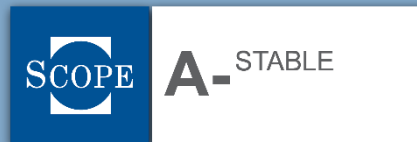


# Merck KGaA ('Merck')

## Germany, Pharma/Chemicals



### Corporate profile

Merck KGaA is a diversified chemicals/pharmaceuticals group that was founded in 1668 with a Merck pharmacy in Darmstadt, Germany, where the group is still based. The Merck family holds 70% of the voting rights and the remainder is in public ownership. After several acquisitions and divestments, the group now consists of three divisions: healthcare (pharmaceuticals and consumer healthcare), life science and performance materials (around its global market leadership in liquid crystals). In 2015, Merck acquired the US-based life science company Sigma Aldrich for a price of USD 17bn and is one of the consolidators in that industry. In pharmaceuticals, it is a specialised mid-sized producer of drugs relying on two blockbuster products, Erbitux and Rebif, but it has a new focus on immuno-oncological products, mainly represented by its antibody Avelumab. At the end of 2014, US-based Big Pharma company Pfizer acquired partial ownership of the molecule as well as US distribution rights for USD 850m.

#### Ratings

Corporate Rating	A-/ S-1
Outlook	Stable
Sector	Diversified
Monitoring	Yes

### Rating rationale

**Scope Ratings assigns A- Corporate Issuer Credit Rating to Merck KGaA (Merck) with a Stable Outlook. The short-term rating is S-1.**

The Corporate Issuer Credit Rating assigned to Merck reflects Scope Ratings' view of the group's credit-supportive business risk profile, which consists of the mostly stable and cash-generative business models of its three critically sized divisions. In addition, we see the group's diversified structure as reflecting the owning family's philosophy to achieve a balanced cyclical exposure. Merck's healthcare division still depends on its mature product portfolio and is only gradually transitioning towards a broader pharma portfolio by way of expanding into the immuno-oncology therapeutic area. The other divisions could offset a potentially weaker profitability in pharma thanks to their stable cash flows. The ratings also reflect our view of Merck management's conservative financial policy, which has focused on organic growth and deleveraging since the debt-funded acquisition of Sigma Aldrich in 2015. Credit metrics are presently sub-par for the ratings because of the acquisition's immediate impact, while the management's financial policy has been supportive of quick deleveraging after the Serono and Millipore acquisitions.

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#### Related Research // Methodology

[European Pharmaceuticals: rating Methodology](#)

January 2016

[European Pharmaceuticals: Application Study](#)

April 2016

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Bloomberg: SCOP

In assessing Merck's business risk profile, Scope has determined the risk and competitive positions of the three industry divisions individually, which were then aggregated and weighted to generate a business risk profile for the group. As a result, we view Merck's business risk profile as a support to overall ratings, helped in particular by its exposure to the relatively stable and high-margin liquid crystals and life science industries. This is a result of the former's extremely high global market shares and operating margins, and the latter's growth appeal and comparatively high profitability. However, we view the healthcare division in its present transitional state as slightly diluting the group's business risk profile. This is due to the need to generate new product approvals, such as for its anti-PDL-1 immuno-oncological antibody Avelumab, which is currently in late-stage development for seven indications. If this drug is approved, Merck expects first sales to occur as soon as the second half of 2017. In the meantime, the division appears reasonably protected against the severe sales erosion of its two blockbuster drugs, Rebif (multiple sclerosis) and Erbitux (oncology), which are both already beyond patent expiry.

The assessment of Merck's financial risk profile reflects our expectation that the group is both able and willing to reduce debt continuously in the coming years. However, the group's growth strategy involves budgeted increases in R&D, marketing and capital expenditures, and as most of this increase will be incurred in 2017, credit metrics are likely to improve more slowly that year. While key credit metrics collapsed in 2015, we expect these to recover quickly. For example, the FFO/Scope-adjusted-debt ratio, which fell to 23% in 2015 (pro-forma basis) from a near net cash position in 2014, increases in our calculations to about 30% by 2017 and close to 40% in 2018, based on free cash flow after dividends keeping consistently above EUR 1bn annually.

### **Outlook**

The Stable Outlook reflects Scope's expectations that Merck's financial risk profile will significantly improve with immediate effect. Specifically, Scope views credit metrics commensurate with the BBB category level as adequate in this respect, and as indicated by both the FFO/Scope-adjusted-debt ratio of 30-35% and Scope-adjusted-debt/EBITDA ratio of up to 2.5x.

A higher rating could be triggered by both a higher business risk assessment if the healthcare division performs well in the future and by a sustainable improvement in credit metrics above the levels detailed previously. A negative rating action could be the result of a more aggressive financial policy or a sustained negative deviation from the ratio levels commensurate with present ratings.



### Rating drivers

Positive
Diversified group structure with positive effects on internal risk balancing
World market leader by far in liquid crystals production
Acquisition of Sigma Aldrich results in the group becoming a life science consolidator
Conservative and proven financial policy
Significant free cash flow

Negative
Credit metrics presently at sub-par levels compared with ratings
Healthcare division in transition

### Rating-change drivers

Positive
Significant improvement in credit metrics
Significant turnaround of healthcare division, for example through the approval of novel molecule avelumab

Negative
Inability to achieve quick deleveraging, resulting in no significant improvement of credit metrics
Change to a more aggressive financial policy



## Financial overview

P&L (EUR m)	Scope estimates				
	2014	2015	2016E	2017E	2018E
Sales	11,292	12,845	14,846	15,412	16,060
EBITDA (reported)	3,123	3,704*	4,103	4,050	4,283
Margin (%)	27.7	28.8	27.6	26.3	26.7

Cash flows (EUR m)	Scope estimates				
	2014	2015	2016E	2017E	2018E
Funds from operations	2,492	2,856	3,222	3,178	3,462
Free cash flow after dividends	1,754	1,235	1,527	1,102	1,272
Capital expenditures (gross)	481	514	700	900	1,050

Balance sheet (EUR m)	Scope estimates				
	2014	2015	2016E	2017E	2018E
Gross financial debt (hybrid-adjusted)	5,637	13,713	11,500	10,500	9,400
Cash & cash equivalents (available)	4,823	732	227	229	204
Scope-adjusted debt (SaD)	761	13,090	11,435	10,440	9,416
Pension debt	764	774	843	850	902

Key financial ratios (Scope-adjusted)	Scope estimates				
	2014	2015	2016E	2017E	2018E
FFO/SaD (%)	327	22	28	30	37
SaD to EBITDA (x)	2.2	3.5	2.7	2.5	2.2
EBITDA interest cover (x)	17.1	12.0	14.0	14.5	16.8

Liquidity	Scope estimates				
	2014	2015	2016E	2017E	2018E
			> 90%	> 100%	> 100%

Source: Merck, Scope estimates  
All ratios are based on adjusted financial data.  
\*Pro-forma for the Sigma Aldrich acquisition

### Business risk profile

#### Three critically sized divisions

Merck has built its group structure around three sizeable divisions. Based on its long-term commitment to a diversified pharmaceuticals/chemicals exposure, Merck now appears firmly rooted with three life science-oriented divisions holding partly significant market shares. The group has significantly progressed towards this aim in 2015 with the acquisition of US-based Sigma Aldrich in the life science division, which has positioned it among the top three producers of laboratory equipment and related products globally. While its liquid crystals activity – as part of its performance materials division – continues to be the global number one, Merck’s pharmaceutical subdivision is a mid-sized drug producer which has been unable to get novel pipeline projects approved during the last five years.

#### Internal risk balancing

Scope believes Merck’s group structure can effectively shield group cash generation in recessions as well as against a potential downturn in pharmaceuticals. This is based on our view of both the life science and liquid crystals industries’ comparatively low cyclicality and high cash flow generation. While the pharmaceutical industry is generally less exposed to macroeconomic downturns, the cyclicality risk is longer-term, defined by product lifecycles and the pipeline replacement of patent-expired products.

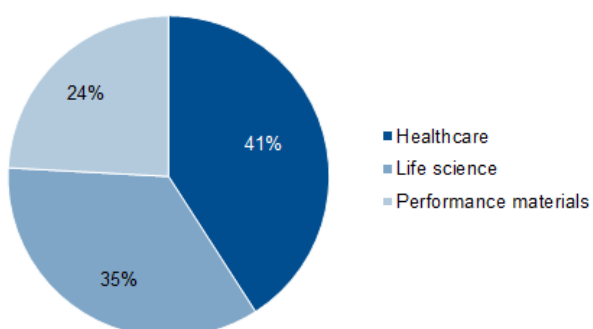
#### Solid business risk profile

In line with its Corporate Ratings methodology, Scope has assessed each of the group divisions’ business risk profile separately, and given these different characteristics from a credit perspective. Applying weights related to the divisions’ individual profit contribution to the group (see Figure 1 below) we have determined Merck’s group business risk profile.

#### Credit-supportive mix of industries

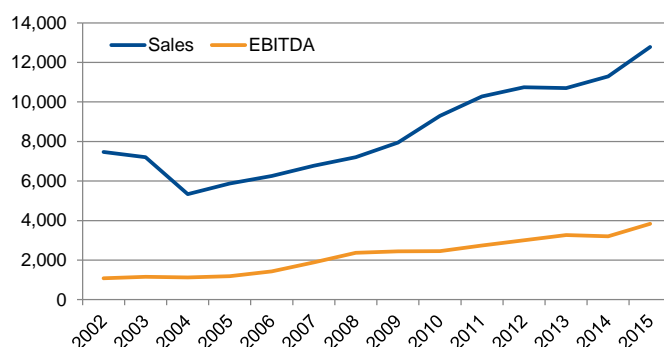
Scope views the mix of industries Merck is exposed to as very credit-supportive. This is evident from our belief that all underlying industries are only very faintly exposed to macroeconomic downturns. Life science and healthcare divisions are driven by ageing societies and unhealthy lifestyles, as well as innovation. The performance materials division generally supplies specialty products for a large number of industrial applications, making a sharply negative cyclical impact for the overall division less likely. We also believe that barriers to entry are high in pharma (R&D, marketing expertise) and in liquid crystals (technical expertise and high degree of concentration in the industry). While we think that the other performance materials activities (pigments and electronics) shift the divisional entry barrier risk slightly down, we believe that the life science industry, which deals with medical equipment, is well protected by medium-risk barriers to entry due to its specialty-products character and increasing network requirements.

**Figure 1: Breakdown of profit by division, 2016E**



Source: Scope estimates

**Figure 2: stable long term trends, in EUR m**



Source: Merck

**Group's competitive position weighed down by healthcare**

Merck's pharmaceutical activities suffer from an aged and comparatively small product portfolio. While its two mature blockbusters ,Erbix (oncology) and Rebif (multiple sclerosis), are already past patent expiry in major markets, both are still holding up sales extremely well, which is important in the present transitional phase of the overall division. Further supports from a credit perspective are the high margins and good pipeline prospects, although very much focused on avelumab, Merck's prospective anti-PDL-1 blockbuster. However, the rating is held back by its small market shares and high product concentration rates, as the top three healthcare products generated 50% of divisional revenues in 2015 (compared with 34% at Bayer, for example).

**Performance materials: competitive position dominated by liquid crystals**

Scope regards the competitive position of Merck's performance materials division as very comfortable in the context of the ratings. This is particularly due to its liquid crystals exposure, which we estimate to generate about two-thirds of divisional profit. The liquid crystals activity is extremely strong both in terms of market share and EBITDA margin. The pigments and electronics activities (integrated circuit materials, OLED) are somewhat dilutive to this from a rating perspective, but nevertheless have good market shares and margins, attesting to the highly specialised nature of their products.

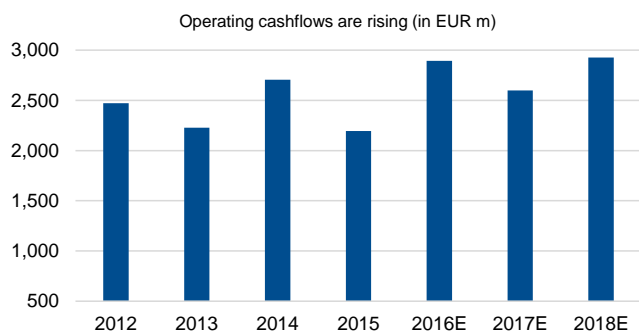
**Life science: competitive position improves**

Including Sigma Aldrich, we believe Merck's life science division now ranks among the top three suppliers worldwide. Except for diagnostic instruments, all major product categories are covered and market shares are significant. We thus regard the diversification driver as the stronghold of our competitive position assessment for the division. Furthermore, Sigma Aldrich's industry-leading EBITDA margin of 32% (2015) and strong cash generation are likely to propel Merck's divisional profitability going forward. In addition, the division looks set to benefit from growth levels that are expected to be well above that of GDP for the next two years at least. From a geographic perspective, the Sigma Aldrich acquisition will significantly strengthen the division's US exposure within an already global structure. On a combined basis, the division is well represented in Europe and North America, which make up about 80% of the life science industry.

**Financial risk profile****Credit metrics expected to improve**

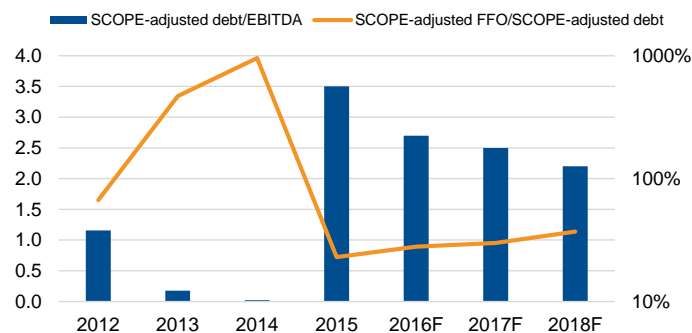
Merck's key credit metrics have been near a net cash position in 2014, based on the continuous deleveraging after 2011, the year of the EUR 5bn Millipore takeover. The Sigma Aldrich transaction in 2015 led to a steep increase in gross financial debt by about EUR 8bn compared with the year before, responsible for adjusted leverage rising above 3x, its highest historical level. We expect a strong increase in operating cash flows, after a low base in 2015, to allow for continuous deleveraging. Due to the assumed magnitude of over EUR 1bn of free cash flow annually, credit metrics may improve markedly. This is despite the planned increase for R&D, marketing and capital expenditures in coming years, in line with the group's growth strategy. In the first quarter of 2016, financial debt already reduced by EUR 650 m, which was however helped by the Kuvan divestiture.

Figure 3: Sigma benefits from operating cash flow



Source: Merck, Scope estimates

Figure 4: ... enabling a continuous recovery of credit



Source: Scope

### Committed financial policy

Scope regards Merck's financial policy as sound and committed, as underlined by its deleveraging trend since 2012. Management has stated publicly after the Sigma Aldrich takeover that it will enter a phase of consolidation and organic growth with a focus on reducing debt quickly, not least motivated by keeping ratings stable. This is very credible in our view, as supported by a positive track record in the cases of the Serono (2007) and Millipore (2010) acquisitions. This shows that the group is willing to deleverage, and its ability to do so is underscored by a projected annual rise in operating cash flows (see Figure 3).

### Conservative liquidity management

We view Merck's liquidity management as conservative, based on the sustained excess cash that acts as a cushion on the balance sheet. While we have earmarked about EUR 200m of cash as the minimum necessary to run the business from a technical perspective, Merck has historically kept balance sheet liquidity at more than EUR 1bn. Short-term maturities at the end of March 2016 were still at a high EUR 3.8bn, which is about EUR 2bn higher than the historical average. This reflects the funding of Sigma Aldrich through the partial usage of Merck's EUR 2bn commercial paper programme, as well as drawing on additional bank lines, which get effectively rolled over but are technically short-term debt. We expect the group's short-term debt to reduce quickly during coming quarters, as is already the case in the first quarter of 2016 (short-term debt reduced by EUR 300m since the end of December 2015). Our assessment is also based on the continued availability of EUR 2bn of committed back-up facilities and the group's increasing free cash flow.

### Short-term rating of S-1

Based on our positive assessment of liquidity as well as on Merck's solid investment grade rating, Scope has assigned a short-term rating of S-1. This also reflects our perception of the group's sustainable cash-generative business model, which continues to improve thanks to the Sigma Aldrich acquisition. Including all internal and external sources of liquidity, coverage of short-term debt is projected at 2x, a level we deem commensurate with the rating.

### Outlook

#### Stable Outlook

The Stable Outlook reflects Scope's expectations that Merck's financial risk profile will significantly improve with immediate effect. Specifically, Scope views credit metrics commensurate with the BBB category level as adequate in this respect, and as indicated by the FFO/Scope-adjusted-debt ratio of 30-35% and by the Scope-adjusted-debt/EBITDA ratio of up to 2.5x.

A higher rating could be triggered by both a higher business risk assessment if the healthcare division performs well in future and by a sustainable improvement in credit metrics above the levels detailed previously. A negative rating action could be the result of a more aggressive financial policy or a sustained negative deviation from the ratio levels commensurate with present ratings.



## I. Appendix: Definition of key financial metrics

<p><b>Scope-adjusted debt</b></p> <p>Debt measure</p> <ul style="list-style-type: none"> <li>Interest-bearing financial debt</li> <li>- Hybrid debt securities</li> <li>+ Off-balance sheet debt (i.e. guarantees, operating leases)</li> <li>+ Adjusted pension provisions</li> <li>= Adjusted gross financial debt</li> <li>- Cash and cash equivalents</li> <li>= Scope-adjusted net financial debt</li> </ul>	<p>The measure uses an adjusted debt equivalent and deducts equity credit resulting from hybrid debt securities that are qualified to display equity-like features. Scope adjusts the debt position for off-balance sheet debt like long-term operating lease charges, which are capitalised with an appropriate multiple of the rents or with the net present value of future lease payments. Furthermore, Scope adjusts debt for pension provisions as per its Corporate Rating Methodology.</p>
<p><b>FCF</b></p> <p>Cash flow measure</p> <ul style="list-style-type: none"> <li>FFO</li> <li>± Working capital</li> <li>± Non-operational cash flow</li> <li>- Capex</li> <li>- Dividends paid</li> <li>= FCF</li> </ul>	<p>An issuer's free cash flow (FCF) represents its FFO after changes in working capital and non-operational cash flow, capex and dividend payments. It is an operational cash flow before asset disposals. It represents the cash flow available for acquisitions, share buybacks or net debt reduction.</p>
<p><b>FFO</b></p> <p>Cash flow measure</p> <ul style="list-style-type: none"> <li>EBITDAR</li> <li>- Interest paid</li> <li>- Tax paid</li> <li>+ Associate dividends received</li> <li>± Other non-operating charges before FFO</li> <li>= FFO</li> </ul>	<p>Funds from operations (FFO) represent operating cash flows before changes in working capital and after dividends received, interest paid and long-term operating lease charges and other non-recurring income or expenses.</p>
<p><b>Liquidity (%)</b></p> <p>Liquidity measure</p> $\frac{\text{Operating cash flow}_t + \text{unrestricted cash and marketable securities}_{t-1} + \text{unused committed bank facilities}_{t-1} + \text{committed unused factoring lines}_{t-1} + \text{committed proceeds from asset sales}_t}{\text{Short-term debt}_{t-1}}$	<p>This ratio indicates the company's ability to pay its short-term debt from its operating cash flow, unrestricted cash and marketable security position, unused committed bank facilities, unused committed factoring lines, and proceeds from committed asset sales.</p>
<p><b>EBITDAR</b></p> <p>Cash flow measure</p> <ul style="list-style-type: none"> <li>Revenue</li> <li>- Operating expenditures</li> <li>+ Depreciation and amortisation</li> <li>+ Expenses for long-term operating lease financing</li> <li>+ Sustainable associates/investment income</li> <li>= EBITDAR</li> </ul>	<p>EBITDAR is a financial measurement of the operating cash flow from operations and is widely used when assessing the performance of companies. It enables a comparison of profitability between different companies by eliminating the effects of financing (by ignoring interest and long-term operating rent payments) and political jurisdictions (by ignoring tax). EBITDAR also excludes the non-cash items depreciation and amortisation of assets. Scope will only exclude operating rent payments from the measure if not material. EBITDAR also includes sustainable core income from investments and associates.</p>





## Regulatory disclosures

### Important information

Information pursuant to Regulation (EC) No 1060/2009 on credit rating agencies, as amended by Regulations (EU) No. 513/2011 and (EU) No. 462/2013

### Responsibility

The party responsible for the dissemination of the financial analysis is Scope Ratings AG, Berlin, District Court for Berlin (Charlottenburg) HRB 161306 B, Executive Board: Torsten Hinrichs (CEO), Dr Stefan Bund, Dr. Sven Janssen.

The rating analysis has been prepared by Olaf Tölke, Lead Analyst

Responsible for approving the rating: Dr Stefan Bund, Committee Chair

### Rating history

Date	Rating action	Rating
19 October 2016	Initial	A-/S-1 Outlook Stable

The rating concerns an issuer, which was evaluated for the first time by Scope Ratings AG.

The rating outlook indicates the most likely direction of the rating if the rating were to change within the next 12 to 18 months. A rating change is, however, not automatically ensured.

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- Website of the rated entity
- Detailed information provided on request
- Data provided by external data providers
- Interview with the rated entity
- External market reports
- Press reports/other public information

Scope Ratings considers the quality of the available information on the evaluated company to be satisfactory. Scope ensured as far as possible that the sources are reliable before drawing upon them, but did not verify each item of information specified in the sources independently.



### **Examination of the rating by the rated entity prior to publication**

Prior to publication, the rated entity was given the opportunity to examine the rating and the rating drivers, including the principal grounds on which the credit rating or rating outlook is based. The rated entity was subsequently provided with at least one full working day, to point out any factual errors, or to appeal the rating decision and deliver additional material information. Following that examination, the rating was not modified.

### **Methodology**

The methodology applicable for this rating (Corporate Rating Methodology) is available on [www.scoperatings.com](http://www.scoperatings.com). The historical default rates of Scope Ratings can be viewed on the central platform (CEREP) of the European Securities and Markets Authority (ESMA): <http://cerep.esma.europa.eu/cerep-web/statistics/defaults.xhtml>. A comprehensive clarification of Scope's default rating, definitions of rating notations and further information on the analysis components of a rating can be found in the documents on methodologies on the rating agency's website.

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