

Dear Kougoulis,

Thank you for circulating the documented analysis of the four requested derogations and, in particular, for the accurate and well-balanced presentation of the proposed derogation for nickel in stainless steel. However, for clarification and in order to assist the other experts and stakeholders in their decision regarding a derogation for nickel in stainless steel, I should like to provide some additional information concerning resulphurised stainless steels and their application in imaging equipment.

The enhanced sulphur content (0.15 - 0.30%) provides the resulphurised grades with free-machining properties that permit significantly higher machining speeds and leads to improved surface finish. The desired effect is achieved by the formation of manganese sulphide inclusions (i.e. discrete particles of MnS distributed throughout the material). The MnS inclusions cause the swarf (metal turnings or shavings) that forms during cutting operations to chip and break off. In the absence of the MnS inclusions, the swarf tends to form long ribbons of stainless steel that wrap around cutting tools and scratch the surface of the machined component.

Resulphurised stainless steel is predominantly supplied in the form of long products (e.g. bars, rods, wire rod and wire), which are subsequently machined (e.g. drilled, reamed, threaded/tapped, turned, etc) to form bushes (mechanical)/bushings, collars, cylindrical spacer bars, fasteners (bolts, nuts, screws, studs, washers, etc), rings, etc. However, to a much lesser extent, resulphurised stainless steel is also available the form of flat products (e.g. plates and sheets). Once again, the resulphurised stainless steel flat products are used for applications where extensive machining is required.

From the perspective of health and exposure, the application of resulphurised stainless steel in imaging equipment is primarily in the form of bushes (mechanical)/bushings, collars, cylindrical spacer bars, fasteners (bolts, nuts, screws, studs, washers, etc), rings, etc. As such, workers involved in the assembly and repair/servicing as well as end users of imaging equipment are not exposed to close and prolonged contact with these materials (i.e. contact is perhaps best described as intermittent and transient). Thus, the low risk of sensitization associated posed by resulphurised stainless steels is further reduced by this type of exposure and the limited contact area of the components used in imaging equipment.

It is perhaps also worthwhile mentioning the existence of grade 303 Se stainless steel, which relies on selenium (0.15 - 0.35%) instead of sulphur (0.060% max) for its free-machining properties. This material is imported into Europe, mainly from the United States. Grade 303 Se stainless steel is often selected where surface finish is a critical feature of a machined product, as many engineers claim that it exhibits superior machining properties to grade 303. Nickel release from grade 303 would be expected to be similar 304L + Ca and 304L + Cu.

I trust that this additional information will prove helpful to the other experts and stakeholders. If there are any queries arising from this intervention, please do not hesitate to contact me.

Best regards,

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