MOODY'S
INVESTORS SERVICE

CREDIT OPINION
14 July 2022

Update

Send Your Feedback

RATINGS

Lanxess AG

Domicile	Koeln, Germany
Long Term Rating	Baa2
Type	LT Issuer Rating - Fgn Curr
Outlook	Stable

Please see the ratings section at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.

Contacts

Martin Kohlhase +49.69.70730.719
VP-Sr Credit Officer
martin.kohlhase@moodys.com

Karen Berckmann, CFA +49.69.70730.930
Associate Managing Director
karen.berckmann@moodys.com

Janko Lukac +49.69.70730.925
VP-Senior Analyst
janko.lukac@moodys.com

Lanxess AG

Update to credit analysis

Summary

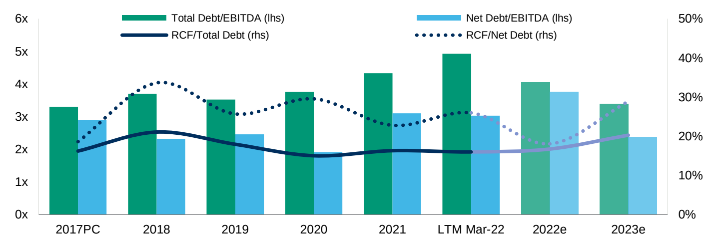
The Baa2 rating of Lanxess AG (Baa2 stable) takes into account the portfolio realignment towards becoming a more specialty chemicals-focused company, which has already reduced the exposure to more cyclical end markets. To achieve this, Lanxess divests more volatile businesses and acquires more resilient businesses such as the microbial control activities of International Flavors & Fragrances, Inc. (Baa3 negative) (IFF MB). On 31 May 2022 Lanxess announced the formation of a polymers joint venture (JV) with Advent that will further reduce the exposure to the automotive market to below 10% from 20%.

Moody's-adjusted gross leverage at 4.9x is high point-in-time because it includes the €1.1 billion of debt raised in September and November 2021 to fund the IFF MB acquisition, which closed on 1 July 2022. Lanxess has the option to redeem the €500 million bond due November 2022, using the proceeds of the €600 million bond issued in March 2022. Lanxess will also receive an inflow of at least €1.1 billion when the formation of the polymers JV closes in the first half of 2023. Lanxess already indicated that it would spend up to €300 million for share buybacks upon closing of the JV. We expect Lanxess to use the remainder most likely on debt reduction.

The rapid developments in natural gas and energy markets in Europe have potential to strain end market demand, raw material availability and production capacity resulting in weaker cash flow and liquidity. We expect that Lanxess would continue to pass on higher input costs, modulate capital spending and conserve liquidity in response to higher gas and energy prices. In a worst-case scenario of gas rationing, Lanxess indicated the possibility to shut off or throttle production at five plants of its 53 plants in the Lower Rhine region.

Exhibit 1

Leverage and coverage metrics



PC (proportional consolidation); Moody's estimate based on the proportional consolidation of Arlanxeo.
Sources: Moody's Investors Service and company filings

Credit strengths

» Portfolio realignment towards higher share of specialty chemicals to raise margins, improve cash flow, and reduce volatility

» Management's strong track record of executing restructuring measures, integration of acquisitions and commitment to an investment grade rating

» Strong liquidity provides financial flexibility

Credit challenges

» Disruptions of natural gas supplies in Europe

» EBITDA margins at lower end of specialty chemicals sector peers, but improving

» Acquisition risk inherent to Lanxess' strategy of further strengthening its business profile

Rating outlook

The outlook is stable and factors in further improvement of Lanxess' gross leverage towards and below 3.0x. The stable outlook assumes a continued shift towards more profitable specialty chemicals through organic and inorganic growth. Lanxess demonstrated resilience during economic downturns in 2020. Given this track record and expectations for metrics to improve, Moody's maintains a stable outlook despite its gross leverage remaining above the downgrade trigger for some time.

Factors that could lead to an upgrade

Positive rating action is unlikely given leverage above level expected for current rating, but could result with further strengthening in the group's business profile, demonstrated by the resilience of its operating profitability and cash flow. Further, we would expect a permanent reduction in financial leverage, with total debt/EBITDA below 2.0x and retained cash flow/net debt to increase to the high 30s (%) on a sustained basis.

Factors that could lead to a downgrade

We could downgrade the ratings if there is a significant deterioration in operating profitability, the pursuit of large debt-funded M&A transactions or a significant step-up in cash returns to shareholders. In addition, increased leverage and some marked weakening in financial metrics, with total debt/EBITDA remaining above 3.0x and retained cash flow/net debt falling to the low 20s (%) on a sustained basis could lead to a downgrade of the ratings.

Key indicators

Exhibit 2

Key Indicators for Lanxess AG[1][2][3]

	Dec-17 PC	Dec-18	Dec-19	Dec-20	Dec-21	LTM Mar-22
Revenue (USD Billion)	$9.1	$8.1	$7.6	$7.0	$8.9	$9.6
PP&E (net) (USD Billion)	$2.9	$3.1	$3.1	$3.3	$3.6	$3.5
EBITDA Margin %	13.5%	14.2%	14.9%	15.9%	12.2%	12.0%
ROA - EBIT / Average Assets	6.4%	5.5%	6.3%	5.7%	4.2%	4.4%
Debt / EBITDA	3.3x	3.7x	3.5x	3.8x	4.3x	4.9x
EBITDA / Interest Expense	8.2x	8.5x	10.4x	11.4x	12.2x	12.9x
Retained Cash Flow / Debt	16.2%	21.1%	17.9%	15.0%	16.3%	16.0%
Retained Cash Flow / Net Debt	22.1%	33.6%	25.7%	29.5%	22.8%	26.0%

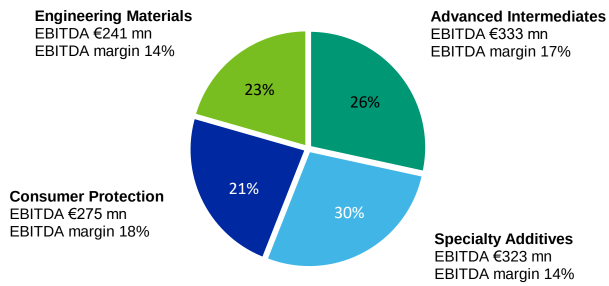
[1] All figures and ratios are calculated using Moody's estimates and standard adjustments.

[2] Periods are Financial Year-End unless indicated. LTM = Last Twelve Months.
[3] PC (proportional consolidation); Moody's estimate based on the proportional consolidation of Arlanxeo.
Source: Moody's Investors Service

Profile

Headquartered in Cologne, Germany, Lanxess AG (Lanxess) is a leading European chemical company, with reported sales of around €7.6 billion from continuing operations and company-reported EBITDA (pre-exceptionals) of around €1.0 billion in 2021. As of 13 July 2022, Lanxess had a market capitalisation of around €2.9 billion.

Exhibit 3
Segment EBITDA pre-exceptionals and before reconciliation
2021



Sources: Moody's Investors Service and company filings

Lanxess has currently four segments. With the planned formation of the Materials JV in 2023, Lanxess will reduce the reporting segments to three by no longer reporting on Engineering Materials. The remaining urethane system business units will be reported under Reconciliation.

» Advanced Intermediates — comprises businesses in the field of high quality industrial intermediates. The segment includes inorganic pigments and a portfolio of advanced industrial intermediates.

» Specialty Additives — pools all units that manufacture additives. In particular, it covers additives (that is, lubricant additives, plastic additives and phosphorous and brominated flame retardants) and the Rhein Chemie business (colorants and polymer additives).

» Consumer Protection — combines application focused specialty chemicals used in such areas as disinfection, preservation and protection of materials, flavours and fragrances. It also comprises products for water treatment and pharmaceuticals as well as Saltigo for agrochemicals.

» Engineering Materials — is an integrated engineering plastics business, which includes high-performance materials (PA 6) and urethane system business units.

Detailed credit considerations

Portfolio realignment, expected to continue, enhances Lanxess' business risk profile

Since 2016, Lanxess has realigned its portfolio towards specialty chemicals products with strong market positions, differentiating technological capabilities and more diversified end market exposure. This has been achieved through a number of disposals, most notably its remaining share in Arlanxeo, its stake in the chemical park operator Currenta and prospectively with the formation of the Materials JV with Advent in 2023. We expect Lanxess to divest its 40% share in the JV over time. Lanxess has also divested smaller, low margin and non-core businesses such as its organic leather chemical, its membrane and organometallics businesses.

The formation of the JV for high-performance engineering polymers with private equity firm Advent International is credit positive for Lanxess. Upon closure, expected in H1 2023, Lanxess receives from Advent a cash payment of at least €1.1 billion and maintains a stake in the JV of up to 40%. Lanxess will make an in-kind contribution of its High Performance Materials (HPM) business, and Lanxess and Advent will acquire the Engineering Materials (DEM) business from Royal DSM N.V. (A3 stable). Lanxess intends to use the proceeds to reduce debt and buy back shares worth up to €300 million. In addition, the exit of HPM allows Lanxess over time to reduce the exposure to the cyclical auto end market and to lower its CO2 footprint. In addition, Lanxess will have the possibility to sell its stake in the joint venture to Advent at the same valuation after a minimum period of three years. This gives Lanxess further monetisation options of at least €1.3 billion. The joint venture will finance the purchase price for DEM through equity from Advent and external debt.

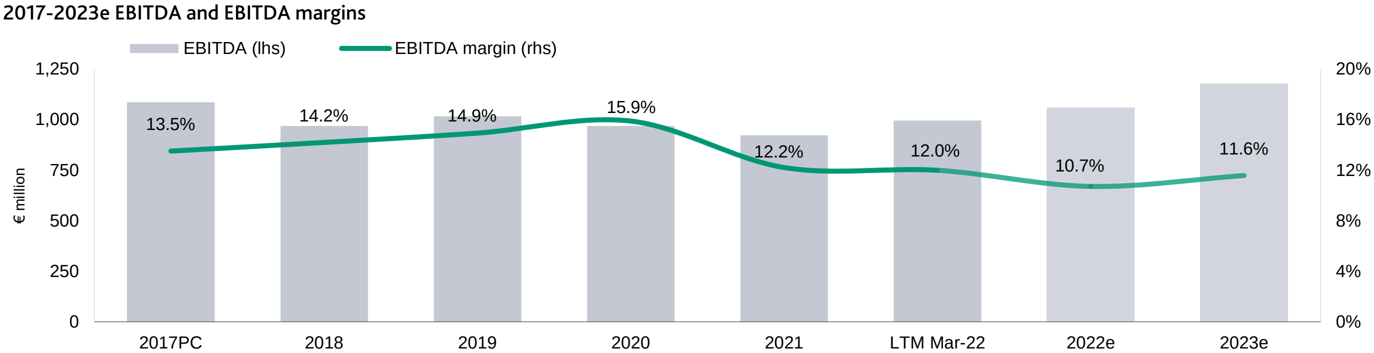
Lanxess has also conducted a string of acquisitions such as the Clean & Disinfect activities of Chemours Company, (The) (Ba3 negative) in 2016, Chemtura in 2017 and more recently Emerald Kalama Chemical for an enterprise value of around €885 million in 2021 and IFF's Microbial Control business in 2022 for around €1.1 billion. Lanxess also bought smaller targets such as the disinfection and hygiene solutions company Theseo for an enterprise value of around €70 million as well as the biocide company Intace, both in 2021. We expect Lanxess to continue to invest in inorganic EBITDA growth to further complement and diversify its product portfolio.

Shift to higher share of more resilient activities results in higher profitability

Lanxess is aiming at an EBITDA margin pre-exceptional items of 14%-18% through the cycle. As a result of portfolio measures and its focus on cost control, the company's Moody's-adjusted EBITDA margin improved to 15.9% in 2020 - when it aligned more with other specialty chemicals peers - from 12.7% in 2016. It has since declined again to 12.0% for the last twelve months ending March 2022. However, the erosion resulted primarily from a bloated top line that underpins Lanxess' ability to pass on higher input costs. Absolute EBITDA for the group as a whole and per segment increased but at a slower pace than revenue because of input cost inflation.

Exhibit 4

Lower recent EBITDA margins are the result of higher sales due to successful pass-on of rising input costs
2017-2023e EBITDA and EBITDA margins



PC; Moody's estimate based on proportional consolidation of Arlanxeo in 2017.
Sources: Moody's Investors Service and company filings

Heightened risks linked to input cost inflation, gas supply disruptions in Europe and growth

With its energy intensive operations and its main global production hub in Germany, Lanxess is exposed to the potential risk of natural gas supply disruptions in Europe. The company already indicated that it would shut down production at one of its 53 production sites in the Lower Rhine region and would most likely reduce the output at four more. Lanxess estimates the direct financial impact on annual EBITDA to be in a range of €80 million to €100 million. As we indicated, the impact from disruptions to the gas supply in Europe is complex, making it difficult to assess any second or third round effects from lower demand in downstream industries or even a recession in Europe or globally. This is captured in our alternative downside scenario, which, however, we have not factored into our base case projections.

Since energy prices started rising in Europe from early 2021, Lanxess caught up in the second half of 2021 and successfully managed to pass on higher energy prices. Energy costs in 2021 rose to €500 million from €300 million in 2020. Lanxess has since changed terms of its relevant contracts by adding energy price indexation clauses as well as energy price surcharges where it was not possible to change contractual terms. Management aims at covering 60% to 80% of its sales through either indexation clauses or surcharges by the end of 2022. In addition to energy prices, Lanxess has also faced a higher bill for logistics. Costs in 2021 increased to €600 million from €450 million in 2020. With ongoing global supply chain shipping bottlenecks exacerbated by a shortage of truck drivers, logistics costs will remain high throughout 2022.

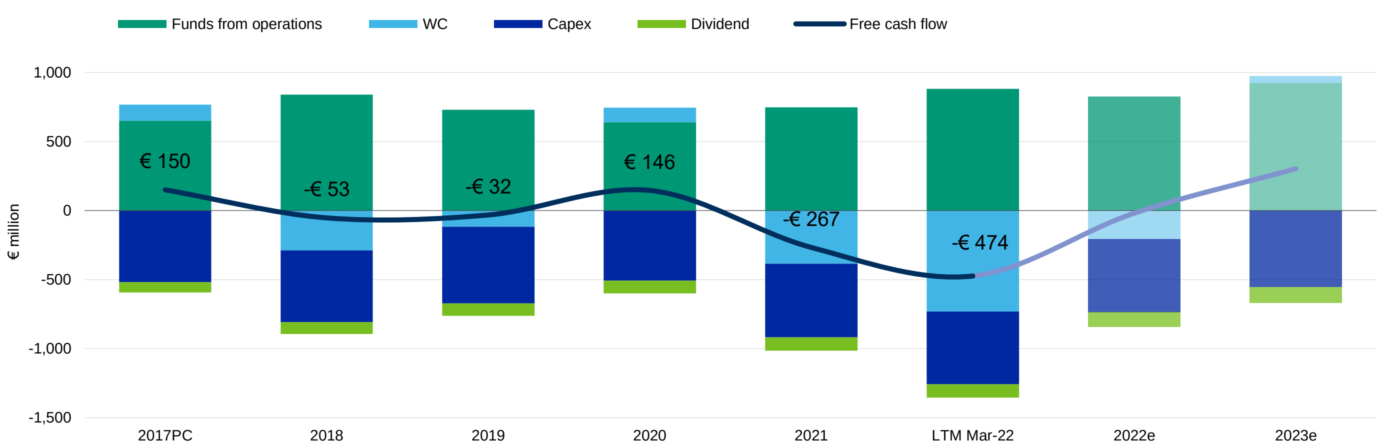
At the time of the Q1 2022 results release in May management provided further evidence of its success in passing rising input costs on to customers. Energy prices year-to-date have further increased and Lanxess' ability to increase EBITDA this year will hinge on the assumption that it can further pass on input costs.

Higher working capital funding requirements constrain FCF generation and require additional external bank funding

As a result of higher input prices the value of Lanxess' inventory and receivables has increased. Trade working capital changes were negative €413 million in 2021 and negative €520 million in the first three month of 2022. This resulted in negative FCF of €267 million in 2021 and €474 million in the last twelve months ending March 2022. Lanxess obtained further committed credit lines as a back-up liquidity source in Q1 2022. The working capital changes are in line with sector peers, and the company's additional funding sources demonstrate prudent liquidity management. Whilst the utilisation of these facilities can result in an increase in leverage, we expect an unwinding of the high working capital position and a concurrent build-up in the cash position when inflation peaks or recedes, or alternatively when demand growth stalls or turns negative. This should give Lanxess the flexibility to repay debt and lower its leverage.

Exhibit 5

2017-23e FCF development



PC; Moody's estimate based on the proportional consolidation of Arlanxeo.
Sources: Moody's Investors Service and company filings

ESG considerations

It is Lanxess' goal to become climate neutral by 2040. The company aims to halve its scope 1 and 2 greenhouse gas emissions by 2030 to around 1.6 million tons of CO_2 from a 2018 base of 3.2 million tons. Lanxess has committed up to €100 million investments until 2025 for climate protection projects. The implementation of technology supports the goal of reducing emissions. The use of renewable energy and offset measures will further contribute to a reduction of emissions. The formation of a polymer JV with Advent International in H1 2023 and Lanxess' exit of the JV over time is likely to result in a reduced CO_2 footprint.

Liquidity analysis

Lanxess has solid liquidity. As of March end 2022 Lanxess had around €500 million of cash and cash equivalents as well as almost €1.4 billion of near cash assets and around €150 million of other current financial assets. This is sufficient to cover the purchase price for IFF MB of around €1.1 billion (closed in July 2022) and potentially repay the €500 million bond due November 2022. We expect Funds from Operations (FFO) of around €800 million to cover investments of around €480 million, working capital requirements of around €200 million and dividends of around €95 million. Lanxess in Q1 2022 borrowed €300 million from banks to fund working capital.

Lanxess' debt maturity schedule is well staggered, with other maturities in 2023 (bank loan) and bonds in 2025, 2026 and 2027, as well as the first call date for its hybrid notes in 2023.

Rating methodology and scorecard factors

The principal methodology used in rating Lanxess is the Chemical Industry rating methodology (June 2022), which can be found at www.moodys.com.

Our Chemical Industry rating methodology scorecard indicates a Baa3 rating for the 12 months that ended March 2022 and for the forward-looking period. The one-notch gap between the scorecard-indicated outcomes and the assigned rating takes into account the strong liquidity as well as the transformation of the company with an increasingly higher share of specialty chemicals.

Exhibit 6

Rating factors

Lanxess AG

Chemical Industry Scorecard [1][2]	Current LTM 3/31/2022		Moody's 12-18 Month Forward View As of 6/20/2022 [3]	
Factor 1 : Scale (15%)	**Measure**	**Score**	**Measure**	**Score**
a) Revenue (USD Billion)	$9.6	Baa	$11.7 - $12.0	Baa
b) PP&E (net) (USD Billion)	$3.5	Baa	$3.8 - $3.9	Baa
Factor 2 : Business Profile (25%)				
a) Business Profile	Baa	Baa	Baa	Baa
Factor 3 : Profitability (10%)				
a) EBITDA Margin	12.0%	Ba	10.5% - 11.5%	Ba
b) ROA (Return on Average Assets)	4.4%	B	5.0% - 6.5%	B
Factor 4 : Leverage & Coverage (30%)				
a) Debt / EBITDA	4.9x	B	3.4x - 4.1x	Ba
b) RCF / Debt	16.0%	Ba	16.5% - 20.5%	Ba
c) EBITDA / Interest Expense	12.9x	Baa	14.0x - 17.0x	A
Factor 5 : Financial Policy (20%)				
a) Financial Policy	Baa	Baa	Baa	Baa
Rating:				
a) Scorecard-Indicated Outcome		Baa3		Baa3
b) Actual Rating Assigned				Baa2

[1] All ratios are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.
[2] As of 03/31/2022(L).
[3] This represents Moody's forward view, not the view of the issuer, and unless noted in the text, does not incorporate significant acquisitions and divestitures.
Source: Moody's Financial Metrics TM

Appendix

Exhibit 7

Peer Comparison[1][2]

	Lanxess AG Baa2 Stable			Eastman Chemical Company Baa2 Stable			Arkema Baa1 Stable			Covestro AG Baa2 Stable		
(in USD million)	FYE Dec-20	FYE Dec-21	LTM Mar-22	FYE Dec-20	FYE Dec-21	LTM Mar-22	FYE Dec-20	FYE Dec-21	LTM Mar-22	FYE Dec-20	FYE Dec-21	LTM Mar-22
Revenue	6,967	8,941	9,645	8,473	10,476	10,781	8,998	11,262	11,835	12,219	18,816	20,089
EBITDA	1,106	1,091	1,156	1,711	2,141	2,062	1,263	1,913	2,182	1,695	3,673	3,688
Total Debt	4,461	4,541	5,453	6,351	5,727	6,026	4,325	3,920	4,389	5,955	4,076	3,984
Cash & Cash Equiv.	2,195	1,290	2,097	564	459	487	1,942	2,599	1,399	3,096	1,253	1,176
EBITDA margin	15.9%	12.2%	12.0%	20.2%	20.4%	19.1%	14.0%	17.0%	18.4%	13.9%	19.5%	18.4%
ROA - EBIT / Avg. Assets	5.7%	4.2%	4.4%	6.5%	9.5%	9.0%	4.5%	8.8%	10.3%	5.8%	16.0%	15.5%
EBITDA / Int. Exp.	11.4x	12.2x	12.9x	7.4x	9.9x	9.7x	13.2x	24.5x	30.5x	11.2x	26.3x	26.5x
Debt / EBITDA	3.8x	4.3x	4.9x	3.7x	2.7x	2.9x	3.2x	2.1x	2.1x	3.3x	1.2x	1.1x
Net Debt / EBITDA	1.9x	3.1x	3.0x	3.4x	2.5x	2.7x	1.8x	0.7x	1.4x	1.6x	0.8x	0.8x
RCF / Debt	15.0%	16.3%	16.0%	16.5%	23.7%	20.9%	20.3%	28.9%	30.1%	21.2%	72.9%	73.3%
RCF / Net Debt	29.5%	22.8%	26.0%	18.1%	25.8%	22.7%	36.8%	85.6%	44.2%	44.1%	105.2%	104.0%

[1] All figures & ratios calculated using Moody's estimates & standard adjustments.
[2] FYE = Financial Year-End. LTM = Last Twelve Months. RUR* = Ratings under Review, where UPG = for upgrade and DNG = for downgrade.
Source: Moody's Financial Metrics™

Exhibit 8

Moody's-Adjusted Debt Reconciliation for Lanxess AG[1][2]

(in EUR million)	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	LTM Mar-22
As Reported Debt	2,840	2,720	2,818	2,806	3,478	4,386
Pensions	958	965	1,001	1,090	765	765
Operating Leases	168	150	0	0	0	0
Hybrid Securities	(250)	(250)	(250)	(250)	(250)	(250)
Analyst Adjustments	51	0	0	0	0	0
Moody's Adjusted Debt	3,767	3,585	3,569	3,646	3,993	4,901

[1] All figures are calculated using Moody's estimates and standard adjustments.
[2] Periods are Financial Year-End unless indicated. LTM = Last Twelve Months.
Source: Moody's Financial Metrics ™

Exhibit 9

Moody's-Adjusted EBITDA Reconciliation for Lanxess AG[1][2]

(in EUR million)	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	LTM Mar-22
As Reported EBITDA	747	901	954	1,665	895	967
Pensions	3	4	(2)	4	3	3
Operating Leases	48	44	0	0	0	0
Interest Expense Discounting	(8)	(10)	(11)	(9)	(7)	(7)
Unusual Adjustments	109	29	74	(691)	31	31
Moody's Adjusted EBITDA	899	968	1,015	969	922	994

[1] All figures are calculated using Moody's estimates and standard adjustments.
[2] Periods are Financial Year-End unless indicated. LTM = Last Twelve Months.
Source: Moody's Financial Metrics ™

Exhibit 10

Historical Moody's-adjusted financial data[1][2]

(in EUR million)	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	LTM Mar-22
INCOME STATEMENT						
Revenue	6,530	6,824	6,802	6,104	7,557	8,296
EBITDA	899	968	1,015	969	922	994
EBIT	495	530	555	505	409	459
BALANCE SHEET						
Cash & Cash Equivalents	588	1,339	1,076	1,794	1,134	1,885
Total Debt	3,767	3,585	3,569	3,646	3,993	4,901
CASH FLOW						
Funds from Operations	778	840	730	640	748	880
Changes in Working Capital items	117	(289)	(116)	106	(385)	(731)
Cash Flow From Operations	895	551	614	746	363	149
Capital Expenditures (CAPEX)	(438)	(519)	(556)	(507)	(533)	(526)
Dividends	(75)	(85)	(90)	(93)	(97)	(97)
Free Cash Flow (FCF)	381	(53)	(32)	146	(267)	(474)
Retained Cash Flow (RCF)	702	755	640	547	651	783
RCF / Debt	18.6%	21.1%	17.9%	15.0%	16.3%	16.0%
RCF / Net Debt	22.1%	33.6%	25.7%	29.5%	22.8%	26.0%
FCF / Debt	10.1%	-1.5%	-0.9%	4.0%	-6.7%	-9.7%
PROFITABILITY						
EBIT margin %	7.6%	7.8%	8.2%	8.3%	5.4%	5.5%
EBITDA margin %	13.8%	14.2%	14.9%	15.9%	12.2%	12.0%
INTEREST COVERAGE						
EBIT / Interest Expense	3.9x	4.7x	5.7x	5.9x	5.4x	6.0x
EBITDA / Interest Expense	7.0x	8.5x	10.4x	11.4x	12.2x	12.9x
LEVERAGE						
Debt / EBITDA	4.2x	3.7x	3.5x	3.8x	4.3x	4.9x
Net Debt / EBITDA	3.5x	2.3x	2.5x	1.9x	3.1x	3.0x

[1] All figures are calculated using Moody's estimates and standard adjustments.
[2] Periods are Financial Year-End unless indicated. LTM = Last Twelve Months.
Source: Moody's Financial Metrics TM

Ratings

Exhibit 11

Category	Moody's Rating
LANXESS AG	
Outlook	Stable
Issuer Rating	Baa2
Senior Unsecured -Dom Curr	Baa2
Pref. Stock -Dom Curr	Ba1

Source: Moody's Investors Service

REPORT NUMBER 1316701

Moody's
INVESTORS SERVICE