EUROPEAN REFRACTORIES PRODUCERS' FEDERATION

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Subject: Standard Use Descriptor System of refractory products made in Europe – update based on final ECHA guidance document.

Dear Sir,
Dear Madam,

In 2007 the European Refractories Producers' Federation (PRE) set up a REACH Working Group (WG) in order to assist companies with the implementation of the REACH Regulation. This WG brings together 10 national associations as well as 17 national and international companies.

In order to facilitate and harmonise the communication between the refractory industry and its suppliers, PRE has developed a standard use descriptor system in November 2009. This document has been updated following the publication of the ECHA updated guidance document on the use descriptor system in March 2010[1].

This PRE document gives a short description of the manufacturing process of refractory products as well as an overview of the Sector of Use (SU), Chemical Product Category (PC), Process Categories (PROC), Environmental Release Categories (ERC) and Article Categories (AC), for substances used by the refractory producers. This document also includes the uses of the refractory products itself further downstream.

If you require more information or clarification on any point, please contact your customer or alternatively the secretariat of PRE, the European Refractories Producers' Federation (Mrs Astrid Volckaert, volckaert@cerameunie.eu, +32 02 808 38 82).

Yours sincerely,

Astrid Volckaert
Secretary-General PRE

Franz Maier
Chairman PRE REACH WG

[1] http://guidance.echa.europa.eu/docs/guidance_document/information_requirements_r12_en.pdf

Short description of the manufacturing process of refractory products

1. Shaped refractory products (Article)

Process step 1: Delivery and raw material handling (RFa)
The raw materials are delivered by trucks, big-bags and bags.
The raw materials from trucks is fed into silos or boxes.

Process step 2: Crushing and sieving (RFb)
Part of the raw materials are crushed with crushers or grinded with grinding mills. After the comminution the raw materials are sieved to obtain the grading fractions.
The first two process steps are only necessary for mineral raw materials.

Process step 3: Weighing (RFbc)
To prepare the mixture, each substance fraction is weighed.

Process step 4: Mixing (RFd)
The weighed portions of substances are mixed.

Process step 5: Forming (RFe)
The mix of substances is transported to hydraulic presses, or to the extruder, or to the slinger machine or to the cast line where a shaped product is formed.
For a part of the bricks the next process step is process step 7.

Process step 6: Drying and thermal treatment (RFf)
The shaped bricks are transported to the dryer where they are dried. For a part of the bricks the production process stops after this step. The next step is then process step 10.

Process step 7: Firing (RFg)
The dried bricks are fired in kilns.
The production process ends after this step for a part of the bricks.
The next step is then process step 10.

The lifecycle of different substances (binders, additives …) ends here.

Process step 9: Finishing treatment (RFh)
In some cases, grinding and cutting of the bricks is necessary to get the required shape and dimension accuracy.

Process step 10: Packaging (RFi)
The bricks are stacked on a pallet and wrapped with cardboard, plastic foil or the like.
The pallets are transferred to the storage area.

After use of the shaped refractory products (bricks) the bricks become waste or are being recycled.

2. Unshaped refractory products (Preparations, Mixtures)

Process step 1: Delivery and raw material handling (RFa)
The raw materials are delivered in bulk, in big-bags and bags. The raw materials are fed into silos or boxes.

Process step 2: Crushing and sieving (RFb)
Part of the raw materials are crushed with crushers or grinded with grinding mills. After the comminution the raw materials are sieved to obtain the graded fractions.
The first two process steps are only necessary for mineral raw materials.

Process step 3: Weighing (RFc)
To prepare the mixture, each substance fraction is weighed.

Process step 4: Mixing (RFd)
The weighed portions of substances are mixed.

Process step 5: Packaging/Filling (RFj)
The unshaped refractory products are transferred from the mixer into big-bags or bags. These are transferred to the storage area.

3. Refractory customer use

Process step 1: Mixing (RFk)
A part of the unshaped refractory products are mixed with batching liquids.

Process step 2: Lining (RFl)
Lining of the unshaped refractory products is done by gunning, vibrating, ramming and casting.
Lining of shaped refractory may include cutting of bricks.

Process step 3: Tempering (RFm)
Heating the installed refractory products

The lifecycle of different substances (binders, additives …) ends here.

Process step 4: Demolition (RFn)
Demolition of the used material.

After use of the unshaped refractory products, they become waste or are being recycled.

Process Step - Characterisation

Use descriptors used in the guidance document

Code	Process Step	SU	PC	PROC	AC	ERC
RFa	Delivery and raw material handling	3	-	1-4/8a/26	-	2
RFb	Crushing and sieving	3	-	1-4/24	-	2
RFc	Weighing	3	-	3-5	-	2
RFd	Mixing	3	-	3-5/26	-	2
RFe	Forming	3	-	1/14	-	2/3/5
RFf	Drying and thermal treatment	3	-	2/22	4 (TARIC 6902, 6901, 6903	5
RFg	Firing	3	-	2/22/23	4 (TARIC 6902, 6901, 6903	5
RFh	Finishing treatment	3	-	21/24	4 (TARIC 6902, 6901, 6903	-
RFi	Packaging	3	-	-	4	-
RFj	Packaging/Filling	3	0 (K35100, K35120, R30200)	9/8a	-	2
RFk	Mixing	3/13/14	0 (K35100, K35120, R30200)	5/19/24	-	2
RFl	Lining	3/13/14	-	8a/21/24	-	5
RFm	Tempering	3/13/14	-	22/23	-	10a/11a
RFn	Demolition	3/13/14		21/24		

Sector of use category (SU):
Key descriptor: SU 3
Supplementary descriptor: SU 13, NACE-Code: C23.2 (manufacturing of refractory products) and SU 14

Product Category (PC)
PC 0
End-use product:
Refractory Product, this use is not mentioned in the UCN-System.
Best description by the following UCN codes
K 35100 Fireproof cement
K 35000 Construction materials (building materials)
R 30200 Raw materials for glas and ceramics

Article Category (AC)
AC 4: TARIC 69
TARIC: 6902, 6901, 6903

Overview Standard Use descriptor system of refractory products made in Europe

		Standard Use by Refractory producer	Standard Use by Refractory user	Additional informations	Links	
Sector of use	SU a	SU3	SU3			
	SU b		SU13			
	SU c		SU14			
	NACE	C23.2 (manufacturing of refractory products)				
Product categories	PC a	PC0 other products	PC0 other products	K35100, K35120, R30200	UCN Nordic	http://195.215.251.229/fmi/xsl/spin/SPIN/guide/explanation.xsl?-db=SpinGuide&-lay=guide&-sortfield=sortnumber&book=codes&-token.0=codes&-token.1=UCN&-token.2=detpcat&-token.3=UCN&-token.4=3.1.3 Use categories nordic(UCN)&-
Process categories	PROC a	PROC 1	PROC 5 (Mixing …)			
	PROC b	PROC 2	PROC 8a (Transfer …)			
	PROC c	PROC 3	PROC 19 (hand-mixing …)			
	PROC d	PROC 4	PROC 21 (low energy …)			
	PROC e	PROC 5 (Mixing …)	PROC 22 (potential closed …)			
	PROC g	PROC 8a (Transfer …)	PROC 23 (open …)			
	PROC h	PROC 9 (Transfer …)	PROC 24 (High mechanical)			
	PROC i	PROC 13 (dipping …)				
	PROC j	PROC 14 (production of …)				
	PROC k	PROC 19 (hand-mixing …)				
	PROC l	PROC 21 (low energy …)				
	PROC m	PROC 22 (potential closed …)				
	PROC n	PROC 23 (open …)				
	PROC o	PROC 24 (High mechanical)				
	PROC p	PROC 26 (Handling …)				
Environmental Release Categories	ERC a	ERC 2	ERC 2			
	ERC b	ERC 3	ERC 5			
	ERC c	ERC 5	ERC 10a			
	ERC d		ERC 11a			
	ERC e					
Article categories for articles with no intended release	AC a	AC4	AC4			
	AC b	Other defined by TARIC codes		If you need to be more specific, make reference to TARIC 6902; 6901; 6903	TARIC	http://ec.europa.eu/taxation_customs/dds/cgi-bin/tarquer?Lang=DE

Guidance document http://guidance.echa.europa.eu/docs/guidance_document/information_requirements_r12_en.pdf