

ESPP comments on JRC 3rd By-Products report :

Derivates :

We regret that ESPP's request that CMC-WW be widened to "and derivates" (comments on the 2nd By-Products report) has been rejected as "beyond the scope of this work" (line 1409), without any further evaluation or consideration.

The problem of secondary materials, used as precursors, which are classified as a "By-Product" in one member state but as "Waste" in another member state is thus not resolved.

For example, if a fertiliser factory uses a spent sulphuric acid (to attack phosphate rock) in its mineral phosphate fertiliser process, then if the spent acid is classified as a By-Product the final fertiliser product can be CMC1, but if part of the spent acid has been classified as waste in the member state of origin, then the whole mineral fertiliser production batch is excluded from the EU FPR.

If sulphur or sulphur oxide with "Waste" status (in a member state), generated in e.g. a petrochemical refinery (in a "production process" producing fuels and petrochemicals) is used to produce sulphuric acid, then this acid cannot be used under CMC1, so again if part of the acid used in a mineral phosphate fertiliser factory is derived from such "Waste" sulphur or sulphur oxide then the whole fertiliser production batch is excluded from the EU FPR. This is incoherent in that under CMC-WW the sulphur or sulphur oxide itself, despite its "Waste" status, can be used as such under CMC-WW point 1(a).

The current proposal thus means that such materials can be used directly, as such in EU fertilising products, but cannot be used as precursors in fertilisers production.

CMC-11 By-Products :

Lines 212-216: We understand the logic of requiring that these mineral ore residues contain a minimum level (60% proposed) of agronomically useful minerals. Please keep the wording "and/or" as at present.

We suggest to modify as follows "60% of calcium and magnesium carbonates, calcium sulphates, ***phosphate minerals***, and/or water soluble potassium, magnesium and sodium salts"

For phosphates, possible overlap with STRUBIAS is not a problem, because it has been clarified by COM that a material can be eligible for two or more different CMCs (GROW FAQ document). STRUBIAS limits to certain input materials only, whereas CMC-11 covers any production process. CMC-11 has tighter and more extensive contaminant limits than STRUBIAS.

For phosphates: solubility should not be required, because this is included in PFC and labelling requirements. Indeed, if magnesium ammonium phosphate (struvite) or calcium phosphate are recovered mineral salts, these are NOT water soluble, but do have agronomic value.

In the proposed text, what is the definition or limits of "water soluble": 100% water soluble ? 80% ?

For magnesium salts, magnesium oxide is a by-product of magnesium ore processing with agronomic value, but it is NOT water soluble. MgO is however available to plants, because nearly all soils are somewhat acidic and because plant roots can leach compounds to make nutrients accessible.

We therefore request to add "***magnesium oxide***" in line 215.

Lines 220-224 and lines 2300-2309: There is always some **free acid** available also in virgin fertilizer salts, like ammonium sulphate. The limits used for CMC 11 materials should not be lower than the free acid limits given for virgin materials.

Line 228: We welcome that any “By-Product” (as defined in footnote 1, page 10), i.e. including by-products which are NOT included in the list lines 210-226, can be used as an additive (subject to the 5% total limit = line 230 and to the contaminant criteria lines 232-267, etc).

Lines 233-238 and 324-329: Phosphogypsum or other mineral ore processing residues classed by national regulators as “by-products” can be eligible for CMC11 1(b) or if classed as “wastes” can be eligible for CMCWW 1(a). Mineral ore processing residues are susceptible to be radioactive. **We therefore suggest that a radioactivity limit be added to the criteria for CMC11 and CMCWW.**

We note the argument lines 1642 onds. (chapter 9.7) that radioactivity is regulated by Directive 2013/59/Euratom. However, we understand that the Euratom Directive requires Member States to regulate radioactivity safety in products including fertilisers. It should be made clear in the report lines 1658-1672 whether this prevents limitation of radioactivity in EU fertiliser CMCs, or whether it means that national radioactivity limits apply in addition to any limit set in the FPR. This particularly needs clarification in that if radioactivity is limited in national fertiliser legislation, this will not apply to FPR fertilising products.

If it is legally possible, to improve farmer and consumer confidence, ESPP suggests to include radioactivity limits in the contaminant limits for both CMC11 and CMCWW, either an overall 1 Bq/g limit or a statement that these CMC materials must respect the Euratom clearance limits.

Lines 253-258: Chlorine content. We are unclear about how lines 253-258 apply.

Are we correct in understanding that the limit to the chlorine content of an EU fertilising product does not apply (application of lines 255-256) if this product deliberately contains MgCl₂ which is a by-product resulting (1b) “*from the processing and purification of minerals and ores*” (soluble magnesium salt) ?

We do not however understand how the second part of this paragraph (lines 257-258) can possibly apply. Line 258 specifies the alkali or alkaline earth metal salts are produced: therefore the by-product in question can only fit into (1b) – not 1a nor 1c-f. But if (1b) applies, then lines 257-258 are unnecessary as above.

We note that lines 257-258 could possibly apply to technical additives (2), but we would suggest that technical additives should not be used to deliberately provide chlorine ions, and that this should be excluded.

Line 2170-2173. The report refers to “a declared chlorine content in accordance with Annex III of the FPR”. However, the only mention of chlorine in Annex III (Labelling) is Part I – General Labelling Requirements “9. The phrase ‘*poor in chloride*’ or similar may only be used if the chloride (Cl⁻) content is below 30 g/kg of dry matter.” It does not seem useful to limit chlorine in the CMC if it is any case limited in the PFC?

Line 269: What is the justification for the 18 months “since production” limit, which is not applicable for CMC1? This time limit could pose difficulties in international supply chains. We suggest to add to line 271 “*This time limit is not applicable if it can be justified that no significant modification in the material is expected to occur in storage over longer time periods*”.

Also, it is necessary to specify, either in the CMC11 text or in the FAQ what does “*produced*” mean here: is date of screening, coating, packaging can be regarded as production date?

CMC-WW Certain high-quality mineral materials :

Line 277: Title for CMC-WW. We suggest to modify the title of CMC-WW to “***Certain high purity mineral materials***” because high purity materials other than those listed in lines 317-318 are not included (e.g. 99.99% iron oxide mineral salt is not included).

Line 286 : It was suggested by JRC in the Fertilisers Expert Group meeting 24th June that the wording “*a production process that uses input materials substances and mixtures*” means that point (a) of CMC-WW excludes any materials resulting from a process which includes wastes in its inputs. If this is the intention, then we suggest to write explicitly that the production process must not take waste as an input.

We note that the ECHA REACH “Guidance on waste and recovered substances” (v2, May 2010, as up to date on the ECHA website) states “*after a material ceases to be waste, the recovery process is at an end. End-of-waste materials may from then on be processed as a substance on its own, in a mixture or in an article in a production process*”. This suggests that the production process under (1a) could intake materials which have been waste, if they have achieved End-of-Waste status; either EU or national, including nationally validated self-declaration.

It also appears from the examples in this REACH Guidance, that the term “production process” can be used to mean recovery or recycling processes, that is an industrial taking in waste materials as inputs: on page 9, this Guidance refers to “primary and secondary production processes” meaning production processes respectively using as inputs virgin raw materials or using secondary raw materials (presumably including wastes). See the reference to the “production process” of Recovered Glass on page 26 (again using waste glass as input).

ESPP regrets this exclusion of waste inputs to CMVWW (1a), and we suggest that materials from processes which generate a product placed on the market should be eligible, including if waste is used as an input, in that the limitations in points 2 – 11 are adequate to ensure safety. For example: if a fertiliser factory uses a spent sulphuric acid classified as a waste (in the Member State of origin) to attack phosphate rock to then produce MAP (mono ammonium phosphate) then the MAP – which is an ammonium salt – we suggest that this should be eligible for CMC-WW.

It is our understanding, however, that CMCWW 1(a) does authorise materials “*produced as an integral part of a production process*” even if the final resulting material is classified by national regulators as a waste (subject to respecting the specific mineral content criteria lines 317-318, and the contaminant and other criteria lines 320 -376 and to NOT having been stored as a waste for more than 18 months lines 378-380). The ‘non-waste’ requirement above applies to the production process inputs not outputs. Phosphogypsum classified by national regulators as a waste could thus be eligible for CMCWW 1(a). This should probably be clarified by a FAQ after adoption of CMC-WW.

Line 290: We suggest to clarify: “gas purification or **gas** emission control processes ...”. At present it could be read to include aqueous emission control.

Line 209: We suggest that there is a problem with wording “*trapping air or off-gases*”. Our understanding, and we support this objective, is that CMCWW 1b should cover materials recovered by e.g. driving offgas through an acid bath (“scrubbing”), but not dusts or fly ashes recovered from filters and cyclones. However offgas from many processes will in fact contain water droplets and dust/small solid particles, the latter both suspended in the gas and within the water droplets. These

will be trapped by e.g. a scrubbing system. Indeed, much of the ammonia in digester offgas can be dissolved in water droplets, depending on the gas stripping process used (temperature, pressure ...). Thus the system is not only “trapping air or off-gases”, but also is trapping some dust and compounds dissolved in water droplets in off-gas. Also the wording is misleading: a scrubber system does not “trap air”, it lets air (N₂, O₂) pass through.

We suggest the wording: “- a gas purification or gaseous emission control process designed to remove certain gases (including gases dissolved in water droplets in offgases) from offgases resulting from the treatment of ...”. The FAQ could then clarify that “designed to remove certain gases (including ...)” means that this excludes solid dusts and fly ashes and similar recovered from filters, centrifuges, or from water scrubbers intended for dust removal, but does not prevent the presence of some dust particles suspended in offgas being recovered with the CMCWW 1b material (on condition that this does not prevent respect of criteria 2-7).

Lines 293-314 (CMCWW point 1b). At present, the text is very difficult to understand without a detailed knowledge of the various Directives cited and it is unclear what are the overall principles, so that future interpretation is likely to lead to problems because it refers to complex definitions in other Directives which do not correspond to the objectives here.

For example, the reference in 1b – 5th bullet point (lines 305-309) “to be co-incinerated” leads to the definition in art. 3 §41 of 2010/75/EU which defines “waste co-incineration plants” as those in which either (1) the main purpose is not waste disposal but production of energy or materials and the waste is being used as a (co)fuel, or (2) the treatment is a preliminary stage before then going to incineration. That is, as opposed to the definition of “waste incineration plant” in §40. Unfortunately this includes the reference to a preliminary stage which is not relevant to CMCWW and adds confusion.

Also, as discussed at the Fertilisers Expert Group in June, safety is not ensured by including non sanitised manure under line 314. There is no reason to suppose that there are fewer pathogens in livestock housing or on-farm manure storage (line 314), than in an off-farm manure anaerobic digester (lines 310-313).

We therefore suggest to group all seven bullet points of CMCWW (1b) into just two bullet points

- i) Substances and mixtures, waste and wastewaters, except ABPs, and except hazardous wastes**
- ii) Animal housing offgas, or manure storage or manure processing offgas, subject to either the manure or the offgas having been sterilised or the CMCWW recovery/production process respecting a defined ABP end-point**

We suggest that this proposed simplification would not in fact cause a problematic widening of the criteria. Already, the criteria specifically limit to materials from gas treatment, which reduces risks. Also, already all liquid wastes are included under the third bullet point. The only input materials which would be ‘added’ by this proposed simplification are thus solid (non hazardous, non ABP) wastes which is NOT “to be disposed of by co-incineration”. We understand that the objective is to exclude ‘unknown’ (not today identified) solid wastes which might contain problematic volatile organic compounds susceptible to be present in processing offgas (this is less probable in wastewaters). However, this seems to be largely covered in that the CMCWW must be a mineral with <0.5% organic carbon content and with limits specified in point (5) or hydrocarbons and many VOCs.

We also suggest to engage with DG SANTE a process to define one or more ABP End-Points for minerals recovered from non-sanitised stable / manure / manure processing offgases. These End-Points should be based on data showing the absence of pathogens, under specific process conditions, relating to both reduction of pathogens resulting from the passage by the gas phase, and to neutralisation of pathogens resulting from the mineral recovery process(es) and mineral solution purification and storage (for example, acid-stripping or concentration of ammonia solution).

Lines 317-318: We suggest to add salts “**of phosphates**”, in that by-products under point 1(a) could include calcium or other phosphates not currently included in the list in lines 317-318.

We suggest that the wording line 318 “*of a purity in the dry matter of not less than 95%*” should be clarified. Would a mixture of 60% MAP plus 39% DAP be eligible? Such a mixture is 99% purity ammonia salts, but is only 60% purity MAP. Or a mixture of 60% MAP plus 39% calcium carbonate? We suggest to modify lines 317-318 to add “**or mixtures of the above** in a purity in the dry matter of not less than 95% ***in total***”.

Lines 331 – 354. We suggest to apply these contaminant limits (all except for Selenium, which is also a micronutrient) to the to the CMC-WW itself and not to the final fertilising product. As proposed, a CMC-WW containing a toxic impurity (such as benzene) can be simply “diluted” into a fertilising product by blending. We suggest that these contaminant limits be applicable to the CMC-WW in order to avoid adding these contaminants into the fertiliser processing line.

NOTE: we do NOT propose this for CMC11 because this covers “additives” which may contain specific contaminants and which are by definition used at <5% (line 230)

Line 353 – Selenium. This can also be a micronutrient and/or is not considered a problem contaminant in many regions. We suggest to replace this limit on selenium by an obligatory declaration if selenium exceeds the specified level (in the CMC-WW material).

It is our understanding that, for example, 15-25 ppm of Selenium is included in mineral fertilisers in Finland currently. The limit of 10 ppm seems to be based on specific local Italian soil conditions and is not relevant at the EU level.

Conformity assessment :

396- 400 1994 onds: Conformity assessment for CMC-WW. It is logical that CMC-WW materials derived from waste should be subject to a stringent conformity assessment procedure, but this is not logical for CMC-WW materials coming from production processes not involving waste. We suggest that D1 should be applicable only for CMC-WW materials involving a waste as an input.

2044 onds. Surveillance under the responsibility of the notified body. Again, this should be applicable only for CMC-WW materials involving a waste as an input.