

Waste Classification Report



9ZJAU-NBC9L-T83DQ

Job name

HWOL workup of WM3 Example 3 Waste soils

Description/Comments

Waste is a sub soil from a metal plating facility. The data, worst case substances and reasoning were taken from Example 3 in WM3. Site was used for a variety of industrial processes including chemical metal plating. Waste is a solid with no free draining liquid phase. Only one sample presented in WM3 example.

Project

WM3 v1 Technical Guidance

Site

Metal Plating Site

Waste Stream Template

EA Example 3. Waste Soil

Classified by

Name:

Ian Bishop

Date:

10/11/2016 09:54:07 UTC

Telephone:

Company:

One Touch Data Ltd.

Report

Created by: Ian Bishop

Created date: 10/11/2016 09:54 UTC


Job summary

#	Sample Name	Depth [m]	Classification Result	Hazard properties	Page
1	Sample 1	0.1 mbgl	Hazardous	HP 14	2

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Classification of sample: Sample 1

 **Hazardous Waste**
Classified as **17 05 03 ***
in the List of Waste

Sample details

Sample Name:	LoW Code:
Sample 1	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 03 * (Soil and stones containing hazardous substances)
0.1 mbgl m	
Moisture content:	
0%	
(no correction)	

Hazard properties

HP 14: Ecotoxic "waste which presents or may present immediate or delayed risks for one or more sectors of the environment"

Risk phrases hit:

R50/53 "Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment"

Because of determinands:

lead compounds with the exception of those specified elsewhere in this Annex: (Note 1 conc.: 0.162%)

zinc oxide: (compound conc.: 0.18%)

R51/53 "Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment"











Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 1.25%)


Determinands

Moisture content: **0% No Moisture Correction applied (MC)**

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				320	mg/kg	1.88	602.88	mg/kg	0.0603 %		
	006-007-00-5											
2	arsenic { arsenic trioxide }				530	mg/kg	1.32	699.772	mg/kg	0.07 %		
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }			1	782	mg/kg		782	mg/kg	0.0782 %		
	048-001-00-5											
4	copper { dicopper oxide; copper (I) oxide }				400	mg/kg	1.13	450.355	mg/kg	0.045 %		
	029-002-00-X	215-270-7	1317-39-1									
5	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	1620	mg/kg		1620	mg/kg	0.162 %		
	082-001-00-6											
6	nickel { nickel(II) carbonate }				297	mg/kg	2.02	600.657	mg/kg	0.0601 %		
	028-010-00-0	222-068-2 [1] 240-408-8 [2]	3333-67-3 [1] 16337-84-1 [2]									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
		265-748-4 [3] 235-715-9 [4]	65405-96-1 [3] 12607-70-4 [4]							
7	 zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2	1446 mg/kg	1.24	1799.856 mg/kg	0.18 %		
8	 TPH (C6 to C40) petroleum group				12500 mg/kg		12500 mg/kg	1.25 %		
9	 confirm TPH has NOT arisen from diesel or petrol				<input checked="" type="checkbox"/>					
10	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.23 mg/kg		0.23 mg/kg	0.000023 %		
11	 pH				8.7 pH		8.7 pH	8.7 pH		
12	asbestos	650-013-00-6	-----	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
13	 antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4	<0.1 mg/kg	1.20	<0.12 mg/kg	<0.000012 %		<LOD
14	 chromium { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8			<0.1 mg/kg	1.92	<0.192 mg/kg	<0.000019 %		<LOD
15	 mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.1 mg/kg	1.35	<0.135 mg/kg	<0.000014 %		<LOD
16	 molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5	<0.1 mg/kg	1.50	<0.15 mg/kg	<0.000015 %		<LOD
17	 selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			<0.1 mg/kg	2.55	<0.255 mg/kg	<0.000026 %		<LOD
18	 polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3	<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
Total:								1.906 %		

Key

- User supplied data
- Determinand values ignored for classification, see column 'Conc. Not Used' for reason
- Hazardous result
- Determinand defined or amended by HazWasteOnline (see Appendix A)
-  Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD** Below limit of detection
- CLP: Note 1 Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i) on Flam. Liq. 1; H224, Flam. Liq. 2; H225, Flam. Liq. 3; H226: **Force this Hazardous property to non hazardous because HP 3 Flammable (first and fourth indents) can be discounted as this is a solid waste without a free draining liquid phase. Advice from the laboratory indicated that testing for flammability was not appropriate due to the low level of TPH. The test would produce a negative result. The waste does not display these hazardous properties"**

Appendix A: Classifier defined and non CLP determinands

salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex

CLP index number: 006-007-00-5

Data source: Commission Regulation (EC) No 790/2009 - 1st Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP1)

Additional Risk Phrases: None.

Additional Hazard Statement(s): EUH032 >= 0.2 %

Reason for additional Hazards Statement(s)/Risk Phrase(s):

14/12/2015 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex

CLP index number: 048-001-00-5

Data source: Regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures. (CLP)

Additional Risk Phrases: None.

Additional Hazard Statement(s): Carc. 1A H350

Reason for additional Hazards Statement(s)/Risk Phrase(s):

29/09/2015 - Carc. 1A H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

dicopper oxide; copper (I) oxide (EC Number: 215-270-7, CAS Number: 1317-39-1)

CLP index number: 029-002-00-X

Data source: Regulation (EU) 2016/1179 of 19 July 2016 (ATP9)

Additional Risk Phrases: N R50/53 , N R50/53 >= 0.25 %

Additional Hazard Statement(s): None.

Reason for additional Hazards Statement(s)/Risk Phrase(s):

10/10/2016 - N R50/53 risk phrase sourced from: WM3 v1 still uses ecotoxic risk phrases

10/10/2016 - N R50/53 >= 0.25 % risk phrase sourced from: WM3 v1 still uses ecotoxic risk phrases

lead compounds with the exception of those specified elsewhere in this Annex

CLP index number: 082-001-00-6

Data source: Regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures. (CLP)

Additional Risk Phrases: None.

Additional Hazard Statement(s): Carc. 2 H351

Reason for additional Hazards Statement(s)/Risk Phrase(s):

03/06/2015 - Carc. 2 H351 hazard statement sourced from: Larsen et al., 2014; Survey of lead and lead compounds, Environmental Project No. 1539, The Danish Environmental Protection Agency

TPH (C6 to C40) petroleum group

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013

Data source: WM3 1st Edition 2015

Data source date: 25/05/2015

Risk Phrases: R10 , R45 , R46 , R51/53 , R63 , R65

Hazard Statements: Flam. Liq. 3 H226 , Asp. Tox. 1 H304 , STOT RE 2 H373 , Muta. 1B H340 , Carc. 1B H350 , Repr. 2 H361d , Aquatic Chronic 2 H411

confirm TPH has NOT arisen from diesel or petrol

Description/Comments: Chapter 3, section 4b requires a positive confirmation for benzo[a]pyrene to be used as a marker in evaluating Carc. 1B; H350 (HP 7) and Muta. 1B; H340 (HP 11)

Data source: WM3 1st Edition 2015

Data source date: 25/05/2015

Risk Phrases: None.

Hazard Statements: None.

pH

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25/05/2015

Risk Phrases: None.

Hazard Statements: None.

• **polychlorobiphenyls; PCB** (EC Number: 215-648-1, CAS Number: 1336-36-3)

CLP index number: 602-039-00-4

Data source: Regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures. (CLP)

Additional Risk Phrases: None.

Additional Hazard Statement(s): Carc. 1A H350

Reason for additional Hazards Statement(s)/Risk Phrase(s):

29/09/2015 - Carc. 1A H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

Appendix B: Rationale for selection of metal species

cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}

Harmonised group entry used as complex cyanides and those specified elsewhere in the annex are not likely to be present in this soil: [Note conversion factor based on a worst case compound: sodium cyanide]

arsenic {arsenic trioxide}

Arsenic trioxide is used in metal plating. Reasonable case species based on hazard statements/molecular weight and most common (stable) oxide of arsenic.

cadmium {cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex}

EA suspect cadmium carbonate - used in electroplating

copper {dicopper oxide; copper (I) oxide}

Reasonable case species based on hazard statements/molecular weight; insoluble in water. Related industrial uses include copper plating and oxidisation of copper metal.

lead {lead compounds with the exception of those specified elsewhere in this Annex}

EA assumed lead sulphate - Lead REACH considers lead sulphate Carc 2. H351 so this hazard statement was added to this CLP entry

nickel {nickel(II) carbonate}

EA selected species. Nickel carbonate is used to control pH during nickel plating

zinc {zinc oxide}

EA selected as worst case species

antimony {antimony trioxide}

Worst case CLP species based on hazard statements/molecular weight and low solubility. Industrial sources include: flame retardants in electrical apparatus, textiles and coatings

chromium {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Worst case CLP species based on hazard statements/molecular weight

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight

molybdenum {molybdenum(VI) oxide}

Worst case CLP species based on hazard statements/molecular weight

selenium {selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex}

Harmonised group entry used as most reasonable case. Pigment cadmium sulphoselenide not likely to be present in this soil. No evidence for the other CLP entries: sodium selenite, nickel II selenite and nickel selenide, to be present in the soil.

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition, May 2015

HazWasteOnline Classification Engine Version: 2016.302.3143.6237 (28 Oct 2016)

HazWasteOnline Database: 2016.302.3143.6237 (28 Oct 2016)

This classification utilises the following guidance and legislation:

WM3 - Waste Classification - May 2015
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Wastes 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
POPs Regulation 2004 - Regulation 850/2004/EC of 29 April 2004
1st ATP to POPs Regulation - Regulation 756/2010/EU of 24 August 2010
2nd ATP to POPs Regulation - Regulation 757/2010/EU of 24 August 2010