

**Fabienne Lecorvaisier**  
Executive Vice President  
Supervising Sustainable Development  
75, quai d'Orsay  
75007 Paris

Paris, January 3<sup>rd</sup>, 2022

**Reference:** your letter of December 9, 2021

Dear Eugenie Mathieu and Emine Isciel,

We acknowledge receipt of your letter dated December 9, 2021. We appreciate your concern surrounding the production of hazardous chemicals. 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 78 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.

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. 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.

Regarding ChemScore, we constantly strive to improve our ChemScore ratings. In fact, we improved our overall rank of 6 out of 25 in 2020, to 7 out of 50 in 2021, or from top 24% to top 14%. We currently rank "C" while the highest ranking among our Industrial Gas peers is "B-". 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.

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 CO<sub>2</sub> emitted during a number of industrial processes, which can then be used as a feedstock for chemical production (hydrogenation of captured CO<sub>2</sub> 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

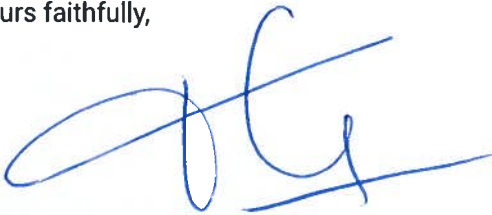
Additionally, as an industrial gas company, we are very committed to a sustainable future with tremendous opportunity to impact CO<sub>2</sub> emissions for a low-carbon society. To note, in full support of the 2015 Paris agreement, Air Liquide addresses the urgency of climate change and energy transition by targeting Carbon Neutrality by 2050.

During our Sustainability Day in March 2021, Air Liquide presented its full plan to decarbonize its assets by leveraging on capturing CO<sub>2</sub>, and accelerating low-carbon hydrogen production through electrolysis or by using renewable feedstock such as biomethane. Simultaneously, we aim to reduce the CO<sub>2</sub> 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.

Air Liquide will also deploy a broad range of low-carbon solutions for its clients to help them decrease their CO<sub>2</sub> 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 [replay](#) and the [presentation](#) of our Sustainability Day 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

Dear CEO

We are writing to you as a group of investors, shareholders and their representatives with \$4.4 trillion under management or advice, regarding your company's involvement in the manufacture of hazardous chemicals.

As investors and their representatives, we see the production of hazardous chemicals as a key risk for your sector. According to the WHO, 2 million people died due to exposure to hazardous chemicals in 2019, compared to 1.6 million in 2016<sup>1</sup>. Hazardous chemicals are also key drivers of biodiversity loss, so we want to support a transition towards safer chemicals. And yet 75% of all chemicals used and manufactured in Europe are hazardous to human health and/or the environment (EU 2019)<sup>2</sup>. The regulatory, as well as the market pressure, to transition towards less hazardous chemicals is strong and will increase even more following implementation of the European Green Deal. In the US, the EPA in October 2021 released its roadmap for tackling per- and polyfluoroalkyl substances (PFAS). This multi-agency approach with increased disclosure and tighter restrictions is expected to impact companies in the near term. In recent years the financial implications for company's liability for past and current production of pollution of persistent chemicals, especially PFAS, have been clear.

We therefore have the following asks of your company:

**1. Increase transparency**

- a) Disclose which chemicals you produce globally.

In the EU and US, companies are obliged to register the production of chemicals. These official public sources can be used to understand the financial risks involved when producing / using Substances of Very High Concern (SVHCs). In other parts of the world this information is not required by law. Investors and the public should know which chemicals are being produced globally.

Best practice: Whilst a first step is disclosing which chemicals your company produces, best practice is to publish the volumes of hazardous chemicals (in particular SVHCs) produced. Investors need this data to gauge the risks. There is a parallel here with apparel and food manufacturers, who are increasingly publishing the names and addresses of their supplier factories / plantations, despite initial competition concerns.

- b) Improve your score in ChemScore

ChemScore ranks the world's largest 50 chemical producers on their work to reduce their hazardous chemical footprint. It was developed in order to provide investors with better information to assess which companies have strong chemicals management strategies, and which do not. It is managed by ChemSec, an independent Swedish non-profit committed to

---

<sup>1</sup> WHO 2016 The Public Health Impact of Chemicals, Knowns and Unknowns, 2021 Data Addendum <https://www.who.int/publications/i/item/WHO-HEP-ECH-EHD-21.01>. This includes lead and pesticides, and is equivalent to 3.6% of all deaths globally.

<sup>2</sup> Production & Consumption of Chemicals by Hazard Class, EUROSTAT 2021 [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=env\\_chmhaz&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=env_chmhaz&lang=en)

the development of sustainable chemicals use through dissemination of knowledge, collaboration and practical tools.

The new annual ranking is published today. We encourage you to engage with ChemSec and share data to improve your score.

**2. Make a time-bound commitment to phase out hazardous chemicals from production**

Focussing firstly on persistent chemicals, and secondly on 'PIC' (Prior Informed Consent) substances, those identified by the Rotterdam Convention as chemicals that are banned or severely restricted still being exported to – often poorer – countries with weaker chemical legislation.

**3. Set out plans to shift towards a circular, rather than linear, strategy with associated time-bound, measurable targets**

Set time-bound targets to develop products with a circular end-of-life concept, or products that enable the customers to design circular products. Develop and showcase circular processes like chemicals-as-a-service, chemical leasing or similar concepts. The chemical industry sits at the start of the supply chain so has a role to play in driving the circular economy forward. Examples include using by-products and waste material as feedstock, biobased or renewables as feedstock counts when other negative environmental effects are limited, e.g. sugar made from the waste part of sugarcane.

We would welcome a response to this letter, including an overview of the steps that your company is planning to take to address the requests highlighted above. Please do also share any recent developments. We would welcome the opportunity to discuss with you the topic of hazardous chemicals further.

Yours sincerely

Eugenie Mathieu, Earth Pillar Lead  
**Aviva Investors**

Emine Isciel, Head of Climate & Environment  
**Storebrand Asset Management**

## Co-Signatories

Dennis van der Putten, Director Sustainability & Corporate Strategy  
**ACTIAM**

Marilyn Llanes, OP  
**Adrian Dominican Sisters**

Anders Schelde, CIO  
**AkademikerPension**

Åsa Mossberg, Senior Sustainability Strategist  
**Andra AP-fonden**

Tim Bonds, Associate, Analyst, Responsible Investment  
**BMO Global Asset Management, part of Columbia Threadneedle**

Sébastien Thevoux-Chabuel, Head of ESG  
**Comgest**

Laura Krausa, System Director Advocacy Programs  
**CommonSpirit Health**

Karen Watson, Chief Investment Officer  
**Congregation of St. Joseph**

Janicke Scheele, Head of Responsible Investments  
**DNB Asset Management**

Joanne Beatty, Director – Engagement  
**EOS at Federated Hermes**

Emilie Westholm, Head of Responsible Investment and Corporate Engagement  
**Folksam**

Kiran Aziz, Head of Responsible Investments  
**KLP Kapitalforvaltning**

Rebecca Coriat, Head of Stewardship  
**Lombard Odier Asset Management**

Caroline Boden, Director of Shareholder Advocacy  
**Mercy Investment Services, Inc.**

Katarina Hammar, Head of Active Ownership  
**Nordea Asset Management**

Fredric Nyström, Head of Responsible Investment  
**Öhman Fonder**

Anita Lindberg, Senior ESG Analyst  
**Skandia**

Pia Gisgard, Head of Sustainability & Corporate Governance  
**Swedbank Robur Fonder AB**

Luc van Haaren, Investment Analyst  
**Triodos Investment Management**

Kelly Hirsch, Head of ESG  
**Vancity Investment Management**

Seb Beloe, Partner - Head of Research  
**Wheb Group**