



WHY HAZARDOUS CHEMICALS ARE BECOMING AN INVESTOR CONCERN

- An overview of ChemSec, ChemScore and the IIHC



VS

THE RAP

chemsec

PFFAS

CHEMSEC

- Environmental NGO aiming to reduce the use of hazardous substances
- Cooperates with different stakeholders to drive the change to safer chemicals
- Receives funding from the Swedish Government and various charity funds





WHAT WE DO AT CHEMSEC

- Drive the political discussion on hazardous chemicals
- Challenge companies to improve their chemicals management
- Develop online tools to help companies switch to safer chemicals
- Inform investors about risks and opportunities in the chemical industry

CHEMSEC TOOLS

 chemsec
SIN LIST

 chemsec
CHEMSCORE

 chemsec
PFASGUIDE

 chemsec
MARKETPLACE

CHEMSEC INITIATIVES



Supported by ChemSec

 chemsec
BUSINESS GROUP



CHEMSEC BUSINESS GROUP



EurEau

Polestar



adidas



ShawContract®



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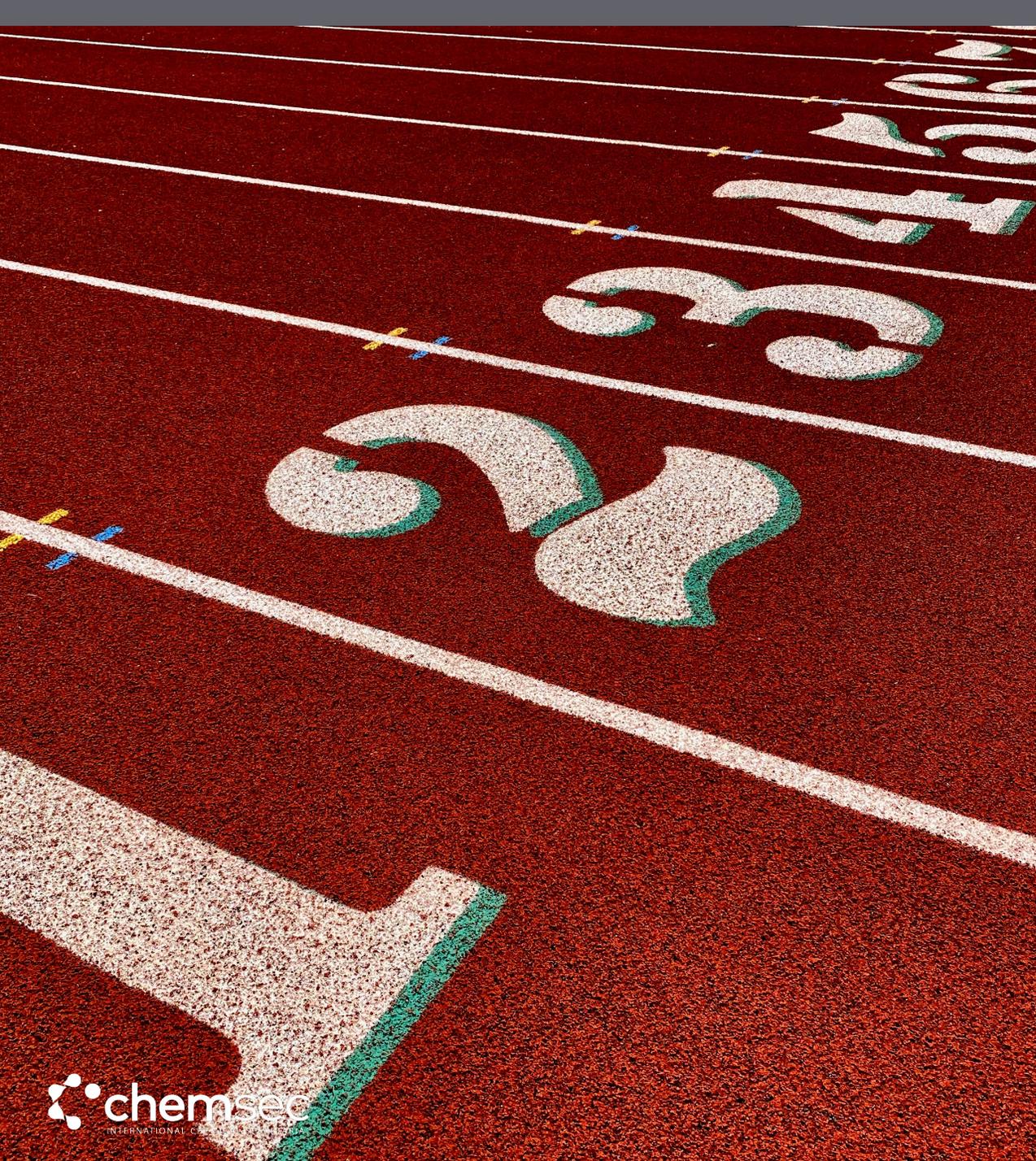


SONY®

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Kingfisher



CHEMSCORE 2023

- Four points of view
 - 1) Hazardous product portfolio (18 points)
 - 2) Development of safer products (12)
 - 3) Management & transparency (12)
 - 4) Lack of controversies (6)
- Only use public information
- Maximum score 48 points

The aim is to fill the gap in ESG rankings

Full methodology online: chemscore.chemsec.org

HAZARDOUS PRODUCT PORTFOLIO

- Production & use of hazardous chemicals
 - EU SVHCs
 - POP, PIC
 - HHP
 - PFAS
- The aim is to highlight financial risk
 - Regulatory risk
 - Future litigations





ADDED PFAS FOCUS

COMPANY	PFAS CHEMICALS
Chemours	63
3M	54
Solvay	36
AGC	15
Honeywell	15
Bayer	13
Daikin	12
BASF	12
Arkema	10

CHEMSCORE 2023

- ▼ 3M, US
- ▲ Avery Dennison, US
- Chemours, US
- Corteva, US
- Dow, US
- DuPont, US
- ▲ Eastman Chemical, US
- ▲ Ecolab, US
- Honeywell, US
- ▲ The Mosaic Company, US
- ▲ PPG Industries, US
- ▲ Sherwin-Williams, US
- ▼ Westlake, US
- Nutrien, CA

- BASF, DE
- ▲ Bayer, DE
- Covestro, DE
- ▲ Evonik, DE
- ▲ Lanxess, DE
- ▲ AkzoNobel, NL
- ▲ LyondellBasell, NL
- ▲ Solvay, BE
- ▼ Umicore, BE
- ▼ Johnson Matthey, UK
- ▲ Arkema, FR
- ▼ Sika, CH
- ▲ Yara, NO

- AGC, JP
- ▼ Asahi Kasei, JP
- Daikin, JP
- ▲ DIC Corporation, JP
- Mitsubishi Chemical, JP
- Mitsui Chemical, JP
- ▲ Nippon Paint, JP
- Nitto Denko, JP
- ▲ Shin-Etsu, JP
- Resonac, JP
- Sumitomo Chemical, JP
- ▼ Tejin, JP
- Toray, JP
- ▼ Hanwha Solutions, KR
- LG Chemical, KR
- ▲ Lotte Chemical, KR
- ▼ Indorama Ventures, TH
- ▲ PTT Global Chemical, TH
- NanYa Plastics, TW
- ▲ Wanhua Chemical, CN
- ▲ SABIC, SA

- ▲ Increase in points
- No change
- ▼ Decrease in points
- New on ChemScore

▲ Braskem, BR

▲ Sasol, ZA



TOP SCORERS

The best ranked chemical companies in ChemScore 2023.

SABIC
Saudi Arabia

Rank 1 / 50 **B**

Indorama Ventures
Thailand

Rank 2 / 50 **B-**

Yara
Norway

Rank 3 / 50 **B-**



BOTTOM THREE

The worst ranked chemical companies in ChemScore 2023.

DuPont
USA

Rank 50 / 50 **F**

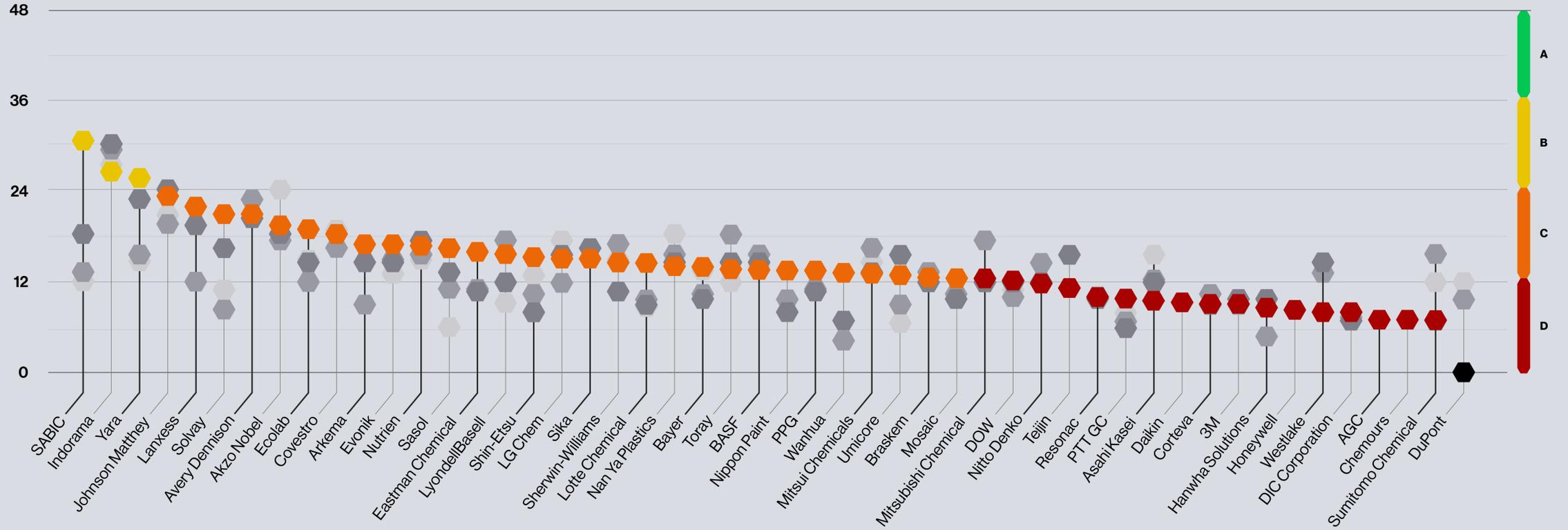
Sumitomo Chemical
Japan

Rank 49 / 50 **D**

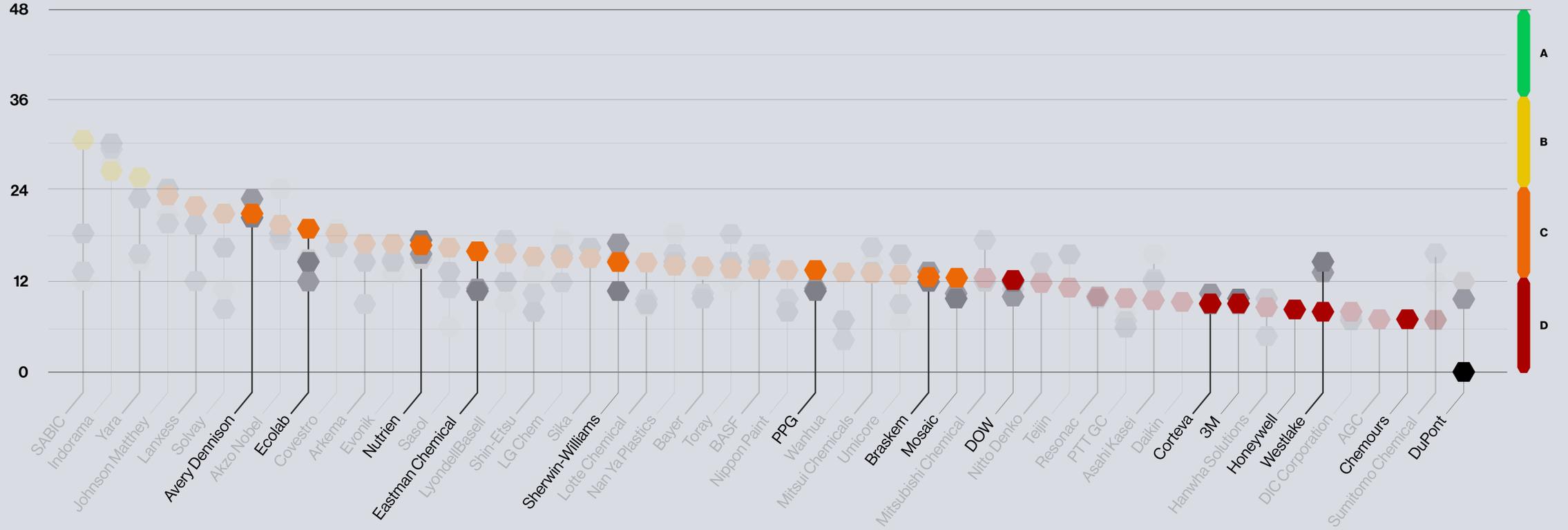
Chemours
USA

Rank 48 / 50 **D**

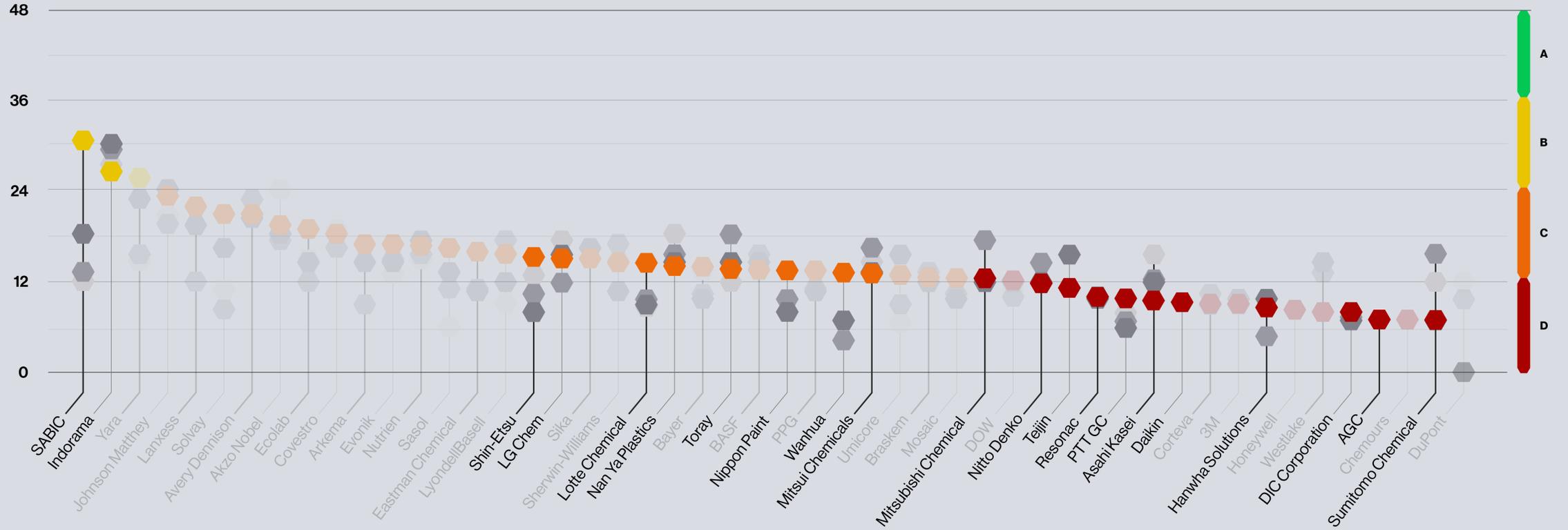
ChemScore: year to year



ChemScore: Americas



ChemScore: Asia



ChemScore: Europe



KEY RESULTS

Transparency

- ▲ SABIC: Chemicals – Business Overview: Public product portfolio including volumes and facilities
- ▲ Eastman/Lanxess: No additional SVHCs outside EU/US
- ▲ Braskem: Valuation Book
- ▲ Arkema: Global SVHCs in numbers
- ▼ DuPont: Claimed confidentiality for whole US portfolio (as last year)





Investor Initiative on Hazardous Chemicals

Supported by ChemSec



Öhman Fonder



cardano



50+ INVESTORS
\$10 TRILLION





IIHC KEY ASKS

1) Increase transparency.

Disclose both the share of revenue and production volume of products that are, or contain, hazardous chemicals.

2) Publish a time-bound phase-out plan of products that are, or contain, persistent chemicals.

The phase-out plan should include a realistic road map with clear KPIs to track progress.

3) Develop safer alternatives for hazardous chemicals.

Following a robust evaluation, substantially ramp up R&D and investment in the development of safer alternatives.



The Chemical Company





The Chemical Company



MEDIA AND IMPACT

REUTERS® World Business Markets Sustainability Legal Breakingviews Technology Investigations

Environment

Call to phase out 'forever chemicals' gains investor momentum

By Simon Jessop
December 1, 2022 1:15 AM GMT+1 · Updated a year ago

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FINANCIAL TIMES

US COMPANIES TECH MARKETS CLIMATE OPINION WORK & CAREERS LIFE & ARTS HTSI

Chemicals + Added

Investors raise pressure over 'forever chemicals' amid growing litigation

Personal injury claims could reach \$66bn in crisis akin to asbestos liabilities



PFAS foam gathers at a dam in Michigan, US. The chemicals that produce such residues are increasingly linked to health problems including cancers and infertility © AP

FINANCIAL TIMES

US COMPANIES TECH MARKETS CLIMATE OPINION WORK & CAREERS LIFE & ARTS HTSI

Environment + Add to myFT

3M to end 'forever chemicals' production as pressure builds

Conglomerate to phase out Pfas used in products such as mobile phones and non-stick pans

The Guardian

Investors pressure top firms to halt production of toxic 'forever chemicals'

Shareholders say lawsuits over PFAS compounds linked to cancer and other diseases represent growing threat to companies' profits

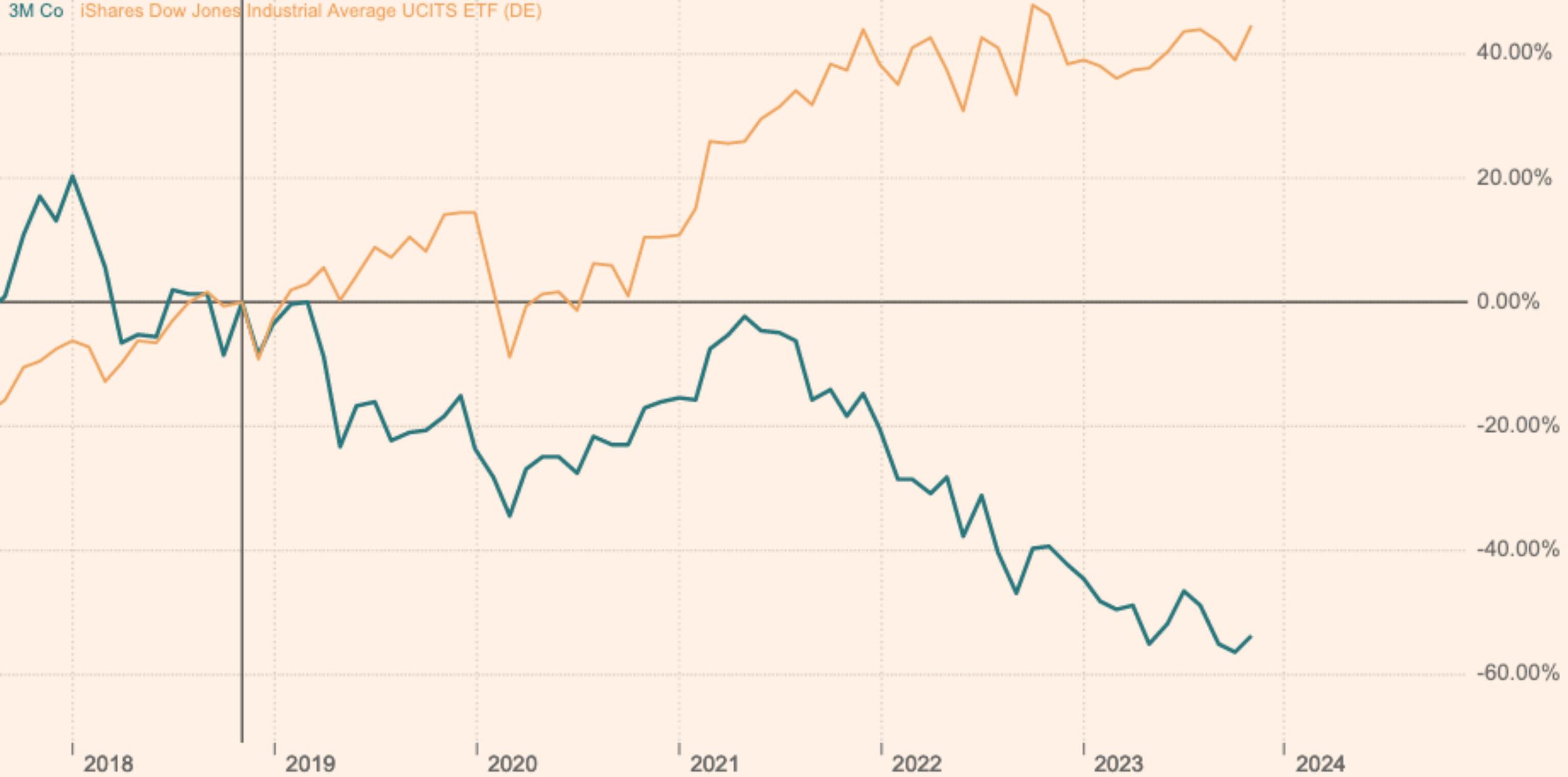


WHY DO INSTITUTIONAL INVESTORS CARE ABOUT CHEMICALS?

- **Company-specific risks**
 - *Regulatory risk*
 - *Legal risk*
 - *Reputational risk*
 - *Market risk*
- **Systemic (portfolio-level) risk**
 - *Hazardous chemicals have a systemic impact: biodiversity loss, human health problems, remediation costs, etc.*
- **Marketing strategy**
 - *Asset managers offer sustainability services to their clients*
 - *Reporting requirements*



“THE NEXT ASBESTOS”



ADDITIONAL INFO

- The IHC is investor-led
- ChemSec is the coordinator and supporting secretariat
- Educational webinars
- In it for the long haul



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