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Response of the Austrian Non Ferrous Metals Association to ECHA public consultation regarding (Zr) ALUMINOSILICATE REFRACTORY CERAMIC FIBRES (RCF)

The Austrian Non Ferrous Metals Association responds to the public consultation regarding ECHA's recommendation to prioritise (Zr) Aluminosilicate RCF for their inclusion in Annex XIV of REACH Regulation as follows.

USES:

Our members in the **aluminium, copper, nickel alloys, tungsten, rare earth, vanadium and molybdenum sector** use Aluminosilicate Refractory Ceramic Fibres (Al-RCF) and Zirconia Aluminosilicate Refractory Fibres (Zr-RCF) (**both, Al-RCF and Zr-RCF, are hereinafter referred as RCF**) for various high-temperature industrial applications. High temperature processes are often unique, using highly customized equipment with 10-30 years of service life.

The uses of RCF covered by our member companies are inter alia:

In the aluminium industry:

In Austria, for the production of secondary aluminium (there is no primary production of aluminium in Austria) in the smelting processes different types of furnaces (closed-well furnace, induction furnace, rotary drum furnace) are used. For lining, insulation and sealing of these furnaces RCF are being used.

For example, the following material is being used for insulation and sealing for remelting and refining operations (the list is non exhaustive):

- millboard for insulating inductor steel body before ramming,
- ceramic fiber ½" for sealing between Inductor and adapter of the furnace,
- ceramic fiber paper 3 mm for casting units (mold);
- insulmold for finishing the launder,
- sealing 60x70 for the door of the melting furnace, ceramic paper 0,5 and 2,5 mm for insulating a coil of the induction furnace.

Only RCF are suitable for temperatures up to 1250 °C and that is the reason why alternatives are difficult to find. RCF is the material with the highest temperature-, flame- and aluminium resistance.

These examples show, that RCF are not used as such, but in form of millboard, ceramic fiber paper or similar, which are regarded as articles under REACH Regulation. These articles are all manufactured in the EU.

In the copper and nickel alloys industry:

In the Cu and Ni alloys and wire industry Al-RCF's are used as:

- ceramic fiber paper for casting mold
- for thermal insulation of annealing furnaces with up to 1200°C

The Al-RCF used are articles under REACH Regulation.

In the tungsten and other industries:

In the tungsten industry, furnaces and parts thereof that have to withstand temperatures above 500°C such as reduction furnaces, calciners, tungsten carbide sintering furnaces, filters, hot gas pipes, etc.

are isolated and sealed with RCF. The materials used for isolation and sealing are articles under REACH regulation.

In Austria, articles containing RCF are used also in the rare earth, vanadium and molybdenum sector for isolation and sealing of furnaces that have to withstand high-temperatures. These include even furnaces for research purposes.

SUBSTITUTION:

Substitution efforts by industry have been driven in the past by existing workers' protection legislation. The Carcinogens and Mutagens Directive 2004/37/EC requires carcinogens to be replaced by other substances which are non-dangerous or less dangerous to workers health or safety. Consequently, our member firms have replaced RCF products by adequate alternatives, where technically and economically feasible.

But for a number of applications, no adequate substitutes are yet available despite recent developments of alternative fibres materials. The advantage of RCF fibres is that they demonstrate high-temperature and thermal shock resistance as well as low thermal conductivity. Due to its unique combination of desired characteristics, RCF are still the best solution in many high temperature applications.

In the Austrian aluminium industry, calcium silicate fibers and magnesium silicate fibers have been tested as alternative solutions. . The experience was that calcium silicate fibers have only a limited potential to be used as substitutes, because they are only stable up to max. 1000 °C, although declared for higher temperatures by the manufacturer. Calcium silicate fibers have the disadvantage that, once they come into contact with condensed water, they are soluble in water. Likewise magnesium silicate fibers have turned out not to be suitable alternatives, due to the fact, that only RCF provide the desired heat resistance and stability.

Our members in the copper and nickel alloys industry have also tested alternative material, but did not find any suitable substitutes. For ceramic fiber paper for casting mold and for thermal insulation of annealing furnaces with up to 1200°C no equivalent alternative material is available.

Further search for alternatives is still on going, but at the moment there is only very limited potential for substitutes. Millboard is likely to be substitutable with an insulating product of calcium silicate. Other RCF articles being used are currently checked, if they can be replaced by alternatives. But for some RCF containing articles it is difficult to replace them, because the heat resistance is lower.

Our member firms are active in the search for alternatives to RCF and willing to use alternatives, where economically and technically feasible. But European regulators must bear in mind, that for some applications, suitable alternatives are not yet available.

ADEQUATE CONTROL

RCF are used in industrial applications under controlled conditions.

Workers exposed to RCF articles (staff or workers of external contractors) have to comply with a set of strict rules. These include:

- workers protection law (e.g. Chemical Agents Directive, Carcinogens Mutagens Directive)
- internal directives implementing risk management measures (use of protective equipment, undergo trainings, other protective measures, etc.)
- information on safe use provided by suppliers.

For example, for ceramic fiber paper for casting mold all necessary safety measures are taken, when this paper is cut to size of mould and placed between mould and feeder system (1/10 m² per ingot mould of 2 tons of alloy, i.e. less than 1 m² per day).

In the application of thermal insulation of annealing furnaces with up to 1200°C the RCF is encapsulated inside the furnace walls, therefore usually no workers are exposed, except for maintenance personnel, which is protected and trained.

In our view, existing (workers protection) legislation sufficiently copes with the risks of workers being exposed to RCF and there is no need for further regulation.

SOCIO-ECONOMIC IMPACT:

The non-availability of EU manufactured RCF fibres and articles will negatively impact our industry:

- in order to meet energy and resource efficiency targets set out in the EU 2020 programme.
- in terms of global competitiveness of the European industry as a whole

Due to its energy intensiveness, energy cost represent a significant share of total operational costs for our members in the non-ferrous metals industry. The reduction of energy cost is one of the main challenges of our industry sector. RCF are an optimal solution to rationalise energy use. In this way, RCF also contribute to meet CO2 reduction and energy efficiency objectives set by the EU 2020 programme.

Subjecting RCF fibres to the authorisation requirement under REACH, will negatively impact not only EU manufacturers of RCF fibres and articles, but also downstream users like the non-ferrous metals industry. The reasons are:

- in case EU-manufactured RCF articles are still available on the EU market:
 - higher prices for EU-products
- if EU-manufactured RCF articles disappear from the European market:
 - loss of know-how provided by EU manufacturers, from which downstream users benefit today
 - less product choice
 - higher important dependence
 - distortions in the supply chain might occur

REGLUATORY EFFECTIVENESS

We believe, that authorisation under REACH

- is not an effective tool to meet the regulatory objective of substitution.
- is a disproportionate measure to achieve the legal objective.

The aim of REACH is to substitute substances of very high concern by less dangerous substances. Substitution is today already taking place, key driver for this being workers protection legislation. Subjecting RCF fibres to the authorisation under REACH, will only double the substitution obligation without adding any further to the improvement of workers protection.

Our members in the non-ferrous metals industry mainly use RCF in the form of articles, which are not subject to a potential authorisation requirement under REACH. If prices of EU-manufactured RCF-articles increase, we assume, that downstream users will buy cheaper RCF-articles from outside the EU. Import articles would have the advantage of lower cost (Non-EU manufacturers have no cost for authorisation). This would put European RCF-manufacturers in a competitive disadvantage with the serious risk of disappearing from the EU market or relocating the RCF-production outside the EU. In both cases, the aim of REACH, to promote substitution and enhance the protection for human health will not be achieved.

The authorisation tool under REACH poses a “heavy burden” for industry and negatively impacts its competitiveness. On the other hand, the ability to achieve the regulatory goal (substitution, workers protection) is low. The authorisation requirement is therefore a disproportionate measure to achieve the legal objective. In our view, there exist less stringent measures which are less burdensome for industry, but can achieve the aims set under REACH in an equal manner.

Therefore, the Austrian Non Ferrous Metals Association urges regulatory authorities:

- to refrain from prioritising (Zr-) Aluminosilicate RFC for their inclusion in Annex XIV of REACH Regulation and
- to consider other measures than authorisation under REACH (e.g. improve existing risk management tools, for example to provide more quality information on articles down the supply chain) which are more effective to achieve the regulatory goal and less burdensome for industry.

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