

PM REFINABLES - PROPOSAL TO SPLIT SLAGS, PM REFINING

The proposed criteria to split these are:

- a) **Process** they originate from (e.g. slags from pyro-metallurgical processes and slags from melting processes). It is noted that all slags originate from hot processes, and there are no slags resulting from hydro-metallurgical operations.
- b) **Process and flux** they originate from (e.g. slags from pyro-metallurgical processes using borax, slags from melting processes using carbonates, etc.), depending on the influence of the flux on the assessment. It is noted that the classification cluster analysis revealed that flux did not systematically influence classification clusters. From all fluxes, boron ones are more likely to influence the assessment.

Using the PM refining they result from (Ag/Au/PGM refining) as a criterion is not applicable since pyro-metallurgical processes are applied on materials containing more than one PM.

➔Consider options a) and b) above and refine splitting approach based on composition of slags per process (initial smelting step/large composition versus further refining step/narrower composition).

Based on the data submitted by PM Refiners in Summer 2009 (after grouping of PM Refinables as per registration), below table of production processes for slags was produced. Those slags that were identified by PM Refiners as REACH exempt (following updated substance and tonnage band declarations from Jan 2013) have been removed.

Company code	General description of production process	Proposed sub-group
1, 2, 3	Slag produced as a by-product in the refining oxydizing pyrometallurgical production process of PM doré	1. Slags produced as by-products in the production (smelting, reduction, converting, and refining processes) of doré
4	Slags produced as a by-product in the production process of metals doré (Melting and refining in TBRC Converter) (Slag TBRC 1 Converter 1st stage)	
4	Slags produced as a by-product in the production process of metals doré (Melting and refining in TBRC Converter) (Slag TBRC 1 Converter 2nd stage (Se oxidation and removal) Glatte 1)	
5	Slags produced as by-products in Kaldo furnace in the smelting, reduction, converting and refining procesess	
3	Slag obtained in further pyrometallurgical refining steps of doré from cuppellation furnace	
4	Slags produced as a by-product in the further pyrometallurgical refining of doré (Ag rich materials) (Slag TBRC 2 Converter (TK2) 1 st stage)	
4	Slags produced as a by-product in the further pyrometallurgical refining of doré (Ag rich materials) (Slag TBRC 2 Converter (TK2) 2 nd stage)	
4	Slags produced as a by-product in the further pyrometallurgical refining of doré (Ag rich materials) (Te slag, removal of Te by addition of soda (Soda glatte); Different than previous 2 entries; May be covered by Se/Te Consortium)	
6	Slags from scrap smelting with flux (borax)	2. Slags produced as a by-product in the smelting of PM bearing feeds to produce a PM containing alloy subject to further refining
7	Slags produced as a by-product of the smelting of metal wastes rich in PGMs	
8	Reductive smelting of PM bearing feeds to produce a PM Pb alloy and a base metal silicate and borate slag	