Overseeing our product lifecycles

Overview

Effective product stewardship is about ensuring that all products marketed and sold are safe for their intended uses throughout their full life cycle, and can be manufactured and used without adverse effects on human health or the environment. It involves cooperation throughout the supply chain, from producers to final consumers.

Product stewardship means going beyond the minimum requirements for compliance. It means building upon the knowledge we gain from regulation and enhancing it with a full life cycle assessment (LCA) of our ingredients to understand impact beyond the factory gate. It requires a deep understanding of our products from cradle-to-grave and needs complete transparency up and down the supply chain. LCAs help the markets in which we operate move towards more environmentally friendly products through elimination, substitution or reuse. They can also identify opportunities to further reduce the risk of exposing employees and consumers to chemical hazards.

Progress on our Commitment

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Targets</th>
<th>Status</th>
<th>Milestones and metrics</th>
<th>Status</th>
<th>2022 progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Stewardship</td>
<td>• Full life cycle assessments (LCAs) of our top 100 ingredients.</td>
<td>![Target achieved]</td>
<td>• Finalise our LCA methodology with external input and verification by the end of 2021.</td>
<td>![Target achieved]</td>
<td>• We completed four cradle-to-grave and two cradle-to-gate LCAs</td>
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<td></td>
<td>• Complete 40 LCAs by the end of 2024.</td>
<td>![Target achieved]</td>
<td>• We recruited an LCA specialist and began developing the Croda LCA Centre of Excellence</td>
</tr>
</tbody>
</table>

Key

- Target achieved
- Target requires additional focus

SDG targets

3.9, 12.2 and 14.1

Performance highlights

LCA targets for Top 100 ingredients by 2030

ISO 14040 certified

Cradle-to-grave LCAs completed 5 by end 2022
Overseeing our product lifecycles

Our performance

**LCA leadership**

Croda is taking a leadership role in the life cycle assessment of our ingredients and their impact on the life cycle of our customers’ products. Helping the markets in which we operate move towards more circular economies and reducing consumer and employee exposure to chemical hazards.

Our 2030 target to complete LCAs for our top 100 ingredients is driven by a commitment to understand the impact of products beyond factory gates and taking a proactive role in the transition to a circular economy.

We have collaborated with LCA experts Ricardo to develop a bespoke cradle-to-grave tool that follows ISO 14040 requirements and can be applied consistently to products across our business sectors. This tool examines raw materials, energy, transport, emissions and waste associated with core upstream procurement activities, manufacturing processes and downstream product use and disposal. It then reports on product-specific environmental indicators including global warming potential, ecotoxicity, land use, eutrophication and resource depletion.

At product level, LCA results are used to understand the environmental burden of key materials and processes, and so identify the hotspots in the life cycle of a product while also demonstrating the benefit of including Croda products in a customer formulation. At a corporate level, the results are informing business decisions and prioritisation of sustainability actions, and adding value to our commercial dialogue, creating opportunities for future collaboration and alignment with customers.

This approach can also help us to anticipate and stay ahead of regulatory changes. Globally, registration schemes such as EU REACH are becoming more prevalent, having an impact on how we plan, launch and roll out products. Registration is fast becoming the price of entry for ingredients, creating increased demands.

To ensure we achieve our 2030 target of 100 full LCAs, we are developing an LCA Centre of Excellence to upskill the organisation and scale up our capability.

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**Croda is taking a leadership role in the life cycle assessment of our ingredients and their impact on the life cycle of our customers’ products.**