PM Complex Refinables Task Force

Metals Conference Centre
Brussels

25th February, 2009

Introduction and welcome

Participants today

1. Angela Alderman, Johnson Matthey
2. Christine Bourda, Metalor
3. Dave Boyd, Johnson Matthey
4. Caroline Braibant, EPMF
5. Edwin Broekaert, Umicore
6. Daniela Cholakova, Norddeutsche Affinerie
7. Gerhard Duerr, Heraeus
8. Zuzana Hugonin, EPMF
9. Jeff Levison, Vale Inco
10. Aurélie Normand, Metalor
11. Agnieszka Piechota, KGHM
12. Mika Toivola, Boliden
13. Michael Turner Jones, Lonmin

By teleconference:

- Mike Halhead, Anglo Platinum
- Mark Raffray, Johnson Matthey
- Hege Stubberud, Xstrata Nickel

The basis of today's discussion

Complex Refinables Framework

- Caroline has prepared excellent framework document
  - Maps out the next steps
  - Need to set up a Task Force of interested members to drive this forward with some urgency
  - Propose setting date for initial face to face meeting in February and one or two conference calls before end on March
  - Substances at >1000 tonnes or >0.1% CMR must be registered by 1st December, 2010
  - Assumes independent assistance by one or more consultant
- Three levels of action
  - By Members
  - By Secretariat
  - By Task Force

Annexes - Annex VII tests
- Substance ID card

Requests from 10 Feb e-mail

1. Nominate a volunteer for the Task Force
2. Complete substance and tonnage band declaration to inform Secretariat on your complex refinables
3. Indicate whether or not Consortium's pre-registration recommendations have been followed by your company; if not: please explain why
4. Indicate whether you can guarantee strict control of your complex intermediates
5. Comment on document on complex refinables – and in particular on proposed ID card frame at the end

Our Willing Volunteers

Thanks for joining in to:

1. Angela Alderman, Johnson Matthey
2. Christine Bourda, Metalor
3. Dave Boyd, Johnson Matthey
4. Caroline Braibant, EPMF
5. Edwin Broekaert, Umicore
6. Helena Byrdziak, KGHM
7. Daniela Cholakova, Norddeutsche Affinerie
8. Gerhard Duerr, Heraeus
9. Daniel Glowacki, KGHM
10. Mike Halhead, Anglo Platinum
11. Zuzana Hugonin, EPMF
12. Karl Kunkel, Heraeus
13. Leila Laine, Norilsk Nickel
14. Jeff Levison, Vale Inco
15. Aurélie Normand, Metalor
16. Agnieszka Piechota, KGHM
17. Mark Raffray, Johnson Matthey
18. Jochen Schlessmann, Heraeus
19. Hege Stubberud, Xstrata Nickel
20. Mika Toivola, Boliden
21. Michael Turner Jones, Lonmin

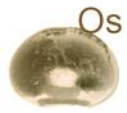
(Partial) Responses/complex refinables inventories received

1. Ames Goldsmith (24 Feb 2009)
2. Anglo Platinum (27 Mar 2008)
3. Britannia Refined Metals (5 Nov 2007 + 24 Oct 2008)
4. Boliden (19 Feb 2009)
5. Carl Hafner (24 Feb 2009)
6. HCM (1 Apr 2008)
7. Johnson Matthey (28 May 2008 + 25 Feb 2009)
8. KGHM (20 Feb 2009)
9. Metalor (18 Feb 2009)
10. Norddeutsche Affinerie (18 Apr 2008)
11. Recylex (23 Feb 2009)
12. PAMP (27 Nov 2008)
13. SEMPSA (10 Oct 2008)
14. SFPZ (5 Jun 2008)
15. Umicore (10 Feb 2009)
16. Vale Inco (17 Jun 2008)
17. Xstrata Nickel (24 Feb 2009)

In blue: no complex refinables (in scope of PM & Re Consortium)
At least 14 companies out of 42 have complex refinables!

Complex refinables indicative list dated 25 February 2009

- Shows that no all Members have completed their submission to the Consortium
- Some Members may be represented by OR (need to know who is represented by who)
- Most of pre-SIEFs are rather small and have no SFF – wonder why no one wants to take the lead for these “simple” cases…?



Where do we stand?

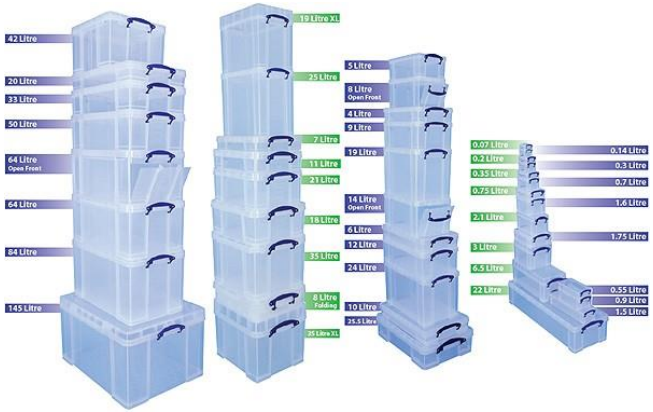
REACH Compliant Tee-Shirts "Indefinable"

The Challenge

- This image first used in talk here in late 2006
- Represents complex inter-relationships in REACH
- Many of REACH's initial uncertainties now resolved but not issue of complex refinables

Context

- Consortium pre-registration advice:
  - Pre-register as mono- or multi-constituents or preparations, if feasible
  - If not, use suggested EINECS nos



Labels on “Vale Inco’s Storage Boxes”

Substance Name	EINECS No.	CAS No.	Cumulative Tonnage Band (tonnes)
PM COMPLEX REFINABLES (UVCBs)			
Slimes and Sludges, Precious Metal Refining	308-516-0	98072-61-8	100 - 1000
Precious Metal Matte	308-506-6	98072-52-7	10 - 100
Silver, crusts (Adopted by Lead Consortium)	273-799-9	69029-57-8	10 - 100
Slags, Precious Metal Recovery, Lead Refining	273-826-4	69029-85-2	10 - 100
Leach Residues, Precious Metal Smelting Scrap	309-770-5	100995-79-7	1 - 10
NON-PM COMPLEX REFINABLES (UVCBs)			
Lead Bullion	308-011-5	97808-88-3	10 - 100
Flue Dust, Lead Refining	273-809-1	69029-67-0	10 - 100
Lead Smelt By-Products	none	none	1 - 10
COPPER COMPOUNDS (Multi-Constituents)			
Reaction Mass of Copper Oxide & Nickel Oxide	-	-	1 - 10
Reaction Mass of Copper Compound & Nickel Compound	-	-	10 - 100

Context

- Now must sort out what Consortium members have done with these complex materials before tackling other SIEF members
  - Individual UVCB SIEFS may contain substances which cannot be called the same
  - The same substance may be distributed through different UVCB SIEFs and beyond
  - Looking for data for a raft of metals, other than PMs, some of which will drive any hazard classification
  - Some low PM materials may be better fit with other consortia

Context

- Amongst primary and non-waste secondary feeds, many complex substances of unknown and/or variable composition, i.e. UVCBs
  - Lack of full compositional data, let alone speciation – never required to date for commercial and operational purposes
  - In addition, many conventional isolated intermediates
- However all believed to be intermediates
  - All assumed handled under strictly controlled conditions
  - Driver for Consortium approach

Strict control…

What is Strict Control?

- Using the language of earlier chemical regulation, REACH makes frequent reference to “adequate control”
  - What is the difference between “adequate” and “strict”?
- Adequate control refers to the situation where you have the data and know the human health thresholds
  - You can derive measurable exposure limits and compare actual exposure with them
- Strict control refers to the situation where there are no thresholods
  - No thresholds for CMRs
  - Because of lack of data (beyond assembling existing available information) due to derogation for isolated intermediates!

What is Strict Control?

- What does strict control entail?
  - "Rigorous containment"
  - But how rigorous does rigorous need to be?
- That may well depend on what you find in the existing available information
  - You may have a CMR – but must 0.2% CMR be handled with the same rigour as 90% CMR?
  - You may find you already have end points, in which case the rules of adequate control should suffice
  - Relevance of exposure route, e.g. inhalation for damp solids
- Note that we have all been working to date on the assumption that we do have strict control
  - Now is not the time to have cold feet!

How do we Know if our Intermediates are under Strict Control?

- First and foremost we must be able to convince ourselves honestly case-by-case
  - Or else we'll never convince others, e.g. MS CAs
- Secondly it may be a bit too late to do anything else by the time we have gathered together all the existing available information
  - Is strict control achievable in short term through voluntary action?
- Holding hands is best protection when skating on thin ice
- Think positively – we're all in this together

Key issues

Policy

- Today we must not only further develop the process for moving forward but also start dirtying our hands with the detail
  - Cuts across the Ag, Au and PGM projects
- No criticism of other member's pre-registrations
  - May well need to seek to understand what's been done, whilst respecting confidentiality

What are the Key Issues?

- Belief that our materials are non-wastes
  - Regulators may feel we face challenges self-imposed by dogma
- Belief in merits of generic approach
  - Avoid attempting to over-differentiate and over-characterise overlapping UVCBs
  - Develop credible approach to substance sameness or lack of it
  - No benefit to human health or the environment in generating lots of near identical technical dossiers
  - Develop credible naming and identification strategy
  - Pros and cons of groupings in commercial/operational models
- Meet registration deadlines, especially December 2010
  - Obtain Annex VII test data for >1000 tonnes transported intermediates
- Ensure justifiable classifications by December 2010

Let’s start!

How do we View a Complex Substance?

Potential Grouping Criteria

- **A** Commercial/operational descriptors
  - Based on source of material and/or composition
  - Some have well defined analytical ranges, others have not
- **B** Comparable analyses
  - Elemental clusters used for commercial/operational purposes, e.g. ΣPGMs, Σ(Se + Te + Sb + Bi)
  - Selective constituents leading to similar classifications, e.g. As, Pb
- **C** EINECS Nos/Pre-SIEFs
  - Current descriptors, with indicative analytical ranges
  - Modified descriptors, with Consortium agreed analytical ranges

Ag

Au

Ir

Os

Pd

Pt

Re

Rh

Ru

What Pre-SIEFs Remind Me Of

REACH Compliant Tee-Shirts "Mad Hatter"

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  - Modified descriptors, with Consortium agreed analytical ranges

Where are we now?

Potential Grouping Criteria

- The Consortium members had to transpose **A → C**
  - Necessary for pre-registration to qualify as "phase in"
- What the Consortium can now see is **C**
- To judge substance sameness, we must transpose **C → B**
  - Credibility of actual ranges
  - Credibility of cluster approach, if utilised
- Maybe we should retrace our steps **C → A**

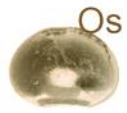
What do we hope to achieve today?

1. Review Pre-SIEFs where we have put our complex refinables and gain mutual understanding

2. Agree how to tackle substance sameness for these UVCBs

3. Develop an ideal model for how the Consortium would like to see the SIEFs

4. Agree next steps forward to achieve this



Key actions

Thank you for your contribution!