| | |
|---|---|
| **Company name:** | LyondellBasell |
| **Region:** | Europe |
| **Rank:** | 11 / 40 |

| **Category points:** | |
|---|---|
| 1. Transparency | 8 points |
| 2. Phase-out of persistent chemicals | 9 points |
| 3. Product portfolio | 2 points |
| 4. Safer solutions | 2 points |
| **Total score:** | **21 points** |

chemsec
# CHEMSCORE
# 2026

**Introduction:**
ChemScore is an initiative by the NGO ChemSec that ranks major chemical companies on their efforts to reduce hazardous chemical production and invest in safer alternatives. Companies are selected based on their size and the characteristics of their chemical portfolios.
The 2026 ranking follows the methodology introduced in 2025, which replaced the original framework used from 2020 to 2024. The assessment criteria remain unchanged from 2025, though some wording has been revised for clarity.

**Category 1: Transparency**
Strong chemicals management is essential for any chemical company, particularly those producing a high proportion of hazardous substances. Transparent reporting on these substances and their emissions allows investors to assess how a company manages its hazardous chemical footprint and whether it is making progress to reduce it.

| Criteria | Points before multipliers | Multipliers A | Multipliers B | Final points | Detailed definition |
|---|---|---|---|---|---|
| 1. **Revenue**: The company publishes the percentage of revenue created from products that either are hazardous substances, or contain intentionally added or unintentionally present hazardous substances.<br><br>i) Reported at ≥ 1000 ppm threshold (0,1%): 0,5 points<br>ii) Reported below 1000 ppm (0,1%): 1 point | **0,5** | 2,0 | 0,5 | **0,5** | Revenue exposure to hazardous chemicals indicates financial dependency on chemicals that face regulatory or litigation risks, as well as potential reformulation costs.<br><br>"Intentionally added" substances include substances or mixtures where at least one component or known/presumed contaminant is considered hazardous.<br><br>(Maximum 6 points, including multipliers. Multipliers A & B apply) |
| 2. **Volumes**: The company publishes volumes of hazardous substances that leave the company's facilities as products or services on a global level. | **1,0** | 2,0 | 1,5 | **3** | Transparency about the production volume of hazardous substances enables estimates of the scale of potential exposure.<br><br>Global volumes (or production capacity) must be publicly reported by weight, volume, or % of total production. This applies to all products leaving the factory gates, not for internal (i.e. site-specific) use.<br><br>(Maximum 6 points, including multipliers. Multipliers A & B apply) |
| 3. **Emissions**: The company publishes volumes of hazardous substances that leave the company's facilities in the form of emissions on a global level. | **1,0** | 1,0 | 1,0 | **1** | Emissions data reflect the effectiveness of environmental risk management systems and are a measure of potential liability for pollution.<br><br>Global emissions to air, water, and soil must be reported. GRI, PRTR or other emission reporting standards are accepetable. All subsidiaries must be included and at least two of the three environmental compartments must be reported.<br><br>(Maximum 6 points, including multipliers. Multipliers A & B apply) |
| 4. **Substances**: The company reports their global hazardous substances portfolio (i.e. including and beyond the EU and US) on a substance-by-substance basis. | **0,0** | 2 | | **0** | Transparency beyond the EU and US reduces uncertainty about global production patterns and hidden regulatory and liability exposures.<br><br>Complete, chemical-by-chemical disclosure of all hazardous substances used or sold worldwide — or, if applicable, a public statement confirming that the company does not produce or sell any hazardous substances outside the EU or US that are not already registered under those regions' regulatory frameworks.<br><br>Please note that this criterion does not cover production volumes, but rather individual hazardous substances in the company portfolio.<br><br>(Maximum 4 points, including multiplier A only) |
| 5. Response to ChemSec | **3,0** | - | | 3 | Constructive engagement signals governance maturity and willingness to improve.<br><br>Valid responses include input to the pre-assessment, feedback on draft scores, and participation in dialogue.<br><br>(Maximum 3 points, no multipliers apply) |
| **Total category 1 score (max 25):** | | | | **7,50** | Please note that category points will be rounded. |

| Category 1 multipliers | Detailed definition |
|---|---|
| **A. Hazard definition**<br>Multiplier for points awarded in criteria 1, 2, 3 and 4 above (individual multipliers are applied for each criterion).<br><br>The company defines hazardous substances as:<br><br>Chemical production (criteria 1, 2 and 4):<br>A.1. = Substances on the REACH Authorisation List => (1x multiplier)<br>A.2. = REACH Candidate list substances=> (2x multiplier)<br>A.3. = REACH Candidate list substances and classified SoCs (=CSRD)=> (3x multiplier)<br>A.4. = Meeting the SVHC criteria (= SIN List), Meeting the SoC => (4x multiplier)<br><br>Emissions (criterion 3):<br>A.1. = GRI hazard classes for emissions => (1x multiplier)<br>A.2. = PRTR register for emissions => (2x multiplier)<br>A.3. = REACH Candidate list substances and classified SoCs (=CSRD) => (3x multiplier)<br>A.4. = Meeting the SVHC (= SIN List) and SoC criteria => (4x multiplier) | To differentiate between companies that have different levels of detail in their reporting with regard to what they consider to be a hazardous substance.<br><br>"Meeting the SVHC criteria" includes any substance fulfilling REACH criteria, regardless of REACH Candidate List status. This covers substances with harmonised classification, self-classification as CMR category 1, that are known or presumed PBT, vPvB, PMT, vPvM, EDC, or have properties of an equivalent level of concern. At a minimum, all SIN List substances must be included.<br>"Substance of Concern" (SoC) includes any substance fulfilling CSRD criteria for SoC, whether harmonised or self-classified. |
| **B. Granularity of reporting**<br>Multiplier for points awarded in criteria 1, 2 and 3 above (individual multipliers are applied for each criterion).<br><br>Revenue and/or volumes are reported as:<br><br>B.1 Lump sum => (0,5x multiplier)<br>B.2 By hazard class => (1x multiplier)<br>B.3 Substance by substance => (1,5x multiplier) | To differentiate between companies that have different levels of detail in their reporting with regard to revenue, volumes and emissions connected to hazardous substances.<br><br>Companies sometimes report using non-standardised hazard classes. To be awarded multiplier B.2, the company must aggregate sums or volumes in a clear and transparent way with sufficient granularity. For example, combining all C+M+R in one class is not sufficient. |

**Category 2: Phase-out of persistent chemicals**

Persistent chemicals create long-term risks for investors, as releases from production, accidents and products can lead to lasting contamination and liabilities. This category assesses whether companies acknowledge these risks, map the presence of persistent chemicals such as PFAS in their operations and supply chains, and take concrete steps to phase them out.

| Criteria | Points before multipliers | Multipliers | | Final points | Detailed definition |
|---|---|---|---|---|---|
| | | A | B | | |
| 1. Has the company mapped the presence of (un)intentionally present persistent chemicals in its processes and upstream value chain? | **2,0** | 1,5 | 1,0 | **3** | Mapping the existence of persistent chemicals in products and the supply chain is the foundation of being able to manage long-term environmental and financial liability risks.<br><br>Persistent chemicals include substances meeting PBT, vPvB, PMT, vPvM or POP criteria, "extremely persistent" substances as listed on the SIN List, or the OECD PFAS definition. Mapping must be updated continuously and include processes and the upstream value chain.<br><br>(Maximum 4 points, including multipliers. Multipliers A & B apply) |
| 2.1. Does the company produce persistent chemicals?<br><br>i) Produces them but has a timed phase out plan: 1 point<br>ii) Does not produce them: 2 points | **2,0** | 1,0 | 1,0 | **2** | Intentionally producing persistent chemicals suggests a company is ignoring growing regulatory pressure to restrict or phase out such substances. This exposes the business to significant risks, including costly reformulations, legal liabilities, and stranded assets.<br><br>To qualify as "does not produce", no persistent chemicals may be intentionally produced. Unintentionally present persistent contaminants, if any, must be less than 1000 ppm (0,1%).<br><br>(Maximum 4 points, including multipliers. Multipliers A & B apply) |
| 2.2. Does the company purchase/import persistent chemicals?<br><br>i) Purchases them but has a timed phase out plan: 1 point<br>ii) Does not purchase or import them: 2 points | **0,0** | 0,5 | 0,5 | **0** | Upstream reliance on persistent chemicals embeds transition risk in the supply chain. Even if not produced internally, dependency limits flexibility and increases exposure to future restrictions.<br><br>To qualify as "does not purchase/import", no intentionally added substances may be bought, while unintentionally present persistent contaminants, if any, must be less than 1000 ppm (0,1%). Purchase also includes internal company transfers between sites.<br><br>(Maximum 4 points, including multipliers. Multipliers A & B apply) |
| 2.3 Does the company sell persistent chemicals?<br><br>i) Sells them but has a timed phase out plan: 1 point<br>ii) Does not sell: 2 points | **0,0** | 0,5 | 0,5 | **0** | Selling persistent chemicals extends and expands potential liabilities and reputational exposure down the supplychain to downstream users which are under stricter regulatory and societal scrutiny.<br><br>To qualify as "does not sell", no intentionally added substances may be sold, while unintentionally present persistent contaminants, if any, must be less than 1000 ppm (0,1%).<br><br>(Maximum 4 points, including multipliers. Multipliers A & B apply) |
| 3. How large is the share of revenue coming from products containing persistent chemicals?<br><br>i) Lower than 5%: 1 point<br>ii) Lower than 1%: 2 points | **2,0** | 1,5 | 1,0 | **3** | Revenue share reflects the financial relevance of persistent chemicals. A low share suggests limited dependency and financial liabilities; a high share indicates that regulatory and societal changes may materially affect earnings.<br><br>Share of global revenue from products containing persistent chemicals.<br><br>(Maximum 4 points, including multipliers. Multipliers A & B apply) |
| 4. Does the company publish a clear roadmap or strategy (with or without KPIs) to phase out intentionally present persistent chemicals, or provide a statement that they are free from them?<br><br>i) Roadmap/strategy without KPIs: 1 point<br>ii) Roadmap/strategy with KPIs: 2 points | **1,0** | 1,0 | 1,0 | **1** | A public, time-bound roadmap demonstrates whether the company intends to actively reduce exposure or is passively waiting for regulation to force change.<br><br>Public roadmap covering intentionally present persistent chemcials. KPIs must be SMART: Specific, Measurable, Achievable, Relevant, Time-bound.<br><br>(Maximum 4 points, including multipliers. Multipliers A & B apply) |
| 5. Does the company acknowledge that persistent chemicals may be problematic from a human health or environmental perspective? | **0,0** | - | | **0** | Explicit recognition of persistence as a hazard indicates whether management understands the intrinsic, long-term nature of the issue rather than treating it as a compliance matter.<br><br>Public statement acknowledging persistence (e.g. PFAS) as problematic for human health or environement. Referencing only PBTs/PMTs from a compliance perspective, for example, will not be rewarded.<br><br>(Maximum 1 point, no multipliers) |
| **Total category 2 score (max 25):** | | | | **9,00** | Please note that category points will be rounded. |

| Category 2 multipliers | Detailed definition |
|---|---|
| **A Hazard definition**<br>Multiplier for points awarded in criteria 1, 2, 3 and 4 above (individual multipliers are applied for each criterion).<br><br>The company includes the following types of persistent chemicals in their definition of ""persistent"" (cumulative multipliers apply):<br>A.1 Only persistent chemicals on the REACH Candidate List are covered => (0,5x multiplier)<br>A.2 Only PFAS substances are covered => (1x multiplier)<br>A.3 Candidate List and PFAS substances are covered => (1,5x multiplier)<br>A.4 All persistent chemicals are covered => (2x multiplier) | The breadth of a company's definition of persistence determines the extent of portfolio exposure captured in the assessment. Narrow definitions may exclude relevant substances and underestimate structural dependency, while broader definitions provide a more complete picture of exposure.<br><br>Persistent chemicals should include substances that meet any of the following criteria: PBT, vPvB, PMT, vPvM, POP or "extremely persistent" substances as listed on the SIN List.<br>For PFAS, all substances included in the OECD definition should be covered.<br>The multiplier reflects how comprehensively the company defines and applies persistence criteria across its portfolio. |
| **B. Scope**<br>Multiplier for points awarded in criteria 1, 2, 3 and 4 above (individual multipliers are applied for each criterion).<br><br>The company includes the following product groups:<br>B.1 Only consumer products/uses => (0,5x multiplier)<br>B.2 All products/uses => (1x multiplier) | Restricting phase-out to consumer uses reduces direct public exposure but may leave industrial uses unchanged. Commitments covering all applications reflect a broader reduction in dependency on persistent chemicals.<br><br>If a company sells exclusively to industrial customers and no products are marketed or made available for consumer uses, this is considered equivalent to being phased out from consumer applications.<br><br>A consumer product is any chemical, mixture, or article sold directly to, or reasonably accessible to, individuals or consumers.<br><br>The multiplier reflects whether commitments apply only to consumer uses or to all applications. |

**Category 3: Product portfolio**

Reducing a company's hazardous chemical footprint helps limit regulatory and reputational risks, as well as unexpected liabilities. This category assesses the hazards associated with each company's chemical portfolio in relation to its size to allow investors to evaluate associated financial risk.

| Criteria | Number of chemicals | Hazard mark multiplier | Total hazard mark | Detailed definition |
|---|---|---|---|---|
| 1. Number of SIN List chemicals, POPs, PICs and HHP substances produced | 49 | 1 mark per chemical | 49 | Highly hazardous substances are likely to face strict regulation as well as consumer pressure with loss of market as well as reputational risk.<br><br>ChemSec's publicly available SIN Producers List tracks the total number of SIN List, POPs (Stockholm Convention), PIC substances (Rotterdam Convention), and Highly Hazardous Pesticides (Pesticide Action Network) produced by each company, including subsidiaries in the EU and the US. |
| 2. Number of EU REACH Candidate List chemicals produced | 3 | 1 additional mark per chemical | 3 | In REACH, the EU's chemicals regulation, the Candidate List is the first step toward strict regulation of Substances of Very High Concern (SVHCs). Inclusion triggers information requirements across the entire supply chain, activates consumers' right to know, and initiates the path toward Authorisation.<br><br>ChemSec's SIN Producers List tracks the hazardous chemicals produced by each company. Substances already on the REACH Candidate List receive one additional hazard mark each, as they are closer to regulatory action. |
| 3. Number of chemicals produced on the EU's REACH Authorisation List and/or POP substances | 0 | 2 additional marks per chemical | 0 | Chemicals on the REACH Authorisation List are prohibited to use in the EU unless authorised and the substance must be phased out by its sunset date. POPs are banned globally under the Stockholm Convention unless specifically exempted.<br><br>ChemSec's SIN Producers List tracks the hazardous chemicals produced by each company. Substances on the REACH Authorisation List or classified POPs already face strong regulatory scrutiny and therefore receive 2 additional hazard marks each. |
| 4. Number of persistent chemicals produced on the SIN List and POP substances | 2 | 2 additional marks per chemical | 4 | Persistent chemicals break down extremely slowly, accumulating in humans and/or the environment. This makes them a particular concern for investors — substances not considered problematic today may become significant future liabilities in terms of clean-up costs, compensation, and legal responsibility.<br><br>Persistent chemicals are specifically highlighted on ChemSec's SIN Producers List. Due to their potential for long-term liabilities, each such substance adds 2 additional hazard marks. |
| Total hazard mark (The sum of the hazard marks from criteria 1, 2, 3, and 4) | | | 56 | The total hazard mark is a absolute metric to indicate the total combined hazard profile for each company. The higher the number, the more problematic the portfolio. |
| Company's total revenue in billion USD | | | 30,2 | Revenue is an indication of the size of a chemical producer. The revenue from the company's annual reports are used, and if necessary converted to USD. |
| Weighted hazard penalty<br><br>[Total hazard marks]/[Revenue]=[Weighted hazard penalty] | | | 1,85 | To make total hazard marks comparable across companies of different sizes, the total hazard mark is divided by revenue in billion US$.<br>A larger company can accumulate more hazard marks in absolute terms while still posing a similar financial risk to a smaller one — this ratio accounts for that. The lower the weighted hazard penalty, the better.<br>Weighted hazard penalty = Total hazard mark / Revenue (US$ bn) |

Category score table

| Weighted hazard penalty: | = 0 | ≦ 0,05 | ≦ 0,1 | ≦ 0,15 | ≦ 0,2 | ≦ 0,25 | ≦ 0,3 | ≦ 0,4 | ≦ 0,5 | ≦ 0,6 | ≦ 0,7 | ≦ 0,8 | ≦ 0,9 | ≦ 1,1 | ≦ 1,3 | ≦ 1,5 | ≦ 1,8 | ≦ 2,1 | ≦ 2,4 | ≦ 2,8 | ≦ 3,2 | ≦ 3,7 | ≦ 4,2 | ≦ 5,2 | ≦ 6,2 | > 6,2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category score: | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

| | | | |
|---|---|---|---|
| Category score | | 8 | The category score provides an easy-to-understand absolute figure for the company's exposure to hazardous substances.<br><br>The weighted hazard penalty is used to retrieve the company's category score from the category score table above. The higher the category score the better.<br><br>(Maximum score is 25 points) |
| Percentage of EU/US revenue | | 23% | For companies with large production or sales outside of the EU and US, the uncertainty about hazardous chemical production is high and an adjustment is therefore required. A higher EU/US production share means less uncertainty and will render a more favorable total category 3 score.<br><br>Since chemical production data are publicly available only in the EU and the US, the category score is multiplied by the share of production (0–100%) taking place in these markets, as reported in the company's annual report.<br><br>Note: This value can be set to 100% if an accepted response to criterion 1.4 has been provided. |
| **Total category 3 score (max 25 points)<br>[Category score]*[Percentage EU/US revenue]** | | **1,8** | Please note that category points will be rounded. |

**Category 4: Safer solutions**

Long-term success requires companies to reduce their hazardous chemical footprint and expand their range of safer alternatives. This category assesses how companies define "safer", the current share of safer solutions in their business and their commitments to increase that share over time.

| Criteria | Points before multipliers | Multipliers | | Final points | Detailed definition |
|---|---|---|---|---|---|
| | | A | B | | |
| 1. Does the company have a definition or a concept that they consider to be a safer solution? | **1,0** | 0,5 | 1,0 | **0,5** | A company's definition of "safer" indicates its commitment to protecting health and the environment beyond compliance. This reveals whether the company prioritises inherent chemical safety or relies on managing risks.<br><br>Points are awarded based on how well the definition protects human health and the environment. Only definitions that include the intrinsic chemical properties are considered. It must be in the public domain, clear, and unambiguous. Unspecified or general "sustainable" definitions are not considered as safer.<br><br>(Maximum 4 points, including multipliers. Multipliers A & B apply) |
| 2. How big a share of global sales is generated by the company's safer solutions?<br><br>i) More than 20%: 1 point<br>ii) More than 40%: 1,5 points<br>iii) More than 60%: 2 points | **2,0** | 0,5 | 1,0 | **1** | The revenue share indicates whether safer solutions are marginal pilot products or commercially significant. A higher share signals strategic integration into the core business model.<br><br>Self-reported global revenue (or volume) share of products meeting the company's safer definition. Again, general "sustainable products" are not counted unless there are clear hazard-based cut-off criteria.<br><br>(Maximum 8 points, including multipliers. Multipliers A & B apply) |
| 3. Does the company have a commitment not to develop or market new products containing hazardous substances? | **0,0** | 0,0 | 0,5 | **0** | Preventing new hazardous products from entering the portfolio is a structural safeguard. Without such a commitment, gains in safer solutions can be offset by continued innovation of hazardous products.<br><br>A clear and public commitment not to develop or market new products containing hazardous substances. Any "safer solution" definition must exclude at least the REACH candidate list criteria.<br><br>Points are awarded if clear cut-off criteria are publicy stated.<br><br>(Maximum 6 points, including multipliers. Multipliers A & B apply) |
| 4. Does the company commit to increasing the share of sales of safer solutions?<br><br>i) +2% per year: 1 point<br>ii) +6% per year: 2 points | **0,0** | - | | **0** | A time-bound growth target for safer solutions indicates whether the company aims to expand its safer portfolio systematically in an ambitious way.<br><br>The target to increase the percentage share of safer solutions must be public, time-bound and measurable. Annualised thresholds apply.<br><br>If a company in practice, or through its statements, would reach the upper limit (100% safer products), it will automatically receive 2 points.<br><br>(Maximum 2 points, no multipliers) |
| 5. Number of verified safer solutions (Marketplace, C2C)<br><br>i) ≥0,3 alternatives/R → 1 point<br>ii) ≥0,6 alternatives/R → 2 points<br>iii) ≥1 alternative/R → 3 points<br><br>Where R = revenue (USD) x 1 billion | **0,0** | - | | **0** | Independent verification reduces self-classification bias and strengthens credibility of safer claims.<br><br>Third-party verified safer alternatives are accepted (e.g. ChemSec Marketplace Cradle-to-Cradle Gold/Platinum). The total number of accepted verified safer alternatives is divided by the company's revenue in USD and multiplied by one billion. Minimum quotient to score at all is 0,3.<br><br>(Maximum 3 points, no multipliers) |
| 6. Does the company disclose the share of its R&D expenditure that is targeted towards the development of safer solutions? | **0,0** | - | | **0** | Targeted R&D allocation indicates whether safer solutions are embedded in capital planning or remain peripheral initiatives.<br><br>Public disclosure of the share (percentage or absolute) of R&D expenditure dedicated to the development of safer solutions. Any "safer solution" definition must exclude at least the Reach candidate list criteria.<br><br>Points are awarded if this is clearly earmarked and publicly disclosed.<br><br>(Maximum 2 points, no multipliers ) |
| **Total category 4 score (max 25):** | | | | **1,50** | Please note that category points will be rounded. |

| Category 4 multipliers | Detailed definition |
|---|---|
| **A. Hazard definition**<br>Multiplier for criteria 1, 2 and 3 if a safer solution always excludes hazardous substances defined as:<br><br>A.0 If the definition does not even exclude Candidate list substances => (0x multiplier)<br>A.1. Excludes REACH Candidate list substances => (0,5x multiplier)<br>A.2. Meeting the SVHC criteria (= SIN List) => (1,5x multiplier)<br>A.3. Meeting the SoC criteria => (2x multiplier) | The company's definition of a safer solution must clearly state exactly what is included/excluded. A lack of definition or clarity will result in a multiplier of x0.<br>The strictness and clarity of the definition determine whether reported safer solutions reflect a genuine reduction in intrinsic hazard. Vague or broad definitions weaken comparability and may allow hazardous substances to remain within the "safer" category, reducing credibility.<br><br>The company must publicly define what qualifies as a safer solution, clearly stating which intrinsic hazard criteria that are excluded.<br><br>Further, unspecified or general "sustainability" claims are not considered as a valid definition.<br>A stricter, hazard-based definition of "safer" yields a higher multiplier.<br><br>"Meeting the SVHC criteria (=SIN List)" means excluding substances meeting the criteria for PBT, vPvB, PMT, vPvM, POP, EDC or ELoC. |
| **B. Scope**<br>Multiplier if safer products only include:<br><br>B.1 Consumer products => (0,5x multiplier)<br>B.2. All products => (1x multiplier)<br>B.3. Also internal processes and process chemicals => (2x multiplier) | The scope of application determines how deeply safer criteria are embedded in the company's portfolio. Applying the definition only to selected segments limits structural impact, while full portfolio and process coverage indicates broader business model integration.<br><br>The company must clearly state which product and/or process categories are covered by its safer solution definition.<br><br>The multiplier reflects whether the safer solution criteria apply to:<br>•Consumer products only<br>•All marketed products<br>•Both marketed products and internal process chemicals<br><br>If the scope of application is unclear or not publicly specified, the lowest multiplier (0.5x) is applied. |