

European Commission – Directorate General for Internal Market, Industry,
Entrepreneurship and SMEs (DG GROW)
Standards Policy & Market Surveillance
Brussels, Belgium

14th May 2026

**Subject: Request for Mandatory Melting/Over-Pressure Safety Valves on All
Nitrous Oxide Canisters Sold in Europe**

Dear Commissioners,

I am writing on behalf of the RDF Industry Group, a pan-European association representing over 40 organisations involved across the refuse derived fuel (RDF) and solid recovered fuel (SRF) supply chain, including waste collectors, processors, exporters, hauliers and energy-from-waste operators.

Across Europe, waste operators are experiencing a sharp rise in serious safety incidents caused by discarded nitrous oxide (N₂O) canisters entering mixed waste streams. The canisters are also known as laughing gas canisters. These canisters frequently start flying when compacted in collection vehicles or processed through sorting lines and explode when exposed to high temperatures in waste treatment infrastructure, causing major disruption to equipment and risks to frontline staff. Even where operators invest in enhanced controls, these canisters remain extremely difficult to detect consistently before they enter compaction or thermal treatment processes.

The issue is not isolated: European sector bodies have reported widespread incidents in Belgium, the Netherlands, France, Czechia, Sweden, and Austria, demonstrating that this is now a systemic, cross-border problem for the waste sector.

The scale of impact is already substantial. In the Netherlands, the reported annual damage adds up to €50 million.¹ In Belgium, incinerators recorded 150 detonation events in 2025, triple the prior year's total.² European operators have

¹ [Weer tientallen miljoenen schade door ontploffende lachgascilinders | Economie | NU.nl](#)

² <https://brusselsmorning.com/laughing-gas-canisters-cause-furnace-explosions-in-belgium/91528/>

also reported damage to critical plant components such as boilers and grates, while in Austria a single explosion at a waste-to-energy plant reportedly caused around €400,000 in damage and operational losses.³

Figure 1: Cilinder explosion caused a viewing window to explode in boiler that burns at 1.000 degrees Celcius (Dutch EfW plant)



Figure 2: Cilinder flew through roof plating out of the bunker outside (Dutch EfW plant).



³ <https://www.municipalwasteeurope.eu/publications/joint-position-paper-of-waste-management-and-trade-union-associations-on-the-clp>

Source: Attero

Video from ESA including two explosions (video link): [Nitrous Oxide Cylinder Explosions Reel | Brandfolder](#)

These incidents are creating a broader operational and economic burden across the European waste value chain. Operators are facing personal safety risks including anxiety, operational downtime, reduced treatment capacity, additional maintenance requirements, higher insurance exposure, lost throughput, and the cost of emergency responses and plant restarts. These explosions increase emissions associated with shutdowns and restarts, thereby undermining environmental performance as well as operational efficiency.

The workforce safety implications are particularly serious. Workers in waste facilities have been exposed to life-threatening hazards, especially during maintenance activities or when clearing blockages from incinerators and conveyor systems. Workers in the waste industry feel unsafe, while they keep our streets clean.

Product Level Regulations

There are two ways that could be considered to address this major issue:

- 1) Ensure the canisters are collected separately by introducing Deposit Return Systems (DRS); or
- 2) Change the product characteristics to make the product safer by design.

Unfortunately the DRS does not provide the answer. The canisters mostly enter the market empty, but in a legal way. They are then illegally filled and sold with nitrous oxide as a drug (for parties). Since the canisters are sold to market illegally as a drug it is impossible to introduce a DRS on them.

We therefore urge the European Commission to introduce **product-level regulation** requiring all nitrous oxide canisters placed on the EU market — regardless of intended use — to be fitted with **integrated melting plugs and/or over-pressure safety valves**. In other words, make nitrous oxide canisters safe by design.

Such a requirement would ensure that, when exposed to heat or compaction pressure, canisters release their contents in a controlled manner rather than exploding. This is a simple, proportionate, and preventive design intervention that would help reduce the growing number of avoidable fires, explosions, equipment failures, and worker safety incidents across Europe's waste and

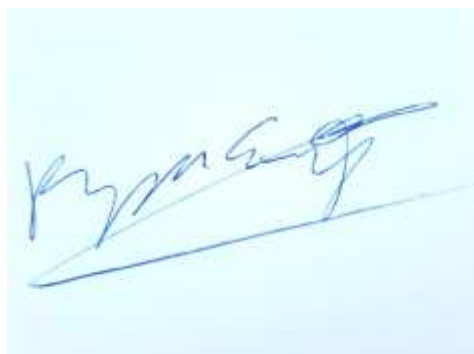
recycling sector. It would also complement wider efforts already being considered at the EU level under REACH and broader product safety legislation to address the hazards associated with large nitrous oxide canisters.

We believe that introducing mandatory safety mechanisms closely aligns with the objectives of the EU's product safety framework, the Circular Economy Action Plan, and the wider policy principle of designing out foreseeable hazards at source. It would provide manufacturers with a clear, harmonised requirement across all Member States, while materially reducing the operational and financial burden currently being transferred to local authorities, waste operators, and workers.

The RDF Industry Group and its members would welcome the opportunity to provide further operational evidence, incident data and practical insight to support the Commission's assessment. We would therefore be grateful for the opportunity to meet with the relevant product safety and chemicals policy officials at the earliest available opportunity.

Thank you for your consideration of this urgent and growing safety issue on behalf of all the workers in our industry. We stand ready to support your services in any next steps.

Yours faithfully,

A handwritten signature in blue ink, appearing to read 'R. Corijn', is written over a light blue horizontal line.

Robert Corijn

Chair of the Policy Working Group

RDF Industry Group

<https://rdfindustrygroup.org/>