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Paris, September 28th 2022

Reference: your letter of September 16, 2022 (as well as your letter of the same concern dated December 9, 2021 which we responded to January 3, 2022)

Dear Eugenie and Victoria,

We acknowledge receipt of your letter dated September 16, 2022. We appreciate your concern surrounding persistent chemicals and hazardous materials in general. To clarify, Air Liquide is an Industrial Gas company, not an industrial chemical producer. As such, our primary business is in the production and distribution of gases, technologies and services for Industry and Health. Present in 75 countries, we serve more than 3.8 million customers and patients. Embodying Air Liquide's scientific territory, oxygen, nitrogen and hydrogen are essential small molecules for life, matter and energy and have been at the core of our company's activities since its creation in 1902.

Concerning your request to **Increase transparency**, we consistently strive to improve transparencies through our disclosures. We currently disclose that Air Liquide produces **one hazardous chemical, carbon monoxide** – not included on the EU's REACH Candidate List – and **no persistent chemicals**.

Regarding your second request to **Publish a time-bound phase-out plan of persistent chemicals from your production**, as stated above **we do not produce any persistent chemicals**. With regards to **hazardous chemicals**, in the United States and Europe, **the only hazardous material** listed on the SIN List of 1027 hazardous materials, **which we manufacture, is carbon monoxide**. The phase-out of carbon monoxide is met with some challenges. We typically supply carbon monoxide to some of our industrial customers as a raw material for their production of chemicals. **Today there are no known alternatives to carbon monoxide for these purposes, a fact which ChemSec acknowledges**. Of course, we

continue to work with customers to offer safer and environmentally friendly alternatives. An adjacent example is our proprietary enScribe™ portfolio of gases in the field of electronics. These gases bring environmental benefits, as they are designed to reduce the Global Warming Potential impact typically associated with most contemporary gases used in etch processes of microchip manufacturing.

And lastly, you asked to **Work to improve your ranking on ChemScore**, which in fact we were successful in doing. Our **preliminary score this year is 23** (out of 48), which is a **+5 point improvement vs. last year, and moves us from a C to a C+ grade**. One very unfortunate incident occurred at a company in 2008 (prior to our acquiring said company) with fines levied in 2016, which brings our Lack of Controversies score to 0 out of 6 points in the ChemScore rating. Absent this incident, Air Liquide would tie with the highest rating among our peer group. Having said this, our preliminary score is not yet final. We have since engaged with ChemSec to ensure our 2022 score and ranking accurately reflects our current policies and practices. Meaning we strive to better our final score this year over the improvement acknowledged by the preliminary score.

Lastly, and again while we are not a chemical company, we are **engaged in the development of circular**, rather than linear, **production strategies** with some of our key customers. For instance, we have proprietary carbon capture technology allowing us to capture CO₂ emitted during a number of industrial processes, which can then be used as a feedstock for chemical production (hydrogenation of captured CO₂ with green hydrogen to make methanol or other chemicals for example). As another example, in our Electronics business, we enrich and purify the waste stream from our silane production unit to supply a critical material used in the semiconductor manufacturing process.

Additionally, as an industrial gas company, we are very committed to a sustainable future with tremendous opportunity to impact CO₂ emissions for a low-carbon society. To note, in full support of the 2015 Paris agreement, **Air Liquide addresses the urgency of climate change and energy transition by targeting Carbon Neutrality by 2050**.

As announced initially during our Sustainability Day 2021, and later confirmed as part of our corporate strategic plan, ADVANCE announced in March 2022, we plan to decarbonize assets by leveraging on capturing CO₂, and accelerating low-carbon hydrogen production through electrolysis or by using renewable feedstock such as biomethane. Simultaneously, we aim to reduce the CO₂ footprint associated with our energy consumption by procurement of very large volumes of low carbon electricity, as well as by increasing the efficiency of our plants. Please note that Air Liquide is the first in its industry to obtain CO₂ trajectory **validation from the Science Based Targets Initiative**, an important validation which we are very proud to highlight.

Air Liquide will also deploy a **broad range of low-carbon solutions for its customers to help them decrease their CO₂ footprint**. This includes low-carbon gases offering, accompanying customers in industrial process transformation, recognized carbon capture expertise, as well as an asset takeover strategy with an objective to decarbonize them.

We would welcome the opportunity to discuss with you the topic of hazardous chemicals and broader ESG topics. If you wish additional information of ESG initiatives at Air Liquide, the presentation of our Sustainability Day 2021 ([Sustainability Day 2021](#)) and Capital Markets Day 2022 ([CDM 2022](#)) are both available on our website, and the Investor Relations team remains at your disposal.

Yours faithfully,



Fabienne Lecorvaisier
Executive Vice President
Supervising Sustainable Development

16th September 2022

Dear CEO,

We are a group of 47 investors with US \$8 trillion under management or advice, writing to you regarding your company's chemical production and disclosure practices, following on from our letter of 9th December 2021. We appreciate the subsequent engagement we have had with companies on this important topic.

Chemical companies have in recent years been involved in a series of lawsuits and litigation, particularly concerning PFAS or persistent chemicals.¹ As the understanding of the problems associated with persistent chemicals is becoming mainstream, legislation is starting to pick up around the world. The EU is implementing its Chemical Strategy for Sustainability, with a key focus on banning persistent chemicals, and in the US, the Environmental Protection Agency recently recommended drastically lowered safety levels for two PFAS in drinking water.² This June, UN countries agreed to a global ban on PFHxS, adding it to the Stockholm Convention on persistent organic pollutants.³

While some of these regulatory changes only concern a small group of PFAS, we see these developments as the early stages of a potentially stricter regulatory environment for hazardous chemicals in general, in particular for persistent substances.

Therefore, we have the following requests of your company:

1) Increase transparency

In the EU and US, companies are obliged to register the production of chemicals. These registers, which are publicly available, can be used by stakeholders to assess the financial risks involved in the production of hazardous chemicals. In other parts of the world however, production is much less transparent. This means greater opacity and uncertainty over the production of hazardous chemicals. As investors, we believe that companies' license to operate is dependent on the public understanding of risks and impacts.

In addition to disclosing the list of hazardous chemicals your company produces, we suggest that you also disclose the volume of each of the hazardous chemicals produced. We understand corporate concern over disclosing this information. We saw similar concerns from the apparel and food industry with regard to disclosing information about their supply chain. But their initial skepticism towards publishing the names and addresses of their suppliers has given way to an increasingly high degree of transparency, without adverse consequences. The chemical industry should move in the same strategic direction. We believe it is possible to be more transparent without disclosing confidential information.

We believe that there are several chemical companies that do not produce any additional hazardous chemicals outside the EU or the US. If this is the case, we encourage you to state this publicly.

¹ <https://news.bloomberglaw.com/us-law-week/companies-face-billions-in-damages-as-pfas-lawsuits-flood-courts>

² https://environment.ec.europa.eu/strategy/chemicals-strategy_en; <https://www.epa.gov/newsreleases/epa-announces-new-drinking-water-health-advisories-pfas-chemicals-1-billion-bipartisan>

³ <https://chemicalwatch.com/502075/un-countries-agree-on-global-pfhxsc2a0ban>

2) Publish a time-bound phase-out plan of persistent chemicals from your production

As already noted, we believe that the stricter regulatory environment on both sides of the Atlantic will eventually require chemical companies to phase out most persistent chemicals. We encourage you to lead, not be led, by phasing out and substituting these chemicals. In addition to the financial risks associated with litigation, producers of persistent chemicals face the risk of increased costs associated with reformulating products and modifying processes, which can have significant implications for company performance.

The restriction of hazardous substances will accelerate the transition towards sustainable alternatives, we believe across all markets. For companies that are prepared and innovative, there are opportunities to seize. The producers and users of sustainable alternatives can gain a competitive advantage and be rewarded by capital markets. We also encourage you to educate your customers on the hazards and work with them on alternatives.

3) Work to improve your ranking on ChemScore

ChemScore ranks the world's largest chemical producers based on their efforts to reduce their chemical footprint. It was developed to provide investors with information to assess the chemicals management strategies of the large producers and users. It is managed by ChemSec, an independent Swedish non-profit committed to phasing out the production of hazardous chemicals. The new annual ranking will be published on the 1st of December. To improve your score, you can contact ChemSec and share information, something we as investors encourage you to do.

We would welcome a response to this letter, including an overview of the steps that your company is planning to take to address our requests. Please do also share any recent company developments since our last letter of December 2021 related to these matters.

Yours sincerely,

Eugenie Mathieu, Earth Pillar Lead
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