GROUP 8. Residues, precious metal refining cementation

Version 22 January 2010

(**N.B.:** The content of this ID Card may be adjusted as the Refiners Project develops)

1. Identification of the group

Table 1. Identification of the group

	Proposed by PMC Refiners Work Group	Pre-registered as	
Name	Residues, precious metal refining cementation and reduction	Residues, precious metal refining cementation	Slimes and Sludges, precious metal refining
EC number	310-051-3	310-051-3	308-516-0
CAS number	102110-50-9	102110-50-9	98072-61-8
Description	Dry and wet residues recovered through cementation and/or reduction with a reducing agent (such as aluminium, copper, iron, zinc or organic agents) of precious metal refining streams before release to waste water treatment operations. Residues include cements and polishing sludges which generally contain metal and metal oxides, including precious metals.	The residues obtained by the addition of aluminum 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 aluminum, magnesium and zinc.	None

N.B.: The description proposed above will be further detailed by PMC for Registration purposes.

2. Synonyms (and/or commercial names)

- (Silver) Cements

3. Substances that are similar or can be considered as the same

Although cements resulting from other metals refining processes (e.g.: Cement copper – 266-964-1; 67711-88-0) may be very similar to precious metals cements, they are not listed here as they are covered by other consortia and must hence, not be registered using the same information or in the same Registration Dossier.

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4. Typical composition

Table 3. Typical composition

Type	Name of the element	Symbol	Species present *(one line per species)*	Most recent classification of species	Source of classification	Typical concentration range (%)
Precious metals	Silver	Ag	Species?	Not classified		0-97
	Gold	Au	Species?	Not classified		0-80
	Platinum Group Metals	PGM	Metallic, Oxides, hydroxides	Not classified		0-80
Other metals	Aluminium	Al	Al2O3	Not classified	CLP/GHS	0-10
	Antimony	Sb	Species?			0-5
	Arsenic	As	Species?			0-6
	Bismuth	Bi	Species?			0-0,4
	Calcium	Ca	Species?			0-25
	Chromium	Cr	Cr2O3	Not classified	CLP/GHS	0,1-0,5
	Copper	Cu	Carbonate, hydroxide, oxide, nitrate			0-67
	Lead	Pb	Chloride/Oxide (1:10)	Repr. Cat. 1; R61 - Repr. Cat. 3; R62 - Xn; R20/22 - R33 - N; R50-53	CLP/GHS	0-30
	Iron	Fe	Species?			0-20
	Nickel	Ni	Species?			0-2
	Selenium	Se	Species?			0-20
	Silicon	Si	SiO2	Not classified	CLP/GHS	0-20
	Sulphur	S	Sulphide, sulphate			0-13
	Tellurium	Te	Species?			0-20
	Zinc	Zn	Species?			0-35
Other constituents	Chlorine	Cl				0-12

The composition given above represents the typical elemental content available to the Members of the Consortium by 7 of December 2009. This typical content represents the majority of the Precious Metals Cements that are placed on the EEA market.

Concentration ranges outside the ones given above do not exclude sameness and are usually referred to as atypical or exceptional situations. For instance, concentrations higher than 80% of copper have been declared by some Members of the Consortium. Each potential registrant is responsible for performing its own elemental analysis (PMC will specify preferred method in due course).

5. Classification (*additive - based on composition provided in table 2 above*)

To be completed

6. Basic physico-chemical characteristics and properties

Table 4. List of physico-chemical characteristics of the substance to facilitate sameness confirmation

Characteristic	Description/value	Comment
Physical state (solid, liquid,		

Characteristic	Description/value	Comment
gaseous)		
Physical form (Aerosol, Compact, Crystalline, Dispersion, Fibre, Filaments, Flakes, Liquified gas, Particulates, Paste, Pellets, Powder, Suspension, Viscous, Refrigerated Liquid, Other)		
Typical particle size range(s) (D10, D50, D90 in nm, µm or mm)		
Colour		
Odour (Ammonia-like, Biting, Characteristic of sulfur-containing compounds, Characteristic of aromatic compounds, Faint, Garlic-like, Pungent, Slight, Sweetish, Odourless, Other)		
Substance type (Element, Inorganic, Natural substance, Organic, Organometallic, Petroleum Product)		
Water solubility		
Relative density (g/cm^3) **or specific gravity**		
Specific surface area (m^2/g)		

7. Lead Registrant

Heraeus volunteers to be the Lead Registrant for this intermediate.

8. REACH Strategy

Table 5. REACH strategy for the group (basis for REACH Registration preparation)

Subject	Description	Comment
SIEF	If pre-registered as Slimes and sludges, precious metals refining – register using 310-051-3 instead	
REACH category	UVCB	
Intermediate status	Transported	At least one Member of the PMC has declared this material as transported > 100 t/a. This will be considered as the reference to produce the Dossier as other forms (on-site and/or below 100 t/a are covered by the requirements of transported > 100 t/a).
Tonnage band	100-1000	
Information requirements	Available	
(Likely) Classification	Carc. cat. 1, Repr. cat. 3 and R50-53	Depends on confirmation of composition/species.
Resulting registration deadline	2010	
Other	PMC proposed to add "and reduction" to the name of this entry	

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