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COMMENT

Probably the most significant event which will have a major impact on metals markets over the next few years, was the publication in May of the draft legislation on the EU New Chemicals Management Policy. Because of the importance of this pending legislation, which is scheduled to be implemented by 2006, we have devoted most of this issue of Cobalt News to comments sent to the EU authorities on this draft regulation from European and North American non-ferrous metals associations. It is yet to be seen how and if these comments will be incorporated into the legislation.

Another major event as far as the CDI is concerned is our rescheduled Cobalt Conference being held in Hong Kong on 19/20 November. The changes in the cobalt industry over the past six months and possibilities for the industry in the future seem to make this rescheduled date ideal timing.

Don't miss on the opportunity to hear some excellent papers on various aspects of the cobalt industry and to network with the major participants in it.

Book now to avoid disappointment.

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The EU New Chemicals Management Policy

Over the past few years, the CDI has kept readers abreast of the new legislation being introduced in the EU entitled the EU New Chemicals Management Policy (NCMP).

A draft regulation jointly prepared by DG Environment and DG Enterprise of the EU was published on 7 May 2003 and industry was given an eight-week period for Internet consultation to express its views.

It was emphasised that the Internet consultation concerning the NCMP would not engage in the pros and cons of the policy but only in its workability and technical soundness. Furthermore, DG Enterprise indicated that they would not be able to deal with comments from individual companies and, as such, individual responses would almost certainly be ignored. Instead, they advised that each industry sector should submit focussed comments on the workability and scientific soundness of the text on behalf of its members.

Following the publication of the draft regulation, Eurometaux held a workshop in Brussels at the end of the May to brief the non-ferrous metals industry on the document. They then invited the various sectors of the industry to submit comments to them so that they could prepare a paper for submission to the EU authorities summarising the industries' views on the draft regulation.

In response to the CDI report of this workshop, comments were received from a few members, which were forwarded to Eurometaux for incorporation in their submission to the EU.

The Metals Forum, a voluntary initiative by the non-ferrous metals industry represented by Eurometaux, the alloys industry (EIMAC) and the European iron and steel industry (represented by Eurofer) submitted a response to the EU dated 7 July 2003 based on comments received from the metals industry.

Although there was little in the draft regulation specifically related to cobalt, the introduction of this policy will impact the industry enormously so we feel it appropriate to present a detailed summary of the comments submitted by the Metals Forum to the EU.

COMMENTS OF THE METALS FORUM TO THE EU

The workability of the NCP must and can be considerably improved for metals

It is essential for the competitiveness of the EU metals industry that REACH fully integrates the specificity of metals in the New Chemicals Policy.

The following key remarks and suggestions to improve the workability and efficiency of the REACH system should be taken into account when finalising the proposed policy. It should be emphasised that the suggestions and remarks made below are common to the **entire (inorganic) metals production industry in Europe**.

The recommendations developed in this paper aim to **enhance the workability and efficiency of the REACH system for metals**, without changing or compromising the philosophy or the basic concepts of the proposals.

The Metals Forum notes that many aspects of the NCP proposals seem consistent with the specificities of organic chemicals, but do not apply appropriately to inorganic substances. It therefore suggests that the Commission **focus more on the particularities and needs of the metals and alloys industry**, ensuring that the NCP deals fairly with all the substances involved.

The Metals Forum has analysed the proposals in detail and identified 9 key areas for improvements of the workability and relevance of the system for metals in particular, covering the full life cycle from mining up to recycling (End of Life).

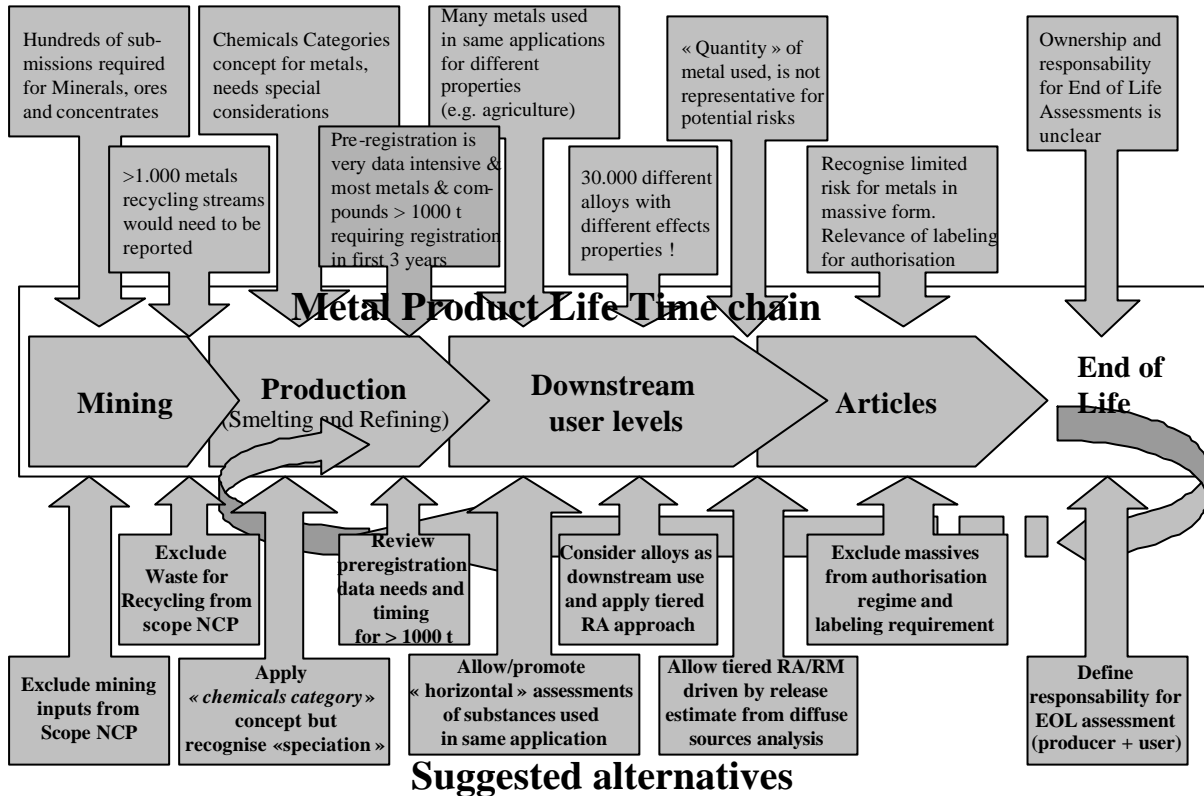
The 9 keys areas are schematically summarised below, and include the following:

- A revision of the status of minerals and ores;
- A revision of the status of wastes for recycling;
- A view on the principle of "chemicals categories" for metal;
- Content of pre-registration and time for registration of 1000 t chemicals (excluding high-concern substances);
- The situation of alloys;
- Horizontal approach between substances used for the same application;
- Emission source analysis as a selection mechanism for a tiered risk assessment/management approach;
- The situation of articles in massive forms;
- Responsibility for the assessments of the End-of-Life phase.

The discussion/explanatory document below summarises the suggestions of the Metals Forum regarding each of the aspects listed and includes

NCP Key Areas to improve workability

Main Issues



some concrete suggestions for modification of the present NCP text proposals.

Finally, the Metals Forum recognises and subscribes to the basic principles of the NCP as expressed in the Chemicals Orientation Paper issued by the Commissioners Liikanen and Wallström, and in particular the need to ensure a high level of protection of man and the environment, while maintaining a high level of welfare, and at the same time not jeopardising the employment rate and competitiveness of the metals industry in Europe. It should be noted in this respect that **the metals sector contributes very significantly to the economy and to the general level of welfare in Europe, being responsible for more than 0.6 million jobs and about 110 billion Euros of annual turnover.**

The **alloys** sector represents approximately half of the figures given above. The alloys manufacturing industry in the EU employs around 350,000 workers; and this figure is several times higher for the alloys processing, using and recycling industries. Total alloy production in the EU amounts to almost 200 million tonnes per annum, with a sales value of over 50 billion EUR.

The treatment of metals and alloys within REACH will be critical in determining the extent to which the EU metals and alloys industry will actually be able to contribute to meeting European aspirations regarding the protection of human health and the environment, the more efficient use of resources, and sustainable development. Safeguarding the employ-

ment of a significant number of EU citizens also has to be considered. Excessive regulatory burdens will lead to less use of metals and alloys in the EU and reduced innovation in these industries. Both would adversely affect the long-term competitiveness of the EU metal and alloy industries and the efficient use of material resources within the EU.

Proposals to improve the workability and relevance of the NCP system in respect of metals

1. **Minerals, ores and other inorganic substances occurring in nature are covered by the scope of the legislation if they are classified according to Dir. 67/548.**

The metals industry estimates that several hundred metals and metal compounds substances will have to be registered. While this number may seem low, it should be recognised that, in many cases, the individual dossiers will be very extensive and complex – as is clearly demonstrated by the ongoing regulatory and voluntary risk assessments on metals. However, inclusion of **minerals, ores or substances occurring in nature may more than double the number of registrations to be made by the metals industry as well as having a very significant impact on business and the competitiveness of the sector in Europe.** Moreover, **concentrates**, substances resulting from the pre-treatment of ores before their processing into metal, are not identified in the list of excluded substances or substance types.

The following points were raised:

Most minerals and ores in the metals sector would be potentially classified as hazardous (cf. the criteria of Dir. 67/548), meaning that the total number of minerals, ores and natural substances occurring in nature could well exceed the total number of metals and metals compounds to be registered!

The metals industry in Europe uses many different concentrates for the production of primary raw materials. These concentrates, minerals and ores will almost all have to be registered on the basis of the criteria of Dir. 67/548. Furthermore, the composition of concentrates may vary substantially depending on the origin, which will make the registration procedures excessively complex.

Most metal-containing minerals, ores and concentrates are imported into the EU. Consequently, a strict regulation on these substances could lead to lower availability of these materials for the European metals sector, creating a serious market distortion and delocalisation.

Most minerals, ores and concentrates also have varying compositions depending on their origin, which would lead to a significant increase in the number of registrations. The large number of mines delivering these materials to the European industry would further multiply the number of dossiers for authorisation, without providing any real benefit from the viewpoint of chemicals management.

It could be argued that chemicals legislation starts from the moment a (pure) substance is produced. This approach was followed successfully in the ongoing risk assessments on metals, and has been shown to cover the main potential areas of concern. The present proposal applies this principle to organic substances but NOT to inorganic substances, as already indicated above. The Metals Forum believes that this is contrary to the EU legal principle of "equal treatment".

Primary input materials from the organic sector (natural gas, crude oil) are excluded from the scope of the proposal, independently of whether or not they are hazardous, while comparable primary materials from the inorganic sector are not. The burden that this will place on the metals industry represents a serious competitiveness issue, since both types of material are often in a competitive situation for certain common applications (e.g. construction materials).

Both organic and inorganic primary materials may exhibit hazardous properties for man and/or the environment. It is therefore difficult to justify having the hazard criterion apply only to minerals and ores.

Many minerals, ores and concentrates contain (natural) CMR substances in concentrations above the trigger level for authorisation. This would mean that authorisation would be re-

quired for a significant proportion of naturally occurring primary materials, a measure that does not seem proportionate to the risks arising from these materials.

Proposals to improve the workability of the NCP

proposal: as in the case of crude oil, natural gas and coal: *exclude minerals, ores and concentrates from the scope of the NCP as long as they are not used to produce a substance in the sense of the proposal (e.g. a metal smelter).* This modification would significantly improve the workability of the NCP for the inorganic sector without hampering the objectives of the proposal.

2. The status of wastes for recycling

The Metals Forum presumes *that substances which are constituents of wastes for recycling are covered by the scope of REACH, since substances will only escape from the scope of the NCP if explicitly excluded.* However, it noted that *wastes for recycling* were explicitly excluded in one of the previous drafts, while any reference to exclude them in the present draft has been deleted. This has considerable consequences for the metals industry in particular. In this respect, it needs to be stressed that:

- Wastes for recycling/recovery are already well controlled and managed by EU and international waste legislation. The need for an additional management level can therefore be called into question. If wastes are also to be covered under the NCP, the consequence will then be that they will no longer be regarded as wastes and should be removed from the waste definition.
- The metals sector alone uses more than 1000 different waste streams for recycling (source: Transboundary registrations of wastes) in order to reuse/recover materials. The large number and also the (physico-chemical) complexity and heterogeneity of these streams would result in a very significant additional burden for the recycling industry.
- The incentive to recycle these materials will diminish in favour of an increase in final disposal (which is excluded from the NCP obligations), due to the already extremely low margins of the recycling sector.
- Several companies in Europe specialise in the recycling and recovery of very complex metal mixtures and are known for their high level of Environmentally Sound Waste Management. The feed material often originates from far beyond the EU boundaries. The considerable burden that the NCP proposal would place on this sector would significantly discourage the recovery of these materials in Europe under environmentally safe conditions and encourage the delocalisation of recycling. The economic impact of a decreased availability of input materials could very quickly become a major problem, since "volume" is the key to the economy of the recycling sector.

- As for primary materials, some recycling streams may contain CMR substances above the trigger limit, requiring authorisation. Contrary to primary materials, however, it is very unlikely, especially when these streams are imported from outside the EU, that authorisation files would be submitted for such streams due to the high costs and resources involved, reducing the amount of recycled material even further.

The Metals Forum therefore concluded that to include wastes for recycling in the scope of the NCP would lower efficiency and activity in the recycling sector, which is exactly the opposite of the objectives of the IPP and Resources Policy of the EU, and goes against the principles of Sustainable Development.

Proposal to improve the workability of the NCP proposal: the metals industry urges the Commission to explicitly exclude “wastes for recovery” from the scope of the NCP, in order to clarify this situation and to be consistent with a policy that promotes recycling in Europe rather than rejecting it.

3. **A more refined view of the “chemicals categories” concept for inorganics**

The efficiency of the NCP may be further improved for metals by using a broad interpretation of the concept of “chemicals categories”. While the concept is vaguely indicated in the NCP proposal, the Metals Forum believes that the chemicals categories concept has high potential if correctly applied. It should enable certain parts of metal risk assessments (e.g. effects analysis) to be grouped together, *while maintaining the specificity of each of the metal compounds in the exposure assessment*. The examples of zinc, cadmium and nickel can be quoted in this respect, where the effects assessments of the metal and its compounds were combined in one assessment of the bioavailable form, while the specific characteristics of each compound (speciation, different exposure profile and use pattern) were covered in the exposure analysis. This way of looking at the concept of Chemicals Categories could be seen as a “broad” interpretation of the concept, while the NCP proposal sees Chemical Categories rather in the more restricted sense. The present NCP proposal, for example, presumes that all substances belonging to one chemical category would get the same “classification”, which is not justified scientifically, and does not fit with the “broad” interpretation of the concept. Further emphasis and support for this approach can be found in the (draft) OECD discussion document on the improvement of the efficiency of the present HPV-SIDS chemicals assessment programme.

Proposal: “Chemicals grouping” should be further promoted and elaborated within the implementation tools of the NCP. The concept should focus on the grouping of “common aspects” for different substances, while leaving the potential to maintain the specificities of the substances grouped (meaning,

for example, that different hazard profiles and classifications would be possible). The draft OECD document referred to above could be used here for guidance.

4. **Time for pre-registration/registration of substances > 1000 t (without high-concern substances) and potential to form a consortia for pre-registration**

Recent experience with ongoing risk assessments has demonstrated the willingness of the metals industry to form consortia; most of them will consequently **pre-register**. During the pre-registration phase, the potential registrant is expected to indicate the information in his possession. Even this screening of the availability of existing information would mean that a significant, if not impossible, amount of work would have to be carried out within the allotted 18-month period, since many of the metals are *very data-rich*.

Most data on metals are published in peer review literature and are therefore available for each and every registrant. Nevertheless, the proposed NCP does not foresee the possibility to jointly pre-register the “availability of existing information” (**pre-registration consortium**). In essence, this means that all producers/importers have to conduct this exercise independently, which would be very inefficient.

Most metals and metal compounds as well as minerals, ores and concentrates and wastes for recycling, are produced in high quantities, usually **more than 1000 tons**. Additionally, many of those inorganic streams of < 1000 t contain CMR substances in concentrations above the classification limits. The metals industry would therefore be required to submit most of its dossiers during the first 3 years of the implementation of the REACH system. This would cause a problem for complex and many (very) data-rich metals, and for sectors specialising in metal compounds. The latter are often smaller companies producing dozens of metal compounds, many of them in quantities over 1000 tonnes, for certain niche application sectors such as the battery sector.

Finally, the restricted deadline for registration of > 1000 tonnes of substances is a further reason to exclude minerals, ores, concentrates and wastes for recycling from the scope of the REACH system.

Ongoing regulatory and voluntary risk assessments for metals have demonstrated that data-rich substances such as many base metals (e.g. zinc, nickel, ...), require extensive resources for the data collection and evaluation. It would therefore be more or less impossible to deliver a suitable quality file in line with the REACH requirements for such materials within a period of 3 years.

One last concern, in line with the comments made above, relates to sectors specialised in the recycling

of wastes containing metals and metal compounds. The large number of "streams" would require a considerable number of data collections to be carried out, especially during the first 3 years, with a high potential to overload the system during this phase.

Proposal: review and reduce the data reporting requirements for the pre-registration phase (the available information can be discussed in a later phase between the potential registrants which have pre-registered phase-in substances). Furthermore, the timing of the submission of registrations dossiers for substances produced in quantities > 1000 t not containing substances of high concern should be reviewed. A period of approximately 5 years would be required by the (data-rich) metals sector to make its workload both acceptable and feasible.

5. *The situation of alloys*

Most of the metallic goods with which people come into contact on a daily basis are, in fact, alloys. The number of metallic alloys produced in, or used on, the EU market is very high: 20-30,000 different alloys, many of them in (very) large amounts (e.g. steel at >900 million tonnes per annum on a global basis). A proper, correct and efficient assessment system should therefore be provided for metal alloys, to avoid overloading the REACH system for the inorganic sector without resulting in the desired benefits.

Current EU legislation considers alloys to be preparations for hazard classification purposes. Alloys should therefore be regarded as an **important downstream user sector** for the metals industry, as was the case, for example, in the zinc risk assessment (existing substances programme). However, when consideration is given to alloy manufacturing processes and properties, there are **two obvious fundamental issues that affect the workability of REACH for alloys:**

The properties of alloys, including their hazards, are clearly distinct from those of their constituents.

Some alloys are listed in EINECS

Alloys are not always made directly from their constituent elements.

The properties of alloys. Combining two or more metals together makes an alloy. However, alloy constituents are not simply mixed together: during alloy manufacture, the constituents are heated to very high temperatures, usually above their melting points, when they react with, and dissolve into, each other to form alloys consisting of new crystalline structures and compounds with new properties that are retained during cooling. The original elemental constituents can then no longer be separated from each other by normal physical means. These facts have led to a definition of "alloy" in the UN Globally Harmonised System for Classification of Chemicals (GHS): *"An alloy is a metallic material, homogeneous on a macroscopic scale, consisting of two*

or more elements so combined so that they cannot be readily separated by mechanical means". Thus, alloys have to be considered as **specific type of preparations** whose properties do not simply reflect those of their constituents. Such a specific recognition of the specific properties of metal alloys is already foreseen in recital No. 10 of Dir. 1999/45/EC acknowledging that the current classification system for preparations may not be suitable for alloys. Consequently, it is the strong opinion of the Metals Forum that a tiered and pragmatic approach is needed for the hazard and risk assessment of alloys based upon their own intrinsic properties in order to keep the system workable. This could be included in a special section of the **TGD on risk assessment methodology for metals** describing how to assess the environmental, worker and public health effects of alloys taking account of their specific properties, physical form, alloy families, etc. In order to facilitate the assessment of the very large number of alloys, and the huge range of their uses, the concepts of grouping alloys by family and of generic assessment of primary alloy products are also needed.

EINECS listed alloys. The present REACH proposal could consider those alloys, in principle, as "phase in substances", while they are, in fact, preparations. The fact that their inclusion in EINECS was an error has already been acknowledged, and only minimal HEDSETs were requested for these alloys. It is an administrative issue to ensure that these "errors from the past" are not perpetuated; these alloys should be treated in the same way as other alloys.

Proposal to improve the workability of the NCP proposal:

by defining alloys in the NCP using the GHS definition AND

by noting in the NCP that metallic alloys are specific types of preparation that need tiered assessment recognising the specific intrinsic properties of the alloy

by reviewing the status of those alloys which are currently listed in EINECS and may otherwise be considered as "phase-in substances".

The workability of the system for alloys would also be improved by including a special section on alloys in the TGD on the risk assessment methodology for metals in which the tiered and pragmatic approach for this special group of preparations should be developed and described.

6. ***Horizontal approached between substances for the same application***

The NCP proposal recognises that significant synergies can be achieved by forming substance specific consortia, an approach that the Metals Forum fully endorses. However, there is probably another area of potential voluntary cross-collaboration that is

currently not foreseen and that may deliver very significant synergies namely **horizontal approaches between substances for the same application**. This type of consortia may deliver the data and assessments for several substances together, which are all used in one application (e.g. metal compounds used in rubber or tyres, or agriculture). Although recognising that the main legal basis is a *substance assessment*, this approach offers a major benefit in that it considers an integrated risk analysis of all metal components for a certain application. Indeed, what is the meaning and value for society if the releases of only one or two compounds are assessed while others, probably used in much lower quantities, may have a higher risk, or risk management potential?

Such a novel approach also delivers further additional value for all producer and user groups involved in the assessment of the application, since such a combined voluntary action dramatically reduces the workload per substance, avoids a user group having to be contacted several times, etc. ... It is the Metals Forum's opinion that the pre-registration phase should enable the identification of such "horizontal issues". If the database can be designed in this way, it would enable the formation of voluntary horizontal consortia, if appropriate.

The fact that the registration needs to be conducted on a "substance by substance basis" can be overruled by either extracting the relevant sections for the chemical under consideration from the overview file, or – even better – by making reference to one common "master dossier".

Proposal to improve the workability of the NCP proposal: recognise the potential for voluntary horizontal consortia between substances for the same application, as an additional and important mechanism to reduce the administrative burden and increase the relevance and validity of the outcome of the assessments for the protection of man and environment. The pre-registration information collection should enable such potential to be identified.

7. Emission source analysis as a selection mechanism for a tiered risk assessment/management approach

Risk assessments on metals have proved to be very comprehensive, mainly due to the "data richness" of the files and the wide range of applications covered. This has led under the present regulation to very detailed and comprehensive analysis of sector scenarios and individual contributing sources to the diffuse source analysis. This approach was certainly not very efficient and resulted in overspending resources. The present Commission proposal for the NCP is based on another approach, in essence based on the principles that 90% of the user applications should be covered by the analysis. However, the Metals Forum believes that neither of the two approaches answers the objectives raised. Indeed, several metal risk assessment cases under

the existing chemicals programme have demonstrated that the amount of the chemical used is not an appropriate qualifier for the potential release rate. There are clear cases where a minor quantity used in a specific application was responsible for the major part of the release of that metal into the environment. The metals industry would therefore like to suggest an alternative approach for substances with wide dispersive uses and extensive monitoring data sets such as those for metals. This approach would identify first the main contributors to the overall emission releases by conducting a diffuse sources analysis. A more targeted risk analysis can subsequently be conducted for those sources that have the highest release potential.

Proposal to improve the workability of the NCP proposal: The potential for release should be the driving force behind the need for assessment and risk analysis rather than the quantity used for any application. The Metals Forum therefore suggests that a tiered approach, based on a 90% coverage of the releases identified in the diffuse sources analysis, should be used for substances with wide dispersive uses and extensive monitoring data sets.

8. The situation of metals, alloys (and articles) in massive forms

The massive/solid form is certainly the most relevant use form for most metals and alloys. The specific characteristics of the massive form reduce the potential for exposure and subsequently their potential impact on man and the environment. This points to the relevance of a simplified exposure assessment regime for "massives", balancing an appropriate level of protection of man and the environment with the required assessment and reported needs. The Metals Forum noted that the Orientation Paper of the Commissioners used precisely these two arguments to justify a simplified regime for Polymers.

This issue has an even wider dimension, and is equally relevant for massive forms containing metals with CMR properties, widely used in a multitude of applications without any potential risk for man and the environment during use and end-of-life phase. The number of applications for authorisations for massive forms of metals and alloys (thousands of companies would need such an authorisation permit) has certainly the potential to overflow the authorisation system, thereby diluting the attention for the applications of substances of real high concern for man and the environment. Finally, it should be noted that the competitiveness/trade aspect is a potential major issue! Massive metals containing CMR substances would be potentially labelled, resulting in decreased interest in them by user groups as compared to massive forms not containing CMR chemicals. Such a customer reaction should be avoided when there is no evidence that these forms could cause any risk. In addition, many massive metal forms are in competition with polymers for certain applications. Applying two separate regimes to both groups has the clear potential to create trade and

NCP Key points for the metals industry to improve « workability » of the system

1. Exclude **minerals, ores and concentrates** from NCP scope
2. Exclude « **wastes for recycling** » from NCP scope
3. Improve view on the "**chemicals categories**" concept for inorganics
4. Simplify data reporting needs during **pre-registration** and allow **more time for registration 1000 t** chemicals (without high concern substances)
5. Recognise « **Alloys** » as downstream use sector and **apply tiered assessment approach** to recognise specific properties if relevant
6. Allow selection mechanism based on Emission Source Analysis as a **tiered RA/RM approach** instead of « quantity »
7. Allow and promote **horizontal RA/RM approaches** between substances for the same application
8. **Massive metal forms** and their uses in alloys should be **excluded from Authorisation** and exposure analysis simplified.
9. Clarify responsibility for **End of Life phase assessments**

competitiveness barriers without any justification based on the underlying principles of the NCP.

Proposal to improve the workability of the NCP proposal:

Massive forms of metals and their use in massive forms of alloys should be excluded from authorisation and labelling unless there is a reasonable suspicion that they may present a risk for man or the environment, during use or End-of-Life. The identification of potential "release sources" can be reported during the registration phase and subsequently followed by an authorisation if relevant.

Assessments of massive forms should follow a simplified procedure, based on the philosophy applied for polymers.

9. **Responsibility for the assessments for the End-of-Life phase**

The present proposal does not clearly identify who would be responsible for the assessment of the risk analysis of the End-of-Life phase of materials. Experience with ongoing risk assessments where such analyses have been carried out has demonstrated that conflicts of interest may arise here. Furthermore, the End-of-Life phase for certain products may form an important part of the diffuse sources releases for a chemical. It is therefore suggested that combined responsibility be defined for this phase, requiring the producer of the substance to conduct a first analysis and requesting the downstream users in the product chain to improve and refine the End-of-Life assessment.

Proposal to improve the workability of the NCP proposal: The responsibility for the End-of-Life assessments should be clarified in the NCP proposals to avoid overlapping and duplication of work (by producers and users) as well as competitiveness aspects. This can best be done by analogy with the procedure proposed for the responsibility of "emission scenarios" throughout the product chain.

NEXT STEPS

Eurometaux report that the Commission Services noted the clear structure and framework of the comments and the focus on the scope and workability aspects. The next steps in the Metals Forum strategic action plan are:

Medium Term

Prepare briefing materials for national associations to organise or participate in national policy briefing sessions

Prepare a communication plan and material for the briefing of key EU policy representatives (representatives from the Council, the EP and cabinet level of the Commission, ...).

Prepare a communication for the metals industry membership for internal briefing purposes.

Business Impact:

Obtain a better estimation of the number of metals and metal compounds that would enter the REACH system by launching a questionnaire to the membership

Determine the potential Business Impact of some key aspects of the NCP proposal, like what would be the business and trade consequences if minerals and recycling materials were to remain in the scope of the NCP.

Longer Term

The longer-term action plan focuses on an efficient and correct implementation of the NCP for the metals Industry. While it is much too early to organise ourselves in this respect, there are certainly some key projects which should be launched already, to improve the assessment of metals in the future. Probably the most important one is the MERAG project (Metals Environmental Risk Assessment Guidance) which aims for the development of a Technical Guidance Document (TDG) to assess the environmental risks of metals appropriately.

Latest unconfirmed information suggests that the current status of REACH is:

The Commission intends to have a draft proposal ready for inter-service consultation by 15 September and 15 October has been indicated as the date for the Commission to meet to adopt the text.

At the end of August, the EU governments' opinions on the Commissions' REACH proposals were still unclear with only four governments' positions being published.

Cobalt Application in Hardfacing in China

SUMMARY

Cobalt-based alloys have been used in applications requiring wear and/or corrosion resistance for over ninety years. Development of the alloys uses over the years has been as follows:

- Discovery of Co-Cr alloys ("Stellite") in 1907
- First application – knives
- In 1912, main alloy compositions essentially finalised
- Birth of "Hardfacing" industry
- "Hardfacing" to China: 1980's

As can be seen, Hardfacing was first introduced into China in the 1980s.

Why Cobalt in Hardfacing Alloys?

There are sound metallurgical reasons for using cobalt as a main ingredient in these alloys. Because of their performance, there are economical reasons for using them in critical situations even at a high cost of cobalt. The main characteristics of the alloys making them ideal for Hardfacing can be summarised as follows:

- Easy to make alloys with
- Excellent high temperature properties
- Excellent weldability
- Many available product forms
- Good binder for tungsten carbide particles
- Desirable wear characteristics – hard and tough

Types of Alloys

There are basically three types of cobalt alloys used for combating wear and corrosion, namely, carbide type, intermetallic type and solid solution type. These alloys contain 40-65% cobalt.

Typical alloys are:

- Carbide Type
Stellite 6 – 65%Co + Cr + W + C, HRc 42, most versatile alloy
- Intermetallic Type
Tribaloy T-800 – 51% Co + Mo + Cr + Si, HRc 58
- Solid Solution Type
Stellite 21 – 65%Co + Cr + Mo. HRc 28

In recent years, new cobalt-based alloys have been developed to enhance specific properties so that

they can be used in additional applications. Typical alloys include the following:

- Carbide type
Stellite 700 Series – 45-63%Co, developed for improving corrosion resistance
- Intermetallic type
Tribaloy T-900 – 40%Co, developed for reducing crack sensitivity
- Solid Solution type
Ultimet – 57% Co, available in wrought product forms

Today, cobalt-based hardfacing alloys are used in a multitude of industries including:

- Automotive
- Chemical Processing
- Food
- Pulp and Paper
- Power Generation
- Steel making
- Oil Drilling
- Medical & Dental
- Wood Cutting
- Glass Mould
- Aerospace
- Plastics

Over the years, there have been many product forms developed for the cobalt-containing alloys. For Hardfacing, the available forms are wires, either solid or tubular, rods, covered electrodes and powders. Also available are the components made by various casting methods or processed by powder metallurgy techniques. In addition, plates, sheets and bars have been made by thermo-mechanical means.

Use of Hardfacing Materials in China

About 240 tonnes/an of cobalt in hardfacing materials is currently used in China. The main applications are for bare rods, welding powders and electrodes in the rapidly expanding automobile, steel and petrochemical industries. These industries are projected to grow strongly in the next few years.

As a result of other industrial developments, the demand for castings and powder metallurgical products is beginning to grow. It is estimated that, as a result of this industrial growth and access to the WTO allowing greater opportunities for Chinese industry, cobalt demand in hardfacing alloys will grow at a rate of 10-15%/an over the next few years.

This paper is a summary of the paper prepared by Mr. Song Ling, General Manager, Shanghai Stellite Co. Ltd for presentation at the Cobalt Conference in May 2003. Unfortunately, he is unable to attend our rescheduled conference in November and has kindly given us permission to publish his paper.

Comments of the Ad Hoc Metal Coalition on Draft EU NCP Legislation

In addition to the workshop held in Europe, Eurometaux also held a workshop in North America to brief the non-ferrous metals industry on the draft legislation published by DG Environment and DG Enterprise.

Following the workshop, the Ad Hoc Metals Coalition, a non-profit making organisation representing a broad cross-section of the US metals industry, sent comments to the EU.

In view of the importance of this pending legislation and its effects on industry worldwide, we present a brief summary of the Ad Hoc Metals Coalition comments:

1. Regulate all raw materials in the same manner

The draft REACH legislation would, without justification or explanation, disparately regulate raw materials that are situated equivalently (i.e. minerals, ores, and mineral concentrates on the one hand and natural gas, crude oil and coal on the other), based solely on their source. Point 9(1)b of the draft legislation states that substances listed in Annex III shall be exempted from registration, giving organic raw material such as natural gas, crude oil and coal a blanket and *unconditional* exemption. Item 8 of Annex III, on the other hand, provides only a *conditional* exemption for minerals and ores and fails to address mineral concentrates specifically. The Item 8 exemption includes “minerals, ores, or substances occurring in nature if they are not chemically modified during their manufacturing, unless they meet the criteria for classification as dangerous according to Directive 67/548.”

The disparity in approach to these two streams of raw materials is unwarranted and contrary to EU policy. For organic raw materials, REACH recognises that assessing risk from the time a producer refines the raw material into a substance, rather than from when the raw material is first obtained covers the main areas of concern. For inorganic raw material, however, REACH takes a different approach despite evidence from ongoing risk assessments that the same principles should apply. The differential treatment is contrary to at least two EU policies: (1) *non-discrimination*, which states that “comparable situations should not be treated differently” and that regulators should not invoke the “nature of the production process to apply different

treatments in an arbitrary manner,” and (2) *consistency*, which states that “measures should be consistent with the measures already adopted in similar circumstances or using similar approaches.” Under either policy, it would be difficult to argue for dissimilar regulation of these raw materials.

Furthermore, without an unconditional exemption for inorganic raw materials, the potential number of registrations could multiply exponentially with no real environmental benefit. As mentioned above, risk assessments of produced substances derived from the raw material would already capture the areas of concern.

Recommendation

To conform Annex III with EU policy and reduce unnecessary registrations, the Coalition recommends the following changes to Items 8 and 9 of Annex III:

8. *Substances occurring in nature if they are not chemically modified during their manufacturing unless they meet the criteria for classification as dangerous according to Directive 67/548;*
9. *Natural gas, crude oil, coal, minerals, ores, and mineral concentrates;*

This change would not compromise public safety because the substances produced from these materials would still be subject to registration; it simply would treat comparable raw materials comparably.

2. Exempt wastes destined for recycling from registration

Although the REACH proposal is silent on the subject, the Coalition assumes that wastes that are to be recycled fall within the registration requirements because the explicit exemption covering these wastes that had been included in the previous draft no longer appears in the May 7, 2003 draft. If this is the case, the Coalition is greatly concerned about the potential impact this development would have on the metals industry. The metals industry in Europe alone recycles well over 1,000 different waste streams, and this process is well regulated. The number, complexity, and heterogeneity of these streams would create an enormous registration burden on the metals recycling industry. The burden

would make recycling less attractive than disposal which, by definition, is not covered under REACH.

The resulting unintended outcome of requiring registration of wastes destined for recycling would be the promotion of disposal over recycling. With the added economic burden of registration, the recycling industry would be unable to compete with the disposal industry. This result would be in direct contradiction to the EU Integrated Product Policy and resources management policy.

Recommendation

To avoid ambiguity and continue to promote recycling over disposal, the Coalition recommends adding a new item to Annex III to explicitly exempt wastes destined for recycling from registration:

EU and international waste legislation already controls and manages wastes for recycling extremely well; any additional regulatory layer would be a burden without commensurate gains in health and environmental protection.

3. Make certain pre-registration requirements optional

The draft legislation allows companies to pre-register chemicals they manufacture or import to facilitate the formation of consortia for registration. Although pre-registration requires only the submission of a brief description of each physicochemical and/or toxicological endpoint of studies available to the pre-registrant and a short description of each test involving vertebrates, these simple requirements can be quite labour- and resource-intensive to fulfil when pre-registering data rich metals. Data rich metals such as copper and zinc may have thousands of available studies and documents the pre-registrant would have to list or summarize. Pre-registration within the allotted 18 months would be an almost impossible task for a single company to complete when dealing with multiple data rich metals.

Recommendation

To reduce the labour and time needed for pre-registration and recognize existing public information, the Coalition recommends making the submission of the brief descriptions of endpoints and vertebrate testing optional and limiting the scope of the submission to studies that are not publicly available.

4. Extend the time required for registration of substances produced in quantities greater than 1000 tons.

Most metals and metal compounds would require registration within the first three years of REACH's enactment because they are produced in volumes greater than 1,000 tons per year. Consequently, the metals industry would be in a position where it must register the majority of its metals within a very short

timeframe. Moreover, these same metals are often extremely data rich and require considerable time and expertise to evaluate.

Even with the help of consortia, the effort needed to conduct simultaneous evaluations of multiple data rich substances would be beyond the capabilities of the metals industry to complete within three years. This problem is especially acute in certain specialized segments of the metals industry dominated by smaller companies producing dozens of metal compounds in volumes greater than 1,000 tons for niche markets (e.g., the battery sector) which will not be able to form effective consortia because of their size.

Recommendation

Recognizing that most metals are produced in volumes greater than 1,000 tons, the Coalition recommends extending the time period for registering high volume substances that are not classified as category 1 or 2 carcinogens, mutagens or reproductive toxins from three years to five years. The proposed revisions maintain REACH's requirement to register the most hazardous substances within three years, while providing the metals industry with much needed time.

5. Develop a tiered approach for assessing risks for alloys and exempt alloys from authorisation where no realistic source of significant release is identified.

Alloys (e.g., steel) are unique because their impacts on human health and the environment are often much lower than the impacts of their individual constituents. They are an important sector of the metals industry, with 20,000 to 30,000 alloys produced or used in the EU. Although alloys are considered to be mixtures (i.e., preparations) and would not be subject to individual registration, registrants would likely need to assess the environmental risks of each alloy as a downstream use of the constituent metals as part of any registration or authorization process. With almost 30,000 distinct alloys on the EU market, conducting the risk assessments would be a daunting undertaking.

Moreover, requiring authorization for the use of substances in alloys while exempting polymers is counter-intuitive and overlooks existing information on the properties of alloys. Constituents of alloys are integral components of an inert object typically capable of remaining intact for centuries. Like polymers, alloys are inert under a variety of environmental conditions and generally pose no significant risk to human health and the environment. Therefore, the requirement of authorization for the use of substances in alloys should be removed.

Recommendation

To reduce the potential burden of assessing the downstream use of substances in alloys, the Coali-

tion recommends developing technical guidance that uses a tiered approach to assess the hazard, exposure, and risk from alloys. This technical guidance should use a two-step assessment process. First, an alloy's hazard profile could be estimated from the profile of its constituent substances. If no significant hazard is identified, then the assessment is complete. If a significant hazard is identified, however, the specific risks associated with use of the substances in the particular alloy would have to be assessed.

The Coalition also recommends that REACH exempt the use of substances in alloys from authorization unless the registration assessment identifies a realistic source of release during use or end-of-life disposition.

6. Simplify exposure assessment for solid (i.e. massive) forms of metals and alloys and exempt them from authorisation where no realistic source of significant release is identified.

The largest volume of metals and alloys exists in solid (massive) forms. Like polymers, solid (massive) forms of metals and alloys have reduced potential for exposure and harm to human health and the environment because of their inherent physical and chemical characteristics. This reduced exposure risk argues for a simplified exposure assessment for these metal forms similar to the regime for polymers.

Applying different regimes to two similarly situated groups of chemicals is contrary to the EU policies of regulatory *non-discrimination* and *consistency*; accordingly, solid (massive) forms of metals and alloys should be treated similarly to polymers.

Recommendation

To conform with EU policies and account for the reduced exposure risk of solid (massive) forms of metals and alloys, the Coalition recommends that the REACH program apply a simplified exposure assessment to solid (massive) forms of metals, comparable to that applied to polymers. The Coalition also recommends that REACH exempt solid (massive) forms of metals and alloys from authorization unless the registration assessment identifies a realistic source of significant release during use or end-of-life disposition.

7. Clarify the responsibility for assessing substances at the end of life

The REACH proposal does not clearly identify who would be responsible for the assessment of risk associated with a substance's end-of-life phase. Lack of clearly defined responsibilities may lead to duplication of efforts between manufacturers/importers and downstream users.

Recommendation

To avoid duplication of work, the REACH legislation should clarify the relative responsibilities of manufacturers/importers and their downstream users. The Coalition recommends assigning the responsibility for initially assessing the end-of-life risks to the manufacturer/importer and then requiring the downstream user to refine and update the assessment if necessary to account for new information discovered during use.

8. Eliminate potential trade discrimination

The draft provisions potentially discriminate against non-EU companies when these companies sell chemical intermediates to EU downstream users. Users of intermediates manufactured in the EU benefit from certain exemptions and reduced data requirements. In contrast, purchasers of chemical intermediates from non-EU manufacturers would have to bear the full responsibility for registering and obtaining any required authorizations themselves. This overwhelming disincentive for any EU downstream user to buy intermediates from a non-EU source likely violates WTO rules that require no less favourable treatment for imported products than for domestic "like" products.

Recommendation

To eliminate the potential trade discrimination, REACH should provide imported non-EU intermediates the same exemptions that are available to EU intermediates.

9. Establish clear procedures for implementing confidentiality

REACH contains general principles respecting confidentiality, but provides no specific procedures or criteria for EU Member States to implement them. To make matters more uncertain, REACH delegates the responsibility for making confidentiality determinations to individual Member States. There are no procedures for ensuring the consistency of confidentiality determinations that these Member States make. The lack of uniform confidentiality procedures is a major concern because REACH's extensive data requirements includes very sensitive information (e.g., trade secrets, chemical structures, chemical formulations).

Recommendation

To ensure that the REACH program uniformly protects confidentiality across the EU, the Coalition recommends that REACH include specific procedures and criteria that Member States must follow when making confidentiality determinations. REACH also should include provisions for appealing determinations and sanctions for failure to maintain confidentiality.