

Precious Metal Refiners Work Group

Face-to-face meeting

Brussels, 26th October 2009

Copper room – Metals Conference Centre



Agenda



1. Introduction





2. Finalisation of ID Cards



3. Communication with pre-SIEFs



4. Information and testing requirements





5. Testing programme

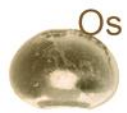


6. AOB and closing remarks



















Introduction



Objectives of the meeting

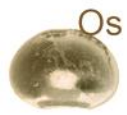
- To finalise the ID cards so they can be circulated for approval to the PMC (and then to the pre-SIEFs for substance sameness confirmation)

- To identify next steps:
  - Testing needs?
  - Consultancy needs?



















Finalisation of ID Cards



















Comments on:

- Change of template: need to include physico-chemical properties
- ID Cards 1-3
- ID Card 4
- ID Cards 5-8
- ID Cards 9.1, 9.2, 9.3, 9.4 and 9.5 – need to agree on name and description before requesting concentration ranges

Next steps



9.1 Reclaimed materials, PM with or without supports

Proposed description:

Secondary sources of precious metals with or without:

- ceramic (such as silica, alumina, zeolite),
- carbon-, organic- (such as carbon, paper, plastics), and/or
- Metallic- (such as stainless steel)

based supports, resulting from the application of end-of-life criteria. Examples are: spent (auto-)catalysts; materials arising from electronic, dentistry, jewellery, etc. ; photographic film; spent fuel cells, etc.

These supports contain mostly (to be completed later).



















9.2 Reclaimed materials, PM in bricks, crucibles, trays, etc.

Proposed description:

Spent materials that have retained fractions of precious metals during processing and that are reclaimed as secondary sources of precious metals. Examples include bricks, crucibles, trays and molds.

These materials are mainly constituted of (to be completed later)



9.3 Reclaimed materials, PM production by-products

Precious metal and alloy wastes in a dispersible, non-liquid form with appropriate packaging and labelling

- Description: HELP!
  - Form
  - Source
  - Process



Communication with pre-SIEFs



.xml files

- .xml files needed in order to be uploaded onto REACHsuite and to allow communication with pre-SIEFs

- "Consortium rapporteurs":
  - nominated by PMC
  - invited to download .xml file for each relevant pre-SIEF and send it to PMC



Sameness discussion

- Once .xml files received, “presentation letter” of Consortium sent to all pre-SIEFs

- Next: substance sameness
  - Using ID cards approved by PMC (including composition as necessary for sameness)
  - Indicating intended registration strategy (split/merge of pre-SIEFs + deadline)
  - Indicating considered testing programme



Sameness discussion (cont.)

- P. 30 of guidance on substance identification:

  "For a UVCB substance, all known constituents, present at concentrations ≥ 10% should be specified […]; *the typical concentrations and concentrations ranges of the known constituents should be given as well."*

- P. 50 of guidance on substance identification:

  "A multi-constituent substance with a narrow distribution of constituents is not regarded as equal to multi-constituent substance with a broader composition and vice versa."



Substance sameness (cont.)

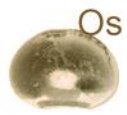
- Composition could be reduced to include:
  - Ag, Au and PGM content
  - Main constituents (> 10%)
  - Constituents triggering classification (e.g.: Pb, Ni, As, etc.)
  - Constituents intrinsic to manufacturing process

- Group to decide:
  - whether composition should be narrowed down to above constituents only or not;
  - If narrowed: should narrowing be done before launching sameness discussion or after (only when compiling IUCLID 5 file)



















Information and testing requirements



Status of refinables groups

- See separate table in handouts



Identity/sameness: characterisation methods

- As per guidance on substance identification, allowed analytical methods for UVCB are:

> "*4.3.1.3 Analytical information*:
>
> *In cases where spectral data provides information on the composition of the UVCB substance, this information should be given. Several spectroscopic methods are used for spectra (UV/VIS, infra-red, nuclear magnetic resonance or mass spectrum). Methods and insights into how to use these methods is subject to continuous change. Therefore, it is to the responsibility of the registrant to present appropriate spectral data. A chromatogram that can be used as a fingerprint shall be given to characterise the composition of the substance. If applicable, also other valid constituent separation techniques might be used."*



















Identity/sameness: characterisation methods (cont.)

- Spectroscopy:
  - Ultraviolet visible (UV vis)
  - Infrarred (IR)
  - Nuclear magnetic resonance
  - Inductively Coupled Plasma Mass Spectroscopy (ICP-MS)
  - Inductively Coupled Plasma Emission Spectroscopy (ICP-OES)
  - X Ray Diffraction (XRD)
- Chromatography fingerprinting (e.g.: HPLC)
- Microscopy:
  - Optical
  - Scanning Electron Microscope/Energy Dispersive Using X-Ray (SEM/EDX)
  - Backscattered Electron Image (BEI)



"Any available existing information"

- Recital 14 of REACH:

  "*Available information, including that generated by this Regulation, should be used by the relevant actors in the application and implementation of appropriate Community legislation*"

- Recital 17 of REACH:

  All available and relevant information on substances […] *should be collected to assist in identifying hazardous properties, and recommendations about risk management measures […], to prevent adverse effects on human health and the environment.*



"Any available existing information" (cont.)

- Article 17(2)d of REACH:

  "*A registration for an on-site isolated intermediate shall include all the following information, to the extent that the manufacturer is able to submit it without any additional testing*: […] *any available existing information on physicochemical, human health or environmental properties of the intermediate. Where a full study report is available, a study summary shall be submitted*"

- Article 18(2)d of REACH:

  "*A registration for a transported isolated intermediate shall include all the following information:* […] *any available existing information on physicochemical, human health or environmental properties of the intermediate. Where a full study report is available, a study summary shall be submitted*"

"Any available existing information" (cont.)



- Text vs spirit of the Law

- Need for a pragmatic yet responsible approach:
  - anything which is available and provides evidence about hazard and associated risk management measure should be considered as "available"
  - If using information on constituents of UVCB:
    - For classification and labelling only: free sharing across NFM consortia
    - Right to refer/use constituent's dossier: e.g. Ni: 3000 €



















Annex VII

Phys-chem	Tox	Eco-tox and fate
• State of the substance • Melting/freezing point • Boiling point • Relative density • Vapour pressure • Surface tension • Water solubility • Partition co-efficient n-octanol/water • Flash point • Flammability • Explosive properties • Self-ignition temperature • Oxidising properties • Granulometry	• Skin irritation or skin corrosion • Eye irritation • Skin sensitisation • Mutagenicity • Acute (oral) toxicity	• Short-term toxicity on *Daphnia sp.* • Bio-degradation



IUCLID 5



















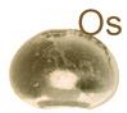
Approach supported by Refiners WG

- Which constituents?
- Which analytical method for identification?
- How far to go to gather available information?
- Annex VII: testing or default classification? Is latter option possible?
- How to describe the intermediate in IUCLID 5?



















Testing programme



Priority plan

- See separate document in handouts



Sample providers

- Will share costs involved in testing and preparation of dossier
- One of them will be Lead Registrant – Ideally:
  - EU-based
  - Highest tonnage band



Sample preparation

- One or more samples:
  - All interested PMC Members?
  - Only representative samples?
- What is representative:
  - Low, mid and high concentration?
  - Only one of the above?
  - Other?



















Preferred test houses

- Outotec (Finland):
  - Mineralogical characterisation fully booked but possibility of fitting PMC samples in
  - Timeplan will be proposed based on PMC's needs
  - Difficult to quantify PGE and Au concentrations – need industry experts' input
  - About 8000 € for full characterisation per sample, including:
    - Sample preparation and particle size by sieving
    - Density and specific surface area measurements
    - Chemical assays
    - Mineralogy and quantified mineral composition of the sample
    - Flammability and oxidation temperature determinations by TG
    - Water solubility test
  - Sample needed: 1kg crushed 100% -3mm in size
  - Results provided in word and excel documents (need to upload in IUCLID 5)
- Other?



















With support of CRO or internal?

- Refinables currently not part of any metal-specific project
- Work done so far achieved by PM Refiners WG and PMC staff with support of J. Levison and C. Canoo
- What is next? Continue as such or select a consultant?

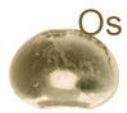


AOB and closing remarks



















Pure vs impure

- If intention is to split pre-SIEFs of certain mono-constituent substances to divide > 99,9% and < 99,9% purity forms in two separate dossiers:
  - Need to use REACH arguments to justify this
  - Need to consider impact on ongoing projects
- < 99,9% purity forms will most probably contain CMR impurities which will bring registration to 2010 for these mono-constituent substances:
  - Ag: OK
  - Au and PGM: not ready!
- Need to know who is interested in pursuing this route



Registration strategy for other refinables

- Some scraps: in one of group 9 or as special preparations (if metallic alloys)
- Other residues, e.g.: residues, PM refining
  - large group that can be used for Registration
  - PMC can provide extracts of other dossier(s) that can be “copy-pasted” into Residues, PM refining dossier



















Next steps (by mid-Nov 2009)

- Update flow sheet
- Check IUCLID 5 compilation → exceptional/atypical situations
- Provide composition information for ID cards of group 9
- Refine descriptions to detail process
- Gather .xml files for communication
- Confirm ID cards of interest (with associated tonnage band and intermediate status) + impure ones + PM refining residues (group 11)
- Contact WCA for quotation
- Identify volunteers for:
  - Sample providers
  - Lead Registrant



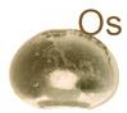
Next meetings

- E-mail exchange: to confirm group 9 compositions
- Telcon: if needed
- Ftf mtg: if needed (otherwise – see you on 3 December 2009 in Brussels, at Assembly meeting



















Thank you!