Disposal pathway G testing requirements

Leachate Requirements

ZDHC Heavy Metals

Parameter	CAS No.	A - On-site or off-site incineration at >1000°C	B - Landfill with significant control measures	C - Building products processed at >1000°C	D - Landfill with limited control measures	E - Off-site incineration and building products processed at <1000°C	F - Landfills with no control measures	G - Land application for a specific purpose in approved areas	Test Methods
Antimony (Sb)	7440-36-0	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** 0.6 mg/L **Threshold:** 12 mg/kg-Dry Weight in Sludge	Extraction: EPA 1311 Toxicity Leachate Extraction Procedure Analysis: USEPA 200.7 USEPA 200.8 USEPA 6010C USEPA 6020A ICP/OES ICP/MS Preparation: Acid digestion EPA 3051A (Acid Digestion) GB 5085.3-2007 for leachate
Arsenic (As)	7440-38-2	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** 0.5 mg/L **Threshold:** 10 mg/kg-Dry Weight in Sludge	EPA 1311 EPA 3051A USEPA 200.7 USEPA 200.8 USEPA 6010C USEPA 6020A GB 5085.3-2007 for leachate Analysis: Acid digestion ICP/MS ICP/OES

Parameter	CAS No.	A - On-site or off-site incineration at >1000°C	B - Landfill with significant control measures	C - Building products processed at >1000°C	D - Landfill with limited control measures	E - Off-site incineration and building products processed at <1000°C	F - Landfills with no control measures	G - Land application for a specific purpose in approved areas	Test Methods
Barium (Ba)	7440-39-3	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** 35 mg/L **Threshold:** 700 mg/kg-Dry Weight in Sludge	EPA 1311 EPA 3051A USEPA 200.7 USEPA 200.8 USEPA 6010C USEPA 6020A GB 5085.3-2007 for leachate Preparation: Toxicity Leachate Extraction Procedure Analysis: ICP/OES ICP/MS
Cadmium (Cd)	7440-43-9	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** 0.15 mg/L **Threshold:** 3 mg/kg-Dry Weight in Sludge	EPA 1311 EPA 3051A USEPA 200.7 USEPA 200.8 USEPA 6010C USEPA 6020A GB 5085.3-2007 for leachate GB 5085.3-2007 for leachate Preparation: Toxicity Leachate Extraction Procedure Analysis: Acid digestion ICP/OES ICP/MS

Parameter	CAS No.	A - On-site or off-site incineration at >1000°C	B - Landfill with significant control measures	C - Building products processed at >1000°C	D - Landfill with limited control measures	E - Off-site incineration and building products processed at <1000°C	F - Landfills with no control measures	G - Land application for a specific purpose in approved areas	Test Methods
Chromium (VI)	18540-29-9	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** 2.5 mg/L	USEPA 7196 USEPA 7199 ISO 18412 USEPA 1311 GB 5085.3-2007 for leachate Preparation: Toxicity Leachate Extraction Procedure Analysis: Colourimetric UV/ VIS Colourimetric IC ISO 18412
Chromium (total)	-	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** 5 mg/L **Threshold:** 100 mg/kg-Dry Weight in Sludge	EPA 1311 EPA 3051A USEPA 200.7 USEPA 200.8 USEPA 6010C USEPA 6020A GB 5085.3-2007 for leachate Preparation: Toxicity Leachate Extraction Procedure Analysis: ICP/OES ICP/MS

Parameter	CAS No.	A - On-site or off-site incineration at >1000°C	B - Landfill with significant control measures	C - Building products processed at >1000°C	D - Landfill with limited control measures	E - Off-site incineration and building products processed at <1000°C	F - Landfills with no control measures	G - Land application for a specific purpose in approved areas	Test Methods
Cobalt (Co)	7440-48-4	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** 80 mg/L **Threshold:** 1600 mg/kg-Dry Weight in Sludge	EPA 1311 EPA 3051A USEPA 200.7 USEPA 200.8 USEPA 6010C USEPA 6020A GB 5085.3-2007 for leachate Preparation: Toxicity Leachate Extraction Procedure Analysis: ICP/OES
Copper (Cu)	7440-50-8	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** 10 mg/L **Threshold:** 200 mg/kg-Dry Weight in Sludge	EPA 1311 EPA 3051A USEPA 200.7 USEPA 200.8 USEPA 6010C USEPA 6020A GB 5085.3-2007 for leachate Preparation: Toxicity Leachate Extraction Procedure Analysis: ICP/OES ICP/MS

Parameter	CAS No.	A - On-site or off-site incineration at >1000°C	B - Landfill with significant control measures	C - Building products processed at >1000°C	D - Landfill with limited control measures	E - Off-site incineration and building products processed at <1000°C	F - Landfills with no control measures	G - Land application for a specific purpose in approved areas	Test Methods
Lead (Pb)	7439-92-1	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** 0.5 mg/L **Threshold:** 10 mg/kg-Dry Weight in Sludge	EPA 1311 EPA 3051A USEPA 200.7 USEPA 200.8 USEPA 6010C USEPA 6020A HJ/T 299 GB 5085.3-2007 for leachate Preparation: Toxicity Leachate Extraction Procedure Analysis: ICP/OES ICP/MS
Mercury (Hg)	7439-97-6	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** 0.05 mg/L **Threshold:** 1 mg/kg-Dry Weight in Sludge	Preparation: EPA 3051A USEPA 1311 (followed by EPA 7471B) Acid digestion Analysis: ISO 12846 ISO 17852 EPA 7471B EPA 6020B CVAA ICP/MS USEPA 200.7 GB 5085.3-2007 for leachate

Parameter	CAS No.	A - On-site or off-site incineration at >1000°C	B - Landfill with significant control measures	C - Building products processed at >1000°C	D - Landfill with limited control measures	E - Off-site incineration and building products processed at <1000°C	F - Landfills with no control measures	G - Land application for a specific purpose in approved areas	Test Methods
Nickel (Ni)	7440-02-0	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** 3.5 mg/L **Threshold:** 70 mg/kg-Dry Weight in Sludge	EPA 1311 EPA 3051A USEPA 200.7 USEPA 200.8 USEPA 6010C USEPA 6020A GB 5085.3-2007 for leachate GB 5085.3-2007 for leachate Preparation: Toxicity Leachate Extraction Procedure Analysis: ICP/OES ICP/MS
Selenium (Se)	7782-49-2	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** 0.5 mg/L **Threshold:** 10 mg/kg-Dry Weight in Sludge	EPA 1311 EPA 3051A USEPA 200.7 USEPA 200.8 USEPA 6010C USEPA 6020A GB 5085.3-2007 for leachate Preparation: Toxicity Leachate Extraction Procedure Analysis: ICP/OES ICP/MS

Parameter	CAS No.	A - On-site or off-site incineration at >1000°C	B - Landfill with significant control measures	C - Building products processed at >1000°C	D - Landfill with limited control measures	E - Off-site incineration and building products processed at <1000°C	F - Landfills with no control measures	G - Land application for a specific purpose in approved areas	Test Methods
Silver (Ag)	7440-22-4	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** 5 mg/L **Threshold:** 100 mg/kg-Dry Weight in Sludge	EPA 1311 EPA 3051A USEPA 200.7 USEPA 200.8 USEPA 6010C USEPA 6020A Preparation: Toxicity Leachate Extraction Procedure Analysis: ICP/OES ICP/MS
Zinc (Zn)	7440-66-6	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** N/A	**Limit:** 50 mg/L **Threshold:** 1000 mg/kg-Dry Weight in Sludge	EPA 1311 EPA 3051A USEPA 200.7 USEPA 200.8 USEPA 6010C USEPA 6020A Preparation: Acid digestion Analysis: ICP/OES ICP/MS

Sludge Requirements

Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers

Parameter	CAS No.	Foundational	Progressive	Aspirational	Threshold	Test Methods
Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers	Multiple Including 9016-45-9, 26027-38-3, 37205-87-1, 68412-54-4, 127087-87-0, 104-40-5, 11066-49-2, 25154-52-3, 84852-15-3, 9002-93-1, 9036-19-5, 68987-90-6, 140-66-9, 1806-26-4, 27193-28-8	Leather: 0.4 mg/kg-Dry Weight Textile: 0.4 mg/kg-Dry Weight	N/A	N/A		ISO 18857-2 ASTM D7065 ASTM D7742 USEPA 3540/3541 USEPA 3550 ISO 18254-1

Other isomers of mono-, di-, tri-, tetra- and penta- chlorotoluene

Parameter	CAS No.	Foundational	Progressive	Aspirational	Threshold	Test Methods
Other isomers of mono-, di-, tri-, tetra- and penta- chlorotoluene	1006-31-1 1006-32-2 106-43-4 108-41-8 118-69-4 19398-61-9 2077-46-5 21472-86-6 25186-47-4 32768-54-0 6639-30-1 875-40-1 877-11-2 95-49-8 95-73-8 95-75-0	Textile: 0.2 mg/kg Leather: 0.2 mg/kg	N/A	N/A		HJ 605 USEPA 3540/3541 USEPA 8270 E USEPA 3550 USEPA 3650

Polycyclic Aromatic Hydrocarbons (PAHs)

Parameter	CAS No.	Foundational	Progressive	Aspirational	Threshold	Test Methods
Polycyclic Aromatic Hydrocarbons (PAHs)	83-32-9, 208-96-8, 120-12-7, 56-55-3, 50-32-8, 205-99-2, 192-97-2, 191-24-2 , 205-82-3, 207-08-09, 218-01-09, 53-70-3, 206-44-0, 86-73-7, 193-39-5, 91-20-3, 85-01-8, 129-00-0	Textile: 0.2 mg/kg-Dry Weight Leather: 0.2 mg/kg-Dry Weight	N/A	N/A		USEPA 3540/3541 USEPA 3550 USEPA 3650 HJ 805-2016 USEPA 8270 E

ZDHC Anions

Parameter	CAS No.	Foundational	Progressive	Aspirational	Threshold	Test Methods
Cyanide	-	Textile: 70 mg/kg-Dry Weight Leather: 70 mg/kg-Dry Weight	N/A	N/A		Preparation: USEPA 9013 Reflux Distillation to NaOH (CN converted to HCN) Analysis: EPA 9014 EPA 9213 HJ 745 EPA 9014 (Colourimetry) EPA 9213

ZDHC Conventional Parameters

Parameter	CAS No.	Foundational	Progressive	Aspirational	Threshold	Test Methods
% Solids	-	Textile: (Sample and report) % Leather: (Sample and report) %	N/A	N/A		Analysis: EPA 160.3 (Drying at 105°C) HJ613 (Drying at 105°C) HJ613 (Drying at 105°C) IS 2720 (P-21) Part XXI EN 12880 DIN EN 15934
Fecal Coliform	-	Textile: <1000 MPN/g Leather: <1000 MPN/g	N/A	N/A		Analysis: EPA 1681 Multiple Tube Fermentation Preparation: Blended suspension HJ 347.2-2018 GB 4789.39-2013 EPA 1680 APHA 23rd edition (9221 E)
Paint Filter Test	-	Textile: Pass pass / fail Leather: Pass pass / fail	N/A	N/A		Analysis: EPA SW-846 EPA 9095B
pH	-	Textile: 6.5-9 s.u. Leather: 6.5-9 s.u.	N/A	N/A		EPA SW 9045D HJ962 HJ962 TS EN 15933 ISO 10390

ZDHC Heavy Metals

Parameter	CAS No.	Foundational	Progressive	Aspirational	Threshold	Test Methods
Antimony (Sb)	7440-36-0	N/A	N/A	N/A	**Threshold:** 12 mg/kg-Dry Weight **If exceeded, test:** - Antimony (Sb) (Leachate)	HJ 803 HJ/T 299 Preparation: EPA 3050 Acid/Peroxide digestion Analysis: EPA 6010D EPA 6020B ICP/OES ICP/MS
Arsenic (As)	7440-38-2	Textile: 41 mg/kg-Dry Weight Leather: 41 mg/kg-Dry Weight	N/A	N/A	**Threshold:** 10 mg/kg-Dry Weight **If exceeded, test:** - Arsenic (As) (Leachate)	EPA 3050 EPA 6010D EPA 6020B HJ/T 299 Analysis: HJ 803 ICP/OES ICP/MS Preparation: Acid/Peroxide digestion
Barium (Ba)	7440-39-3	N/A	N/A	N/A	**Threshold:** 700 mg/kg-Dry Weight **If exceeded, test:** - Barium (Ba) (Leachate)	EPA 3050 EPA 6010D EPA 6020B HJ/T 299 Preparation: Acid/Peroxide digestion Analysis: ICP/OES ICP/MS HJ 803
Cadmium (Cd)	7440-43-9	Textile: 39 mg/kg-Dry Weight Leather: 39 mg/kg-Dry Weight	N/A	N/A	**Threshold:** 3 mg/kg-Dry Weight **If exceeded, test:** - Cadmium (Cd) (Leachate)	HJ 803 EPA 3050 EPA 6010D EPA 6020B HJ/T 299 HJ/T 299 Preparation: Acid/Peroxide digestion Analysis: ICP/OES ICP/MS

Parameter	CAS No.	Foundational	Progressive	Aspirational	Threshold	Test Methods
Chromium (VI)	18540-29-9	Textile: 50 mg/kg-Dry Weight Leather: 50 mg/kg-Dry Weight	N/A	N/A		USEPA 3060a HJ 1802 USEPA 7196 USEPA 7199 HJ/T 299 Preparation: Alkaline digestion Analysis: Colourimetric UV/ VIS Colourimetric IC
Chromium (total)	-	Textile: 1200 mg/kg-Dry Weight	N/A	N/A	**Threshold:** 100 mg/kg-Dry Weight **If exceeded, test:** - Chromium (total) (Leachate)	HJ 803 EPA 3050 EPA 6010D EPA 6020B HJ/T 299 Preparation: Acid/Peroxide digestion Analysis: ICP/OES ICP/MS
Cobalt (Co)	7440-48-4	N/A	N/A	N/A	**Threshold:** 1600 mg/kg-Dry Weight **If exceeded, test:** - Cobalt (Co) (Leachate)	EPA 3050 EPA 6010D EPA 6020B HJ 803 HJ/T 299 Preparation: Acid/Peroxide digestion Analysis: ICP/OES ICP/MS
Copper (Cu)	7440-50-8	Textile: 1500 mg/kg-Dry Weight	N/A	N/A	**Threshold:** 200 mg/kg-Dry Weight **If exceeded, test:** - Copper (Cu) (Leachate)	HJ 803 EPA 3050 EPA 6010D EPA 6020B HJ/T 299 Preparation: Acid/Peroxide digestion Analysis: ICP/OES ICP/MS

Parameter	CAS No.	Foundational	Progressive	Aspirational	Threshold	Test Methods
Lead (Pb)	7439-92-1	Textile: 400 mg/kg-Dry Weight Leather: 400 mg/kg-Dry Weight	N/A	N/A	**Threshold:** 10 mg/kg-Dry Weight **If exceeded, test:** - Lead (Pb) (Leachate)	HJ 803 EPA 3050 EPA 6010D EPA 6020B Preparation: Acid/Peroxide digestion Analysis: ICP/OES ICP/MS
Mercury (Hg)	7439-97-6	Textile: 17 mg/kg-Dry Weight Leather: 17 mg/kg-Dry Weight	N/A	N/A	**Threshold:** 1 mg/kg-Dry Weight **If exceeded, test:** - Mercury (Hg) (Leachate)	Preparation: EPA 7471B Acid digestion Analysis: EPA 6020B EPA 3051A Acid/Peroxide digestion ICP/MS CVAA GB/T 22105.1 HJ 923 HJ/T 299
Nickel (Ni)	7440-02-0	Textile: 420 mg/kg-Dry Weight	N/A	N/A	**Threshold:** 70 mg/kg-Dry Weight **If exceeded, test:** - Nickel (Ni) (Leachate)	HJ 803 EPA 3050 EPA 6010D EPA 6020B HJ/T 299 HJ/T 299 Preparation: Acid/Peroxide digestion Analysis: ICP/OES ICP/MS
Selenium (Se)	7782-49-2	Textile: 36 mg/kg-Dry Weight	N/A	N/A	**Threshold:** 10 mg/kg-Dry Weight **If exceeded, test:** - Selenium (Se) (Leachate)	HJ 803 EPA 3050 EPA 6010D EPA 6020B HJ/T 299 Preparation: Acid/Peroxide digestion Analysis: ICP/OES ICP/MS

Parameter	CAS No.	Foundational	Progressive	Aspirational	Threshold	Test Methods
Silver (Ag)	7440-22-4	N/A	N/A	N/A	**Threshold:** 100 mg/kg-Dry Weight **If exceeded, test:** - Silver (Ag) (Leachate)	HJ 803 EPA 3050 EPA 6010D EPA 6020B Preparation: Acid/Peroxide digestion Analysis: ICP/OES ICP/MS
Zinc (Zn)	7440-66-6	Textile: 2800 mg/kg-Dry Weight	N/A	N/A	**Threshold:** 1000 mg/kg-Dry Weight **If exceeded, test:** - Zinc (Zn) (Leachate)	HJ 803 EPA 3050 EPA 6010D EPA 6020B Preparation: Acid/Peroxide digestion Analysis: ICP/OES ICP/MS