EUROFER
THE EUROPEAN STEEL ASSOCIATION

Revised August 2023

Position paper on Iron Ore and Pellets

REACH Exemptions

Article 2(7)(b) of REACH states that "*substances covered by Annex V, as registration is deemed inappropriate or unnecessary for these substances and their exemption from these Titles does not prejudice the objectives of this Regulations*". The exemption under Annex V allows the substances listed to be removed from the duties of Registration, Downstream Users and Evaluation requirements.

A substance which occurs in nature is defined in Article 3(39) of REACH as; *"Substances which occur in nature: means a naturally occurring substance as such, unprocessed or processed only by manual, mechanical or gravitational means, by dissolution in water, by flotation, by extraction with water, by steam distillation or by heating solely to remove water, or which is extracted from air by any means".*

Ores are listed under the exemptions of Annex V. Ores such as iron ore can be classed as substances, which occur in nature. Within the guidance document to Annex V[1] it does state that, "*However, ores are exempted when processed only by means mentioned in Article 3(39) subsequently undergo a chemical process or treatment, or a physical mineralogical transformation, for instance to remove impurities, provided that none of the constituents of the final isolated substance has been chemically modified.".*

Substances, which are naturally occurring and are not chemically modified, are exempt as is written above. A definition of a 'Not chemically modified substance' is as follows; *"a substance whose chemical structure remains unchanged, even if it has undergone a chemical process or treatment, or physical mineralogical transformation, for instance to remove impurities".*

Production of Iron Ore Pellets

Depending on where the iron ore is located and mined, it's mineralogical make-upwill differ. Some ores are predominantly Magnetite (Fe_3O_4) and some are Haematite (Fe_2O_3). Pellets would ideally be in the form of Fe_2O_3; generally pellets will contain >80% Fe_2O_3 and some small amounts of Fe_3O_4.

[1] https://echa.europa.eu/documents/10162/2324906/annex_v_en.pdf/8db56598-f7b7-41ba-91df-c55f9f626545

Formatted: Not Expanded by / Condensed by
Formatted: Not Expanded by / Condensed by
Formatted: Not Expanded by / Condensed by
Formatted: Not Expanded by / Condensed by
Formatted: Not Expanded by / Condensed by
Formatted: Not Expanded by / Condensed by
Formatted: Not Expanded by / Condensed by
Formatted: Not Expanded by / Condensed by
Formatted: Not Expanded by / Condensed by
Formatted: Not Expanded by / Condensed by
Formatted: Not Expanded by / Condensed by
Formatted: Not Expanded by / Condensed by
Formatted: Font: Not Italic
Formatted: Not Highlight
Formatted: Not Highlight
Formatted: Not Highlight
Formatted: Not Expanded by / Condensed by , Not Highlight
Formatted: Not Expanded by / Condensed by , Not Highlight
Formatted: Not Expanded by / Condensed by , Not Highlight
Formatted: Not Highlight

The European Steel Association (EUROFER) AISBL | Avenue de Cortenbergh, 172, 1000 Brussels, Belgium
+32 3 738 79 20 | mail@eurofer.eu | www.eurofer.eu | EU Transparency Register: ID 93038071152-83

If the iron ore fines are Fe_2O_3 and processed into pellets, then theoretically, no chemical change will occur as Fe_2O_3 is still there at the end point of the pellet production. However, the temperature in the pelletisation process is very high, so chemical modification can't be excluded.

If the iron ore fines are Fe_3O_4 and processed into pellets (at temperature), then oxidation would almost certainly take place causing a chemical modification to take place, forming Fe_2O_3 at the end point. This, according to the definitions as listed above, is a chemical modification and therefore causes that particular Fe_2O_3 registration under REACH is required.
The additions within the pellets (e.g. olivine and bentonite) will not be chemically modified.

Production of Sinter

Independent from the iron ore (magnetite or haematite), sinter typically contains about5-15% FeO in the end (besides e.g. Fe, Fe_2O_3 and CaO), so reduction will always takeplace. This is defined as a chemical modification and therefore requires registration under REACH.

Conclusions

- Iron ore pellets: registration is recommended, even if the source is haematite.
- Sinter: chemical modification to form e.g. FeO has taken place, so registration is recommended.

This document was updated according to current legislation in force.

The European Steel Association (EUROFER) AISBL | Avenue de Cortenbergh, 172, 1000 Brussels, Belgium
+32 3 738 79 20 | mail@eurofer.eu | www.eurofer.eu | EU Transparency Register: ID 93038071152-83