

CAEF Guideline – Inventory of Substances for REACH

What is the purpose of the inventory?

A few words in advance: REACH is a system that primarily concerns the manufacturers of substances. Substances are chemical elements and their compounds. Preparations, mixtures or solutions composed of two or more substances are to be distinguished from substances.

Substances and substances in preparations regularly have to be registered at the European Chemicals Agency (ECHA) that was specifically set up for this purpose. Importers, who import substances from outside of the EU, are classed with manufacturers and have to register the substances.

Foundries produce articles. Articles are by definition objects, which during production are given a special shape which determines their function to a greater degree than their chemical composition. Foundries are affected by REACH as so-called “downstream-users” and as such (only) need to carefully check the extent to which substances and preparations which are handled, entail duties according to REACH. There is also the need to check, whether handled substances will still be available for production in the future or, whether a registration by the manufacturer or importer does not happen. As a consequence, substances may principally no longer be placed on the market and therefore are no longer available as materials for foundries.

REACH-requirements apply to foundries, if they import raw, operating and auxiliary substances directly from non-EU countries.

The inventory of substances serves the following purposes:

1. **The inventory is not obligatory** in REACH, but provides an overview on the handling of obligations and risks with regard to REACH
2. The inventory helps to identify, if **obligations in REACH** have to be taken care of by foundries, that is:
 - a. **Pre-registration and registration** of substances and articles as manufacturer or importer (import from outside of the EU)
 - b. The question of **authorisation requirements** for substances of very high concern (see annex XIV, expected for June 2009), preparation of a **chemical safety report** as well as duties of notification to ECHA are currently not relevant
 - c. **Information** of customers (see attached standard letter)
 - d. **Gathering of information** from supplier
Target: Securing of ability to supply
 - e. Checking and application of the modified **safety data** sheets
Will only apply in the course of time, when safety data sheets have to be adapted. Therefore, there is no additional task at this time.
 - f. **Organisation of the safekeeping** of REACH-documents for 10 years
3. The inventory identifies **REACH-specific risk potential**
 - a. Cease of production or import due to too high costs for registration
 - b. Cease of production or import due to omitted registration (according to the rule “no data, no market”)
 - c. Possible increase in costs

Checklist

Which substances or preparations are relevant?

- **Only** substances or preparations
 - a. raw, operating and auxiliary substances
 - b. own by-products and other secondary products (e.g. granulated slag)

Which substances or preparations are not relevant?

- **Articles and therefore castings are not subject to REACH**

Definition of article: Object, which during production is given a special shape, surface or design which determines its function to a greater degree than its chemical composition.

The only exception, when REACH applies to articles does not concern castings (intended release of substances or containing substances of high concern).

- Waste
- Annex IV substances
 - a. Limestone
 - b. argon, nitrogen, carbon dioxide
 - c. and further individually listed substances that do not require registration due to their known harmlessness

Please note that after the revisions of Annexes IV and V **graphite** and **carbon** are **no longer exempted** from REACH!

- Annex V substances
 - a. Substances that came into existence through a chemical reaction which arose during the final use of other substances, preparations or articles and that were not produced, imported or put in circulation as such substance (clause 3).
 - b. Substances ... that came into existence through a chemical reaction which arose when ... a binding material ... served its intended purpose (clause 4a).
 - c. By-products that are not put in circulation (clause 5)
 - d. Substances which occur in nature that were not chemically altered, unless they are classified as dangerous (Directive 67/548/EC) (clauses 7 and 8). e.g. Minerals, ores, ore concentrates, cement clinker, natural gas, liquefied petroleum gas, natural gas condensate, process gases and components thereof, crude oil, coal and coke
 - e. Sufficiently known elements: Hydrogen, oxygen, noble gases (...) and nitrogen.
- No polymers (article 2, para 9)

Catalogue of criteria

Which raw, operating and auxiliary substances should be included in the inventory?

1. Produced outside of the EU and imported directly by the foundry
Consequence: Duty of (pre)registration from a quantity of ≥ 1 t/a like for manufacturers¹
Feedback of relevant quantities to ... to check syndicating
2. Produced outside of the EU and imported indirectly (through dealer)
Consequence: Include in inventory, if the dealer is not able to take care of REACH-duties (especially registration)
=> Ensure that (pre) registration has taken place, if need be, change supplier
3. Used in small quantities, is not evidently a mass product for a variety of other applications and not easily substituted
Consequence: Ensure that supplier takes care of (pre)registration
4. Does not fall in category 3, but contains additive or, respectively, in special compositions addition of small quantities of substances that are important for the composition. This additive is not evidently a mass product for a variety of other applications and not easily substituted
Consequence: Ensure that supplier takes care of (pre)registration
5. Labelled as hazardous substance, contains CMR² substances, PBT³-substances or a substance of very high concern
Consequence: Authorisation duty for manufacturer or importer
Later ban of substances to be expected, look for substitution
6. Is used in an unusual way and supplier does not know intended use
Example: Nail varnish as locktite; baking powder as substitute moulding material
Consequence: Check, if it is a hazardous substance
If so: Ensure that an exposure scenario⁴ is included in the safety data sheet

This means: As far as a mass product is concerned, that does not comply with the above stated criteria, a registration by the manufacturer can safely be assumed and an inclusion in the inventory of substances for REACH is unnecessary.

¹ Quantity of substances per year shall be calculated on the basis of the average production or import volumes for the three preceding calendar years (REACH Directive, art. 3 item 30). When creating the inventory, it is advisable, to not only include the previous year and also to keep an eye on substances that are not handled on a day-to-day basis.

² Carcinogenic, mutagenic and reprotoxic substances.

³ Persistent, bioaccumulative and toxic substances.

⁴ Exposure scenarios play a central role according to REACH requirements in risk assessment and the safe handling of substances and products. An exposure scenario presents the whole life cycle and handling conditions of a substance, from its manufacturing through processing through handling to disposal. The exposure scenario describes measures to control exposure of man and environment. The handling conditions and measures to control exposure are in a comprehensive sense risk management measures.

Working list: Substances that are regularly handled in foundries

With reference to substances that are regularly handled in foundries. This is not a final list but a list that needs to be added to, depending on the specific substances used in the foundry:

1. Melting shop

- a. Scrap: Irrelevant, exempted because classified as waste or because of art. 2 para. 7 (recycling material)
- b. Pig iron: Irrelevant, mass product, please note: (Pre)registration for direct import
- c. Chips: See a.
- d. Laminated sheet packages: Irrelevant: See a.
- e. Alloying elements: Irrelevant, mass product, please note: (Pre)registration for direct import
- f. Coke, coke breeze: Irrelevant, exempted by annex V
- g. Treatment agents, inoculants: Check from case to case, use checklist
- h. Slag creators: Irrelevant, mass product
- i. Refractory linings (bricks): Irrelevant, article
- j. Ramming mix: Irrelevant, mass product
- k. Oxygen and other gases: Irrelevant, exempted by annex V
- l. Graphite electrodes: Irrelevant, article
- m. Liquid Iron: Irrelevant, because this refers to alloys and all (pre)substances are registered or excluded (see above, a-l)
- n. Non ferrous metal ingots: Irrelevant, mass product, unless special composition
- o. Residues: See below

2. Moulding shop / Core shop

- a. Mould basic materials (silica sand, chromite sand, zircon sand, cronig sand, olivine sand): Irrelevant, natural material (annex IV)
- b. Cores bought in addition: Irrelevant, article
- c. Bentonite, not activated: Irrelevant, natural material (annex IV)
- d. Bentonite, activated: Irrelevant, mass product
- e. Mixture bentonite/coal dust: Irrelevant, mass product
- f. Coal dust
 - Nature: Irrelevant, natural material
 - Synthetic: will be checked through CAEF with suppliers
- g. Swelling binder: Irrelevant, mass product
- h. Polyurethane cold box binder
 - Resin: Irrelevant, mass product, respectively polymer
 - Isocyanate: Irrelevant, mass product
 - Catalysts (TEA, DMEA, DMIA): Irrelevant, mass product
- i. Furan resin: Irrelevant, mass product, respectively polymer
- j. Phenolic resin: Irrelevant, mass product, respectively polymer
- k. Further resins (for hot box, alpha set, beta set, pepset or resole CO₂): Irrelevant, mass product, respectively polymer
- l. Hardener for cold setting synthetic resins
 - Phosphoric acid: Irrelevant, mass product
 - PTS: Irrelevant, mass product
 - Xylenesulphonic acid: Irrelevant, mass product
 - Hot box, addition: Irrelevant, mass product
 - Hardener hot box: Irrelevant, mass product

- Activator: Irrelevant, mass product
 - Alpha set: Irrelevant, mass product
 - Methyl formate: Irrelevant, mass product
 - Catalyst MF: Irrelevant, mass product
 - Beta set: Irrelevant, mass product
 - Catalyst Pepset: Irrelevant, mass product
 - Mixed acids (PTS + sulphuric acids): Irrelevant, mass product
- m. Sodium silicate binder
- With breakdown binders: Will be checked through CAEF with suppliers
 - Without breakdown binders: Will be checked through CAEF with suppliers
 - Additional breakdown binders: Will be checked through CAEF with suppliers
- n. Carbon dioxide: Irrelevant, exempted by annex IV
- o. Coatings
- Water-based coatings: Irrelevant, mass product, check availability for special formulations
 - Alcohol-based coatings: Irrelevant, mass product, check availability for special formulations
 - Isopropyl alcohol: Irrelevant, mass product
 - Isopropanol: Irrelevant, mass product
 - Thinner: Irrelevant, mass product
 - Powder-coating, talc: Irrelevant, mass product, check availability for special formulations
- p. Parting agents (gravity die casting): Irrelevant, mass product
- q. Full mould casting slabs: Irrelevant, polymers exempted
- r. Lubricants for diecast machines: Irrelevant, mass product

3. Investment casting

- a. Waxes: will be checked through CAEF with suppliers
- b. Filled waxes: Irrelevant, mass product, check availability for special formulations

4. Fettling / abrasive blasting

- a. Grinding wheels, grinding sticks etc.: Irrelevant, article
- b. Shot-blasting abrasives
 - Cut steel shot: Irrelevant, mass product
 - Granulate on steel basis: Irrelevant, mass product
 - Granulate on chilled cast iron basis: Irrelevant, mass product
 - Corundum: Irrelevant, mass product

5. After-treatment, finishing

- a. Heat treatment
 - Emulsions, oils: Irrelevant, mass product, check availability for special formulations
 - Kolene salt bath or the like: Check necessity of registration, high substitution potential
- b. Welding: Irrelevant, mass product
- c. Priming, lacquering: Irrelevant, mass product; but caution regarding special formulations and special care regarding customers' requirements, if customer is not EU-based

6. General operating and auxiliary substances

- a. Oil: Irrelevant, mass product
- b. Coolants and lubricants: Irrelevant, mass product
- c. Foil, which inhibits corrosion by intended release of substances; irrelevant, mass product

7. Residues

- a. Slag: Irrelevant, regularly classified as waste. As the case may be, product status (MCS-substance); also granulated and crushed slag: Inclusion in annex V? Wait for results. Pre-registration for cupola slag not planned so far.
- b. Furnace lining: Waste, not relevant for REACH
- c. Furnace dust: Waste, not relevant for REACH
- d. Residual sand: Irrelevant, usually waste, not relevant for REACH. If different: Art. 2 para. 7 (recycling)

8. Very rare substances: Like silane, antimony and cerium misch metal. Check with manufacturer.

If you have questions, please contact Please also inform us of problem cases and cases of application.

Standard letters

1. Suppliers or importers

Recommendation: At present suppliers and importers should only be addressed in very few cases, as questions regarding most relevant mass products can be resolved through CAEF. Furthermore, suppliers will at present not have the necessary information.

If you deem it necessary – once you have prepared your substances inventory – to address one of your suppliers or importers, we have prepared the following wording for your letter:

“We have realised as we prepared an inventory of substances according to REACH* that you supply us with a product that is significant for us.

We would be pleased therefore, if you would confirm that you comply with all duties arising from REACH to guarantee your ongoing ability to supply the material delivered to us. This means, that all substances in the products which are supplied and are subject to the obligation to register are (pre)registered by you or by a pre-supplier.

Please also confirm that REACH will not have a negative impact on the production of materials purchased by us. This especially applies to substances that occur only in small quantities as additives or further admixtures in our products. Please also advise promptly, if the formula of the product purchased by us changes due to duties according to REACH.

Please also advise promptly, whether a material or component of a material that you deliver to us is in danger of becoming a forbidden substance. This may happen inter alia, when a substance is included in the so-called list of candidates. Please confirm that you will inform us immediately if materials supplied to us contain substances in the list of candidates.

...”

Please name the contact for REACH in your company.”

**REACH is the new European Community Regulation on chemicals and their safe use (EC 1907/2006). It deals with the Registration, Evaluation, Authorisation and Restriction of Chemical substances. The new law entered into force on 1 June 2007.*

The REACH regulation supervises the handling of substances as such and in preparations and this irrespectively from whether they have dangerous properties or not. Central factor of the REACH regulation is the obligation to register substances at the to be founded European Chemicals Agency (ECHA) which is mandatory for the continuation of production and the use of these substances. Addressees for REACH are primarily manufacturers or importers of substances.

The regulation arranges for a two-stage procedure: Stage one is the (pre)registration which begins on June 1, 2008 and ends on December 1, 2008; stage two is the registration of the (pre)registered substances, which depending on their dangerousness and their production volume, has to take place by December 1, 2010 or a later point in time. In this context, it is of crucial importance that substances, which were not subject to (pre)registration may after December 1, 2008 no longer be produced or be put into circulation in the European Union.

2. Customers

Suggestion of reply (**modified version! Please particularly note the accessory disclaimer of warranty which has become customary concerning the communication up and down the supply chain.**)

“We thank you for your enquiry regarding compliance with Directive (EC) No. 1907/2006 (REACH).

We are committed to meeting our legal obligations under REACH.*

As so-called downstream users we will approach suppliers of raw, operating and auxiliary substances that fall under the regime of REACH in a timely manner to ensure that REACH does not have a negative impact on the production of the castings, which are delivered to you.

In the extremely unlikely case that REACH affects our ability to supply castings or impairs the quality of the castings delivered by us, we would inform you on time, to agree upon suitable measures.

Our association is presently working on a checklist for a suitable substances inventory, which will enable us to follow-up and fulfil REACH requirements systematically and consistently.

Your contact for REACH in our company is:

**The information contained in this questionnaire expresses only the intention of the respondent and does not constitute a binding obligation. Whilst the information is provided in utmost good faith, no representations or warranties are made with regards to its completeness or accuracy and no liability will be accepted for damages of any nature whatsoever resulting from the use of or reliance on the information.*

...”

Further information:

1. CAEF / national associations (max.schumacher@caef.eu)
2. ECHA Helpdesk and guidelines (<http://reach.jrc.it/>)
3. REACH metals gateway (<http://www.reach-metals.eu/>)
3. AIG guideline on REACH Version 2 ([AIG-REACH V2](#))