



Chemicals Rating Methodology

Corporates

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Contacts

Klaus Kobold

Associate Director

+49 69 66 77 389 23

k.kobold@scoperatings.com

Olaf Tölke

Managing Director

+49 69 66 77 389 11

o.toelke@scoperatings.com

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1. Introduction

Scope Ratings' updated methodology for rating chemical corporates supplements our Corporate Rating Methodology, published on 6 July 2021. The methodology remains unchanged. The updated methodology does not add new rating drivers to the existing methodology and does not lead to any change to existing ratings. The rating methodology can be applied to chemical corporates operating globally.

We define chemical corporates as companies which generate most of their revenue and operating profit (EBITDA) from the manufacturing of chemicals or products which have similar characteristics and are used in various industries. Companies acting in the refining business are not covered by this methodology, as these companies are subject to global energy market drivers, especially oil and gas. Moreover, this methodology does not cover corporates which generate most of sales in the automotive industry, such as producers of polymers that are exclusively used in producing automobiles and auto parts.

2. The chemical industry

The chemical industry is a broad sector which consists of various subsectors. These subsectors have different drivers and can develop differently to the general chemical market. We reflect these different dynamics in our rating assessments by splitting the chemical industry into integrated chemical companies and specialty chemical companies. In this regard, we differentiate between base/commodity products (upstream products) and specialty products (downstream products) by looking at factors including operating profit margin levels and their volatility, the transparency of product markets and their prices, and R&D intensity.

Figure 1 – Selected chemical products: Upstream products vs. downstream products

Upstream products – integrated chemical companies	Downstream products – specialty chemical companies
Petrochemicals: including ethylene, propylene, butadiene, benzene	Sealants, adhesives, derivatives
Base products: including polyolefins, monomers, solvents	High performance plastics and technical polymers
Titanium dioxide and other metal oxides	Coatings and decorative paints
Carbon fibres	Industrial gases
Resins and inorganic materials	Agrochemicals and seeds
Precious and nonprecious metals	Food and feed ingredients
Elastomers	Flavours and fragrances
Potash, fertilisers	Battery materials
Pigments	Composite materials

Source: Scope

Integrated chemical companies

Integrated chemical companies typically generate most of their revenue and earnings from the manufacturing of base chemicals and basic materials. Under the term basic materials, we group firms that generate most of their revenues through the extraction of materials which are used in high quantities in the chemical industry. According to our definition, integrated chemical companies engage in the manufacturing of products made in large volumes with limited to no pricing power. The product pricing process is transparent with a well-functioning market, resulting in producers being price takers. Therefore, the respective cost structure is a critical success factor. Economies of scale are achieved through high levels of capacity utilisation, often in conjunction with backward-integration, supporting a favourable cost position in our view. Product innovation and R&D intensity are of lower importance in a market with commoditised products. The vast majority of products in this industry are late in their life cycle stage and largely have commodity characteristics, from a return on invested capital point of view, making large R&D investments unattractive. Consequently, the commodity chemicals industry is dominated by large-sized corporates. The portfolios of these large-sized corporates often include a substantial proportion of specialty chemicals operations, improving diversification and mitigating cyclical risks to earnings.

With regard to industry-specific factors, we believe that producers face high revenue and earnings cyclical risk because chemical products are used as raw materials in many different industries. As economic developments change, demand for base chemicals

tends to react promptly. There are also considerable entry barriers. Beyond the large capital expenditures typically required to build large-scale production facilities, further capital expenditures result from working capital and the obligations to meet safety and environmental protection requirements. Lengthy building permit approval times for new production facilities can also represent a substantial entry barrier.

Over the last decade, the manufacturing of upstream products has become more competitive, mainly driven by integrated oil and gas companies expanding their base chemical businesses. Consequently, few integrated chemical companies are purely focused on the production of commodity products. Integrated companies tend to have substantial downstream operations, hedging their earnings cyclicality and increasing the number of higher yielding products in their product portfolio. Additionally, due to the market entrance of new producers and expanded production, several products previously classified as specialty chemicals have increasingly become commoditised over the past few years or are likely to become a commodity product, e.g. pigments and several types of additives. Producers located in the Middle East and emerging countries entering markets for downstream products have also contributed to this development. Lastly, corporates from the Western hemisphere have been increasing their production capacities in Asia and emerging markets in order to promptly service fast growing local demand for chemical products.

Specialty chemical companies

Going down the chemical value chain, specialty chemicals are typically produced in smaller quantities. Markets are medium-size and are often relatively concentrated. Product innovation and the amount of intellectual property owned allow for a favourable pricing position. Here, the number of new product launches is key. For instance, various companies pursue a 'spill-over strategy' introducing existing products to new applications and end-markets. The production of specialty chemicals typically requires limited quantities of raw materials which results in lower sensitivity to input price changes. In addition, higher feedstock prices (input prices) for several specialty chemicals are commonly automatically passed on to customers. Compared with integrated chemicals companies, economies of scale are less important for specialty chemicals companies, given their greater pricing-setting power (they are not 'price takers'). However, as product prices usually decline when economic growth stalls, a company's cost position is of considerable importance in the event of an economic downturn.

In our view, specialty chemicals companies face medium cyclicality risks. Specialty materials often account for a small share of production costs where those specialty chemicals are used (such as in automotive coatings) and the production of these end-products continues at lower volumes even in periods of weaker economic demand. We see high barriers to entry for the specialty chemicals sector owing to the high investment in R&D, special knowledge and long-standing customer relationships of existing players in the industry. Substitution risks for the specialty chemicals industry are low. Specialty chemicals are used in a myriad of different products with specific technical requirements that are barely met by other technological solutions or there is no technical alternative.

As shown in Figure 1, specialty chemical companies can be grouped into various product types. Due to the wide range of products and higher levels of intellectual property involved, the specialty chemical industry is less transparent than the commodity chemicals industry. Specialty chemicals are used in a broad range of end-markets, including automotive, construction, and consumer products. Smaller-sized corporates often operate successfully in the specialty chemicals industry. Segments such as industrial gases or agrochemicals, after years of strong M&A activity, have become significantly concentrated. Beyond expanding market shares, M&A has been driven by the aim of improving end-market diversification and offsetting the decline in earnings caused by the commoditisation of former specialty materials products. Lastly, commodity-focused players have strengthened their product offering through the acquisition of downstream assets.

Investment grade rated chemical companies typically have large scale with strong market share and pricing power. This often goes hand in hand with and a strong cost position, indicated by high utilisation rates and/or gross margin. Furthermore, investment-grade rated chemicals companies usually display a diversified portfolio with no major concentration on certain industries, products or geographies. Ample and robust free operating cash flow generation is coupled with solid credit metrics and a solid ability for deleveraging.

The credit quality of chemical companies having a non-investment grade rating is often characterized by a moderate or weak market position in rather fragmented markets. This is typically associated with limited ability to exert pricing power and weak and volatile EBITDA margin as well as a relatively concentrated portfolio in terms of industries where company's products are applied. Such comparatively high business risks are often coupled with weaker cash flow generation which translates into moderate free operating cash flow and weaker credit metrics.

3. Rating drivers

We apply our Corporate Rating Methodology for integrated chemical corporates and specialty chemical corporates as outlined in Figure 2 and Figure 3. *The following business risk and financial risk indicators are non-exhaustive and may not apply fully to individual chemical corporates. Each company's business model determines which indicators are applicable.*

Figure 2 – Scope's general rating grid for integrated chemical corporates

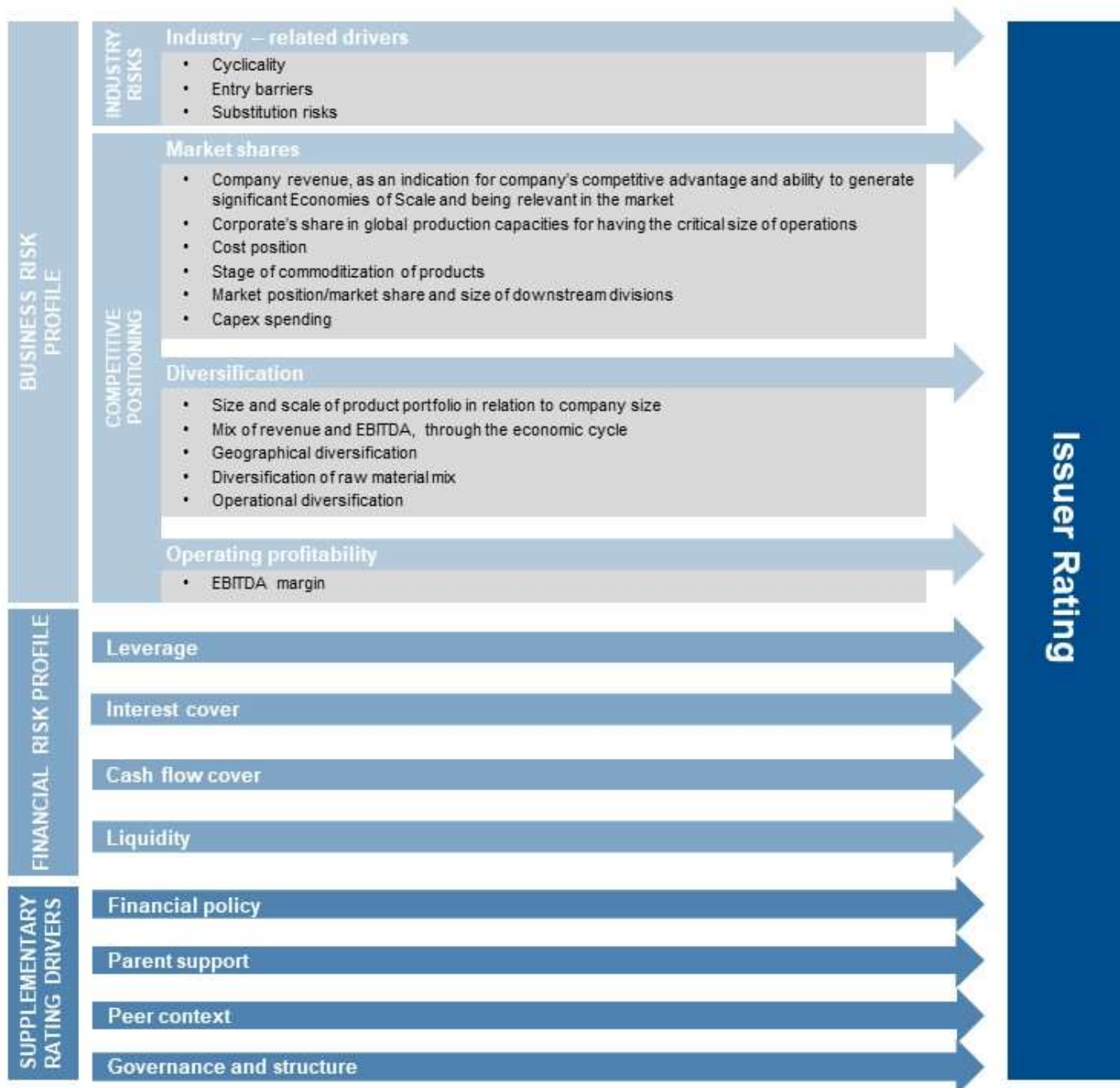
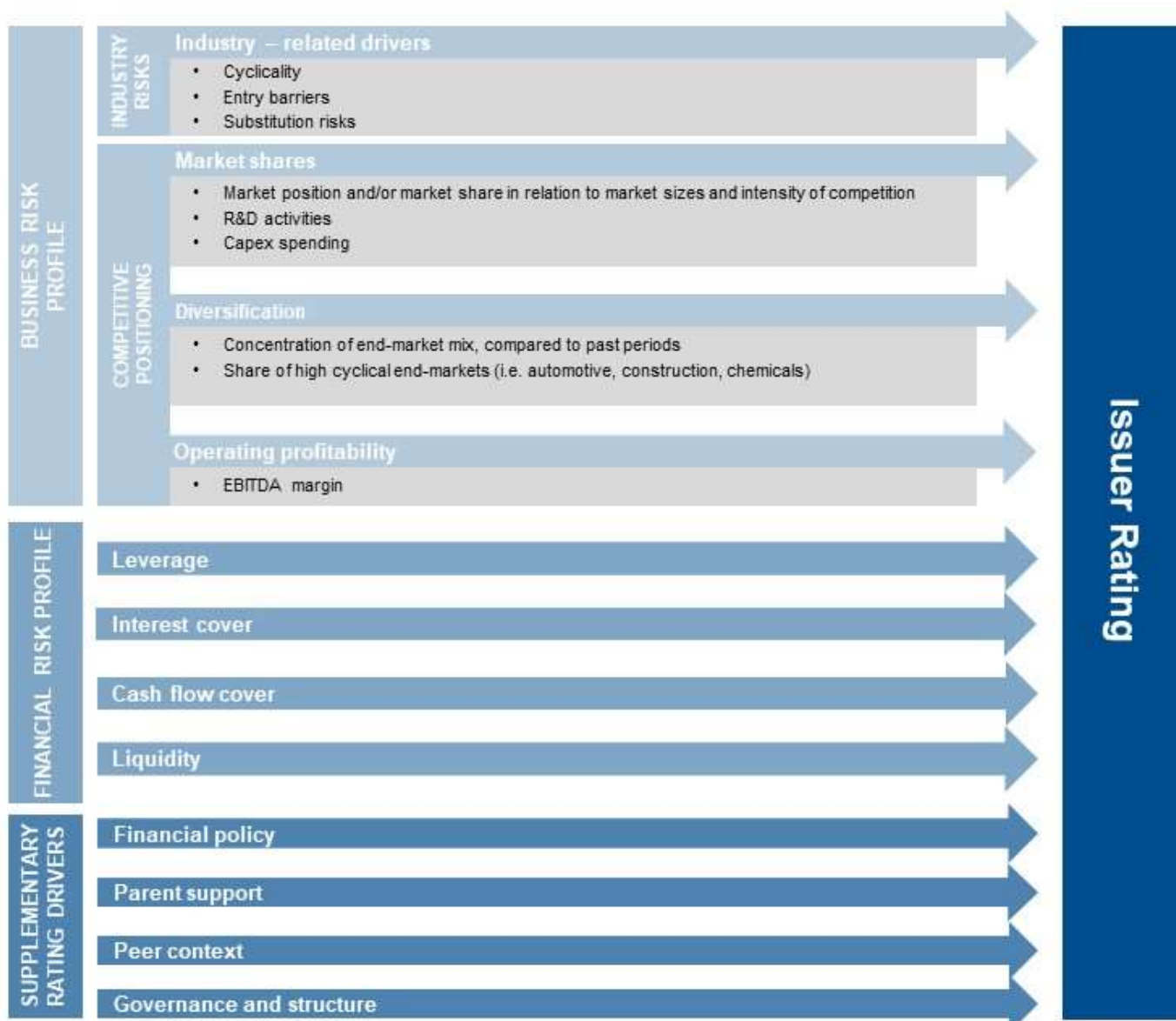


Figure 3 – Scope’s general rating grid for specialty chemical corporates



Our analysis in this sector covers factors common to all industries, such as management, liquidity, corporate legal structure, governance and country risks. More detail can be found in our Corporate Rating Methodology. We note that rating drivers are not mutually exclusive or collectively exhaustive and may overlap. Issuer-specific rating factors may be added to our rating approach.

3.1 Business risk profile

3.1.1 Industry – related drivers

We assess the industry fundamentals of chemical corporates by examining the following industry drivers:

- Cyclicalities
- Entry barriers
- Substitution risks

Cyclicalities

Integrated chemicals corporates face high cyclicalities because of their heightened sensitivity to fluctuations in raw material prices. This is particularly the case for those with a strong focus on commodity products. The transparent price setting in these markets leads to reduced prices in an economic downturn scenario. Base chemicals are a key leading indicator for potential slowdowns in

economic activity, as they are used in virtually all end-markets and base chemical product sales volumes are highly sensitive to demand changes.

In contrast, we believe that the specialty chemical sector has medium cyclicity. This is because aftermarket requires lower quantities of specialty chemicals in their product processes and prices tend to be negotiated individually.

Entry barriers

We consider entry barriers to be high for both the integrated and the specialty chemical industry. Companies wishing to enter the base chemical segments have to execute substantial capital investments, including investments in production facilities and working capital, as well as safety and environmental protection requirements. Manufacturers of specialty chemicals are also well protected from potential competitors. Key entry barriers are the need for large investments in R&D to acquire intellectual property for customised specialty chemicals and, to a lesser extent, capital investments. In contrast, integrated chemicals companies have much greater capital requirements for the operation of their production facilities.

In addition to investments in R&D, further barriers to entry for the specialty chemical sector come in the form of bespoke solutions and applications with long-term customer relationships which new entrants find difficult to destabilize. Specialty chemicals account for only a small proportion of the final product costs. Therefore, switching costs for customers in the specialty chemicals industry are high, resulting in reluctance to switch to realize only slight gains (customer 'stickiness'). In addition to commercial entry barriers, the industry is also tightly regulated on matters such as environmental protection, safety, and health. In general, specialty chemical markets are characterised by medium market sizes, high concentration and companies offering niche products. Thus, the specialty chemical industry is more fragmented than the purely commodity-focused integrated chemical industry.

Substitution risks

Chemical products play an important role in various products in different end-markets and have few alternative materials or products. We therefore believe that the risk of substitution is limited. However, different factors drive substitution risk for integrated and specialty chemicals producers.

Risk of substitution is primarily caused by the broad application of innovative manufacturing processes in end-markets, lowering the overall demand for commoditised chemical products.

On the downstream side, we believe that no substitute products are generally available for most specialty products, or that the number of substitute products is very low. High technical production requirements and a lack of alternative production methods also lower substitution risk. Market sizes for specialty chemicals are often small to medium. We consider the absolute size of many specialty materials markets to make the large investments required to develop new products less attractive for bigger chemical players.

Figure 4 – Scope's industry risk assessment for integrated and specialty chemical corporates

Entry barriers \ Cyclicity	Entry barriers		
	Low	Medium	High
High	CCC/B	B/BB	BBB
Medium	B/BB	BB/BBB	A
Low	BB/BBB	A/AA	AA/AAA

Integrated chemical corporates (BBB)

Specialty chemical corporates (A)

In the view above, we clarify the industry risk of integrated chemical corporates to be 'BBB' while specialty chemical corporates are classified to have an industry risk assessment of 'A'.

3.1.2 Competitive positioning

Market shares

Integrated chemical companies

In our opinion, the market positioning of integrated chemical corporates is influenced by a number of interrelated factors:

- (i) Company revenue, as an indication of the company's competitive advantage, ability to generate significant economies of scale and relevance in the market
- (ii) Corporate's share in global production capacities allowing critical size of operations
- (iii) Cost position, measured by:
 - a. Capacity utilisation rates
 - b. Gross margin
 - c. Reported margins for specific products (e.g. ethylene/ propylene margin) and product groups
- (iv) Efficiency of production facilities (e.g. age, maintenance backlog, location)
- (v) Stage of product commoditisation
- (vi) Market position/ share and size of downstream divisions
- (vii) Capex spending¹

We believe that an integrated chemical company has to have a minimum critical size in order to be market-relevant. This factor often goes hand in hand with the company's share in global production capacities. We therefore consider smaller producers to generally be in a weaker position than their larger competitors. Larger companies are better able to establish a favourable cost position and to benefit from economies of scale. This is an important factor given that commodity-like products have transparent (world market) prices and that chemicals companies' ability to pass on higher raw material costs (input costs) is limited.

Our assessment of market positioning also includes more granular factors. These include the location of production facilities with connections to pipeline networks, operational diversification, and backward integration for feedstock supplies. With regard to maintaining or improving market position, we also form an opinion about a company's capacity expansion plans and spending on maintenance capex. The company's track record, timing and strategy for expanding its production capacity are of particular interest.

We use the market positioning criteria defined for specialty chemical companies when assessing the market positioning of downstream division(s). We look at the respective division size, compared to the size of the company and in isolation. This helps us to establish whether the division(s) lacks competitiveness because it has not attained the critical size necessary to be relevant in the market.

Figure 5 – Integrated chemical companies: market positioning by rating category

	A and above	BBB	BB	B and below
Market position*	Strong market position and/or market share over all upstream and downstream activities	Good market position and/or market share over all upstream and downstream activities	Moderate market position and/or market share over all upstream and downstream activities	Modest market position and/or market share over all upstream and downstream activities
Revenue (EUR)	>30bn	<30bn to >13bn	<13bn to >5bn	<5bn

* Strength of the issuers market position is driven by the above stated factors (i) to (vii), depending on the scope of business and relevance of information, among others. For example, strong market position is indicated by a substantial share in global production capacities, together with a favorable cost position and continuously high capacity utilization rates. Typically, companies rated in B and below rating category are characterized by revenues below EUR 5.0bn, in conjunction with a poor share in global production capacities and inability to generate a satisfying cost position.

¹ Over the last decade, capital expenditures as a percentage of sales (capital expenditures/sales) in the chemicals industry averaged about 6.5% per year. That said, this amount varies between the respective sub-sectors.

Specialty chemical companies

When assessing market position, we consider the company's market share and/or position across the whole product portfolio. In general, a high market share or being among the leading players in a large market (such as consumer chemicals or engineering plastics) results in a better assessment of the company's market position and vice versa. In our assessment of market share and/or position, we look at the following factors:

- (i) Market sizes and intensity of competition
- (ii) R&D activity, including:
 - a. Spending on R&D and patent applications
 - b. Stock of intellectual property
- (iii) Capex spending²

Our analytical approach also includes an evaluation of the degree of market concentration. Many markets such as those for adhesives or surfactants are fragmented. We consider consolidated markets to be more advantageous: companies operating in them tend to have much greater pricing power and the risks of a changing competitive landscape are limited. We have a negative view of markets characterised by limited consolidation and negative growth projections.

We believe product innovation is important to maintaining market position, with key factors including continuous investment in R&D and stable intellectual property portfolios. In addition, a company with meaningful revenue growth stemming from new products is credit-positive.

Expiring trademarks and patents should be replaced with new trademarks and patents for a company to maintain its competitive position. In line with the assessment of operational factors for integrated chemical companies, we look at factors such as a company's production facilities, their location, diversification, backward integration regarding feedstock supply, track record and strategy for expanding production capacity. In subsectors like decorative paints, construction chemicals or adhesives, a company's market positioning is strongly influenced by the strength of its corporate brand portfolio. As these subsectors tend to generate a considerable share of their revenue in the consumer sector, the scope and value of a company's brand portfolio is also determined by its market position.

Figure 6 – Specialty chemical companies: market positioning by rating category

	A and above	BBB	BB	B and below
Market position**	Strong market position and/or market share	Good market position and/or market share	Moderate market position and/or market share	Modest market position and/or market share
R&D activity	Strong R&D ratio and intellectual property portfolio	Good R&D ratio and intellectual property portfolio	Moderate R&D ratio and intellectual property portfolio	Modest R&D ratio and intellectual property portfolio

** Strength of the issuers market position is driven by the above stated factors (i) to (iii) listed on top of this page under specialty chemical corporates, depending on scope of business and relevance of information, among others. For example, strong market position is indicated by a substantial market share and/or market position.

Diversification

Integrated chemical companies

Integrated chemical companies' degree of diversification is driven by portfolio and geographical diversification, and its global outreach and the proportion of downstream operations in the overall company portfolio. In order to analyse a company's portfolio diversification, we look at the following factors:

- (i) Diversity of product portfolio in relation to company size
- (ii) Mix of revenue and EBITDA through the economic cycle
- (iii) Geographical diversification

² Over the last decade, capital expenditures as a percentage of sales (capital expenditures/sales) in the chemicals industry averaged about 6.5% per year. That said, this amount varies between the respective sub-sectors.

- (iv) Diversification of raw material mix
- (v) Operational diversification

In addition to these factors, we form an opinion about a company's diversification by analysing its specialty chemicals operations using specific assessment criteria. Generally speaking, demand for specialty materials is less cyclical than for base/commodity products and end-market diversification is broader. We therefore consider a substantial specialty chemicals exposure to be positive for our assessment of diversification. As outlined in the market positioning section, we analyse whether or not operations have attained a critical size. If a specialty division(s) does not meet this criterion, we see its diversification as weaker from a rating point of view.

As products of the chemical industry are used by virtually all sectors, we do not consider an evaluation of end-markets to be an appropriate measure of integrated chemical companies' diversification.

Figure 7 – Integrated chemical companies: diversification by rating category

	A and above	BBB	BB	B and below
Portfolio diversification***	Strong portfolio diversification	Good portfolio diversification	Moderate portfolio diversification	Modest portfolio diversification
Contribution of specialty chemicals to total revenue	Strong contribution of specialty chemicals to total revenue	Good contribution of specialty chemicals to total revenue	Moderate contribution of specialty chemicals to total revenue	Modest contribution of specialty chemicals to total revenue

*** Degree of the issuers diversification is driven by the above stated factors (i) to (v) listed under integrated chemical corporates on page 10, depending on scope of business and relevance of information, among others. For example, strong portfolio diversification is indicated by strong diversity of product portfolio and global presence.

Specialty chemical companies

We assess the diversification of specialty chemical companies by analysing their end-market mix. Specialty chemical companies often are relatively small and specific end-markets account for a more substantial share of their revenue and earnings, compared to upstream-oriented competitors. We therefore look at the following factors, when analysing the diversification of specialty chemicals companies:

- (i) Concentration of end-market mix, compared to past periods
- (ii) Share of highly cyclical end-markets³

In order to gain a greater understanding, we compare recent and historic end-market diversification (for at least the previous three years). If the most recent end-market split has improved significantly or is similar to previous diversification (including factors such as improving the share of less cyclical end-markets), we treat it as positive and vice versa. In addition to a combination of end-markets, disclosed revenues generated by durable and non-durable products also indicate the sustainability of corporate sales in a downturn and offset negative growth in certain markets. Lastly, it is quite common for smaller-sized corporates in particular to be subject to customer concentration risk. When assessing diversification, we view a broad portfolio of customers positively.

We consider relative sector weights, end market mix, the dependency on individual sectors and end-market cyclicity. A high proportion of end-markets with low cyclicity, is viewed positively. In addition, our rating analysis covers the aspects size of the product portfolio and geographic diversification. In addition to cyclicity, potential regulatory risk is a significant factor. We deem medium exposure to sectors with frequent regulatory changes to be a weakness.

³ Using the industry-related driver cyclicity the following end-markets are classified as following:
 High risk (highly cyclical): Automotive, metals and mining, commodity chemicals, oil and gas, construction, transportation
 Medium risk (medium cyclical): capital goods, durable consumer products
 Low risk (low cyclical): Pharmaceutical and healthcare, nondurable consumer products

Figure 8 – Specialty chemical companies: diversification by rating category

	A and above	BBB	BB	B and below
End-market diversification	Strong diversification, improved/ stable end-market diversification	Good diversification, improved/ stable end-market diversification	Moderate concentration, stable/ worse end-market diversification	Modest concentration, worse end-market diversification
Cyclical end-markets	Contribution of highly cyclical end-markets to revenue <20%	Contribution of highly cyclical end-markets to revenue >20% to <40%	Contribution of highly cyclical end-markets to revenue >40% to <70%	Contribution of highly cyclical end-markets to revenue >70%

Operating profitability

We regard the EBITDA margin as the most important measure of profitability for both integrated and specialty chemicals companies. It is a sound indicator of a company's sustainable pricing power and cost position, among other things. We do not adjust reported EBITDA for expenses of a non-recurring or one-off nature. However, on rare occasions, we do adjust EBITDA e.g. for restructuring expenses, losses/gains from asset disposals or costs for repairing damage caused by natural disasters, if deemed to be material and one-off.

Integrated chemical companies

We view the profitability of commodity-focused issuers as the outcome of their market positioning, number and type of specialty material units in the portfolio, pricing power and the current stage in the economic cycle. An integrated chemical company's relative cost position is reflected in its profitability. Usually, base or commodity chemical prices soar when the economic cycle ages. In addition to these factors, geographical focus, long-term industry trends, regulatory frameworks, local prices and the availability of raw materials may also affect our evaluation of profitability. Using a through-the-cycle approach, we require companies to achieve the below EBITDA margins for each rating category (see figure 9).

Specialty chemicals companies

Similar to integrated chemical companies, the profitability of a specialty chemicals company is primarily driven by its market positioning, types of specialty materials, pricing power and the current stage in the economic cycle. In contrast to upstream-oriented competitors, we believe the cost position plays a less important role, as specialty chemical corporates are able to exercise significant pricing power. The production of specialty materials usually consumes limited amounts of feedstock, so producers are less sensitive to commodity price development. However, as product prices usually decline as economic growth stalls, the cost position is of considerable importance during economic downturns.

A commoditisation of specific products may be responsible for a sustained decline in profitability. This may be driven by the entry of new players attracted by high growth in the market, or significant capacity expansions. In the past, several downturns in the chemical industry were caused by significant oversupply in the aftermath of large capacity coming online. In addition to the relative level of profitability, we take individual characteristics into consideration such as the ability to pass on higher commodity prices, take or pay clauses and the length of supply contracts (longer contracts being viewed positively).

Figure 9 – Chemical companies: EBITDA margin by rating category

	A and above	BBB	BB	B and below
EBITDA margin	>20%	<20% to >15%	<15% to >10%	<10%

3.2 Financial risk profile

3.2.1 Credit metrics

A company's financial risk profile indicates its short- to medium-term financial flexibility and viability. A company with a strong financial risk profile is better able to soften the negative effects of economic cycles, industry dynamics, regulatory changes and a sudden loss of its revenue base. Financial flexibility during an economic downturn is an important rating driver for chemical companies as it also indicates the company's greater ability to make new investments, even in worsening economic conditions.

Our assessment of a company's financial risk profile follows the general guidance presented in our Corporate Rating Methodology. Scope adjusts financial information when the impact on credit metrics is considered material. Scope's analysis typically adjusts the debt by various factors, including off-balance sheet debt from the leasing of long-term assets (if not reflected by IFRS 16), debt-like provisions such as unfunded pension provisions and unfunded asset retirement provisions for site remediation⁴.

3.2.2 Liquidity

We do not perform a sector-specific assessment of a chemical company's liquidity. Our general liquidity assessment is outlined in our Corporate Rating Methodology.

3.3 Supplementary rating drivers

3.3.1 Financial policy

Our ratings capture management 'risk appetite' for discretionary spending decisions like acquisitions, dividends and share buybacks and the extent to which these are funded with debt; also capturing management's ratings commitment, both credit-positive and negative. For family-owned companies, we believe management commitment in case of short-term deviations from its stated financial policy as a consequence of debt-funded acquisitions is usually stronger than for non-owner managed companies. We aim to reflect this in our financial policy assessment based on the companies' track record and level of commitment.

3.3.2 Parent support

The likelihood of corporate default may be linked to the shareholder structure. For example, many chemical companies are controlled by families or large companies that may provide direct funding or recapitalisation because of a contingent liability such as a guarantee.

The impact on a potential rating uplift depends on our view on the likelihood of a bail-out, reflecting the willingness of the owner to cover liquidity gaps. Willingness may be demonstrated by contractual obligations such as guarantees or comfort letters, or by the strategic importance of the controlling share to the parent.

When assessing government support, we apply our 'Rating Methodology: Government Related Entities'.

3.3.3 Peer context

Our ratings reflect additional considerations in a peer group context, which aim to ensure consistency across the rating spectrum, with both credit-positive and credit-negative implications.

3.3.4 Governance and structure

In its rating analysis, Scope assesses the corporate's management and management track record (as described in the Corporate Rating Methodology). A solid track record is considered a positive factor for the rating and provides Scope with confidence in the company's forecasts.

⁴ Provisions made for asset retirement obligations reflect commitments for the disposal, dismantling or decommissioning of assets during their operation and/or at the end of their lifetime in sectors such as power generation, mining or commodity exploration. Scope highlights that the characteristics of asset retirement obligations are different to conventional debt regarding timing, measurement of the estimated obligation including potential asset-salvage values, tax effects or funding mechanisms among others. Particularly, the payment schedule may often extend over a very long time horizon, with obligations arising more than 20 years after the cessation of assets. As with pension provisions, Scope-adjusted debt would consider the unfunded part of such obligations. Dedicated retirement fund assets are likely to cover required payments in times of economic distress. Scope's debt adjustments for asset retirement obligations aim at capturing the nature of the expected payments on an individual basis which Scope deems appropriate for the corresponding assets/activities (i.e. power plants, exploration sites, waste disposal). When assessing the debt burden from asset retirement obligations, Scope takes into account the likely funding requirement for the next 25 years only. The reasoning behind this approach is twofold: On the one hand, Scope views potential funding needs for very-long-term obligations as not overly representative of the creditworthiness of a corporate and of the full coverage of interest-bearing debt instruments, which are likely to mature in less than 25 years. On the other hand, Scope points to the strong impact of current discount rates on very-long-term provisions. As such discount rates may fluctuate strongly over a long time horizon, a full approach on the theoretical funding requirements may be misleading.

Although a corporate governance structure does not drive up the rating of a chemical company, it is an important factor in determining Scope's credit ratings. Adequate corporate governance forms the minimum standard for a rating, but weak corporate governance can drive down a rating.

3.4 Additional methodology factors - ESG

For further details on how we incorporate ESG in our analysis, rating Outlooks for corporate debt ratings, short-term ratings, recovery analysis and individual instrument ratings or rating categories, please see our Rating Methodology Corporate Ratings from in sections 3.1.3 and 6.

During the corporate rating process, we implicitly capture environmental, social and governance (ESG) factors that have a material credit impact. We conduct an explicit corporate governance assessment during the corporate rating process. Our rating analysis remains focused on credit quality and credit assessment drivers. We only consider an ESG factor relevant to our credit rating process if it has a ubiquitously discernible and material impact on the rated entity's cash flow profile and, by extension, its overall credit quality.

Contrary to ESG ratings which are based on quantitative scores for different rating dimensions, credit-relevant ESG drivers can directly or indirectly all the rating elements which make up our assessment of an issuer's business risk profile, financial risk profile and supplementary rating drivers. Identified ESG rating factors reflect an opinion in a relative context (factors are ordinal rather than cardinal).

4. Corporate issuer rating

The final corporate issuer rating is based on a combination of the business and financial risk analyses on the one hand, and the potential effects of supplementary rating drivers on the other. The rating committee decides on the relative importance of each rating driver. In general, business risk and financial risk profiles are weighted equally for BB/BBB rated companies. The analysis of investment grade companies (rated BBB- and above) focuses more on the business risk profile. B (and below) ratings are assigned with a stronger focus on the financial risk profile. The weighting between the business risk and financial risk profiles may be adjusted for specific business models and markets.

5. Additional methodology factors

For further details on our rating Outlooks for corporate debt ratings, short-term ratings, recovery analysis and individual instrument ratings or rating categories, please refer to our Corporate Rating Methodology.



Chemicals Rating Methodology

Corporates

Scope Ratings GmbH

Headquarters Berlin

Lennéstraße 5
D-10785 Berlin

Phone +49 30 27891 0

Frankfurt am Main

Neue Mainzer Straße 66-68
D-60311 Frankfurt am Main

Phone +49 69 66 77 389 0

Paris

23 Boulevard des Capucines
F-75002 Paris

Phone +33 6 62 89 35 12

Oslo

Karenslyst allé 53
N-0279 Oslo

Phone +47 21 62 31 42

Madrid

Paseo de la Castellana 141
E-28046 Madrid

Phone +34 91 572 67 11

Milan

Via Nino Bixio 31
IT-201269 Milano

Phone +39 02 30315 814

Scope Ratings UK Limited

London

52 Grosvenor Gardens
London SW1W 0AU

Phone +44 20 7824 5180

info@scoperatings.com

www.scoperatings.com

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