

Joint statement against restrictions imposed by the Dutch government on use of Ferrous Slags – Requirements for provisional measures not fulfilled – October 7th, 2025

Executive Summary

- The recent move by the Dutch government to temporarily restrict the main uses of LD and EAF slags is unjustified. It does not meet the requirements for appropriate provisional matters according to Art. 129 (1) REACH.
 - The stop on use of LD slags is based on unsubstantiated and speculative claims rather than scientific evidence, while the stop on use of EAF slags lacks any justification at all.
 - If these main uses for LD and EAF slags are prohibited, there are no realistic alternative applications left. As a result, large volumes of these slags would have to be landfilled.
 - This decision sets a dangerous precedent for the European Steel Industry and threatens not only the sustainable use of valuable by-products but also undermines decades of progress in circular economy and resource efficiency. A future restriction under REACH (on certain uses of slags) would have a severe impact on the entire steel industry, as without the ability to market slags, steel production itself would be at risk of coming to a halt.
 - REACH registration is a complex and evolving process, and the REACH Ferrous Slag Consortium (RFSC) has always acted in good faith by continuously improving the dossier to ensure accuracy and reduce uncertainties.
 - We therefore respectfully ask the European Commission to reject the provisional measure of the Dutch government on LD and EAF slags.
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Ferrous slags have been safely, environmentally friendly and sustainably used in Europe and worldwide for many decades in cement and concrete, transport infrastructure (roads, waterways, pavements), and fertilizers. Between 2000 and 2023, the use of ferrous slags avoided the extraction of **1.17 billion tons of natural rock** and prevented **416 million tons of CO₂ emissions**.

Ferrous slags are by-products of iron and steel production and include blast furnace slags (ABS/GBS) and steel furnace slags (SFS), the latter comprising electric arc furnace slags (EAF), Linz-Donawitz/basic oxygen slags (LD/BOS), and secondary metallurgical slags (SMS).

Like all other raw materials and products, ferrous slags are continuously monitored according to technological and ecological criteria and approved for use under national and international regulations. When applied in accordance with national guidelines regulating the use of steel slags in particular applications, steel slag poses no risk to human health or the environment.

Facts and figures (2023) [^{1,2}]

- 38 million tons of ferrous slags were produced in the EU and UK (21.7 million tons ABS/GBS, 16.9 million tons SFS).
- 94% (33.7 million tons) were used as by-product.
- 99% of ABS/GBS served as building material, mainly granulated for cement production.
- SFS slags consisting of 60% LD/BOS and 27 % EAF were used in different products such as road construction (63 %), hydraulic engineering (3,8 %), fertilizers (7,5 %), metallurgical processes (9,8 %), cement/concrete additives (3,3 %).

Like natural igneous rocks, ferrous slags consist of interlocking mineral phases that form their fundamental structure. The main elements – oxygen, silicon, aluminium, iron, calcium, and magnesium – define the essential properties of these minerals. Trace and minor elements (including some heavy metals) are always present, substituting for the main elements depending on their ionic size and charge. Their presence is a natural characteristic of mineral structures, not unique to slags. The release of elements from slags and rocks depends on the solubility of the individual mineral phases. In most cases, trace elements are bound in resistant minerals, where their release is rather low (see Appendix I).

¹ www.euroslag.com

² www.worldsteel.org

The REACH Ferrous Slag Consortium (RFSC) has over the past two decades, committed substantial resources to performing toxicological and ecotoxicological testing in slags according to the requirements of the Regulation (EC) No 1907/2006 (REACH). The tests cover human-related endpoints (e.g., acute toxicity through dermal, oral, and respiratory route) as well as environmental impacts such as effect on plants and soil invertebrates (Appendix II). All the tests performed were carried out according to internationally recognized and validated guidelines developed by the Organization for Economic Co-operation and Development (OECD). The results demonstrate that the ferrous slags do not exhibit hazardous properties under the foreseeable conditions. Hence, there are no justifiable grounds for believing that urgent action is essential to protect human health or the environment in respect of ferrous slags – which are necessary for a provisional measure as imposed by the Dutch government.

Ferrous slags based on the current available evidence are:

- **fully registered under Regulation (EC) No 1907/2006 (REACH),**
- **classified as “non-hazardous” under Regulation (EC) No 1272/2008 (CLP).**

Despite decades of safe use and extensive testing, the RFSC was recently informed that Dutch Human Environment and Transport Inspectorate (ILT), supported by the National Institute for Public Health and the Environment (RIVM), has conducted a review of the classification and of the registration dossier. In this review, the validity of the tests performed are questioned and a classification as “causes serious eyes damage” (H318) and “may cause respiratory irritation” (H335) is proposed. Additionally, speculative evidence has been given that human and animal health has been adversely affected by free CaO/Ca(OH)₂ content of LD slags used in some areas of Netherlands. Based on this, the Dutch government imposed a temporary restriction on certain uses of LD and EAF slags in road construction with layers >50 cm and in mixtures with >20% slag content.

Based on the current available data, the imposed restriction cannot be accepted, as it is not scientifically justified and could have significant consequences.

- **Limited evidence:** The initiative to act against the use of LD slags was originally based on poorly documented human case reports drawn from media articles. This caused several statements by RIVM which do not provide conclusive evidence. The RFSC literature review confirmed that there is no reliable scientific basis to support the claims made by these articles.

- **Speculative classification:** RIVM bases its proposed classification (H318, H335) solely on $\text{CaO}/\text{Ca}(\text{OH})_2$ content and the resulting pH-value above 11.5 without any toxicological evidence. In contrast, current available RFSC animal studies on eluates of LD/BOS slags with pH above 11.5 show no irritation/corrosion effects, making RIVM conclusions speculative and unsupported. Thus, the findings of the Dutch government are not sufficient to justify the assumption that urgent action is necessary to protect human health or the environment in respect of ferrous slags – which, however, is required under Art. 129 (1) REACH.
- **Matrix effects:** The mere presence of $\text{CaO}/\text{Ca}(\text{OH})_2$ does not justify classification. The slag matrix has strong buffering effects, which prevent hazards otherwise associated with pure $\text{CaO}/\text{Ca}(\text{OH})_2$.
- **UVCB substance:** Slags are ‘unknown or variable composition, complex reaction products or biological materials (UVCB)’ substances. Unlike a “simple mixture,” in UVCBs the $\text{CaO}/\text{Ca}(\text{OH})_2$ is bound in a complex matrix (slag minerals). Due to this it is very little bioavailable and the threshold for mixtures does not apply for classification.
- **EAF slags:** There is no justification for including EAF slags in the restriction decision. EAF slags generally do not contain $\text{CaO}/\text{Ca}(\text{OH})_2$ and the RIVM report does not suggest any potential hazardous effects from their use. Hence, in this respect the provisional measure can in no way be appropriate.
- **Proven safe use:** BOS (containing free lime) and EAF slags have been used safely for many decades in many applications without documented health impacts.
- **Official classifications:** In Germany, ferrous slags are designated “not hazardous to water,” as recorded in the RIGOLETTO substance database of the Federal Environment Agency (UBA).
- **Main applications targeted:** The Dutch restriction effectively eliminates the main practical uses of LD and EAF slags. Most road construction projects require layers thicker than 50 cm of mixtures with a slag content above 20%. If these uses are prohibited, there are no realistic alternative applications left. As a result, large volumes of LD and EAF slags could no longer be used beneficially and would instead have to be landfilled, which is not only wasting valuable by-products but also contrary to circular economy principles.

- **Supply chain effects:** Any imposed ban without scientific evidence would undermine Europe's circular economy and climate goals, disrupt industrial symbioses, and hit construction and steel value chains. If slags must be landfilled instead of being used, disposal costs of €50–150/t would burden the EU steel industry with €0.8–2.55 billion annually only for 17 million tons of SFS.

Summary Statement

In conclusion, the imposed stop on the use of LD slags by the Dutch government is based on scientifically unsubstantiated and suggestive evidence, while the stop on EAF slags lacks any justification at all. As therefore the requirements of Art. 129 (1) REACH are not fulfilled, it cannot be upheld by the Commission according to Art. 129 (2) REACH. A restriction on use of slags would have a severe impact on the entire steel industry, as without the ability to market slags, steel production itself would be at risk of coming to a halt. We respectfully ask the European Commission to reject the provisional measure from the Dutch authorities, imposing a temporary ban on the use of LD and EAF slags for certain uses. While we recognize the importance of ensuring safety and environmental protection, such a ban would be a disproportionate measure with severe impact on the entire steel industry, as without the ability to market slags, steel production itself would be at risk of coming to a halt.

For questions and any support, please contact Thomas Reiche - Managing Director FEhS-Institute (www.fehs.de) and Chairman EUROSLAG (www.euroslag.com) -, email: t.reiche@feh.de, mobile: +49-1737366089.