (Movement of Controlled Waste between States and Territories) Measure* (Controlled Waste NEPM). There are, however, many instances where the waste descriptions vary either a little or a lot from NEPM descriptions, and this can make it difficult to match corresponding waste types across jurisdictions, never mind the next step of aggregating data for Basel reporting.

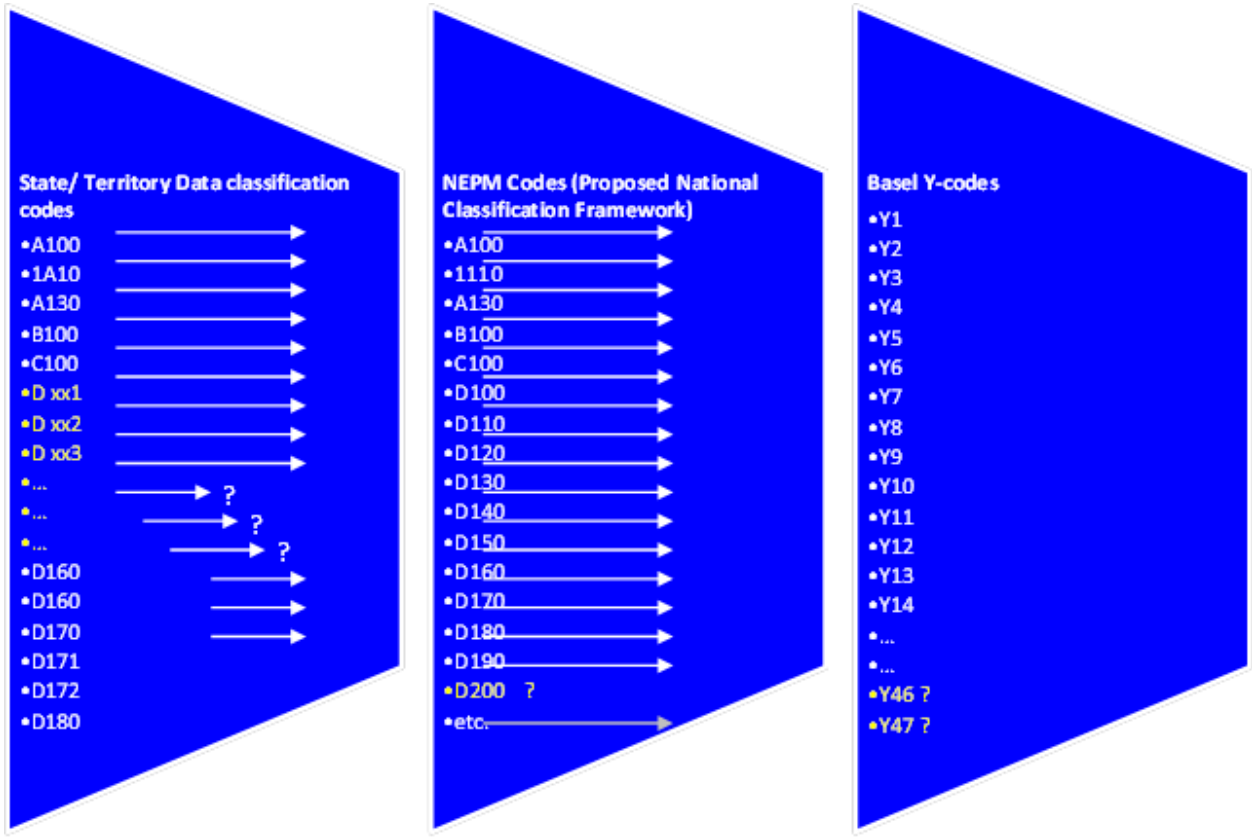
The first step in improving Australia's hazardous waste data and reporting is to address these different jurisdictional approaches and systems of classification and coding of hazardous wastes types. We have tackled this by mapping Basel Y-code waste categories back to original jurisdiction-based waste codes, typically used in waste tracking and management systems employed at the jurisdictional level.

The Y-code mapping involves a 2-step translation protocol:

1. For each jurisdiction, start with each waste category/ code and match or translate it to a potentially common Australian coding approach, chosen as the Controlled Waste NEPM 75 category list, (Schedule A, List 1 of the NEPM).
2. Common for all jurisdictions, map each of the NEPM 75 codes into the most appropriate of the 47 Basel Y-codes. In cases where no clear Y-code can be found to accommodate a NEPM code translation, the following alternatives have been explored:
   a) multiple NEPM codes may be appropriate to map into a single Y-code
   b) a NEPM code may belong (and therefore be split into) more than one Y-code
   c) a limited number of 'new' Basel categories, additional to Y-codes, has been created to ensure that hazardous waste recognised in Australia's national data set are not excluded from that reported to the Basel Secretariat.

These three classification frameworks and how they fit in the mapping process are depicted in Figure 1.

Figure 1: Mapping Hazardous Waste: Jurisdiction codes → NEPM codes → Basel Y-codes



The above translation is described in this section, and its logic forms the basis of the reporting template (the workbooks) designed to collect hazardous waste data from jurisdictions in their classification system, and automatically populate this data into both the NEPM system and the Basel classification framework. This approach fulfils a number of the project's objectives relating to improved guidance tools, ease of jurisdictional reporting, improved data quality and consistency of approaches across jurisdictions.

3.1 Jurisdiction codes to NEPM Codes

Since each State or Territory takes a slightly different approach to hazardous waste classification, the translation process from jurisdiction data to NEPM code data is described separately for each State and Territory.

The accompanying spreadsheet, Basel data 2012 <JUR> v4 (the workbook), captures all waste code translations specific to your jurisdiction. The logic that underpins allocation decisions in taking wastes from each State or Territory and mapping them into NEPM codes is outlined below.

The list of NEPM codes that forms the common Australian coding approach is shown in Appendix A.1.

To guide allocation decisions for jurisdictional waste codes that do not neatly fit into NEPM classifications, the following questions have been considered:

- Could it be reasonably fitted into an existing NEPM code?
- Is it listed as a Basel Y-code (Annex I and II of the Basel Convention)?
- Is it listed in Annex VIII List A of the Basel Convention, as a hazardous waste?
- Is it listed in Annex IX List B of the Basel Convention, as not a hazardous waste?

Issues of classification and translation specific to each State and Territory, and how they have been dealt with in the workbooks, are discussed under the respective headings below. Where issues are common to most or all, these are discussed immediately below.

Classification issues common to all jurisdictions

Categories requiring a nationally consistent approach are:

- *Sewage sludge and residues including nightsoil and septic tank sludge* is referred to as K130 in New South Wales, Queensland, South Australia and Tasmania, can be loosely mapped to two codes in Western Australia (1.01 and 1.05) and is not classified as hazardous waste at all in the Australian Capital Territory, Northern Territory and Victoria. In addition K130 (or a similar variant) does not exist as a NEPM code waste. As part of the Commonwealth's '*Hazardous Waste Data Assessment Project 2012'*, only WA and Qld collected data for this waste as part of their tracking system. The fact that it is generated by all states and territories in large tonnages is not disputed. The key questions are:
  - should it be counted as hazardous waste for the purposes of Basel reporting?
  - If so, how is it best estimated, given only two states track it (and even those do not define it in the same way[1])?
- NEPM description *Industrial Washwater* is not listed in Schedule A List 1 of NEPM (therefore has no NEPM code), but is listed as part of the "15" high level headings in jurisdictional NEPM annual reporting. Only Victoria and Western Australia classify this waste and in practice only Victoria reported this category under NEPM reporting for the 2010-11 year. A decision needs to be made as to the inclusion or exclusion of *Industrial Washwater* as a hazardous waste for Basel reporting purposes.
- Tyres (NEPM code T140) are classified as hazardous waste by all jurisdictions except Victoria. However, authoritative data on end of life tyres generation tonnages[2] is typically much higher than that reported by jurisdictional tracking systems. This may reflect tyres going to fates outside the reach of these tracking systems, such as illegal dumping/ storage/ burning or export. T140 is a NEPM code and consequently should be reported against. The question is how should the gap for Victoria be estimated and should tracking figures be used for other jurisdictions, given these differing source estimates?

Applying the questions posed in section 3.1, our recommendations are:

1. *Sewage sludge and residues including nightsoil and septic tank sludge* (K130) is not a NEPM category waste, not a Y-code, not listed on either Basel Convention Annex VIII or IX. However it is a very large waste stream in all jurisdictions and reasonable data exists on biosolids generation in Australia, publicly reported through the Australian and New Zealand Biosolids Partnership. We recommend this waste be included as part of the NEPM list, and subsequent Basel reporting, estimated by the Australian Government from biosolids data as described in section 4. A reasonable NEPM code match is N205 *Residues from industrial waste treatment/disposal operations*, which should be used for estimates of this waste for all jurisdictions.
2. NEPM description *Industrial Washwater* is recommend not to be included as part of the common Australian coding approach, and subsequent Basel reporting, since it is largely not collected and typically counted as part of the waste code that best describes what the wash water is contaminated with.

[1] See Hazardous Waste Data Summary Final Report (http://www.environment.gov.au/resource/hazardous-waste-data-assessment), page 9.

[2] Study into domestic and international fate of end-of-life tyres – Final Report, Hyder Consulting, 2012

3. NEPM code T140 Tyres must be reported, and should be estimated by the Australian Government for all jurisdictions (replacing tracking system reported numbers) from data developed in the Hyder report[2] as described in section 4.

Australian Capital Territory and the Northern Territory

The list of 'controlled' waste codes used in both the Australian Capital Territory and the Northern Territory are shown in Appendix A.2 and A.3 respectively.

Both the ACT's and NT's controlled waste codes are identical to NEPM codes, so no translation is required.

New South Wales

The list of 'trackable' waste codes used in New South Wales is shown in Appendix A.4.

In the main, New South Wales trackable waste codes match very well with NEPM codes, making the translation straight-forward. However, New South Wales does not include some significant waste streams under its tracking system. This is due to a combination of historical reasons and specific waste exemptions from tracking, the latter being used as a regulatory incentive mechanism to encourage reuse and recycling options. These inconsistencies are:

- all of the K series NEPM codes (*Putrescible/ organic waste*) are not tracked in NSW, apart from interstate tracking; export of these wastes interstate would be rare
- NEPM code N100 *Containers and drums that are contaminated with residues of substances referred to in this list* is not tracked in NSW, apart from interstate tracking
- NEPM code N120 *Soils contaminated with a controlled waste* is not is not tracked in NSW, apart from interstate tracking
- NEPM code N220 A*sbestos* is not tracked in NSW, apart from interstate tracking
- all of the R series NEPM codes (*Clinical and pharmaceutical*) are not tracked in NSW, due to an existing exemption (Number 2001–E-01)
- NEPM code T140 *Tyres* is not tracked in NSW, apart from interstate tracking
- New South Wales does not track NEPM description *Industrial Washwater (*see *Classification issues common to all jurisdictions* above).

Applying the questions posed in section 3.1, our recommendations are:

1. Sewage sludge and residues including nightsoil and septic tank sludge (K130) - see classification issues common to all jurisdictions above, recommendation 1.
2. Animal effluent and residues (abattoir effluent, poultry and fish processing wastes) (K100) and Grease trap waste (K110) are wastes generated by industries that are assumed to exist commensurate with the scale of population served. Consequently the Australian Government should estimate these categories using the population surrogate approach described in Section 4.
3. Tannery wastes (including leather dust, ash, sludges and flours) (K140) and Wool scouring wastes (K190) are not generated by industries that exist commensurate with the scale of population served in a jurisdiction, although there are known to be both tanneries and wool scourers in NSW. Waste volumes could theoretically be obtained directly from operators, but there is no defensible principle-based method to estimate wastes from these industries. No estimates of these wastes will be made at this time.
4. NEPM code N100 Containers and drums that are contaminated with residues of substances referred to in this list is not tracked within NSW, but they are important domestic hazardous wastes and will be estimated the Australian Government using the population surrogate approach described in Section 4.

5. NEPM code N120 Soils contaminated with a controlled waste is not tracked within NSW, but it is an important hazardous waste category and will be estimated by the Australian Government directly from the WGRRA report[3] as described in Section 4.
6. NEPM code N220 Asbestos is not tracked within NSW, but it is an important hazardous waste category and will be estimated by the Australian Government directly from the WGRRA report[3] as described in Section 4.
7. R series NEPM codes (Clinical and pharmaceutical) are not tracked within NSW, but they are an important hazardous waste category and will be estimated by the Australian Government using national average figures as described in Section 4.
8. NEPM code T140 Tyres is not tracked within NSW, but they are an important hazardous waste category and will be estimated according to Classification issues common to all jurisdictions, recommendation 3 above).
9. NEPM description Industrial Washwater - see Classification issues common to all jurisdictions, recommendation 2 above.

Queensland

The list of 'regulated' waste codes used in Queensland is shown in Appendix A.5.

In the main, Queensland regulated waste codes match very well with NEPM codes, making the translation straight-forward. However, there are a few inconsistencies:

- NEPM code D190 *Cobalt compounds* is not a regulated waste in Queensland
- Queensland regulated waste *Sewage sludge and residues including nightsoil and septic tank sludge* (K130) is not listed as a NEPM code waste (see *Classification issues common to all jurisdictions* above)
- NEPM code N120 *Soils contaminated with a controlled waste* is not a regulated waste in Queensland
- NEPM code N230 *Ceramic-based fibres with physico-chemical characteristics similar to those of asbestos* is not a regulated waste in Queensland
- Queensland does not track NEPM description *Industrial Washwater (*see *Classification issues common to all jurisdictions* above).

Applying the questions posed in section 3.1, our recommendations are:

1. No translation of NEPM code D190 *Cobalt compounds* in Queensland – it is not collected and will not be sought.
2. *Sewage sludge and residues including nightsoil and septic tank sludge* (K130) - see *Classification issues common to all jurisdictions* above, recommendation 1.
3. NEPM code N120 *Soils contaminated with a controlled waste* is not tracked in Queensland, but it is an important hazardous waste category and will be estimated as part of this project according to the approach taken in the *Hazardous Waste Data Assessment Project 2012.*
4. No translation of N230 *Ceramic-based fibres with physico-chemical characteristics similar to those of asbestos* in Queensland – it is not collected and will not be sought.
5. NEPM description Industrial Washwater - see *Classification issues common to all jurisdictions*, recommendation 2 above.

South Australia

The list of 'listed' waste codes used in South Australia is shown in Appendix A.6.

[3] Waste Generation and Resource Recovery in Australia final report, Blue Environment and REC, 2014

South Australia's listed waste codes match very well with NEPM codes, making the translation quite straight-forward. However, there are a small number of departures from the NEPM:

- Like New South Wales, South Australia does not include the K series waste streams (*Putrescible/ organic waste*) under its tracking system.
- South Australia includes a non-NEPM category E120 (*Waste of an explosive nature not subject to other legislation*), along similar lines to Victoria.
- South Australia does not track NEPM description *Industrial Washwater (*see *Classification issues common to all jurisdictions* above);

Our recommendations to deal with these issues in South Australia are:

1. Sewage sludge and residues including nightsoil and septic tank sludge (K130) - see Classification issues common to all jurisdictions above, recommendation 1;
2. Animal effluent and residues (abattoir effluent, poultry and fish processing wastes) (K100) and Grease trap waste (K110) are wastes generated by industries that are assumed to exist commensurate with the scale of population served. Consequently the Australian Government should estimate these categories using the population surrogate approach described in Section 4;
3. Tannery wastes (including leather dust, ash, sludges and flours) (K140) and Wool scouring wastes (K190) are not generated by industries that exist commensurate with the scale of population served in a jurisdiction. Waste volumes could theoretically be obtained directly from operators (if they exist in South Australia), but there is no defensible principle-based method to estimate wastes from these industries. No estimates of these wastes will be made at this time;
4. Waste of an explosive nature not subject to other legislation is listed as a different NEPM code, T200, and so translation of SA code E120 directly into NEPM code T200 is simple; and
5. NEPM description *Industrial Washwater* - see *Classification issues common to all jurisdictions*, recommendation 2 above.

Tasmania

The list of 'controlled' waste codes used in Tasmania is shown in Appendix A.7.

Tasmania's controlled waste codes match well with NEPM codes, making the translation quite straight-forward. However, like South Australia, there are a small number of departures from the NEPM:

- Tasmania includes a non-NEPM category E120 (*Waste of an explosive nature not subject to other legislation*), along similar lines to Victoria.
- Tasmania does not include N205 (*Residues from industrial waste treatment/disposal operations*) in its list of controlled wastes, but does include this identical description as T190.
- Tasmania includes an entirely new category, the "Q" series wastes (Q100, Q200, Q300, Q400 and Q500), which deal with wastes that are specifically defined in Tasmanian quarantine, dangerous goods, poisons and waste legislation.
- Tasmania includes a non-NEPM category T200 (*Oxidising Agents*), which is not a NEPM code (although is in fact a waste category listed in the NEPM itself). Note that T200 also exists as a NEPM code, but its NEPM description is *Waste of an explosive nature not subject to other legislation*, identical to Tasmania's E120.
- Tasmania includes a non-NEPM category T210 (*Reactive chemicals*), which is not a NEPM code (although is in fact a waste category listed in the NEPM itself).
- Tasmania includes a non-NEPM category T220 (*Reducing agents*), which is not a NEPM code (although is in fact a waste category listed in the NEPM itself).

- Tasmania does not track NEPM description *Industrial Washwater (*see *Classification issues common to all jurisdictions* above);

Our recommendations to deal with these issues in Tasmania are:

1. Waste of an explosive nature not subject to other legislation is listed as a different NEPM code, T200, and so translate Tasmanian code E120 directly into NEPM code T200 (also note '4' below);
2. Translate Tasmanian code T190 into NEPM code N205 (*Residues from industrial waste treatment/disposal operations*);
3. The "Q" series wastes (Q100, Q200, Q300, Q400 and Q500) did not have obvious NEPM code to map to. Our recommendations are to:
   a) Translate Q100 (A waste within the meaning of the Quarantine Regulations 2000 of the Commonwealth, as amended) into NEPM code R100 (*Clinical and related wastes*);
   b) Translate Q200, Q300, Q400 and Q500 into NEPM code T100 (*Waste chemical substances arising from research and development or teaching activities, including those which are not identified and/or are new and whose effects on human health and/or the environment are not known*). This is not a perfect solution, but has been chosen as T100 is the closest the NEPM has to a 'miscellaneous' type category;
4. Translate Tasmanian codes T200 *(Oxidising Agents)* and T210 (*Reactive chemicals*), into NEPM code T200 (*Waste of an explosive nature not subject to other legislation*), which also houses Tasmania's E120. While oxidising agents and reactive chemicals are not necessarily explosive, they typically exhibit similar properties;
5. Translate Tasmanian code T220 (*Reducing agents*) into NEPM code B100 (*Acidic solutions or acids in solid form*), on the basis that some weak acids are reducing agents; and
6. NEPM description *Industrial Washwater* - see *Classification issues common to all jurisdictions*, recommendation 2 above.

Victoria

The list of 'prescribed industrial waste (PIW)' codes used in Victoria is shown in Appendix A.8.

While based on NEPM codes, Victoria's PIW codes vary significantly, both in terms of NEPM codes not reflected directly as Victorian codes and a large number of slight differences in classification, which in many cases are relatively simply translated to NEPM codes. The latter are often examples of a more detailed breakdown of NEPM codes taken by the Victorian EPA in its approach to waste management.

These inconsistencies are:

<u>NEPM codes without a Victorian code equivalent</u>

- NEPM code A100 Waste resulting from surface treatment of metals and plastics is not a PIW in Victoria
- NEPM code A110 Waste from heat treatment and tempering operations containing cyanides is not a PIW in Victoria
- NEPM code D250 Tellurium; tellurium compounds is not a PIW in Victoria
- NEPM code D270 Vanadium compounds is not a PIW in Victoria
- NEPM code D340 Perchlorates is not a PIW in Victoria
- NEPM code D350 Chlorates is not a PIW in Victoria
- NEPM code M170 Polychlorinated dibenzo-furan (any congener) is not a PIW in Victoria

- NEPM code M180 Polychlorinated dibenzo-p-dioxin (any congener) is not a PIW in Victoria
- NEPM code M210 Cyanides (organic) is not a PIW in Victoria
- NEPM code T140 Tyres is not a PIW in Victoria.

Victorian codes not included in NEPM code list

There is a long list of Victorian PIW codes that are not exactly the same as the NEPM:

- inorganic chemicals codes D121, D141, D261, D390 and D400
- paints, resins, inks, organic sludges codes F120 and F130
- organic solvents code G130
- pesticides code H160, H170
- oils codes J110, J130, J140 J150 and J170
- putrescible/ organic waste code K200
- organic chemicals code M130
- soil/ sludge codes N105, N110, N119, N120, N121 and N130.

NEPM description Industrial Washwater is not listed in Schedule A List 1 of NEPM (therefore has no NEPM code), but is reported as part of the "15" high level headings in jurisdictional NEPM annual reporting by Victoria, since it is listed as PIWs L100 Car and truck washwaters and L150 Industrial washwaters from cleaning, rinsing or washing operations, NOS.

Applying the questions posed in section 1.1, our recommendations are:

1. NEPM codes without a Victorian code equivalent should be dealt with according to Table 1 below.
2. Translate the 'non-NEPM' Victorian PIW codes above into NEPM codes according to Table 2 below.
3. NEPM description Industrial Washwater - see *Classification issues common to all jurisdictions*, recommendation 2 above.

Table 1: Recommended actions for NEPM codes that don't have a Victorian code equivalent

NEPM Code	NEPM Description	Action
A100	Waste resulting from surface treatment of metals and plastics	Surface treatment of metals and plastics uses pickling acids in large quantities[1], alongside other chemicals. Recommendation: No further action – Reporting under Victorian code B100 (Acids in a solid form or acidic solution with pH value of 4 or less) will pick up a significant portion of this waste, which is directly translated to NEPM code B100.
A110	Waste from heat treatment and tempering operations containing cyanides	Recommendation: No further action – Reporting under Victorian code A100 (Cyanide containing wastes) includes this waste, which is translated to NEPM code A130 (Cyanides inorganic).
D250	Tellurium; tellurium compounds	Recommendation: No further action – tellurium data not collected in Victoria. NEPM code not populated for Victoria.
D270	Vanadium compounds	Recommendation: No further action – vanadium data not collected in Victoria. NEPM code not populated for Victoria.
D340	Perchlorates	This code and NEPM code D350 could both fit into the broader-described Victorian category of E130 (Highly reactive chemicals, NOS). Recommendation: Split Victorian code E130 (Highly reactive chemicals, NOS) 50:50 into NEPM codes D340 and D350.
D350	Chlorates	This code and NEPM code D340 could both fit into the broader-described Victorian category of E130 (Highly reactive chemicals, NOS). Recommendation: Split Victorian code E130 (Highly reactive chemicals, NOS) 50:50 into NEPM codes D340 and D350.
M170	Polychlorinated dibenzo-furan (any congener)	Recommendation: No further action – Specific PCDF and PCDD data not collected in Victoria. NEPM code not populated for Victoria.
M180	Polychlorinated dibenzo-p-dioxin (any congener)	Recommendation: No further action – Specific PCDF and PCDD data not collected in Victoria. NEPM code not populated for Victoria.
M210	Cyanides (organic)	Recommendation: No further action – organic cyanides data not collected in Victoria. NEPM code not populated for Victoria.
T140	Tyres	Tyres data not tracked as prescribed waste in Victoria. Recommendation: Populate using estimation methodology (see *Classification issues common to all jurisdictions*, recommendation 1 above).

1. *http://eippcb.jrc.ec.europa.eu/reference/BREF/stm_bref_0806.pdf*

Table 2: Recommended translations for Victorian codes not included in NEPM code list

Vic Code	Vic Description	NEPM Code translation	NEPM Description translation
D121	Equipment and articles containing mercury	D120	Mercury; mercury compounds
D141	Tannery wastes containing chromium	D140	Chromium compounds (hexavalent and trivalent)
D261	Waste from the production, formulation and use of photographic chemicals and processing materials (containing silver)	T120	Waste from the production, formulation and use of photographic chemicals and processing materials
D390	Inorganic chemicals, NOS	D300	Non-toxic salts
D400	Smelter waste containing prescribed waste	B100	Acidic solutions or acids in solid form[2]
F120	Solvent-based wastes from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish.	F100	Waste from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish
F130	Solvent-based wastes from the production, formulation and use of resins, latex, plasticisers, glues and adhesives.	F110	Waste from the production, formulation and use of resins, latex, plasticisers, glues and adhesives
H160	Mixed pesticide residue.	H100	Waste from the production, formulation and use of biocides and phytopharmaceuticals
H170	Copper-chrome-arsenic (CCA).	H170	Waste from manufacture, formulation and use of wood-preserving chemicals
J110	Waste hydrocarbons.	J100	Waste mineral oils unfit for their original intended use
J130	Triple interceptor waste and stormwater contaminated with oil or hydrocarbons.	J120	Waste oil/water, hydrocarbons/water mixtures or emulsions
J140	Transformer fluids (excluding PCBs).	J100	Waste mineral oils unfit for their original intended use
J150	Other (cutting oils, soluble oils).	J100	Waste mineral oils unfit for their original intended use
J170	Used oil filters. Note: this waste must be reused or recycled and is prohibited from disposal to landfill.	J100	Waste mineral oils unfit for their original intended use
K200	Food and beverage processing wastes, including animal and vegetable oils and derivatives.	K100	Animal effluent and residues (abattoir effluent, poultry and fish processing wastes)
M130	Non-halogenated organic chemicals (non solvent), NOS. Examples: glycol coolant, radiator fluid, brake fluid.	G110	Organic solvents excluding halogenated solvents
N105	Prescribed waste residues in rigid steel or plastic containers with an original	N100	Containers and drums that are contaminated with residues of

Vic Code	Vic Description	NEPM Code translation	NEPM Description translation
	volume greater than or equal to 200 litres (hazardous substances to be specified).		substances referred to in this list
N110	Prescribed waste residues in bags or containers not specified under N100 and N105 (hazardous substances to be specified).	N100	Containers and drums that are contaminated with residues of substances referred to in this list
N119	Category A contaminated soil - hazardous substances to be specified. (Refer to EPA guidance material for details on identifying Hazard Category). Note: these wastes must not be disposed directly to landfill without prior treatment.	N120	Soils contaminated with a controlled waste
N120	Category B contaminated soil - hazardous substances to be specified. (Refer to EPA guidance material for details on identifying Hazard Category).	N120	Soils contaminated with a controlled waste
N121	Category C contaminated soil - hazardous substances to be specified. (Refer to EPA guidance material for details on identifying Hazard Category).	N120	Soils contaminated with a controlled waste
N130	Spent catalysts (must specify contaminants).	D220	Lead; lead compounds[1]

[1] *Records of previously exported spent catalyst wastes show that heavy metals such as Cu, Zn, Hg, Pb, As, Cd and Sb have been reported as contaminants. The most prevalent appears to be Pb (along with Cu and Zn) and since Pb compounds represent greater hazard, this NEPM category (D220) has been chosen as the best fit translation for Victorian code N130.*

Western Australia

The list of 'controlled' waste codes used in Western Australia is shown in Appendix A.9.

Western Australia's *Environmental Protection (Controlled Waste) Regulations 2004* set out waste categories and descriptions that do not directly follow the NEPM code format at all. All of these must be translated into relevant NEPM codes.

Table 3 provides the recommended translation approach from WA codes to NEPM codes:

Table 3: Recommended translations from WA codes to NEPM codes

WA Category No.	WA Description	NEPM "75" code	NEPM "75" Description
1.01	Animal wastes - smallgoods; tallow; and animals slaughtered for quarantine purposes	K100	Animal effluent and residues (abattoir effluent, poultry and fish processing wastes)
1.02	Septage wastes - wastes from apparatus for the treatment of sewage	N205	Residues from industrial waste treatment/disposal operations. Note: for consistency this waste should be estimated by the Australian Government based on biosolids data as described above in *Classification issues common to all jurisdictions*, recommendation number 1, and further detailed in Section 4
1.03	Grease wastes - wastes resulting from food preparation processes	K110	Grease trap waste
1.04	Vegetable oils and derivatives and other wastes (excluding wastes referred to in categories 1.01, 1.02, 1.03 and 1.05)	-	-
1.05	Sewage waste from the reticulated sewage system (i.e. Water Corporation)	N205	Residues from industrial waste treatment/disposal operations. Note: for consistency this waste should be estimated by the Australian Government based on biosolids data as described above in *Classification issues common to all jurisdictions*, recommendation number 1, and further detailed in Section 4
2.02	Contaminated soils (Class IV or V)	N120	Soils contaminated with a controlled waste
2.03	Fly ash	N150	Fly ash, excluding fly ash generated from Australian coal fired power stations
2.04	Filter cake	N190	Filter cake contaminated with residues of substances referred to in this list
2.05	Containers or drums contaminated with residues of a controlled waste	N100	Containers and drums that are contaminated with residues of substances referred to in this list
2.06	Encapsulated, chemically-fixed, solidified or polymerised wastes	N160	Encapsulated, chemically-fixed, solidified or polymerised wastes referred to in this list
2.07	Waste of an explosive nature not subject to other legislation	T200	Waste of an explosive nature not subject to other legislation
2.08	Industrial waste treatment plant sludges and residues	N205	Residues from industrial waste treatment/disposal operations
3.05	Clinical and related wastes – biomedical wastes, pathogenic substances, cytotoxic substances, waste from the production or use of pharmaceutical products	R100/ R120/ R140	Clinical and related wastes/ Waste pharmaceuticals, drugs and medicines/ Waste from the production and preparation of pharmaceutical products[1]
4.01	(Pesticide wastes) Concentrates	H100	Waste from the production, formulation and use of biocides and phytopharmaceuticals
4.02	(Pesticide wastes) Solutions	H100	Waste from the production, formulation and use of biocides and phytopharmaceuticals
4.03	Organochlorine pesticides	H100	Waste from the production, formulation and use of biocides and phytopharmaceuticals
5.01	Wastes from the production formulation or use of inks, dyes, resins, adhesives, glues, latex or plasticisers	F100/ F110	Waste from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish/ Waste from the production, formulation and use of resins, latex, plasticisers, glues and adhesives[2]
5.02	Oil based paints (all options)	F100	Waste from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish
5.03	Water based and acrylic paints (all options)	F100	Waste from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish
6.01	Oil interceptor waste	J120	Waste oil/water, hydrocarbons/water mixtures or

WA Category No.	WA Description	NEPM "75" code	NEPM "75" Description
			emulsions
6.02	Oil/water mixtures	J120	Waste oil/water, hydrocarbons/water mixtures or emulsions
6.03	Oil sludges i.e. plate separators	J100	Waste mineral oils unfit for their original intended use
6.04	Waste mineral oils unfit for their originally intended use	J100	Waste mineral oils unfit for their original intended use
7.01	(Solvents) Halogenated aliphatics	G150	Halogenated organic solvents
7.02	(Solvents) Non-halogenated aliphatics	G110	Organic solvents excluding halogenated solvents
7.03	(Solvents) Halogenated aromatics	G150	Halogenated organic solvents
7.04	(Solvents) Non-halogenated aromatics	G110	Organic solvents excluding halogenated solvents
8.01	Engine coolants	G110	Organic solvents excluding halogenated solvents
8.02	Ethers	G100	Ethers
8.03	Highly odorous organic chemicals (including mercaptans and acrylates)	M260	Highly odorous organic chemicals (including mercaptans and acrylates)
8.04	Isocyanate compounds	M220	Isocyanate compounds
8.05	Organohalogen compounds other than substances referred to elsewhere in this schedule	M160	Organo halogen compounds—other than substances referred to in this Table or Table 2
8.06	PBBs (polybrominated biphenyls)	M100	Waste substances and articles containing or contaminated with polychlorinated biphenyls, polychlorinated napthalenes, polychlorinated terphenyls and/or polybrominated biphenyls
8.07	PCBs (polychlorinated biphenyls)	M100	Waste substances and articles containing or contaminated with polychlorinated biphenyls, polychlorinated napthalenes, polychlorinated terphenyls and/or polybrominated biphenyls
8.08	PCNs (polychlorinated napthalenes)	M100	Waste substances and articles containing or contaminated with polychlorinated biphenyls, polychlorinated napthalenes, polychlorinated terphenyls and/or polybrominated biphenyls
8.09	PCTs (polychlorinated terphenyls)	M100	Waste substances and articles containing or contaminated with polychlorinated biphenyls, polychlorinated napthalenes, polychlorinated terphenyls and/or polybrominated biphenyls
8.1	Phenols and phenol compounds including chlorophenols	M150	Phenols, phenol compounds including chlorophenols
8.11	(Organic) Phosphorous compounds	H110	Organic phosphorous compounds
8.12	Surface acting agent (Surfactant) - Detergents	M250	Surface active agents (surfactants), containing principally organic constituents and which may contain metals and inorganic materials
8.13	Surface acting agent (Surfactant) – Wetting agents	M250	Surface active agents (surfactants), containing principally organic constituents and which may contain metals and inorganic materials
8.14	Surface acting agent (Surfactant) - Emulsifiers	M250	Surface active agents (surfactants), containing principally organic constituents and which may contain metals and inorganic materials

WA Category No.	WA Description	NEPM "75" code	NEPM "75" Description
9.01	Acids	B100	Acidic solutions or acids in solid form
10.01	Alkalis	C100	Basic solutions or bases in solid form
11.01	Chromium	C140	Chromium compounds (hexavalent and trivalent)
12.01	Inorganic cyanide	A130	Inorganic fluorine compounds excluding calcium fluoride
12.02	Organic cyanide	M210	Cyanides (organic)
13.01	Antimony or Antimony compounds	D170	Antimony; antimony compounds
13.02	Arsenic or Arsenic compounds	D130	Arsenic; arsenic compounds
13.03	Barium compounds (excluding barium sulphate)	D290	Barium compounds (excluding barium sulphate)
13.04	Beryllium; beryllium compounds	D160	Beryllium; beryllium compounds
13.05	Boron	D310	Boron compounds
13.06	Cadmium or cadmium compounds	D150	Cadmium; cadmium compounds
13.07	Chlorates	D350	Chlorates
13.08	Cobalt compounds	D200	Cobalt compounds
13.09	Copper compounds	D190	Copper compounds
13.1	Fluorine compounds (excluding calcium fluoride)	D110	Inorganic fluorine compounds excluding calcium fluoride
13.11	Lead; lead compounds	D220	Lead; lead compounds
13.12	Mercury	D120	Mercury; mercury compounds
13.13	Metal carbonyls	D100	Metal carbonyls
13.14	Nickel compounds	D210	Nickel compounds
13.15	Non-toxic salts	D300	Non-toxic salts
13.16	Perchlorates	D340	Perchlorates
13.17	(Inorganic chemicals) Phosphorous compounds	D360	Phosphorus compounds excluding mineral phosphates
13.18	Photographic waste	T120	Waste from the production, formulation and use of photographic chemicals and processing materials
13.19	Selenium; selenium compounds	D240	Selenium; selenium compounds
13.2	Sulphides	D330	Inorganic sulfides
13.21	Tellurium	D250	Tellurium; tellurium compounds
13.22	Thallium	D180	Thallium; thallium compounds
13.23	Vanadium compounds	D270	Vanadium compounds
13.24	Zinc compounds	D230	Zinc compounds
14.01	Industrial wash waters	L	Note: tracking data for this waste is not included in Basel reporting as described above in *Classification issues common to all jurisdictions*, recommendation number 2, and further detailed in Section 4
14.02	Storm water	-	-
14.03	Pond water	-	-
14.04	Fire debris and wash water (may vary)	N140	-
15.01	Residues from industrial waste treatment or disposal operations	N205	Residues from industrial waste treatment/disposal operations
15.02	Waste from the manufacture, formulation and use of wood-preserving	H170	Waste from manufacture, formulation and use of wood-preserving chemicals

WA Category No.	WA Description	NEPM "75" code	NEPM "75" Description
	chemicals		
15.03	Waste chemical substances arising from research and development or teaching activities including those which are not identified or new, or the effects on environment or human health are not known etc.	T100	Waste chemical substances arising from research and development or teaching activities, including those which are not identified and/or are new and whose effects on human health and/or the environment are not known
15.04	Waste resulting from surface treatment of metals and plastics (potentially various categories)	A100	Waste resulting from surface treatment of metals and plastics
15.05	Waste tarry residue arising from refining, distillation or pyrolytic treatment.	J160	Waste tarry residues arising from refining, distillation, and any pyrolytic treatment
15.06	Waste tyres	T140	Tyres

[1]. *Divide WA code by 3 and distribute evenly across NEPM codes*

[2]. *"Inks, dyes" belongs in NEPM code F100, while "resins, adhesives, glues, latex or plasticisers" belongs in NEPM code F110. Consequently this WA codes has been split 50:50 into F100 and F110.*

There are also a number of instances where some NEPM codes do not have a Western Australian coding equivalent. In these cases a decision must be made between a) using an estimation approach to fill the NEPM code 'gap', or b) leave the waste unfilled (not reported). These instances and decisions taken are listed in Table 4. The principles used to guide these decision of when to fill 'gaps' in reported data and when not to are described in Section 4.

Table 4: Recommended actions for NEPM codes that don't have a WA code equivalent

NEPM Code	NEPM Description	Action
A110	Waste from heat treatment and tempering operations containing cyanides	Recommendation: No further action – Reporting under WA code 12.01 (Inorganic Cyanide) includes this waste, which is translated to NEPM code A130 (Cyanides inorganic).
E100	Waste containing peroxides other than hydrogen peroxide	Recommendation: No further action – Reporting under WA code 2.07 (Waste of an explosive nature not subject to other legislation) could be construed to include this waste, which is translated to NEPM code T200 (Waste of an explosive nature not subject to other legislation).
G160	Waste from the production, formulation and use of organic solvents	Recommendation: No further action – Reporting under WA codes 7.01 – 7.04 (variants of halogenated and non-halogenated aromatic and aliphatic organic solvents) include this waste, which are variously translated to NEPM codes G110 and G150.
K140	Tannery wastes (including leather dust, ash, sludges and flours)	Recommendation: No further action –WA code 1.01 (Animal wastes - smallgoods; tallow; and animals slaughtered for quarantine purposes) is a high level code that includes these two wastes, which is translated to NEPM code K100 (Animal effluent and residues (abattoir effluent, poultry and fish processing wastes). K140 and K190 are not individually tracked in WA.
K190	Wool scouring wastes	
M170	Polychlorinated dibenzo-furan (any congener)	Recommendation: No further action – Specific PCDF and PCDD data not collected in WA. NEPM code not populated for WA.
M180	Polychlorinated dibenzo-p-dioxin (any congener)	Recommendation: No further action – Specific PCDF and PCDD data not collected in WA NEPM code not populated for WA.
M230	Triethylamine catalysts for setting foundry sands	Recommendation: Australian Government to estimate using population surrogate as described in Section 4 - research indicates at least 8 foundry-like facilities operate in WA.
N220	Asbestos	Recommendation: Australian Government to estimate using population surrogate as described in Section 4 – asbestos is clearly a waste generated in significant quantities in WA.
N230	Ceramic-based fibres with physico-chemical characteristics similar to those of asbestos	Recommendation: No further action – No information is available to either: a) determine if this waste is generated in WA or b) how to estimate it.

Note:

Western Australia is currently reviewing its controlled waste classification system for the purpose of converting to a completely new coding system based closely on the NEPM. The required regulatory changes and subsequent implementation of the new coding system is planned to occur during the second half of 2014. Consequently, this guidance document and the underlying workbook data collection

3.2 NEPM codes to Basel Y-codes

Section 3.1 deals with the approach taken to map individual State and Territory waste codes into NEPM codes. The second step, which is identical for all jurisdictions, is to map the nationally consistent NEPM codes into Basel Y-codes.

The full list of Basel Y codes, taken from Annex I and II of the Basel Convention, is provided in Appendix A.10.

The jurisdiction-specific workbooks capture all waste code translations, including the conversion from NEPM to Basel Y codes. The basis of these NEPM to Basel allocation decisions is outlined in Table 5 below, with Basel codes on the left and their NEPM code translations on the right.

After the mapping of Table 5 has been applied, there remains a number of NEPM codes deemed suitable for reporting for which there are no clear Basel Y-codes to map them into. Our recommendation is to create eight new descriptions for reporting to the Basel Secretariat, made up from NEPM codes as mapped in Table 6. These translations are also embedded in the jurisdiction-specific excel workbooks.

Table 5: Recommended translations from NEPM codes to Basel Y-codes

Basel Y Code	Y Code Description	NEPM code	NEPM Description
Y1	Clinical wastes from medical care in hospitals, medical centres and clinics	R100	Clinical and related wastes
Y2	Wastes from the production and preparation of pharmaceutical products	R140	Waste from the production and preparation of pharmaceutical products
Y3	Waste pharmaceuticals, drugs and medicines	R120	Waste pharmaceuticals, drugs and medicines
Y4	Wastes from the production…… of biocides and phytopharmaceuticals	H100	Waste from the production, formulation and use of biocides and phytopharmaceuticals
Y5	Wastes from the manufacture…… of wood preserving chemicals	H170	Waste from manufacture, formulation and use of wood-preserving chemicals
Y6	Wastes from the production, formulation and use of organic solvent	G160	Waste from the production, formulation and use of organic solvents
Y7	Wastes from heat treatment and tempering operations containing cyanides	A110	Waste from heat treatment and tempering operations containing cyanides
Y8	Waste mineral oils unfit for their originally intended use	J100	Waste mineral oils unfit for their original intended use
Y9	Waste oils/water, hydrocarbons/water mixtures, emulsion	J120	Waste oil/water, hydrocarbons/water mixtures or emulsions
Y10	Waste substances ….containing or contaminated with PCBs, PCTs, PBBs	M100	Waste substances and articles containing or contaminated with polychlorinated biphenyls, polychlorinated napthalenes, polychlorinated terphenyls and/or polybrominated biphenyls
Y11	Waste tarry residues ... from refining, distillation and any pyrolytic treatment	J160	Waste tarry residues arising from refining, distillation, and any pyrolytic treatment
Y12	Wastes from production…… of inks, dyes, pigments, paints, etc	F100	Waste from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish
Y13	Wastes from production……resins, latex, plasticizers, glues, etc	F110	Waste from the production, formulation and use of resins, latex, plasticisers, glues and adhesives
Y14	Waste chemical substances arising ….. environment are not known	T100	Waste chemical substances arising from research and development or teaching activities, including those which are not identified and/or are new and whose effects on human health and/or the environment are not known
Y15	Wastes of an explosive nature not subject to other legislation	T200	Waste of an explosive nature not subject to other legislation
		D340	Perchlorates
		D350	Chlorates
		E100	Waste containing peroxides other than hydrogen peroxide
Y16	Wastes from production, formulation and use of photographic chemicals…	T120	Waste from the production, formulation and use of photographic chemicals and processing materials
Y17	Wastes resulting from surface treatment of metals and plastics	A100	Waste resulting from surface treatment of metals and plastics

Basel Y Code	Y Code Description	NEPM code	NEPM Description
Y18	Residues arising from industrial waste disposal operations	N205	Residues from industrial waste treatment/disposal operations
		N150	Fly ash, excluding fly ash generated from Australian coal fired power stations
		N160	Encapsulated, chemically-fixed, solidified or polymerised wastes referred to in this list
		N230	Ceramic-based fibres with physico-chemical characteristics similar to those of asbestos
Wastes having as constituents (Annex I to Basel Convention)			
Y19	Metal carbonyls	D100	Metal carbonyls
Y20	Beryllium; beryllium compounds	D160	Beryllium; beryllium compounds
Y21	Hexavalent chromium compounds	D140	Chromium compounds (hexavalent and trivalent)
Y22	Copper compounds	D190	Copper compounds
Y23	Zinc compounds	D230	Zinc compounds
Y24	Arsenic; arsenic compounds	D130	Arsenic; arsenic compounds
Y25	Selenium; selenium compounds	D240	Selenium; selenium compounds
Y26	Cadmium; cadmium compounds	D150	Cadmium; cadmium compounds
Y27	Antimony; antimony compounds	D170	Antimony; antimony compounds
Y28	Tellurium; tellurium compounds	D250	Tellurium; tellurium compounds
Y29	Mercury; mercury compounds	D120	Mercury; mercury compounds
Y30	Thallium; thallium compounds	D180	Thallium; thallium compounds
Y31	Lead; lead compounds	D220	Lead; lead compounds
Y32	Inorganic fluorine compounds excluding calcium fluoride	D110	Inorganic fluorine compounds excluding calcium fluoride
Y33	Inorganic cyanides	A130	Cyanides (inorganic)
Y34	Acidic solutions or acids in solid form	B100	Acidic solutions or acids in solid form
Y35	Basic solutions or bases in solid form	C100	Basic solutions or bases in solid form
Y36	Asbestos (dust and fibres)	N220	Asbestos
Y37	Organic phosphorus compounds	H110	Organic phosphorous compounds
Y38	Organic cyanides	M210	Cyanides (organic)
Y39	Phenols; phenol compounds including chlorophenols	M150	Phenols, phenol compounds including chlorophenols
Y40	Ethers	G100	Ethers

Basel Y Code	Y Code Description	NEPM code	NEPM Description
Y41	Halogenated organic solvents	G150	Halogenated organic solvents
Y42	Organic solvents excluding halogenated solvents	G110	Organic solvents excluding halogenated solvents
Y43	Any congenor of polychlorinated dibenzo-furan	M170	Polychlorinated dibenzo-furan (any congener)
Y44	Any congenor of polychlorinated dibenzo-p-dioxin	M180	Polychlorinated dibenzo-p-dioxin (any congener)
Y45	Organohalogen compounds other than …(e.g. Y39, Y41, Y42, Y43, Y44)	M160	Organo halogen compounds—other than substances referred to in this Table or Table 2
Categories of wastes requiring special consideration (Annex II to Basel Convention)			
Y46	Wastes collected from households	Consultant proposes estimation method, as described in Section 4	
Y47	Residues arising from the incineration of household wastes	No incineration of household waste occurs in any official capacity in Australia – not estimated.	

Table 6: Recommended Y-code translations for additional NEPM codes

	Additional waste categories not included in Y-Codes	NEPM code	NEPM Description
1	Other metal compounds	D200	Cobalt compounds
		D210	Nickel compounds
		D270	Vanadium compounds
		D290	Barium compounds (excluding barium sulphate)
2	Other inorganic chemicals	D300	Non-toxic salts
		D310	Boron compounds
		D330	Inorganic sulfides
		D360	Phosphorus compounds excluding mineral phosphates
3	Other organic chemicals	M220	Isocyanate compounds
		M230	Triethylamine catalysts for setting foundry sands
		M250	Surface active agents (surfactants), containing principally organic constituents and which may contain metals and inorganic materials
		M260	Highly odorous organic chemicals (including mercaptans and acrylates)
4	Controlled putrescible/ organic wastes	K100	Animal effluent and residues (abattoir effluent, poultry and fish processing wastes)
		K110	Grease trap waste
		K140	Tannery wastes (including leather dust, ash, sludges and flours)
		K190	Wool scouring wastes
5	Waste packages and containers containing Annex 1 substances in concentrations sufficient to exhibit Annex III hazard characteristics	N100	Containers and drums that are contaminated with residues of substances referred to in this list
6	Soils contaminated with residues of substances in Basel Y-codes 19-45	N120	Soils contaminated with a controlled waste
7	Sludges contaminated with residues of substances in Basel Y-codes 19-45	N140	Fire debris and fire wash waters
		N190	Filter cake contaminated with residues of substances referred to in this list
8	Tyres	T140	Tyres

Table 7 (below) demonstrates the derivation of Table 6's mapping of those NEPM categories without a Y-code to match, by providing alternative choices for these codes. The chosen path is shown shaded in blue. Note that the decision of which new categories to create was guided by two principles:

- The most appropriate description for the 'orphaned' waste category; and
- Adhering to a principle of creating the bare minimum of non-Y code categories.

Table 7: NEPM codes without Y-codes: options considered

NEPM Code	NEPM Description	Options considered[1.]
D200	Cobalt compounds	Other metal compounds
		Other inorganic chemicals
D210	Nickel compounds	Other metal compounds
		Other inorganic chemicals
D270	Vanadium compounds	Other metal compounds
		Other inorganic chemicals
D290	Barium compounds (excluding barium sulphate)	Other metal compounds
		Other inorganic chemicals
D300	Non-toxic salts	Other inorganic chemicals
		Non-toxic salts
D310	Boron compounds	Other inorganic chemicals
D330	Inorganic sulfides	Other inorganic chemicals
D340	Perchlorates	Y15 - Wastes of an explosive nature not subject to other legislation
		Other inorganic chemicals
		Oxidising agents
D350	Chlorates	Y15 - Wastes of an explosive nature not subject to other legislation
		Other inorganic chemicals
		Oxidising agents
D360	Phosphorus compounds excluding mineral phosphates	Other inorganic chemicals
E100	Waste containing peroxides other than hydrogen peroxide	Y15 - Wastes of an explosive nature not subject to other legislation
		Other inorganic chemicals
		Oxidising agents
K100	Animal effluent and residues (abattoir effluent, poultry and fish	Controlled putrescible/ organic wastes

NEPM Code	NEPM Description	Options considered[1.]
	processing wastes)	
K110	Grease trap waste	Controlled putrescible/ organic wastes
K140	Tannery wastes (including leather dust, ash, sludges and flours)	Controlled putrescible/ organic wastes
		Tannery wastes
K190	Wool scouring wastes	Controlled putrescible/ organic wastes
		Wool scouring wastes
M220	Isocyanate compounds	Other organic chemicals
M230	Triethylamine catalysts for setting foundry sands	Other organic chemicals
		Spent Catalysts
M250	Surface active agents (surfactants), containing principally organic constituents and which may contain metals and inorganic materials	Other organic chemicals
M260	Highly odorous organic chemicals (including mercaptans and acrylates)	Other organic chemicals
N100	Containers and drums that are contaminated with residues of substances referred to in this list	Waste packages and containers containing Annex 1 substances in concentrations sufficient to exhibit Annex III hazard characteristics
N120	Soils contaminated with a controlled waste	Soils contaminated with residues of substances in Basel Y-codes 19-45
		Soils/ sludges contaminated with residues of substances in Basel Y-codes 19-45
		Option to estimate the most prevalent contaminant (e.g. lead or oil) and categorise waste according to this (e.g. *lead; lead compounds* or *Waste mineral oils unfit for their original intended use*)
N140	Fire debris and fire wash waters	Sludges contaminated with residues of substances in Basel Y-codes 19-45
		Soils/ sludges contaminated with residues of substances in Basel Y-codes 19-45
N150	Fly ash, excluding fly ash generated from Australian coal fired power stations	Y18 - Residues arising from industrial waste disposal operations
		Fly ash
N160	Encapsulated, chemically-fixed, solidified or polymerised wastes referred to in this list	Y18 - Residues arising from industrial waste disposal operations

NEPM Code	NEPM Description	Options considered[1.]
		Encapsulated, chemically-fixed, solidified or polymerised wastes referred to in this list
N190	Filter cake contaminated with residues of substances referred to in this list	Sludges contaminated with residues of substances in Basel Y-codes 19-45
		Y18 - Residues arising from industrial waste disposal operations
		Soils contaminated with residues of substances in Basel Y-codes 19-45
N230	Ceramic-based fibres with physico-chemical characteristics similar to those of asbestos	Y36 – Asbestos (dust and fibres)
		Ceramic-based fibres with physico-chemical characteristics similar to those of asbestos
		Soils/ sludges contaminated with residues of substances in Basel Y-codes 19-45
T140	Tyres	Tyres

[1]. *Recommended option shown in blue shading*

4. Guidance for the Australian Government

The states and territories act as raw data providers to the Australian Government, which has a responsibility to acquit Australia's hazardous waste reporting responsibility under the Basel Convention. The jurisdiction-specific workbooks have been developed to assist states and territories with the process of collecting, translating and forwarding their hazardous waste data to the Australian Government for the latter's delivery of its obligations for annual reporting under the Basel Convention.

Apart from reporting the final numbers, the Australian Government's role is to manage and facilitate the State and Territory data collection process. As part of the suite of guidance materials provided, a spreadsheet titled 'Basel Data' has been created for the Australian Government to use in carrying out relevant tasks such as:

- State and Territory data collation
- quality assessment
- quality assurance
- estimation of data gaps
- presentation and provision of final data for submission to the Basel Secretariat.

4.1 Provision of the guidance materials

The Australian Government is responsible for providing the template spreadsheet, '**Collation workbook for Basel data**', along with this guidance document, to states and territories for their use in populating hazardous waste data each year.

4.2 Data estimation – filling State and Territory data gaps

Section 3.1 details the variation in hazardous waste classification, tracking and data collection throughout the states and territories, as well as the way to overcome data gaps that result from this diverse approach. Much of this inconsistency is dealt with by marrying jurisdictional waste codes with their best fit NEPM codes and subsequent translation into Y-codes. However, there are still a number of waste codes for which no data is collected at the jurisdictional level, through tracking or similar administrative systems.

These waste gaps have been considered for the following actions:

- use an estimation method to 'fill-in' the gap(s); or
- leave the waste unreported.

The following principles have been used to guide this decision on a jurisdiction-by-jurisdiction basis:

1. Is the waste likely to be generated, i.e. do these industries exist in the jurisdiction?
2. Is the waste quantity likely to be significant?
3. Is a simple and logical estimation method available– for example, would the waste be likely to vary as a function of the number of people in a jurisdiction, making it a candidate for estimation based on per-capita estimates collected in other jurisdictions?
4. Are there other reasons, such as policy priorities, existing programs or particular hazards posed, that make this waste worthy of estimation effort?

These principles have been considered in deciding what actions to take with each waste gap. Table 8 overleaf outlines for each waste (and jurisdiction) in question whether estimation should occur and, if so, what method has been used and should be used in future to generate the number.

While the authors have carried out all data collection and calculated all data gap estimations for the 2011-12 Basel reporting period, the responsibilities outlined in this section, including the task of gap estimation calculations, will be the Australian Government's responsibility in future reporting years. The adjustments made in the Basel data 2012 collation can be used as a starting point. The worksheet titled 'Gap Data', and the template for the adjustments made to the 2012 data, have been preserved in the '**Collation workbook for Basel data**' workbook.

Table 8: Gaps in jurisdictional data and methods for filling them

Jurisdiction Code	NEPM Description	NEPM or Y Code	Estimation Method
All Jurisdictions			
K130	Sewage sludge and residues including nightsoil and septic tank sludge	N205	Replace tracking data for all jurisdictions (where it exists) with estimations from biosolids data and reported on a "wet" basis
L	Industrial washwater	L	Not estimated - inconsistently tracked across jurisdictions and typically present under codes specific to the water contaminants
T140	Tyres	T140	Replace tracking data for all jurisdictions (where it exists) with estimations from data developed in the Hyder report
-	Wastes collected from households	Y46	See section "7.4.1. Household wastes in the context of the Basel Convention" from Methodological guide for the development of inventories of hazardous wastes and other wastes under the Basel Convention, (Draft, October 2013)
-	Residues arising from the incineration of household wastes	Y47	Not estimated - N/A in Australia
-	Additional waste categories not included in Y-Codes	1 - 8	Eight new "Y-codes" - handled by jurisdictional workbook translations
Queensland			
D190	Cobalt compounds	D190	Not estimated - no information to suggest this waste is generated in Qld
N120	Soils contaminated with a controlled waste	N120	Use WGRRA figure
N230	Ceramic-based fibres with physico-chemical characteristics similar to those of asbestos	N230	Not estimated - no information to suggest this waste is generated in Qld
New South Wales			
K100	Animal effluent and residues (abattoir effluent, poultry and fish processing wastes)	K100	Use average of data reported by other states to obtain a t/capita figure. Multiply t/capita by population in NSW
K110	Grease trap waste	K110	Use average of data reported by other states to obtain a t/capita figure. Multiply t/capita by population in NSW
K140	Tannery wastes (including leather dust, ash, sludges and flours)	K140	No estimates made - no defensible principle-based method available
K190	Wool scouring wastes	K190	No estimates made - no defensible principle-based method available

Jurisdiction Code	NEPM Description	NEPM or Y Code	Estimation Method
N100	Containers and drums that are contaminated with residues of substances referred to in this Table	N100	Use average of data reported by other states to obtain a t/capita figure. Multiply t/capita by population in NSW
N120	Solis contaminated with a substance or waste referred to in this Table	N120	Use WGRRA figure
N220	Asbestos	N220	Use WGRRA figure
R100	Clinical and related wastes	R100	Use average of data reported by other states to obtain a t/capita figure. Multiply t/capita by population in NSW
R120	Waste pharmaceuticals, drugs and medicines	R120	Use average of data reported by other states to obtain a t/capita figure. Multiply t/capita by population in NSW
Western Australia			
-	Triethylamine catalysts for setting foundry sands	M230	Use average of data reported by other states to obtain a t/capita figure. Multiply t/capita by population in WA
-	Asbestos	N220	Use average of data reported by other states to obtain a t/capita figure. Multiply t/capita by population in WA
South Australia			
K100	Animal effluent and residues (abattoir effluent, poultry and fish processing wastes)	K100	Use average of data reported by other states to obtain a t/capita figure. Multiply t/capita by population in SA
K110	Grease trap waste	K110	Use average of data reported by other states to obtain a t/capita figure. Multiply t/capita by population in SA
K140	Tannery wastes (including leather dust, ash, sludges and flours)	K140	No estimates made - no defensible principle-based method available
K190	Wool scouring wastes	K190	No estimates made - no defensible principle-based method available

Note: Before national average tonne per capita figures are calculated for a waste code deemed by Table 8 to be requiring estimation, any data that has been reported by a jurisdiction (for this waste code) as part of tracking data must first be removed, so as not to erroneously contribute to the jurisdictional average calculation.

4.3 Quality Assessment and Assurance

The 'Basel Data <year>' workbook was created to provide an automated high-level assessment of jurisdictional data, displaying potential errors based on comparison of the reported waste quantities with data reported by that jurisdiction for another six-monthly period and the national average.

The following specific criteria are used:

- the reported quantity of this waste type per capita is greater than 100x or less than 0.01x the national average across the three data periods
- The maximum number reported by the jurisdiction for this waste type in a six-monthly period is greater than 100x the minimum reported by that jurisdiction.

Using the '**Collation workbook for Basel data**'' workbook, the Australian Government will assure the quality of jurisdiction-supplied data through a process of:

- Pasting the NEPM data from each jurisdiction-supplied '**<Jur> generated**' worksheet into the '**Collation workbook for Basel data**'' workbook.
- Assessing the results of the automatic checks carried out on each jurisdiction's data – these are shown in the '**QA checks**' worksheet.
- First-level assessment of the likely validity of those results flagged through the automated process as potentially unusual.
- Follow up the data points identified by the automated check with the jurisdictions through a feedback loop. This is an opportunity to add value to jurisdictional data quality but ultimately it is the jurisdiction's decision as to whether to make any changes to data they have supplied.
- Finalisation of the data.

4.4 Reporting to Basel

Once all data has been supplied, the gaps have been estimated and the quality assurance process is complete, the Australian Government must report the collated national tonnages to the Basel Secretariat, on an annual basis.

4.5 Maintenance of guidance materials

Each year this document and accompanying jurisdiction-specific workbook should be reviewed for the purposes of minor change and update. For example, the following changes may be required:

- The six-monthly reporting periods will need to be adjusted each year, across every worksheet in every jurisdiction-specific workbook.
- The waste 'gaps' that have previously been estimated should be reviewed for possible changes in data sources, to ensure a reasonable balance is being considered between ease of calculation effort and the likely accuracy of the estimation approach.
- Both the workbooks and this document will need to be updated if jurisdictions make changes to their classification approaches. For example, Western Australia is well progressed to implement regulatory changes to introduce a brand new classification coding system, which will be more directly in line with NEPM codes. As this is planned to occur in 2014, it is likely that both this document and the accompanying WA workbook will require updating before the next reporting period.

Appendix A

A.1 Controlled Waste NEPM Waste Codes

NEPM "15" Waste Type		NEPM "75" Code	Waste Description
A	Plating and heat treatment	A100	Waste resulting from surface treatment of metals and plastics
		A110	Waste from heat treatment and tempering operations containing cyanides
		A130	Cyanides (inorganic)
B	Acids	B100	Acidic solutions or acids in solid form
C	Alkalis	C100	Basic solutions or bases in solid form
D	Inorganic chemicals	D100	Metal carbonyls
		D110	Inorganic fluorine compounds excluding calcium fluoride
		D120	Mercury; mercury compounds
		D130	Arsenic; arsenic compounds
		D140	Chromium compounds (hexavalent and trivalent)
		D150	Cadmium; cadmium compounds
		D160	Beryllium; beryllium compounds
		D170	Antimony; antimony compounds
		D180	Thallium; thallium compounds
		D190	Copper compounds
		D200	Cobalt compounds
		D210	Nickel compounds
		D220	Lead; lead compounds
		D230	Zinc compounds
		D240	Selenium; selenium compounds
		D250	Tellurium; tellurium compounds
		D270	Vanadium compounds
		D290	Barium compounds (excluding barium sulphate)
		D300	Non-toxic salts
		D310	Boron compounds
		D330	Inorganic sulfides
		D340	Perchlorates
		D350	Chlorates
		D360	Phosphorus compounds excluding mineral phosphates
E	Reactive chemicals	E100	Waste containing peroxides other than hydrogen peroxide
F	Paints, resins, inks, organic sludges	F100	Waste from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish
		F110	Waste from the production, formulation and use of resins, latex, plasticisers, glues and adhesives
G	Organic solvents	G100	Ethers
		G110	Organic solvents excluding halogenated solvents
		G150	Halogenated organic solvents
		G160	Waste from the production, formulation and use of organic solvents

NEPM "15" Waste Type		NEPM "75" Code	Waste Description
H	Pesticides	H100	Waste from the production, formulation and use of biocides and phytopharmaceuticals
		H110	Organic phosphorous compounds
		H170	Waste from manufacture, formulation and use of wood-preserving chemicals
J	Oils	J100	Waste mineral oils unfit for their original intended use
		J120	Waste oil/water, hydrocarbons/water mixtures or emulsions
		J160	Waste tarry residues arising from refining, distillation, and any pyrolytic treatment
K	Putrescible/ organic waste	K100	Animal effluent and residues (abattoir effluent, poultry and fish processing wastes)
		K110	Grease trap waste
		K140	Tannery wastes (including leather dust, ash, sludges and flours)
		K190	Wool scouring wastes
L	Industrial washwater	-	Not listed in Schedule A List 1 of NEPM. Heading reported as part of "15" in NEPM annual reporting
M	Organic chemicals	M100	Waste substances and articles containing or contaminated with polychlorinated biphenyls, polychlorinated napthalenes, polychlorinated terphenyls and/or polybrominated biphenyls
		M150	Phenols, phenol compounds including chlorophenols
		M160	Organo halogen compounds—other than substances referred to in this Table or Table 2
		M170	Polychlorinated dibenzo-furan (any congener)
		M180	Polychlorinated dibenzo-p-dioxin (any congener)
		M210	Cyanides (organic)
		M220	Isocyanate compounds
		M230	Triethylamine catalysts for setting foundry sands
		M250	Surface active agents (surfactants), containing principally organic constituents and which may contain metals and inorganic materials
		M260	Highly odorous organic chemicals (including mercaptans and acrylates)
N	Soil/ sludge	N100	Containers and drums that are contaminated with residues of substances referred to in this list
		N120	Soils contaminated with a controlled waste
		N140	Fire debris and fire wash waters
		N150	Fly ash, excluding fly ash generated from Australian coal fired power stations
		N160	Encapsulated, chemically-fixed, solidified or polymerised wastes referred to in this list
		N190	Filter cake contaminated with residues of substances referred to in this list
		N205	Residues from industrial waste treatment/disposal operations
		N220	Asbestos
		N230	Ceramic-based fibres with physico-chemical characteristics similar to those of asbestos
R	Clinical and pharmaceutical	R100	Clinical and related wastes
		R120	Waste pharmaceuticals, drugs and medicines
		R140	Waste from the production and preparation of pharmaceutical products

NEPM "15" Waste Type		NEPM "75" Code	Waste Description
T	Miscellaneous	T100	Waste chemical substances arising from research and development or teaching activities, including those which are not identified and/or are new and whose effects on human health and/or the environment are not known
		T120	Waste from the production, formulation and use of photographic chemicals and processing materials
		T140	Tyres
		T200	Waste of an explosive nature not subject to other legislation

Notes: Three categories from the NEPM are not expressly listed with codes:
Oxidising agents *
Reactive chemicals *
Reducing agents

* Could both be described by code E100.

A.2 Australian Capital Territory Controlled Waste Codes

Code	Waste description	Waste type
A	Waste resulting from surface treatment of metals and plastics	A100
	Waste from heat treatment and tempering operations containing cyanides	A110
	Cyanides (inorganic)	A130
B	Acidic solutions or acids in solid form	B100
C	Basic solutions or bases in solid form	C100
D	Metal carbonyls	D100
	Inorganic fluorine compounds excluding calcium fluoride	D110
	Mercury; mercury compounds	D120
	Arsenic; arsenic compounds	D130
	Chromium compounds (hexavalent and trivalent)	D140
	Cadmium; cadmium compounds	D150
	Beryllium; beryllium compounds	D160
	Antimony; antimony compounds	D170
	Thallium; thallium compounds	D180
	Copper compounds	D190
	Cobalt compounds	D200
	Nickel compounds	D210
	Lead; lead compounds	D220
	Zinc compounds	D230
	Selenium; selenium compounds	D240
	Tellurium; tellurium compounds	D250
	Vanadium compounds	D270
	Barium compounds (excluding barium sulphate)	D290
	Non-toxic salts	D300
	Boron compounds	D310
	Inorganic sulfides	D330
	Perchlorates	D340
	Chlorates	D350
	Phosphorus compounds excluding mineral phosphates	D360
E	Waste containing peroxides other than hydrogen peroxide	E100
F	Waste from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish	F100
	Waste from the production, formulation and use of resins, latex, plasticisers, glues and adhesives	F110
G	Ethers	G100
	Organic solvents excluding halogenated solvents	G110
	Halogenated organic solvents	G150
	Waste from the production, formulation and use of organic solvents	G160
H	Waste from the production, formulation and use of biocides and phytopharmaceuticals	H100
	Organic phosphorous compounds	H110

Code	Waste description	Waste type
	Waste from manufacture, formulation and use of wood-preserving chemicals	H170
J	Waste mineral oils unfit for their original intended use	J100
	Waste oil/water, hydrocarbons/water mixtures or emulsions	J120
	Waste tarry residues arising from refining, distillation, and any pyrolytic treatment	J160
K	Animal effluent and residues (abattoir effluent, poultry and fish processing wastes)	K100
	Grease trap waste	K110
	Tannery wastes (including leather dust, ash, sludges and flours)	K140
	Wool scouring wastes	K190
L	Not listed in Schedule A List 1 of NEPM. Heading reported as part of "15" in NEPM annual reporting	-
M	Waste substances and articles containing or contaminated with polychlorinated biphenyls, polychlorinated napthalenes, polychlorinated terphenyls and/or polybrominated biphenyls	M100
	Phenols, phenol compounds including chlorophenols	M150
	Organo halogen compounds—other than substances referred to in this Table or Table 2	M160
	Polychlorinated dibenzo-furan (any congener)	M170
	Polychlorinated dibenzo-p-dioxin (any congener)	M180
	Cyanides (organic)	M210
	Isocyanate compounds	M220
	Triethylamine catalysts for setting foundry sands	M230
	Surface active agents (surfactants), containing principally organic constituents and which may contain metals and inorganic materials	M250
	Highly odorous organic chemicals (including mercaptans and acrylates)	M260
N	Containers and drums that are contaminated with residues of substances referred to in this list	N100
	Soils contaminated with a controlled waste	N120
	Fire debris and fire wash waters	N140
	Fly ash, excluding fly ash generated from Australian coal fired power stations	N150
	Encapsulated, chemically-fixed, solidified or polymerised wastes referred to in this list	N160
	Filter cake contaminated with residues of substances referred to in this list	N190
	Residues from industrial waste treatment/disposal operations	N205
	Asbestos	N220
	Ceramic-based fibres with physico-chemical characteristics similar to those of asbestos	N230
R	Clinical and related wastes	R100
	Waste pharmaceuticals, drugs and medicines	R120
	Waste from the production and preparation of pharmaceutical products	R140
T	Waste chemical substances arising from research and development or teaching activities, including those which are not identified and/or are new and whose effects on human health and/or the environment are not known	T100
	Waste from the production, formulation and use of photographic chemicals and processing materials	T120
	Tyres	T140
	Waste of an explosive nature not subject to other legislation	T200

A.3 Northern Territory Controlled Waste Codes

Code	Waste description	Waste type
A	Waste resulting from surface treatment of metals and plastics	A100
	Waste from heat treatment and tempering operations containing cyanides	A110
	Cyanides (inorganic)	A130
B	Acidic solutions or acids in solid form	B100
C	Basic solutions or bases in solid form	C100
D	Metal carbonyls	D100
	Inorganic fluorine compounds excluding calcium fluoride	D110
	Mercury; mercury compounds	D120
	Arsenic; arsenic compounds	D130
	Chromium compounds (hexavalent and trivalent)	D140
	Cadmium; cadmium compounds	D150
	Beryllium; beryllium compounds	D160
	Antimony; antimony compounds	D170
	Thallium; thallium compounds	D180
	Copper compounds	D190
	Cobalt compounds	D200
	Nickel compounds	D210
	Lead; lead compounds	D220
	Zinc compounds	D230
	Selenium; selenium compounds	D240
	Tellurium; tellurium compounds	D250
	Vanadium compounds	D270
	Barium compounds (excluding barium sulphate)	D290
	Non-toxic salts	D300
	Boron compounds	D310
	Inorganic sulfides	D330
	Perchlorates	D340
	Chlorates	D350
	Phosphorus compounds excluding mineral phosphates	D360
E	Waste containing peroxides other than hydrogen peroxide	E100
F	Waste from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish	F100
	Waste from the production, formulation and use of resins, latex, plasticisers, glues and adhesives	F110
G	Ethers	G100
	Organic solvents excluding halogenated solvents	G110
	Halogenated organic solvents	G150
	Waste from the production, formulation and use of organic solvents	G160
H	Waste from the production, formulation and use of biocides and phytopharmaceuticals	H100
	Organic phosphorous compounds	H110
	Waste from manufacture, formulation and use of wood-preserving chemicals	H170

Code	Waste description	Waste type
J	Waste mineral oils unfit for their original intended use	J100
	Waste oil/water, hydrocarbons/water mixtures or emulsions	J120
	Waste tarry residues arising from refining, distillation, and any pyrolytic treatment	J160
K	Animal effluent and residues (abattoir effluent, poultry and fish processing wastes)	K100
	Grease trap waste	K110
	Tannery wastes (including leather dust, ash, sludges and flours)	K140
	Wool scouring wastes	K190
L	Not listed in Schedule A List 1 of NEPM. Heading reported as part of "15" in NEPM annual reporting	-
M	Waste substances and articles containing or contaminated with polychlorinated biphenyls, polychlorinated napthalenes, polychlorinated terphenyls and/or polybrominated biphenyls	M100
	Phenols, phenol compounds including chlorophenols	M150
	Organo halogen compounds—other than substances referred to in this Table or Table 2	M160
	Polychlorinated dibenzo-furan (any congener)	M170
	Polychlorinated dibenzo-p-dioxin (any congener)	M180
	Cyanides (organic)	M210
	Isocyanate compounds	M220
	Triethylamine catalysts for setting foundry sands	M230
	Surface active agents (surfactants), containing principally organic constituents and which may contain metals and inorganic materials	M250
	Highly odorous organic chemicals (including mercaptans and acrylates)	M260
N	Containers and drums that are contaminated with residues of substances referred to in this list	N100
	Soils contaminated with a controlled waste	N120
	Fire debris and fire wash waters	N140
	Fly ash, excluding fly ash generated from Australian coal fired power stations	N150
	Encapsulated, chemically-fixed, solidified or polymerised wastes referred to in this list	N160
	Filter cake contaminated with residues of substances referred to in this list	N190
	Residues from industrial waste treatment/disposal operations	N205
	Asbestos	N220
	Ceramic-based fibres with physico-chemical characteristics similar to those of asbestos	N230
R	Clinical and related wastes	R100
	Waste pharmaceuticals, drugs and medicines	R120
	Waste from the production and preparation of pharmaceutical products	R140
T	Waste chemical substances arising from research and development or teaching activities, including those which are not identified and/or are new and whose effects on human health and/or the environment are not known	T100
	Waste from the production, formulation and use of photographic chemicals and processing materials	T120
	Tyres	T140
	Waste of an explosive nature not subject to other legislation	T200

A.4 New South Wales Trackable Waste Codes

Code	Waste description	Waste type
A	Waste resulting from surface treatment of metals and plastics	A100
	Waste from heat treatment and tempering operations containing cyanides	A110
	Cyanides (inorganic)	A130
B	Acidic solutions or acids in solid form	B100
C	Basic solutions or bases in solid form	C100
D	Metal carbonyls.	D100
	Inorganic fluorine compounds (excluding calcium fluoride).	D110
	Mercury and mercury compounds.	D120
	Arsenic and arsenic compounds.	D130
	Chromium compounds (hexavalent and trivalent).	D140
	Cadmium and cadmium compounds.	D150
	Beryllium and beryllium compounds.	D160
	Antimony and antimony compounds.	D170
	Thallium; thallium compounds	D180
	Copper compounds.	D190
	Cobalt and cobalt compounds.	D200
	Nickel compounds.	D210
	Lead and lead compounds.	D220
	Zinc compounds.	D230
	Selenium and selenium compounds.	D240
	Tellurium; tellurium compounds	D250
	Vanadium compounds	D270
	Barium compounds.	D290
	Non-toxic salts	D300
	Boron compounds.	D310
	Inorganic sulfides	D330
	Perchlorates	D340
	Chlorates	D350
	Phosphorus compounds excluding mineral phosphates	D360
E	Waste containing peroxides other than hydrogen peroxide	E100
F	Waste from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish	F100
	Waste from the production, formulation and use of resins, latex, plasticisers, glues and adhesives	F110
G	Ethers	G100
	Organic solvents excluding halogenated solvents	G110
	Halogenated organic solvents	G150
	Waste from the production, formulation and use of organic solvents	G160
H	Waste from the production, formulation and use of biocides and phytopharmaceuticals	H100
	Organic phosphorous compounds	H110
	Waste from manufacture, formulation and use of wood-preserving chemicals	H170

Code	Waste description	Waste type
J	Waste mineral oils unfit for their original intended use	J100
	Waste oil/water, hydrocarbons/water mixtures or emulsions	J120
	Waste tarry residues arising from refining, distillation, and any pyrolytic treatment	J160
K	Animal effluent and residues (abattoir effluent, poultry and fish processing wastes)	K100
	Grease trap waste	K110
	Sewage sludge and residues including nightsoil and septic tank sludge	K130
	Tannery wastes (including leather dust, ash, sludges and flours)	K140
	Wool scouring wastes	K190
M	Waste substances and articles containing or contaminated with polychlorinated biphenyls, polychlorinated napthalenes, polychlorinated terphenyls and/or polybrominated biphenyls	M100
	Phenols, phenol compounds including chlorophenols	M150
	Organo halogen compounds—other than substances referred to in this Table or Table 2	M160
	Polychlorinated dibenzo-furan (any congener)	M170
	Polychlorinated dibenzo-p-dioxin (any congener)	M180
	Cyanides (organic)	M210
	Isocyanate compounds	M220
	Triethylamine catalysts for setting foundry sands	M230
	Surface active agents (surfactants), containing principally organic constituents and which may contain metals and inorganic materials	M250
	Highly odorous organic chemicals (including mercaptans and acrylates)	M260
N	Containers and drums that are contaminated with residues of substances referred to in this Table	N100
	Solis contaminated with a substance or waste referred to in this Table	N120
	Fire debris and fire wash waters	N140
	Fly ash.	N150
	Encapsulated, chemically-fixed, solidified or polymerised wastes referred to in this list	N160
	Filter cake	N190
	Residues from industrial waste treatment/disposal operations	N205
	Asbestos	N220
	Ceramic-based fibres with physico-chemical characteristics similar to those of asbestos	N230
R	Clinical and related wastes	R100
	Waste pharmaceuticals, drugs and medicines	R120
	Waste from the production and preparation of pharmaceutical products	R140
T	Waste chemical substances arising from research and development or teaching activities, including those which are not identified and/or are new and whose effects on human health and/or the environment are not known	T100
	Waste from the production, formulation and use of photographic chemicals and processing materials	T120
	Tyres	T140
	Waste of an explosive nature not subject to other legislation	T200

NSW-specific notes:

Includes codes of waste tracked under NSW's waste tracking system (List A wastes) and codes of waste tracked under interstate (Controlled Waste NEPM) movements only (List B wastes) (ref).

A.5 Queensland Regulated Waste Codes

Code	Waste description	Waste type
A	Waste from surface treatment of metals or plastics	A100
	Waste from heat treatment or tempering operations that use cyanides	A110
	Cyanides (inorganic)	A130
B	Acidic solutions and acids in solid form	B100
C	Basic (alkaline) solutions or bases (alkalis) in solid form	C100
D	Metal carbonyls.	D100
	Inorganic fluorine compounds (other than calcium fluoride).	D110
	Mercury and mercury compounds.	D120
	Arsenic and arsenic compounds.	D130
	Chromium compounds (hexavalent and trivalent).	D140
	Cadmium and cadmium compounds.	D150
	Beryllium and beryllium compounds.	D160
	Antimony and antimony compounds.	D170
	Thallium; thallium compounds	D180
	Copper compounds.	D190
	Nickel compounds.	D210
	Lead and lead compounds including lead-acid batteries.	D220
	Zinc compounds.	D230
	Selenium and selenium compounds.	D240
	Tellurium; tellurium compounds	D250
	Vanadium compounds	D270
	Barium compounds other than barium sulfate.	D290
	Non-toxic salts, for example, saline effluent	D300
	Boron compounds.	D310
	Inorganic sulfides	D330
	Perchlorates	D340
	Chlorates	D350
	Phosphorus compounds other than mineral phosphates	D360
E	Waste containing peroxides other than hydrogen peroxide	E100
F	Waste from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish	F100
	Waste from the production, formulation and use of resins, latex, plasticisers, glues and adhesives	F110
G	Ethers	G100
	Organic solvents other than halogenated solvents, including, for example, ethanol	G110
	Halogenated organic solvents	G150
	Waste from the production, formulation and use of organic solvents	G160
H	Waste from the production, formulation and use of biocides and phytopharmaceuticals	H100
	Organic phosphorous compounds	H110
	Waste from manufacture, formulation and use of wood-preserving chemicals	H170

Code	Waste description	Waste type
J	Mineral oils	J100
	Oil and water mixtures or emulsions, or hydrocarbons and water mixtures or emulsions	J120
	Tarry residues arising from refining, distillation, and any pyrolytic treatment	J160
K	Animal effluent and residues (abattoir effluent, poultry and fish processing wastes)	K100
	Grease trap waste	K110
	Sewage sludge and residues including nightsoil and septic tank sludge	K130
	Tannery wastes (including leather dust, ash, sludges and flours)	K140
	Wool scouring wastes	K190
M	Material containing polychlorinated biphenyls (PCB's), polychlorinated napthalenes (PCN's), polychlorinated terphenyls (PCT's) and/or polybrominated biphenyls (PBB's)	M100
	Phenols, phenol compounds including chlorophenols	M150
	Organo halogen compounds—other than substances referred to in this Table	M160
	Polychlorinated dibenzo-furan (any congener)	M170
	Polychlorinated dibenzo-p-dioxin (any congener)	M180
	Cyanides (organic)	M210
	Isocyanate compounds	M220
	Triethylamine catalysts for setting foundry sands	M230
	Surface active agents (surfactants), containing principally organic constituents and which may contain metals and inorganic materials	M250
	Highly odorous organic chemicals (including mercaptans and acrylates)	M260
N	Waste containers	N100
	Fire debris and fire wash waters	N140
	Fly ash.	N150
	Encapsulated, chemically-fixed, solidified or polymerised wastes referred to in this list	N160
	Filter cake	N190
	Residues from industrial waste treatment/disposal operations	N205
	Asbestos	N220
R	Clinical and related wastes	R100
	Pharmaceuticals, drugs and medicines	R120
	Waste from the production and preparation of pharmaceutical products	R140
T	Chemical waste arising from research and development or teaching activity, including new or unidentified material and material whose effects on human health or the environment are not known	T100
	Waste from the production, formulation and use of photographic chemicals and processing materials	T120
	Tyres	T140
	Waste of an explosive nature other than explosives within the meaning of the Explosives Act 1999	T200

Queensland-specific notes:

Qld does not track cobalt compounds (D200), industrial washwaters (L), contaminated soils (N120), or ceramic based fibres (N230)

A.6 South Australia Listed Waste Codes

Code	Waste description	Waste type
A	Waste resulting from surface treatment of metals and plastics	A100
	Waste from heat treatment and tempering operations containing cyanides	A110
	Cyanides (inorganic)	A130
B	Acidic solutions or acids in solid form	B100
C	Basic solutions or bases in solid form	C100
D	Metal carbonyls	D100
	Inorganic fluorine compounds excluding calcium fluoride	D110
	Mercury; mercury compounds	D120
	Arsenic; arsenic compounds	D130
	Chromium compounds (hexavalent and trivalent)	D140
	Cadmium; cadmium compounds	D150
	Beryllium; beryllium compounds	D160
	Antimony; antimony compounds	D170
	Thallium; thallium compounds	D180
	Copper compounds	D190
	Cobalt compounds	D200
	Nickel compounds	D210
	Lead; lead compounds	D220
	Zinc compounds	D230
	Selenium; selenium compounds	D240
	Tellurium; tellurium compounds	D250
	Vanadium compounds	D270
	Barium compounds (excluding barium sulphate)	D290
	Non-toxic salts	D300
	Boron compounds	D310
	Inorganic sulfides	D330
	Perchlorates	D340
	Chlorates	D350
	Phosphorus compounds excluding mineral phosphates	D360
E	Waste containing peroxides other than hydrogen peroxide	E100
	Waste of an explosive nature not subject to other legislation	E120
F	Waste from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish	F100
	Waste from the production, formulation and use of resins, latex, plasticisers, glues and adhesives	F110
G	Ethers	G100
	Organic solvents excluding halogenated solvents	G110
	Halogenated organic solvents	G150
	Waste from the production, formulation and use of organic solvents	G160
H	Waste from the production, formulation and use of biocides and phytopharmaceuticals	H100
	Organic phosphorous compounds	H110

Code	Waste description	Waste type
	Waste from manufacture, formulation and use of wood-preserving chemicals	H170
J	Waste mineral oils unfit for their original intended use	J100
	Waste oil/water, hydrocarbons/water mixtures or emulsions	J120
	Waste tarry residues arising from refining, distillation, and any pyrolytic treatment	J160
K	Animal effluent and residues (abattoir effluent, poultry and fish processing wastes)	K100
	Grease trap waste	K110
	Sewage sludge and residues including nightsoil and septic tank sludge	K130
	Tannery wastes (including leather dust, ash, sludges and flours)	K140
	Wool scouring wastes	K190
M	Waste substances and articles containing or contaminated with polychlorinated biphenyls [(PCBs), polychlorinated napthalenes (PCNs), polychlorinated terphenyls (PCTs) and/or polybrominated biphenyls (PBBs)]	M100
	Phenols, phenol compounds including chlorophenols	M150
	Organohalogen compounds – other than substances referred to in this list	M160
	Polychlorinated dibenzo–furan (any congener)	M170
	Polychlorinated dibenzo–p–dioxin (any congener)	M180
	Cyanides (organic)	M210
	Isocyanate compounds	M220
	Triethylamine catalysts for setting foundry sands	M230
	Surface active agents (surfactants), containing principally organic constituents and which may contain metals and inorganic materials	M250
	Highly odorous organic chemicals (including mercaptans and acrylates)	M260
N	Containers and drums which are contaminated with residues of substances referred to in this list	N100
	Soils contaminated with a controlled waste	N120
	Fire debris and fire washwaters	N140
	Fly ash	N150
	Encapsulated, chemically fixed, solidified or polymerised wastes	N160
	Filter cake	N190
	Residues from industrial waste treatment/disposal operations	N205
	Asbestos	N220
	Ceramic-based fibres with physico-chemical characteristics similar to those of asbestos	N230
R	Clinical and related wastes	R100
	Waste pharmaceuticals, drugs and medicines	R120
	Waste from the production and preparation of pharmaceutical products	R140
	Waste chemical substances arising from research and development or teaching activities including those which are not identified and/or are new and whose effects on human health and/or the environment are not known	T100
T	Waste from the production, formulation and use of photographic chemicals and processing materials	T120
	Tyres	T140

A.7 Tasmania Controlled Waste Codes

Code	Waste description	Waste type
A	Waste resulting from surface treatment of metals and plastics	A100
	Waste from heat treatment and tempering operations containing cyanides	A110
	Cyanides (inorganic)	A130
B	Acidic solutions or acids in solid form	B100
C	Basic solutions or bases in solid form	C100
D	Metal carbonyls	D100
	Inorganic fluorine compounds excluding calcium fluoride	D110
	Mercury; mercury compounds	D120
	Arsenic; arsenic compounds	D130
	Chromium compounds (hexavalent and trivalent)	D140
	Cadmium; cadmium compounds	D150
	Beryllium; beryllium compounds	D160
	Antimony; antimony compounds	D170
	Thallium; thallium compounds	D180
	Copper compounds	D190
	Cobalt compounds	D200
	Nickel compounds	D210
	Lead; lead compounds	D220
	Zinc compounds	D230
	Selenium; selenium compounds	D240
	Tellurium; tellurium compounds	D250
	Vanadium compounds	D270
	Barium compounds (excluding barium sulphate)	D290
	Non-toxic salts	D300
	Boron compounds	D310
	Inorganic sulfides	D330
	Perchlorates	D340
	Chlorates	D350
	Phosphorus compounds excluding mineral phosphates	D360
E	Waste containing peroxides other than hydrogen peroxide	E100
	Waste of an explosive nature not subject to other legislation	E120
F	Waste from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish	F100
	Waste from the production, formulation and use of resins, latex, plasticisers, glues and adhesives	F110
G	Ethers	G100
	Organic solvents excluding halogenated solvents	G110
	Halogenated organic solvents	G150
	Waste from the production, formulation and use of organic solvents	G160
H	Waste from the production, formulation and use of biocides and phytopharmaceuticals	H100
	Organic phosphorus compounds	H110
	Waste from manufacture, formulation and use of wood-preserving chemicals	H170

Code	Waste description	Waste type
J	Waste mineral oils unfit for their original intended use	J100
	Waste oil/water, hydrocarbons/water mixtures or emulsions	J120
	Waste tarry residues arising from refining, distillation, and any pyrolytic treatment	J160
K	Animal effluent and residues (abattoir effluent, poultry and fish processing waste)	K100
	Grease trap waste	K110
	Sewage sludge, sewage residue, nightsoil or sludge from an on-site waste water management system	K130
	Tannery wastes (including leather dust, ash, sludges and flours)	K140
	Wool scouring waste	K190
M	Waste substances and articles containing or contaminated with polychlorinated biphenyls (PCBs), polychlorinated naphthalenes (PCNs), polychlorinated terphenyls (PCTs) and/or polybrominated biphenyls (PBBs)	M100
	Phenols, phenol compounds including chlorophenols	M150
	Organohalogen compounds - other than substances referred to in this list	M160
	Polychlorinated dibenzo-furan (any congener)	M170
	Polychlorinated dibenzo-p-dioxin (any congener)	M180
	Cyanides (organic)/nitriles	M210
	Isocyanate compounds	M220
	Triethylamine catalysts for setting foundry sands	M230
	Surface active agents (surfactants), containing principally organic constituents and which may contain metals and inorganic materials	M250
	Highly odorous organic chemicals (including mercaptans and acrylates)	M260
N	Containers which are contaminated with residues of substances referred to in this list	N100
	Soils contaminated with a controlled waste	N120
	Fire debris and fire washwaters	N140
	Fly ash excluding fly ash generated from Australian coal fired power stations	N150
	Encapsulated, chemically-fixed, solidified or polymerised wastes (referred to in this list)	N160
	Filter cake contaminated with residues of substances referred to in this list	N190
	Asbestos	N220
	Ceramic-based fibres with physico-chemical characteristics similar to those of asbestos	N230
Q	A waste within the meaning of the Quarantine Regulations 2000 of the Commonwealth, as amended	Q100
	Exhibits an environmentally significant characteristic and is derived or arises from an agvet chemical as defined in the Dangerous Substances (Safe Handling) Act 2005	Q200
	Exhibits an environmentally significant characteristic and is derived or arises from dangerous goods as defined in the Dangerous Goods (Safe Transport) Act 1998	Q300
	Exhibits an environmentally significant characteristic and is derived or arises from a poison as defined in the Poisons Act 1971	Q400
	Exhibits an environmentally significant characteristic and is derived or arises from a scheduled waste within the meaning of a National Management Plan*	Q500
R	Clinical and related wastes	R100
	Waste pharmaceuticals, drugs and medicines	R120
	Waste from the production and preparation of pharmaceutical products	R140

Code	Waste description	Waste type
T	Waste chemical substances arising from research and development or teaching activities including those which are not identified and/or are new and whose effects on human health and/or the environment are not known.	T100
	Waste from the production, formulation and use of photographic chemicals and processing materials	T120
	Tyres	T140
	Residues from industrial waste treatment/disposal operations	T190
	Oxidising Agents	T200
	Reactive chemicals	T210
	Reducing agents	T220

A.8 Victoria Prescribed Industrial Waste Codes

Code	Waste description	Waste type
A	Cyanide-containing wastes.	A100
B	Acids in a solid form or acidic solution with pH value of 4 or less.	B100
C	Alkaline solids or alkaline solutions with pH value of 9 or more. Includes, but is not limited to: caustic soda, alkaline cleaners, and waste lime.	C100
D	Metal carbonyls.	D100
	Inorganic fluorine compounds (excluding calcium fluoride).	D110
	Mercury and mercury compounds.	D120
	Equipment and articles containing mercury.	D121
	Arsenic and arsenic compounds.	D130
	Chromium compounds (hexavalent and trivalent).	D140
	Tannery wastes containing chromium.	D141
	Cadmium and cadmium compounds.	D150
	Beryllium and beryllium compounds.	D160
	Antimony and antimony compounds.	D170
	Thallium; thallium compounds	D180
	Copper compounds.	D190
	Cobalt and cobalt compounds.	D200
	Nickel compounds.	D210
	Lead and lead compounds.	D220
	Zinc compounds.	D230
	Selenium and selenium compounds.	D240
	Waste from the production, formulation and use of photographic chemicals and processing materials (containing silver).	D261
	Barium compounds.	D290
	Non-toxic salts (e.g. sodium chloride, calcium chloride).	D300
	Boron compounds.	D310
	Inorganic sulfur-containing compounds.	D330
	Phosphorus compounds, excluding mineral phosphates.	D360
	Inorganic chemicals, NOS.	D390
	Smelter waste containing prescribed waste.	D400
E	Oxidising agents, including peroxides, NOS.	E100
	Waste of an explosive nature not subject to other legislation, including azides.	E120
	Highly reactive chemicals, NOS.	E130
F	Aqueous-based wastes from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish.	F100
	Aqueous-based wastes from the production, formulation and use of resins, latex, plasticisers, glues and adhesives.	F110
	Solvent-based wastes from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish.	F120
	Solvent-based wastes from the production, formulation and use of resins, latex, plasticisers, glues and adhesives.	F130

Code	Waste description	Waste type
G	Ethers and highly flammable hydrocarbons, such as petrol and jet fuel.	G100
	Non-halogenated organic solvents.	G110
	Dry-cleaning wastes containing organic solvents, such as perchloroethylene.	G130
	Halogenated organic solvents.	G150
	Wastes from the production, formulation and use of organic solvents, NOS.	G160
H	Waste from the production, formulation and use of biocides and phytopharmaceuticals, NOS.	H100
	Organophosphorus pesticides.	H110
	Mixed pesticide residue.	H160
	Copper-chrome-arsenic (CCA).	H170
J	Waste oils unfit for their original intended use (lubricating, hydraulic).	J100
	Waste hydrocarbons.	J110
	Waste oils and water mixtures or emulsions, and hydrocarbon and water mixtures or emulsions.	J120
	Triple interceptor waste and stormwater contaminated with oil or hydrocarbons.	J130
	Transformer fluids (excluding PCBs).	J140
	Other (cutting oils, soluble oils).	J150
	Tarry residues arising from refining, distillation and any pyrolytic treatment.	J160
	Used oil filters. Note: this waste must be reused or recycled and is prohibited from disposal to landfill.	J170
K	Animal effluent and residues. Examples: abattoir wastes, poultry wastes, fish and shellfish wastes.	K100
	Grease interceptor trap effluent.	K120
	Tannery wastes (not containing chromium) and wool scouring wastes.	K140
	Food and beverage processing wastes, including animal and vegetable oils and derivatives.	K200
L	Car and truck washwaters.	L100
	Industrial washwaters from cleaning, rinsing or washing operations, NOS. Examples: textile cleaning/processing effluent NOS, industrial plant and machinery washwaters, cooling tower washwaters.	L150
M	Polychlorinated biphenyls (PCBs) (PCBs >50 mg per kg).	M100
	Waste substances and articles containing or contaminated with polychlorinated biphenyls (PCBs) ([PCBs] >50 mg per kg).	M110
	Solvents, oils and materials contaminated with PCBs ([PCBs] >2 mg per kg and [PCBs] <50 mg per kg).	M120
	Non-halogenated organic chemicals (non solvent), NOS. Examples: glycol coolant, radiator fluid, brake fluid.	M130
	Phenol and phenol compounds, including halogenated phenols.	M150
	Halogenated organic chemicals, NOS.	M160
	Isocyanate compounds (organic).	M220
	Amines and other nitrogen compounds.	M230
	Detergents and surface active agents (surfactants).	M250
	Highly odorous organic chemicals (including mercaptans and acrylates).	M260
N	Prescribed waste residues in rigid steel or plastic containers with an original volume less than 200 litres (hazardous substances to be specified).	N100
	Prescribed waste residues in rigid steel or plastic containers with an original volume greater than or equal to 200 litres (hazardous substances to be specified). Note: this waste must be reused or recycled and is prohibited from disposal to landfill.	N105

Code	Waste description	Waste type
	Prescribed waste residues in bags or containers not specified under N100 and N105 (hazardous substances to be specified).	N110
	Category A contaminated soil - hazardous substances to be specified. (Refer to EPA guidance material for details on identifying Hazard Category). Note: these wastes must not be disposed directly to landfill without prior treatment.	N119
	Category B contaminated soil - hazardous substances to be specified. (Refer to EPA guidance material for details on identifying Hazard Category).	N120
	Category C contaminated soil - hazardous substances to be specified. (Refer to EPA guidance material for details on identifying Hazard Category).	N121
	Spent catalysts (must specify contaminants).	N130
	Fire debris and fire wash-waters that are contaminated with chemicals (must specify contaminants).	N140
	Fly ash.	N150
	Prescribed industrial wastes that are immobilised in accordance with a classification issued by EPA.	N160
	Prescribed industrial wastes that are chemically fixed and/or encapsulated.	N170
	Prescribed industrial waste that are solidified or polymerised.	N180
	Filter cake.	N190
	Ion-exchange column residues.	N200
	Residues from pollution control operations, NOS. Examples: activated carbon, baghouse dust, residues from industrial waste disposal operations.	N210
	Asbestos.	N220
	Ceramic-based fibres with physico-chemical characteristics similar to those of asbestos.	N230
	Absorbents contaminated with prescribed waste residues, such as rags contaminated with oils, hydrocarbons and organic solvents (must specify contaminants).	N250
	Solid wastes contaminated with prescribed waste residues, NOS (must specify contaminants). Examples: contaminated bricks and concrete, contaminated steel, shredder floc.	N260
R	Clinical and related wastes, NOS (biomedical waste).	R100
	Pathogenic substances and quarantine wastes.	R110
	Waste from the use of pharmaceutical products, NOS.	R120
	Cytotoxic substances.	R130
	Waste from the production of pharmaceutical products and cosmetics, NOS.	R140
T	Waste chemical substances arising from laboratories, research and development, or teaching activities.	T100
	Waste from the production, formulation and use of photographic chemicals and processing materials (which do not contain silver).	T120
	Inert sludges or slurries, such as clay or ceramic suspensions, drilling mud, and pit water with negligible hydrocarbon contamination.	T130
	Foundry sands.	T160
	Waste chemicals in small quantities, NOS, such as collected household chemicals.	T170

A.9 Western Australia Controlled Waste Codes

Category group No.	Category group name	Category No.	Description
1	Biological wastes	1.01	Animal wastes - smallgoods; tallow; and animals slaughtered for quarantine purposes
		1.02	Septage wastes - wastes from apparatus for the treatment of sewage
		1.03	Grease wastes - wastes resulting from food preparation processes
		1.04	Vegetable oils and derivatives and other wastes (excluding wastes referred to in categories 1.01, 1.02, 1.03 and 1.05)
		1.05	Sewage waste from the reticulated sewage system (ie Water Corporation)
2	Solid/sludge waste requiring special handling	2.02	Contaminated soils (Class IV or V)
		2.03	Fly ash
		2.04	Filter cake
		2.05	Containers or drums contaminated with residues of a controlled waste
		2.06	Encapsulated, chemically-fixed, solidified or polymerised wastes
		2.07	Waste of an explosive nature not subject to other legislation
		2.08	Industrial waste treatment plant sludges and residues
3	Clinical and pharmaceutical wastes	3.05	Clinical and related wastes – biomedical wastes, pathogenic substances, cytotoxic substances, waste from the production or use of pharmaceutical products
4	Pesticide wastes	4.01	Concentrates
		4.02	Solutions
		4.03	Organochlorine pesticides
5	Paints and resins	5.01	Wastes from the production formulation or use of inks, dyes, resins, adhesives, glues, latex or plasticisers
		5.02	Oil based paints (all options)
		5.03	Water based and acrylic paints (all options)
		6.01	Oil interceptor waste
		6.02	Oil/water mixtures
		6.03	Oil sludges i.e. plate separators
6	Oils and emulsions	6.04	Waste mineral oils unfit for their originally intended use
7	Solvents	7.01	Halogenated aliphatics
		7.02	Non-halogenated aliphatics
		7.03	Halogenated aromatics
		7.04	Non-halogenated aromatics
8	Other organic chemicals	8.01	Engine coolants
		8.02	Ethers
		8.03	Highly odorous organic chemicals (including mercaptans and acrylates)
		8.04	Isocyanate compounds
		8.05	Organohalogen compounds other than substances referred to elsewhere in this schedule
		8.06	PBBs (polybrominated biphenyls)
		8.07	PCBs (polychlorinated biphenyls)
		8.08	PCNs (polychlorinated napthalenes)

Category group No.	Category group name	Category No.	Description
		8.09	PCTs (polychlorinated terphenyls)
		8.1	Phenols and phenol compounds including chlorophenols
		8.11	Phosphorous compounds
		8.12	Surface acting agent (Surfactant) - Detergents
		8.13	Surface acting agent (Surfactant) – Wetting agents
		8.14	Surface acting agent (Surfactant) - Emulsifiers
9	Acids	9.01	
10	Alkalis	10.01	
11	Chromium	11.01	
12	Cyanide	12.01	Inorganic cyanide
		12.02	Organic cyanide
13	Inorganic chemicals other than inorganic chemicals referred to category groups 9 - 12	13.01	Antimony or Antimony compounds
		13.02	Arsenic or Arsenic compounds
		13.03	Barium compounds (excluding barium sulphate)
		13.04	Beryllium; beryllium compounds
		13.05	Boron
		13.06	Cadmium or cadmium compounds
		13.07	Chlorates
		13.08	Cobalt compounds
		13.09	Copper compounds
		13.1	Fluorine compounds (excluding calcium fluoride)
		13.11	Lead; lead compounds
		13.12	Mercury
		13.13	Metal carbonyls
		13.14	Nickel compounds
		13.15	Non toxic salts
		13.16	Perchlorates
		13.17	Phosphorous compounds
		13.18	Photographic waste
		13.19	Selenium; selenium compounds
		13.2	Sulphides
		13.21	Tellurium
		13.22	Thallium
		13.23	Vanadium compounds
		13.24	Zinc compounds
14	Low strength waste water	14.01	Industrial wash waters
		14.02	Storm water
		14.03	Pond water
		14.04	Fire debris and wash water (may vary)
15	Miscellaneous	15.01	Residues from industrial waste treatment or disposal operations
		15.02	Waste from the manufacture, formulation and use of wood-preserving chemicals

Category group No.	Category group name	Category No.	Description
		15.03	Waste chemical substances arising from research and development or teaching activities including those which are not identified or new, or the effects on environment or human health are not known etc.
		15.04	Waste resulting from surface treatment of metals and plastics (potentially various categories)
		15.05	Waste tarry residue arising from refining, distillation or pyrolytic treatment.
		15.06	Waste tyres

A.10 Basel Y-codes

Basel Y Codes	Y Code Description
Y1	Clinical wastes from medical care in hospitals, medical centres and clinics
Y2	Wastes from the production and preparation of pharmaceutical products
Y3	Waste pharmaceuticals, drugs and medicines
Y4	Wastes from the production…… of biocides and phytopharmaceuticals
Y5	Wastes from the manufacture…… of wood preserving chemicals
Y6	Wastes from the production, formulation and use of organic solvent
Y7	Wastes from heat treatment and tempering operations containing cyanides
Y8	Waste mineral oils unfit for their originally intended use
Y9	Waste oils/water, hydrocarbons/water mixtures, emulsion
Y10	Waste substances ….containing or contaminated with PCBs, PCTs, PBBs
Y11	Waste tarry residues ... from refining, distillation and any pyrolytic treatment
Y12	Wastes from production…… of inks, dyes, pigments, paints, etc
Y13	Wastes from production……resins, latex, plasticizers, glues, etc
Y14	Waste chemical substances arising ….. environment are not known
Y15	Wastes of an explosive nature not subject to other legislation
Y16	Wastes from production, formulation and use of photographic chemicals…
Y17	Wastes resulting from surface treatment of metals and plastics
Y18	Residues arising from industrial waste disposal operations
Wastes having as constituents (Annex I to Basel Convention)	
Y19	Metal carbonyls
Y20	Beryllium; beryllium compounds
Y21	Hexavalent chromium compounds
Y22	Copper compounds
Y23	Zinc compounds
Y24	Arsenic; arsenic compounds
Y25	Selenium; selenium compounds
Y26	Cadmium; cadmium compounds
Y27	Antimony; antimony compounds
Y28	Tellurium; tellurium compounds
Y29	Mercury; mercury compounds
Y30	Thallium; thallium compounds
Y31	Lead; lead compounds
Y32	Inorganic fluorine compounds excluding calcium fluoride
Y33	Inorganic cyanides
Y34	Acidic solutions or acids in solid form
Y35	Basic solutions or bases in solid form
Y36	Asbestos (dust and fibres)
Y37	Organic phosphorus compounds
Y38	Organic cyanides
Y39	Phenols; phenol compounds including chlorophenols

Basel Y Codes	Y Code Description
Y40	Ethers
Y41	Halogenated organic solvents
Y42	Organic solvents excluding halogenated solvents
Y43	Any congenor of polychlorinated dibenzo-furan
Y44	Any congenor of polychlorinated dibenzo-p-dioxin
Y45	Organohalogen compounds other than …(e.g. Y39, Y41, Y42, Y43, Y44)
Categories of wastes requiring special consideration (Annex II to Basel Convention)	
Y46	Wastes collected from households
Y47	Residues arising from the incineration of household wastes