Table 1. Aggregated list of complex intermediates declared by PM Consortium Members by the 15th of September 2008 that are likely to fall within the scope of activity of the PM Consortium, and for which EINECS entries are available.

Name	CAS n°	EC n°	EC Descriptor	Classification	Company description		Composition				Waste n°	Companies
					Process originating from	Physical form	Element	Species	Concentration range	Hazard classification		
Doré, anode silver	69029-47-6	273-793-6	Gold and silver bullion	Not classified	- Doré metal (raw silver) smelting in the anodal furnace - Raw gold - Various metallurgical processes or production residue - Silver and/or gold refining	Bullion, bar, ingot, grains, crystals	Ag Pb + Fe + Ni + Mg Cu Bi + Te Au Al Sb + Se + Sn Pd + Pt Rh + Ru As	Metallic Metallic Metallic	70-99,55 0-5 0-15 0,004-10 0-95 0,01-0,07 0-2 0-5 0-0,5 0-0,05			2, 5, 9, 16
Slags, doré furnace slags	67711-98-2	266-975-1	Slag produced as a by-product in the furnace smelting of metal wastes rich in gold and silver. Principal components are usually tellurium, selenium and copper with minor amounts of lead, antimony and other metals.	Not classified	- Silver refining - Tailings of flotation process for PM recovery from doré furnace slag.	Solution or mixture / preparation, Conous clump (later crushed into big pieces) Powder	Ag, Au, Pt, Pd, Rh As Bi Cu Fe Na Ni Pb Te Sb Te Ba Si	AgO As2O3 Bi2O3*SiO2 Cu2O Fe203 Na2O NiO PbO*SiO2 TeO2 SbO*SiO2	0,3-2,6 0,2-5 0,2-5 1,5-7 1,2-1,3 0,1-4,7 0,2-10 9-70 0,6-1,8 12 < 0,6 5-10 5-15	Not classified Carc. Cat1;R45 – T+;R28 – C;R34 – N;R50-53 Not classified Xn;R22 – N;R50/53 Not classified Not classified Carc Cat 1;R49 – T;R48/23 – R43 – R53 Repr. Cat1;R61 – Repr.Cat1;R62 – Xn;R20/22 – R33 –N;R50-53 Not classified	Could be a waste: 10 07 01 Slags (first and second smelting)	3, 4, 9
Slags, precious metal refining	98072-60-7	308-515-5	Not available	Not classified	- Doré metal (raw silver) smelting / converting in the Kaldo furnace - PGM refining	Powder or grains, irregular lumps of up to 300 mm	PM Pb Se Cu + Zn + Cr + Ba + Mg Sb + Sn + Sr + Tl + Zr S As Bi Si Fe + Ni Al + Ca Cl Te	 SiO2 Cl- TeO2	0,05-8 0,5-75 0,4-0,79 0-10 1,5-28 0,05-15 1,0-7 0,2-8 2-30 0,13-30 0,4-15 0,03-0,19 0,02-0,8	 Not classified T; R23 – Xi; R36/37/38 –N; R50	Could be a waste: 10 07 01 Slags (first and second smelting)	2, 16, 27

Name	CAS n°	EC n°	EC Descriptor	Classification	Company description		Composition				Waste n°	Companies
					Process originating from	Physical form	Element	Species	Concentration range	Hazard classification		
							Na Nd P	Na2SiO4	0-10 0-2 0-20			
Slimes and sludges, precious metal refining	98072-61-8	308-516-0	Not available	Not classified	- Venturii slime - Wet dedusting system of technological gas from Kaldo furnace - Silver electrolytic refining - Gold anode slime - Roasted, dried slime (Se-free) from silver refining - PGM slime - Assorted residues containing PGM - PGM residue after Cu and Se removal - (Fe+Pd) Metal-hydroxide residue from PM production	(Black) Moist powder (20-30% H2O) or solution or mixture / preparation	PM Ag Pb Cu Se, Cd, Tl, W S As, Ba, Mg Al Bi Cl Ni Si Sb, K, Ti, Te Au Pd Pt Sn, Pb, Na Fe Co, Cr, Zn Mn, Mo, Hg, Be Ca Br, Cl I C	PbSO4 Cu, CuSO4, Cu2O SeO2 As2O3 Bi2O3 Cl^- NiO SiO2 Sb2O3, TeO2 AuCl; Au2Te SnO2	0-99 5-45 0-50 0-98 0-16 4-6 0-10 0-97 0-35 0,3-0,9 0-85 0-98 0-20 0,8-50 0,4-95 0,4-12 0-30 0-98 0-50 0-1 0-45 0-50 0-2 0-25	T; R23 – Xi; R36/37/38 –N; R50 Not classified		2, 4, 5, 9, 16
Residues, copper speiss acid leaching / / Leaching slime (Ni-free)	100656-54-0	309-643-4	The product obtained by acid leaching of copper speiss. Composed primarily of antimony, arsenic and lead with high precious metal content.	Not classified	Copper refining	Powder	Ag Se Cu As Ni Te Au Pt Pd Pb	AgCl Ag2Se, CuAg2Se Cu, CuSO4 Ni, NiSO4 H2TeO3 Au, AuSO4 PbSO4	7-20 9-12 0,5-16 1,5 -4,9 0,03 -20 0,23 – 3 0,62-1,3 0,02-0,1 0,1-0,4 3-15			9
Precious Metal matte	98072-52-7	305-506-6	Not available	Not classified	Precious metal matte,	Grain, bar or ingot	PM Pb		< 40 40-70			4, 22

Name	CAS n°	EC n°	EC Descriptor	Classification	Company description		Composition				Waste n°	Companies
					Process originating from	Physical form	Element	Species	Concentration range	Hazard classification		
					after Ni, Co, Cu and S is removed from Ni-matte, the undissolved material is melted in a furnace: the slag is removed and the remaining material is PM matte.		Sn Te Ni Co Cu Fe As S Cr Zn		0,1-4 0,4-11 8,7-55 1-12 4-55 1,4-35 0,4-12 7,1-35 0,1-4,8 0,5-3			
Residues, precious metal cementation	102110-50-9	310-051-3	The residues obtained by the addition of luminium or zinc to end liquors obtained from secondary refining of gold, iridium, osmium, palladium, platinum, rhenium, ruthenium or silver. Composed primarily of the precious metals, ammonium chloride and chlorides of luminium, magnesium and zinc.	Not classified	- Cementation silver, silver cement, silver precipitate - Gold leaching residue, from gold leaching to Kaldo converter - Cementation of electrolyte bleed, from silver electro-refining - Precipitate recovered from PM-bearing solution. - Pt-Cu cement (Pt cemented on Cu) - Pd cement (Reduced red palladium salt) - PM cement (PM	Black-grey, moist powder (20% H2O)	Ag Fe Cl Au Cu Se Bi Pt Pd Te As Ba Cr Co Ni Si S Sn	AgCl	65-97 0,5-11 1,5-12 1,5-12 0,02-10 0,1-10 0,01-0,02 0,08-1 0,08-2 0,02-5 0,3-5 0-20 2-15 0,5-10 0,5-10 1-10 5-20 0,3-10	T; R23 – Xi; R36/37/38 –N; R50		2, 4

Name	CAS n°	EC n°	EC Descriptor	Classification	Company description		Composition				Waste n°	Companies
					Process originating from	Physical form	Element	Species	Concentration range	Hazard classification		
					cemented from several solutions before they are further treated)							
Residues, precious metal recovery lead refining	69029-80-7	273-822-2	Residues from treating lead refinery ores and residues containing precious metals with sodium boroplumbate followed by thermal fusion.	Not classified								
Residues, silver refining	97926-88-0	308-309-5	Product resulting from the smelting, refining and/or use of silver and its alloys obtained from primary and secondary sources and including recycled plant intermediates. It consists primarily of silver and may contain other residual non-ferrous metals and their compounds.	Not classified	- Spent silver anodes from electro-refining	Sheet	Ag Pb Cu Bi Te Au Al Sb Se	Metallic Ag	98,8 - 99,55 0,01 – 0,02 0,3 - 0,8 0,004 - 0,006 0,01 - 0,02 0,02 - 0,58 0,01 - 0,07 0,01 - 0,04 < 0,01			2
Silver, crusts	69029-57-8	273-799-9	Product formed when zinc is mixed into de-copperized lead where it combines with silver and is skimmed off in blocks. Lead is removed from the blocks by	Not classified	- Silver crusts from lead refining	Ingot or bar						

Name	CAS n°	EC n°	EC Descriptor	Classification	Company description		Composition				Waste n°	Companies
					Process originating from	Physical form	Element	Species	Concentration range	Hazard classification		
			applying hydraulic pressure. Consists primarily of copper, gold, lead, silver and zinc.									
Balsams, copaiba, sulfurised, mixed with turpentine, gold salts	68990-27-2	273-589-7	Not available	Not classified	Gold refining							15
Flue dust	97926-57-3	308-276-7	Product resulting from the smelting, refining and/or use of silver and its alloys obtained from primary and secondary sources and including recycled plant intermediates. Consists primarily of oxides and halide compounds of silver and lead and may contain other residual non-ferrous metals and their compounds.	Not classified	Silver and PGM refining	Powder	PGMs Al As + B Bi Br Ca Ce Cl Cr Cu + Fe K Mg Ni + S + Sb + Sn + Zr Pb Se + Te + Zn Si		5-10 0-10 0-2 0-15 0-2 2-15 0-5 5-30 0-2 0-8 0-5 0-5 0-5 2-30 0-10 1-25		Could be a waste: 10 07 03 solid wastes from gas treatment	5, 16

Table 2. Aggregated complex intermediates declared by PM Consortium Members by the 15th of September 2008 that are likely to fall within the scope of activity of the PM Consortium, for which no EINECS entries are available (proposal: to assemble them under existing EINECS or new generic descriptors).

Name	CAS n°	EC n°	EC Descriptor	Classification	Company description		Composition			Waste n°	Companies
					Process originating from	Physical form	Element	Species	Concentration range		
Concentrates	-	-	-	-	Rich, poor PM concentrates, primary and incinerator feeds, PGM cake, Pd/Pt concentrate, Cu-PGM concentrate, Cu-Ni-PGM concentrate from PGMs refining	Powder, wet solids	Pd Pt Rh Ag Au Total PM Te Bi Sb Cu Cl S Fe Pb As Co Ni Sn Na Si	 Bi2O3, BiCl3 CuS S Fe2O3 PbCl AsH3O4, AsCl NiS NaFe3(SO4)2(OH)6 SiO2	< 39,9 < 21 0,0014 4,6 < 2,5 40-75 5-17,9 5-10 0,5-1 1 – 15 2,4 9-16 0,5 – 25 0,2-10 0,5 – 6 0,2 1-3,1 1-2 1,5-32 3-13	Could be wastes for some MS	1, 9, 19, 27
Impure or raw silver and gold containing PGMs	-	-	-	-	Silver, gold and PGMs refining	Solution or mixture / preparation (PGM Bullion)	Au Ag Pt Other PGM Cu Ni Te, Pb, Se, Fe, Bi, Zn, Sn, Mg, Sb Ba S Ca Al, Si Cr	 Ba oxides Ca oxides	0,1-3,8 5-85 0-25 0-5 0-50 0-20 0-37 <1,5 0,04-0,45 <0,3 <0,55 <0,07		4, 9, 16
Filter cake	-	-	-	-	PGM filter cake		PM but Ag and Pt Ag + Pt Al As + Ba + Cr + Mg + Ni + Pb + K + Sb + Sn + Ni + Zn Bi + Ca + Fe + Te Cu Si		0-10 0-25 0-35 0-5 0-10 0-30 5-75	Could be a waste: 10 07 05 sludges and filter cakes from gas treatment	16

Name	CAS n°	EC n°	EC Descriptor	Classification	Company description		Composition			Waste n°	Companies
					Process originating from	Physical form	Element	Species	Concentration range		
Lead-Silver Alloy	-	-	-	-	Lead/precious metals refining	Ingot or bar	Ag Pb Cu Zn Sn Sb Bi Te		35-55 18-48 1-4 20-35 0,014-0,017 0,05-0,25 0,010-0,025 0,006-0,015		2, 27
Lead-PGM Alloy	-	-	-	-	Lead/precious metals refining	Grain	Pb PGM + Au Ag		48-63 9-13 4-8%		27
Electrolyte	-	-	-	-	(Spent) Silver electrolytic refining	Solution or mixture / preparation	Cu Ag Pd SO4 HNO3 H2O	Cu(NO3)2 AgNO3 Pd(NO3)2	4,5-57 10-39 0-3,6 <0,05 < 0,7 < 76		2, 5, 9
Raw gold slime leaching solution	-	-	-	-	Pre-leaching of raw gold slime	Solution or mixture / preparation	Cu Bi Pt Pb Te Ag Se Pd Au		2,5-5,5 0,02-0,5 0,01-0,06 0,02-0,05 0,1-0,2 0,001-0,003 0,0002-0,005 0,0001-0,0005 < 0,00005		2
Leach insolubles	-	-	-	-	- Leach residues, PGM refining - Other PM material, leach residues from PM plant - Primary leach residue from PM-feed material leaching (residue from Ni and Cu matte leaching) - Secondary leach residue, from a late stage in the PGM process - Pre-leaching of the raw gold slime	Powder (moist powder [35-45% H2O], sludge, sponge	PM Al Si Ca Fe Cu Pb Te + Bi + Se Sn + As + Sb + Ni + Zn + Ba + Mo + B + Mn Mg Ti Cr Co S Cl	 Al2O3 SiO2 CaO MgO TiO2 Cr2O3 	0-65 0-5 0-15 0-35 0-10 0-35 0-30 0-15 0-20 0-2 0-2 0-15 0,5-10 5-20 14-16		2, 4, 27
Crushed crucibles, (refractory) bricks, pots	-	-	-	-	PGMs refining	Powder, crushed refractories, solid	Au Ag PGM Al Si Fe	 Al2O3 SiO2 	0,1-0,3 1,8-7,7 0-10 0-30 0-70 0-10		9, 16, 27

Name	CAS n°	EC n°	EC Descriptor	Classification	Company description		Composition			Waste n°	Companies
					Process originating from	Physical form	Element	Species	Concentration range		
							Pb, Ni, Cu, Ba, S, K, P Ca Cl Cr Mg	 CaO Cl- Cr2O3 MgO	 0-5 0-5 0-5 0-20 0-50		
PGM Carbon residues	-	-	-	-	(Spent) catalysts for PGM recovery	variable	PGM C Solvents		0,1-5 5-50 50-50		16
PGM Liquors	-	-	-	-	Feedstock liquors	solution	PGM but Pd Pd Cu Ni, Fe Pb, Te Hcl		0-10 0-15 0-10 0-5 0-2 0-6M		16
Slime from Waste Water Treatment Plant					Waste water treatment	moist powder [35-60% H2O]	Ag As Ca Cu Ni Pb S Se Te		0,10-0,46 0,80-1,54 24,99-26,78 3,28-5,97 0,005-0,14 0,07-0,24 16,27-20,64 0,13-1,33 0,08-0,19		2