chemsec

CHEMSCORE

Company name: **Formosa Chemicals & Fibre**

Total grade: **D** (From A+ to D-) **7 points** (out of max. 48)

Introduction:

ChemScore is a brand new initiative from NGO ChemSec that aims to capture and rank the world's largest chemical companies' efforts to reduce their production of toxic chemicals and boost investments in safer, greener alternatives. The 35 largest global stocklisted chemical companies based on their 2018 revenue are ranked in four separate categories.

1. Hazardous product portfolio:

Category rationale: Hazardous chemicals have severe negative implications on human health, pollute the environment and create loss of biodiversity. The production of hazardous chemicals is a strong indicator for exposure to financial risks due to regulatory measures, the potential of future litigations due to workers' health, consumer exposure and potential accidents and spills, as well as customers' needs for non-toxic or low-toxicity products. A product portfolio with a low hazard profile is considerably less susceptible to all these issues. This category assesses the total production of hazardous chemicals by each company, weighted on the basis of the company's total revenue. Lower production of hazardous chemcials gives a higher category score. *Note: The total revenue of each company is used for weighting of the score even if some companies have business units that are not related to chemicals.*

What chemical data is included?

All information in ChemScore builds on information in the public domain, such as production of industrial chemicals in the EU and US, including the production of all their respective subsidiaries on these continents. EU production data comes from the European Chemicals Agecy (ECHA) and US data from US EPA Chemical data reporting under TSCA. Production here refers to the number of individual chemicals, not the volume.

What is not included?

- The production of hazardous chemicals outside the EU and US cannot be obtained from public sources. Our ranking of the hazard portfolio is therefore only based on the portion of sales in EU and US markets.
- The production of pharmaceuticals. As this sector is treated by investors as a separate sector, we have not included it in ChemScore.
- The production of pesticides used in agriculture. It is our ambition to specifically include the production of hazardous pesticides in future iterations of ChemScore.
- Information about the specific production volumes (tonnes/ year) and revenue for each hazardous substance, since this is not publicly available.

Final Score

To obtain the final score in this category, each hazardous chemical in a company portfolio is counted and multiplied by its negative hazard mark, to give a total hazard mark. It is necessary to balance different companies global production patterns (in the EU or US, where data is publicly available vs. rest of the world) to achieve a fair ranking. Hence, a revenue multiplier was applied based on the share of production (0-100%) in the EU/US, as indicated in the companies' financial reports. This means that the higher the share of production of chemicals within the EU and US, the more favourable the multiplier. Any chemical producer that is willing to publicly share information with us about its full production outside the EU and US is encouraged to do so, and is thus able affect its score in a positive way.

Total maximum score in this category:	**18**
Company's score in this category:	**2**

Criteria:	Negative hazard marks:	Number of chemicals:	Source:	Rationale for inclusion of criteria:	How we judged the fulfilment of the criteria:	Result:
Number of SIN List chemicals produced	1 mark per chemical	0	https://sinproducers.chemsec.org/	The SIN List is a list of very hazardous chemicals that are used in a wide variety of articles, products and manufacturing processes around the globe. The SIN List is developed by non-profit ChemSec in close collaboration with scientists and technical experts. The list is based on credible, publicly available information from existing databases and scientific studies. Inclusion on the SIN List is based on the same criteria as the EU's legislative framework for chemicals – REACH. Therefore, inclusion on the SIN List is a first warning of substances that will be placed on the official REACH Candidate List, facing strict regulation in the EU.	ChemSec keeps a record of all producers of SIN-listed chemicals in a publicly available database tailored for investors called the SIN Producers List. This lists the total number of SIN chemicals produced by each chemical company, including subsidiaries. Also the legal status of the chemical can be found in this database and shows the steps towards a ban – the EU REACH Candidate List and, one step further, the REACH Authorisation List. The information used comes from registration dossiers submitted to the European Chemicals Agency (ECHA) and Chemical Data Reporting	0
Number of EU REACH Candidate List chemicals produced	Additional 1 mark per chemical	0	https://sinproducers.chemsec.org/	REACH, the EU's legislative framework for chemicals, is in many respects the leading chemicals legislation in the world. The EU's REACH Candidate List is the first step towards tough regulation of particularly hazardous substances, in legislative terms called Substances of Very High Concern (SVHCs). When a chemical is included on the Candidate List it triggers information requirements in the whole supply chain and also triggers "consumers' right to know". It is also the first step towards Authorisation.	ChemSec keeps a record of all producers of SIN-listed chemicals in a publicly available database tailored for investors called the SIN Producers List. The SIN chemicals that have reached the REACH Candidate list are tagged and will add 1 additional negative hazard mark per substance.	0
Number of chemicals produced on EU's REACH Authorisation List	Additional 2 marks per chemical	0	https://sinproducers.chemsec.org/ and https://sinsearch.chemsec.org/	In the next legal step the substance is added to the EU REACH Authorisation List and is prohibited to be used within the EU unless its use and company-specific authorisation have been granted by the EU Commission. Applying for authorisation is time-consuming, costly and always limited in time. Without an authorisation the chemical has to be phased out by the given sunset date.	ChemSec keeps a record of all producers of SIN-listed chemicals in a publicly available database tailored for investors called the SIN Producers List. The SIN chemicals that have been added to the REACH Authorisation list are tagged. and will add 2 additional negative hazard marks to the total hazard mark per substance.	0
Number of persistent chemicals produced on the SIN List	Additional 2 marks per chemical	0	https://sinproducers.chemsec.org/ and https://sinsearch.chemsec.org/	Persistent chemicals are particularly problematic since they do not break down, instead they accumulate in humans and/or the environment. Because of this, persistent chemicals should be of extra concern for investors. Substances which are not considered a problem today might become huge liabilities in the future with regard to cleanup and compensation costs, as well as legal responsibilities.	Information on persistent chemicals that meet the REACH criteria can be found in the SIN List for all included substances. This is cross-referenced with the SIN Producers List to find producers of such chemicals. Such substances will add 2 additional negative hazard marks to the total hazard mark per substance.	0
Total hazard mark				The total of all produced hazardous chemicals times (x) their individual negative hazard mark gives a total hazard mark for each producer as an indication of the total risk with regards to its hazardous production.		0
Company's total revenue in billion USD				Revenue is an indication of the size of a chemicals producer. Setting the number of hazardous chemicals in relation to the size of a company gives a more balanced picture.		13,5
Weighted hazard mark (total hazard mark/revenue)				To get a fair weighting of the production of hazardous chemicals, the total hazard mark is divided by the company's revenue in billion USD.	[Total hazard mark]/[Revenue]=	0,00

Category score

Company's Weighted hazard mark:																		
																		0
Weighted hazard mark:	>2,85	≤2,85	≤2,55	≤2,25	≤2	≤1,75	≤1,5	≤1,3	≤1,1	≤0,9	≤0,75	≤0,6	≤0,45	≤0,35	≤0,25	≤0,15	≤0,1	≤0,05	**0**
Category score:	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	**18**

Percentage of EU/US revenue	Since this is a global benchmark it is important to balance the uncertainty with regard to production outside of the EU/US markets, which is not publicly available. The "Category score" found in the table above is multiplied by the share of production (0-100%) in the EU/US as indicated in the companies' annual reports. Higher EU/US production means less uncertainty with regard to the total production of hazardous chemicals. We therefore factor in the percentage of EU/US revenue, as found in the companies' annual reports, as a multiplier. 100% EU/US production means you get the full category score from table above. 20% EU/US production, means that you get only 20% of the category score.	8%
Final category 1 score	[Category score]*[Percentage EU/US revenue]	**1,5**

2. Development of safer chemicals

Category rationale: Better and less toxic products are needed to protect human health, reduce carbon dioxide emissions and stop pollution and the degradation of biodiversity. Even a circular economy can only truly be called sustainable when products do not contain hazardous ingredients. Therefore, chemical companies need full control of their product ingredients and how their products serve society and a sustainable world. Companies need to walk their talk by ensuring safer products right from the design stage and actively marketing them. The approach to these questions is paramount to create a foundation for healthy profits in the future, as well as to avoid costly last-minute substitution forced by regulation.

Total maximum score in this category: 12

Company's score in this category: 1

Criteria:	Points awarded:	Source:	Rationale for inclusion of criteria:	How we judged fulfilment of the criteria:	Result:
The company has a method in place to screen and assess the sustainability of its products	1 point	Sustainability report, website, internet research **Search words used:** "product stewardship", "screen", "hazardous", "SVHC", "substitution", "product assessment"	Large chemical companies have a huge variety of products for various sectors. These companies need to have an overview of which products contribute to a sustainable future and which products still pose a threat to human health and the environment. Knowledge of its product portfolio is the starting point for any company aiming to improve its sustainability.	Through screening of the company's website and sustainability reports, we have looked for any indication that it has and makes use of a methodology to assess its own product portfolio with regard to its sustainability. Any such indication or mentioning has been enough to score on this criteria.	**0**
The screening includes intrinsic hazards of ingredients	2 points	Sustainability report, website, Internet research **Search words used:** "product stewardship", "screen", "hazardous", "SVHC", "substitution"	Being a sustainable chemical company is more than caring about energy efficiency and water and waste management. The core products – the chemicals – can pose severe threats due to their toxic properties. It is therefore essential that the screening of the product portfolio includes the toxicity of ingredients.	If the company has some kind of methodology to assess the sustainability of its products, it gets additional points if the intrinsic hazard of the products is included in the assessment. Any indication or mentioning that hazard makes up part of the assessment is enough to score.	**0**
Making use of GreenScreen to assess safer alternatives in the last 5 years	1 point	Sustainability report, company website **Search words used:** "GreenScreen" Also direct communication with Clean Production Action (CPA) the trademark owner of GreenScreen.	GreenScreen is a well-established evaluation methodology for chemicals based on intrinsic hazards which was developed by the American NGO Clean Production Action.	If any recent (past 5 years) activities of a company using GreenScreen have been identified either through annual/sustainability reports, websites or through direct communication with Clean Production Action (CPA) the trademark owner of GreenScreen, a point is rewarded.	**0**
Application of strict cut-off criteria for the development of new products (SVHC criteria)	2 points	Sustainability report, website, internet research, **Search words used:** "product stewardship", "screen", "hazardous", "SVHC", "substitution"	Hazardous chemicals need to be eliminated from products in order to move towards a safer product portfolio and a circular economy. Once toxicity is a part of company screening, it is relevant to know what the company defines as toxic. These are called cut-off criteria. ChemSec defines cut-off criteria for newly designed products that include the following chemical properties: persistence (PBT), endocrine-disrupting (EDC) and carcinogenic, mutagenic and reprotoxic (CMR) (1A/1B). These toxic properties were chosen to reflect the current regulatory landscape and uncertainties regarding future bans and litigations.	We searched the company website and its annual/sustainability report to see if it uses cut-off criteria for new products. Meaning it will not put new products with PBT/EDC or CMR (1A/1B) properties on the market. Any indication of such cut-off criteria is enough to score.	**0**
Implementing principles of Green Chemistry	2 points	Sustainability report, website **Search words used:** "green chemistry", "R&D", "innovation"	Green Chemistry is a concept that uses 12 specific principles to achieve safer, less hazardous, more efficient products while producing less waste. In brief; a better, less toxic chemistry. A direct consequence of implementing Green Chemistry in innovation activities is similar to energy efficiency – it will cut feedstock costs and reduce waste. A company which has embraced the 12 principles of Green Chemistry requires competence in its innovation and R&D activities to put these principles into practice.	To be awarded points for this criteria, the company needs to publicly exhibit some kind of strategy in its R&D or innovation work that shows that it is working towards the direction of green chemistry principles, preferrably but not necessarily, through a dedicated department or team.	**0**
Active marketing of greener, sustainable products on website	1 point	Sustainability report, website **Search words used:** "green products", "alternatives", "eco-friendly", "substitution", "sustainability", "innovation"	If screening of product portfolios is the first step towards true sustainability, manufacturing and marketing greener or safer products needs to follow. Some companies are transforming their product portfolio sincerely, others just showcase examples or pilot products. Active marketing of safer alternatives is a hallmark of a forward-looking chemicals company. And as regulation gets stricter and stricter, this is where the future profits will lie.	Does the company have a section on its website or in its annual/sustainability report where it actively pushes for safer or more sustainable products? It must mention environmentally preferred products, more sustainable products or safer, less hazardous products or similar to be awarded in this category.	**1**
Availability of products with less or eliminated toxicity (list for Marketplace candidates)	1 point	Sustainability report, website, **Search words used:** "alternatives", "green", "eco-friendly", "reports from NGO and authorities on substitution"	Even if the company is not necessarily actively marketing its safer alternatives, it might still produce them. We therefore wanted to ensure that such products are also covered. They qualify as candidates for ChemSec Marketplace, but have not been confirmed to be SIN-free by the company or undergone an in-depth assessment by ChemSec.	We have looked through the companies' websites, annual/sustainability reports and governmental reports for safer alternatives and made a brief assessment of claimed alternatives to see if they would fulfil the Marketplace criteria. When at least one product has been judged as sufficiently safer, the company has been shortlisted and a point has been awarded.	**0**
Extra point awarded for listing products on ChemSec Marketplace, 2 points for more than 5 listings	1-2 points	https://marketplace.chemsec.org/	Actively advertising safer alternatives to engage customers is an indication that a company has verified safer alternatives. Here, ChemSec Marketplace – an online platform where buyers and sellers of safer alternatives can interact – plays an important role. Many stock-listed chemical producers are already using the platform, which is widely endorsed by many stakeholders, including the European Chemicals Agency.	ChemSec keeps a record of all producers of safer alternatives in a publicly available database called ChemSec Marketplace. Points will be awarded for any company with at least one entry with an additional point for 5 or more ads.	**0**

3. Management & Transparency

Category rationale: A good chemicals management system is fundamental for a chemicals company, especially for those with a large share of hazardous substances in production. A transparent approach to product ingredients as well public commitments to phase out certain substances is a good indication of the direction in which a company is moving.

Total maximum score in this category: 12

Company's score in this category: 4

Criteria:	Points awarded:	Source:	Rationale for inclusion of criteria:	How we judged fulfilment of the criteria:	Result:
Company only produces sustainable products	3 points	Sustainability report, website	The ultimate goal for a sustainable chemicals company is to have a product portfolio with only non-hazardous products. With such a clear goal set, management and product development will have to follow a strict path towards sustainability.	Does the company have a public commitment in its annual/sustainability report or on its website to only produce non-hazardous products?	0
Company has a public strategy with (timed) phase-out plans for existing hazardous chemicals beyond regulatory compliance	1 point, + additional 1 point for timed	Sustainability report, website	In order to become a company that only produces non-hazardous substances, the company needs to embrace a clear strategy with (timed) phase-out plans for hazardous chemicals. Simply following regulatory compliance is not enough, as many hazardous chemicals are not regulated.	Does the company have a public commitment in its annual/sustainability report or on its website to phase out existing hazardous products and replace them with safer alternatives? If the plan is timed, one additional point is rewarded.	0
Availability of Safety Data Sheets for products in compliance with GHS	1 point	Company website -> yes, at least one open access SDS on the website or reference to other page	Product transparency, not only towards customers but also towards civil society, is important to build trust in a company and its products. (Material) Safety Data Sheets (MSDS/SDS) are an industry standard for providing information on chemicals. Here we looked at whether this safety data is freely accessible by anyone e.g not hidden behind a paywall or an inaccessible registration process.	If the company provides open access to (Material) Safety Data Sheets (MSDS/SDS) this is awarded here. As long as one SDS is available, easily accessible, on or through the company's website or affiliated management system, it is enough.	1
Code of ethics / code of conduct	1 point	Sustainability report, website	The existence of a code of conduct / code of ethics gives a hint of the company's approach to management. The document should provide guidance to all employees on how to conduct business in an ethical and responsible way.	Document or references to ethics codes that all employees must adhere to. It is sufficient to reference external codes of conducts from trade assocciations or similar organisations.	1
Supplier Code of Conduct or similar standard	1 point	Sustainability report, website	Every company should have a supplier code of conduct/ code of ethics which is also enforced towards its suppliers. The document should provide guidance to all the company's suppliers on how they should conduct their business in an ethical and responsible way.	Document or references to other similar suppliers ethics codes that all suppliers must adhere to. It is sufficient to reference external supplier codes of conducts from trade assocciations or similar organisations.	1
Member of Responsible Care	1 point	https://www.icca-chem.org/responsible-care/	Responsible Care® is the chemical manufacturing industry's environmental, health, safety and security performance initiative. Being a member of Responsible Care is a signal that the company is aware of the issues covered.	Verification of the membership is done through the ICCA website and/or on the company's own website or annual/sustainability reports. Or membership/ commitment to other likeworthy initiatives.	1
Respond to our letter (any response)	1 point	Direct communication with the company	Being willing to participate in a dialogue with civil society regarding the company's chemicals management and product portfolio should be encouraged.	Any response from the company that they have received our assessment is enough to score one point.	0
Respond to letter with hazardous chemicals production	2 points	Direct communication with the company	Being willing to participate in a dialogue with civil society regarding the company's chemicals management and product portfolio should be encouraged. A willingness to provide additional transparency with regard to the production of hazardous chemicals is even more important.	A response, which also includes a full list of the company's hazardous product portfolio (including subsidiaries), will be additionally rewarded.	0

4. Impact & Controversies

Rationale: A good company has to ensure that it meets the requirements of international and national environmental legislation, protects occupational health and the right of communities to live in a healthy and sustainable environment. In case of a lawsuit, a company should demonstrate its ability to meet the decision of the court, ensure proper rehabilitation of the contaminated sites and provide compensation to affected communities. It should also demonstrate improvements in its chemicals management.

Total maximum score in this category: 6

Company's score in this category: 0

Criteria:	Points awarded:	Source:	Rationale for inclusion of criteria:	How we judged fulfilment of the criteria:	Result:
Actual track record of accidents and controversies	Several controversies (0 points)	Information provided by the violation tracker project of Good Jobs First; information about lawsuits associated with environmental pollution, toxic spills, land and/or water contamination, or human rights violation found via internet research; by local NGO partners and/or affected communities. **Search words used:** toxic spills, environmental degradation, water pollution, air emissions, hazardous waste, occupational health, explosions, fire, community rights, human rights	A company has to ensure that it meets the requirements of international and national environmental legislation, protects occupational health and the right of communities to live in a healthy and sustainable environment. In case of a lawsuit, a company should demonstrate its ability to meet the decision of the court, ensure proper rehabilitation of the contaminated sites and provide compensation to affected communities. It should also demonstrate improvements in its chemicals management.	The company has been repeatedly fined for environmental pollution, toxic spills, land and/or water contamination, or human rights violation. Or the company has been inolved in at least one severe accident with very large impact on human health and/or the environment during the last 10 years.	0
	Few controversies (3 points)			The company has been fined for environmental pollution, toxic spills, land and/or water contamination, or human rights violation. However, the magnitude of those violations are not severe during the last 10 years.	
	low to no controversies (6 points)			There are zero, or very few records that only entail minor violations of environmental law, toxic spills or human/workers' rights violations that the company is accountable for during the last 10 years.	