Cerfav

Centre européen de recherches et de formation aux arts verriers

Vannes-le-Châtel | Pantin

Formation - Ressource & Innovation - Culture

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INSTITUT DU VERRE

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European Domestic Glass Committee

Glass & REACH : the CPIV dossier

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Ce qui entre chez les verriers : les achats

Achat de substance/préparation en UE

Exemples

- Acide fluorhydrique
- Oxyde de plomb
- Arsenic (!! usage !!)
- Jaune d'argent...

Les matières premières utilisées par les verriers

Rôle du verrier

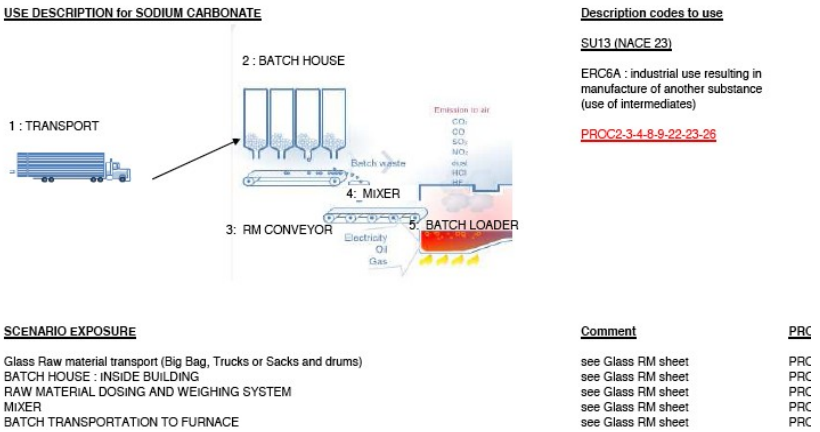
- Utilisateur en Aval

Obligations de communication

- S'assurer que le fournisseur se conforme à Reach et que la substance est enregistrée,
- Lui communiquer les usages qu'on en fait,
- S'assurer que l'on reçoit une FDS conforme à Reach et appliquer les consignes qu'elle contient,
- Le cas échéant, réaliser sa propre évaluation des risques chimiques, et demander une autorisation pour une substance le nécessitant.

Lettre type proposée par le CPIV

Pour déclarer ses usages à ses fournisseurs



USE DESCRIPTION for SODIUM CARBONATE

2 : BATCH HOUSE

1 : TRANSPORT

4: MIXER

3: RM CONVEYOR

5: BATCH LOADER

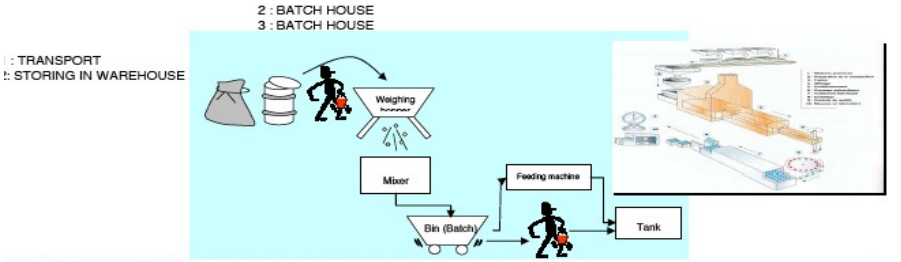
Description codes to use

SU13 (NACE 23)

ERC6A : industrial use resulting in manufacture of another substance (use of intermediates)

PROC2-3-4-8-9-22-23-26

STEP	SCENARIO EXPOSURE	Comment	PRC
1.	Glass Raw material transport (Big Bag, Trucks or Sacks and drums)	see Glass RM sheet	PRC
2	BATCH HOUSE : INSIDE BUILDING	see Glass RM sheet	PRC
3.	RAW MATERIAL DOSING AND WEIGHING SYSTEM	see Glass RM sheet	PRC
4.	MIXER	see Glass RM sheet	PRC
5.	BATCH TRANSPORTATION TO FURNACE	see Glass RM sheet	PRC



XPOSURE SCENARIO FOR RAW MATERIALS PACKED IN SACKS, BIG BAGS AND DRUMS

ELIVERY IN BIG BAGS, SACKS AND DRUMS

aw material (RM) is delivered in big bags, drums and sacks on pallets

RM sample is removed for analysis (except certain substances to be listed)

aw material is stored in dedicated room at the ground floor in the batching building in accordance with legislation.

Achat d'article en UE

Exemples

- Service de verres
- Carafe en cristal...

Tout objet qu'un verrier achète, qu'il le transforme ensuite ou non (comme un verre à vin qui sera ensuite taillé).

Rôle du verrier

- Destinataire d'article

Obligations de communication

- Demander au fournisseur si une substance « extrêmement préoccupante » (SVHC) est présente dans l'article au-delà de 0,1% m/m.
- Le fournisseur a obligation de répondre sous 45 jours.

Achat de substance/préparation hors UE

Exemples

- Acide fluorhydrique
- Oxyde de plomb
- Jaune d'argent...

Les matières premières utilisées par les verriers

Rôle du verrier

- Importateur de substance / préparation

Les obligations sont les mêmes que pour les fabricants de substances

- Enregistrement si importation de plus d'1T/an
- Mise à jour des FDS au format Reach (scénario d'exposition, mesure de gestion des risques...)
- Demande d'autorisation pour importer et utiliser une substance soumise à autorisation (incluse dans l'annexe XIV).

Achat d'article hors UE

Exemples

- Service de verres
- Carafe en cristal...

Tout objet qu'un verrier achète, qu'il le transforme ensuite ou non (comme un verre à vin qui sera ensuite taillé).

Rôle du verrier

- Importateur d'article

Obligations comme les fabricants d'articles

- (Enregistrement éventuel de substances contenues dans l'articles destinées à être rejetées).
- Communication et information des destinataires des articles sur la présence éventuelle de substances « extrêmement préoccupante » (SVHC) présentes dans l'article au-delà de 0,1% m/m.
- Respect des restrictions éventuelles.

Ce qui est fait chez les verriers :
le matériau verre

➡ *The CPIV dossier*

Glass & REACH : the CPIV dossier

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What is the CPIV "glass dossier" ?

- A non-official document , initiated by our European Association, CPIV to clarify and to give practical guidance to glass manufacturers
- Based on scientific study performed by the "Environment Committee" ,TC13 , International Commission on Glass
- Prepared by three independent and qualified experts
  - Prof. Helmut Greim (Germany) Chairman SCHER
  - Prof. Helmut Schaeffer (Germany) former Chairman ICG
  - Dr. Nicola Favaro (Italy), lab manager SSV
- Submitted to ECHA and National Authorities
- Publicly available on CPIV website www.cpivglass.be

Definition

- Glass is a **substance of variable composition**, which for simplicity is expressed by convention in terms of oxide of the constituents´ elements (SiO_2, Na_2O, CaO, B_2O_3, etc).
- Glass is a non-crystalline or vitreous inorganic **macromolecular structure,** which does not contain the chemical components of the different raw materials.
- **Four main categories:**
  - soda-lime-silica glass
  - borosilicate glass
  - lead crystal glass
  - specialty glass.

Consequence in REACH terminology

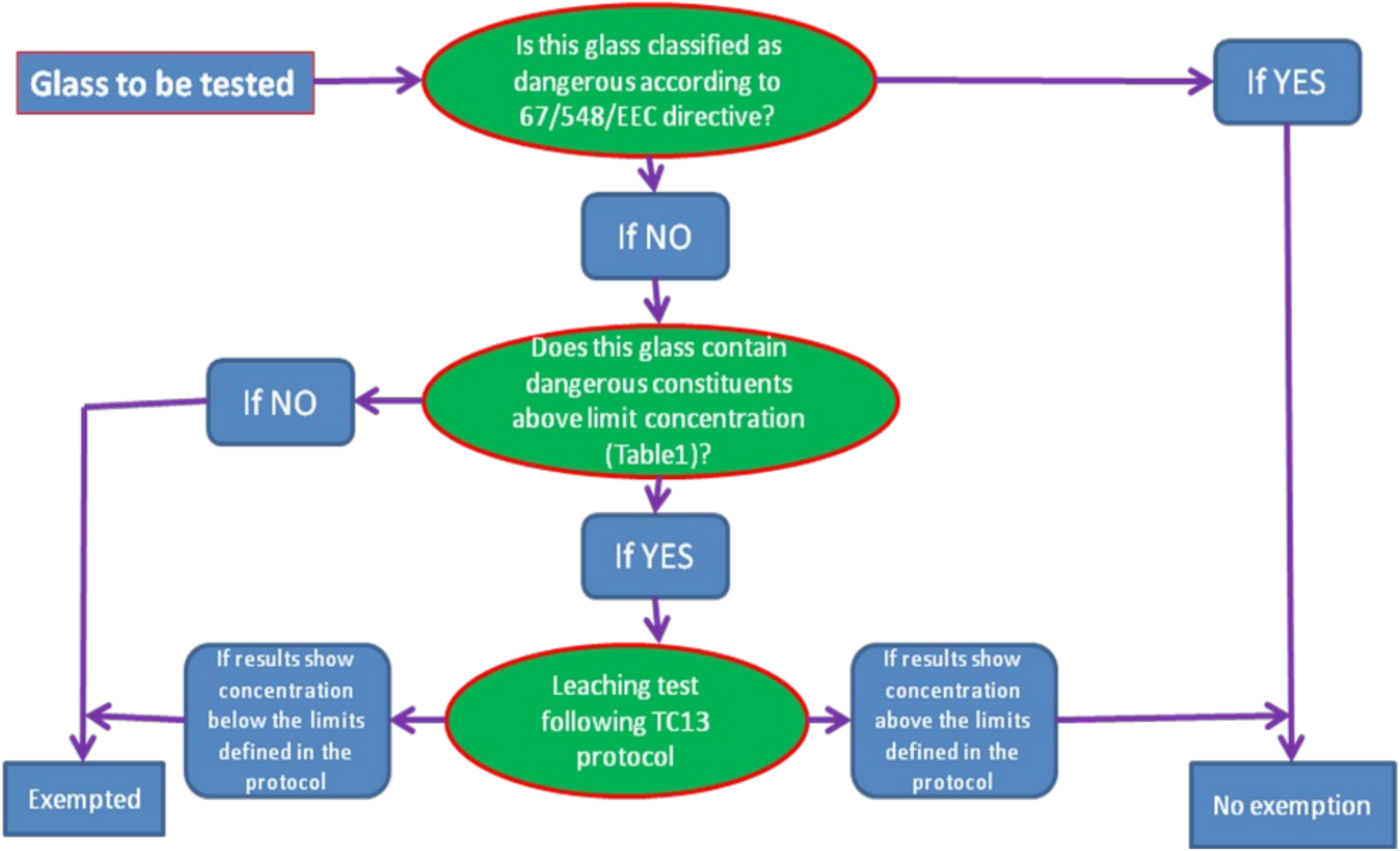
- **Glass is an UVCB substance :**
  - ` a substance of unknown or variable composition, complex reaction products or biological materials `
- **Raw materials are Intermediate :**
  - ` substances that are meant to be consumed or transformed into another substance and therefore are not intended to be present in the final manufactured substance. `

Glass exempted from the obligation to register , according to annex V

"The following substances unless they meet the criteria for classification as dangerous according to Directive 67/548/EEC and provided that they do not contain constituents meeting the criteria as dangerous in accordance with Directive 67/548/EEC present in concentrations above the lowest of the applicable concentration limits set out in Directive 1999/45/EC or concentration limit set out in Annex 1 to Directive 67/548/EEC, unless conclusive scientific experimental data show that these constituents are not available throughout the life-cycle of the substance and those data have been ascertained to be adequate and reliable : Glass, ceramic frits".

It is the responsibility of the producer to prove that his glass is exempted , but the wording is complex , ….not directly applicable in practice

Flow chart


Glass to be tested
Is this glass classified as dangerous according to 67/548/EEC directive?
If YES
If NO
Does this glass contain dangerous constituents above limit concentration (Table1)?
If NO
If YES
Leaching test following TC13 protocol
If results show concentration below the limits defined in the protocol
If results show concentration above the limits defined in the protocol
Exempted
No exemption

In practical = 3 cases

- 1) **Not exempted** = the glass is dangerous according to Directive 67/548/EEC

- 2) **Exempted** = the glass does not contain dangerous constituents
  - Limit generally to be considered = 0.1% weight
  - Most of the soda-lime formulations is covered

- 3) **Exempted** by conclusive scientific experimental data
  - evidence of not availability of the glass constituents throughout the lifecycle of the glass
  - Need ascertained data : use of adequate methodology performed by independent and reliable data
  - Some coloured glasses, special glasses, crystal glasses,...require investigation before concluding

"Dangerous constituents"

- Elements meeting the criteria for classification as **dangerous in all their chemical forms** according to Directive 67/548/EEC (actually CLP)

Sb , antimony compounds
As, arsenic compounds
Cd, cadmium compounds
Cr, chromium (VI) compounds
Pb, lead compounds
Se, selenium compounds

Others substances are listed as dangerous compounds in all their forms in Annex 1 of Directive 67/548/EEC (beryllium, mercury, thallium and uranium) but they are not normally present in the glass composition and for this reason they are not taken into consideration

Possible release during glass lifecycle

1. **Release of dust in the workplace**
   - due to cutting, grinding, etc. especially during the preparation or secondary processing of an article inside the glass industry;
   - Covered by existing regulation
2. **Release of metals into foods, beverages, cosmetics and drugs**
   - due to leaching from glass container, tableware or flaconnage in the specific matrices
   - Covered by specific regulation (particularly for food contact)
3. **Release of metals into the environment**
   - due to leaching from windows, car glass, etc in specific environmental matrices, such as water, rain, etc.

     ⇒ **LEACHING TEST**
4. **Release of metals on landfill (end of life).**
   - due to leaching of metal from glass after the disposal in landfill

     ⇒ **LEACHING TEST**

   Note that , in the general case , glass is accepted in landfills without testing, but the Precautionary Principle is applied

Others possible release have to be evaluated case by case

Leaching test

- **A leaching test with adequate and reliable limits** =
  - an accepted methodology to demonstrate the non-availability of the constituents
  - consistent with the position adopted by the Commission (e.g. Toys Directive),
- **Existing standards :** EN 12457-2 or equivalent
  - a "general purpose" methodology
  - Applicability to glass studied by ICG TC13
- **Existing limits** : Council Decision 2003/33/EC

TC13 protocol

1. Apply **reduction size** procedure for the leaching test according to standard EN 12457-2 or equivalent;
2. Remove pieces less than 0.5 mm by **sieving**;
3. Put the glass sample in **contact with distilled water** (20 °C, 24 h) , using a liquid/solid ratio = 10 l/kg and agitate;
4. Remove glass sample from the resulting suspension by **filtration** (filter 0.45 μ m) or centrifugation;
5. Quantify the elements in the leachate by methods used for trace **analysis** in water
6. **Apply limits** given for "nonhazardous" waste in the Council Decision 2003/33/EC

Council Decision 2003/33/EC

Element	Leaching limit (mg/kg dry)
As	2
Cd	1
Cr (total)	10
Sb	0.7
Pb	10
Se	0.5

Conclusions

- It is the responsibility of the manufacturer to study if its glass is covered by the exemption
- Data has to be obtained by labs , applying reliable and known methodologies : CPIV has proposed one , which is applicable and has been reviewed by experts
- When a glass fails , it has to be registered before the corresponding deadline, depending on the volume produced , possibly end 2010

Ce qui sort de chez les verriers : les fabrications

Trois cas sont possibles

Substance

- Groisil
- Articles cassés...

Le verre fusionné.

- → Statut? Déchet?
- → Si non déchet, comme le verre, enregistrement si :
  - plus d'une tonne / an,
  - et ne répond pas aux conditions d'exemption.
- → Mise à jour des FDS au format REACH

Préparation

- Composition, pellets
- Peinture émail...

Un mélange de substances.

- → Gestion des FDS
- → Communication avec les fournisseurs sur les usages et mesure de gestion des risques
- → Le cas échéant, faire sa propre évaluation
- → Demander une autorisation si besoin.

Article

- Baguette ou plaque,
- Carafe taillée...

La forme est importante.

- → (enregistrement des substances destinées à être rejetées)
- → Communication aux clients sur la présence éventuelle de SVHC
- → Notification à l'agence
- → Respect des restrictions.

Lettre type proposée par le groupe de travail

Pour répondre et communiquer à ses clients

Pour les articles en verre.

Extraits :

... Notre société vous fournit des articles en verre et est ainsi considérée sous REACH comme un fabricant d'article...

... Or les articles que nous vous fournissons sont constitués de la substance « verre » qui ne figure pas sur cette liste candidate. Ainsi, l'obligation de communiquer des informations sur les substances contenues dans les articles conformément à l'article 33 du règlement REACH ne concerne pas les articles constitués exclusivement de verre...

Conclusion
Et s'il ne fallait retenir que 3 points?

S'il ne fallait retenir que 3 points

- Avec REACH, l'utilisation des produits chimiques en verrerie ne sera plus comme avant :
  - Des usages seront interdits (décoration ?)
  - Des substances ne seront plus disponibles (arsenic demain ?)
  - Des recettes verrières devront être reformulées (coloration ?)
  - Les conditions d'utilisation seront bien plus contraignantes (SCC)

- Conseil n°1 : chaque verrier doit avoir son dossier d'exemption prêt.

- Conseil n°2 : maintenir un partenariat et dialogue actif avec ses fournisseurs.

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INSTITUT DU VERRE

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