UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

(Mark One)

☑ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended December 31, 2021

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from ________ to

Commission file number 333-211719

ASHLAND GLOBAL HOLDINGS INC.

(a Delaware corporation)
I.R.S. No. 81-2587835

8145 Blazer Drive
Wilmington, Delaware 19808
Telephone Number (302) 995-3000

Securities Registered Pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, par value $.01 per share	ASH	New York Stock Exchange

Securities Registered Pursuant to Section 12(g) of the Act: None

Indicate by check mark whether the Registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the Registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (232.405 of this chapter) during the preceding 12 months (or for such shorter period that the Registrant was required to submit such files). Yes ☑ No ☐

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer	☑	Accelerated Filer	☐
Non-Accelerated Filer	☐	Smaller Reporting Company	☐
		Emerging Growth Company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☑

At December 31, 2021, there were 56,923,767 shares of Registrant's Common Stock outstanding.

PART I - FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

ASHLAND GLOBAL HOLDINGS INC. AND CONSOLIDATED SUBSIDIARIES
STATEMENTS OF CONSOLIDATED COMPREHENSIVE INCOME (LOSS)

(In millions except per share data - unaudited)	Three months ended December 31 2021	Three months ended December 31 2020
Sales	$ 512	$ 468
Cost of sales	351	321
Gross profit	161	147
Selling, general and administrative expense	82	101
Research and development expense	13	13
Intangibles amortization expense	24	21
Equity and other income	—	5
Operating income	42	17
Net interest and other expense (income)	5	(7)
Net income on acquisitions and divestitures	—	14
Income from continuing operations before income taxes	37	38
Income tax expense (benefit)	5	(5)
Income from continuing operations	32	43
Income from discontinued operations (net of income taxes) - Note C	16	13
Net income	$ 48	$ 56
PER SHARE DATA		
Basic earnings per share - Note M		
Income from continuing operations	$ 0.56	$ 0.71
Income from discontinued operations	0.29	0.22
Net income	$ 0.85	$ 0.93
Diluted earnings per share - Note M		
Income from continuing operations	$ 0.55	$ 0.70
Income from discontinued operations	0.28	0.22
Net income	$ 0.83	$ 0.92
COMPREHENSIVE INCOME		
Net income	$ 48	$ 56
Other comprehensive income, net of tax		
Unrealized translation gain (loss)	(17)	48
Unrealized loss on commodity hedges	(3)	—
Other comprehensive income (loss) - Note N	(20)	48
Comprehensive income	$ 28	$ 104

SEE NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS.

ASHLAND GLOBAL HOLDINGS INC. AND CONSOLIDATED SUBSIDIARIES
CONDENSED CONSOLIDATED BALANCE SHEETS

(In millions - unaudited)	December 31 2021	September 30 2021
ASSETS		
Current assets		
Cash and cash equivalents	$ 194	$ 210
Accounts receivable (a) - Note H	340	369
Inventories - Note F	530	473
Other assets	66	68
Current assets held for sale - Note B	604	597
Total current assets	1,734	1,717
Noncurrent assets		
Property, plant and equipment		
Cost	3,070	3,066
Accumulated depreciation	1,669	1,639
Net property, plant and equipment	1,401	1,427
Goodwill - Note G	1,411	1,430
Intangibles - Note G	1,068	1,099
Operating lease assets, net - Note I	117	124
Restricted investments - Note E	390	384
Asbestos insurance receivable (b) - Note L	132	134
Deferred income taxes	30	30
Other assets	266	267
Total noncurrent assets	4,815	4,895
Total assets	$ 6,549	$ 6,612
LIABILITIES AND EQUITY		
Current liabilities		
Short-term debt - Note H	$ 376	$ 365
Current portion of long-term debt - Note H	13	9
Trade and other payables	236	236
Accrued expenses and other liabilities	214	251
Current operating lease obligations - Note I	22	23
Current liabilities held for sale - Note B	47	50
Total current liabilities	908	934
Noncurrent liabilities		
Long-term debt - Note H	1,580	1,596
Asbestos litigation reserve - Note L	472	490
Deferred income taxes	238	237
Employee benefit obligations - Note K	145	144
Operating lease obligations - Note I	104	110
Other liabilities	339	349
Total noncurrent liabilities	2,878	2,926
Commitments and contingencies - Note L		
Stockholders’ equity - Note N	2,763	2,752
Total liabilities and stockholders' equity	$ 6,549	$ 6,612

(a) Accounts receivable includes an allowance for credit losses of $2 million at both December 31, 2021 and September 30, 2021.

(b) Asbestos insurance receivable includes an allowance for credit losses of $3 million at both December 31, 2021 and September 30, 2021.

SEE NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS.

ASHLAND GLOBAL HOLDINGS INC. AND CONSOLIDATED SUBSIDIARIES
STATEMENTS OF CONDENSED CONSOLIDATED CASH FLOWS

(In millions - unaudited)	Three months ended December 31 2021	Three months ended December 31 2020
CASH FLOWS PROVIDED (USED) BY OPERATING ACTIVITIES FROM CONTINUING OPERATIONS		
Net income	$ 48	$ 56
Income from discontinued operations (net of income taxes)	(16)	(13)
Adjustments to reconcile income from continuing operations to cash flows from operating activities:		
Depreciation and amortization	60	59
Original issue discount and debt issuance costs amortization	1	1
Deferred income taxes	3	(5)
Gain from sales of property and equipment	—	(4)
Stock based compensation expense	4	4
Income from restricted investments	(13)	(23)
Income on acquisitions and divestitures	—	(14)
Impairments	—	9
Pension contributions	(1)	(2)
Change in operating assets and liabilities (a)	(72)	13
Total cash flows provided by operating activities from continuing operations	14	81
CASH FLOWS PROVIDED (USED) BY INVESTING ACTIVITIES FROM CONTINUING OPERATIONS		
Additions to property, plant and equipment	(15)	(30)
Proceeds from disposal of property, plant and equipment	1	5
Proceeds from sale or restructuring of operations	—	14
Net purchase of funds restricted for specific transactions	—	(1)
Reimbursements from restricted investments	7	8
Proceeds from sale of securities	4	42
Purchases of securities	(4)	(42)
Total cash flows used by investing activities from continuing operations	(7)	(4)
CASH FLOWS PROVIDED (USED) BY FINANCING ACTIVITIES FROM CONTINUING OPERATIONS		
Proceeds from (repayment of) short-term debt	11	(187)
Cash dividends paid	(17)	(17)
Stock based compensation employee withholding taxes paid in cash	(5)	(3)
Total cash flows used by financing activities from continuing operations	(11)	(207)
CASH USED BY CONTINUING OPERATIONS	(4)	(130)
Cash provided (used) by discontinued operations		
Operating cash flows	(8)	11
Investing cash flows	(1)	(3)
Total cash provided by discontinued operations	(9)	8
Effect of currency exchange rate changes on cash and cash equivalents	(3)	3
INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	(16)	(119)
CASH AND CASH EQUIVALENTS - BEGINNING OF PERIOD	210	454
CASH AND CASH EQUIVALENTS - END OF PERIOD	$ 194	$ 335

(a) Excludes changes resulting from operations acquired, sold or held for sale.

SEE NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS.

NOTE A – SIGNIFICANT ACCOUNTING POLICIES

Basis of presentation

The accompanying unaudited Condensed Consolidated Financial Statements have been prepared in accordance with accounting principles generally accepted in the United States for interim financial reporting and Securities and Exchange Commission (SEC) regulations. In the opinion of management, all adjustments considered necessary for a fair presentation have been included. These statements omit certain information and footnote disclosures required for complete annual financial statements and, therefore, should be read in conjunction with Ashland Global Holdings Inc. and consolidated subsidiaries (Ashland) Annual Report on Form 10-K for the fiscal year ended September 30, 2021. Results of operations for the period ended December 31, 2021 are not necessarily indicative of the expected results for the remaining quarters in the fiscal year.

On August 31, 2021, Ashland announced that it had signed a definitive agreement to sell substantially all of the assets and liabilities of its Performance Adhesives segment to Arkema, a French société anonyme. This expected divestiture represents a strategic shift in Ashland's business and qualified as a discontinued operation. As a result, the assets, liabilities, operating results and cash flows related to Performance Adhesives have been classified as discontinued operations for all periods presented within the Consolidated Financial Statements. See Notes B and C for additional information on this expected divestiture.

As a result of classifying the Performance Adhesives reporting segment as a discontinued operation, Ashland is now comprised of the following reportable segments: Life Sciences, Personal Care (formerly Personal Care and Household), Specialty Additives and Intermediates (formerly Intermediates and Solvents). Unallocated and Other includes corporate governance activities and certain legacy matters. For additional information, see Note Q.

Use of estimates, risks and uncertainties

The preparation of Ashland's Condensed Consolidated Financial Statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, and the disclosures of contingent assets and liabilities. Significant items that are subject to such estimates and assumptions include, but are not limited to, long-lived assets (including goodwill and other intangible assets), income taxes and liabilities and receivables associated with asbestos litigation and environmental remediation. Although management bases its estimates on historical experience and various other assumptions that are believed to be reasonable under the circumstances, actual results could differ significantly from the estimates under different assumptions or conditions.

Ashland's results are affected by domestic and international economic, political, legislative, regulatory and legal actions. Economic conditions, such as recessionary trends, inflation, interest and monetary exchange rates, government fiscal policies and changes in the prices of certain key raw materials, can have a significant effect on operations. While Ashland maintains reserves for anticipated liabilities and carries various levels of insurance, Ashland could be affected by civil, criminal, regulatory or administrative actions, claims or proceedings relating to asbestos, environmental remediation or other matters.

New accounting pronouncements

A description of new U.S. GAAP accounting standards issued or adopted during the current year is required in interim financial reporting. A detailed listing of new accounting standards relevant to Ashland is included in the Annual Report on Form 10-K for the fiscal year ended September 30, 2021. There were no new standards that were either issued or adopted in the current fiscal year that will have a material impact on Ashland's consolidated financial statements.

NOTE B – DIVESTITURES

Performance Adhesives

On August 31, 2021, Ashland announced that it had signed a definitive agreement to sell substantially all of the assets and liabilities of its Performance Adhesives segment in a transaction valued at $1.65 billion.

The transaction is expected to close prior to the end of the March 31, 2022 quarter, contingent on certain customary regulatory approvals, standard closing conditions and completion of required employee information and consultation processes. Upon the closing of this transaction, Ashland expects to recognize a gain within the Statements of Consolidated Comprehensive Income (Loss).

Since this transaction represents a strategic shift in Ashland's business and had a major effect on Ashland's operations and financial results, the operating results and cash flows related to Performance Adhesives have been reflected as discontinued operations in the Statements of Consolidated Comprehensive Income (Loss) and Statements of Condensed Consolidated Cash Flows, while the assets and liabilities that are to be sold have been classified within the Condensed Consolidated Balance Sheets under a held for sale designation. See Note C for the results of operations for Performance Adhesives for all periods presented.

Certain indirect corporate costs included within the selling, general and administrative expense caption of the Statements of Consolidated Comprehensive Income (Loss) that were previously allocated to the Performance Adhesives segment do not qualify for classification within discontinued operations and are now reported as selling, general and administrative expense within continuing operations on a consolidated basis and within the Unallocated and other segment. These costs were $4 million for both the three months ended December 31, 2021 and 2020, respectively.

Subsequent to the completion of the sale, Ashland expects to provide certain transition services to Arkema for a fee. While the transition services are expected to vary in duration depending upon the type of service provided, Ashland does not expect these transition services will be significant.

Other manufacturing facility sales

During the three months ended December 31, 2020, Ashland completed the sale of a Specialty Additives facility, the assets and liabilities of which were classified as held for sale as of September 30, 2020. Net proceeds received from the sale were approximately $14 million in the December 31, 2020 quarter ($20 million in total including a deposit received in fiscal year 2020). Ashland recognized a pre-tax gain of $14 million recorded within the Net income on acquisitions and divestitures caption in the Statements of Consolidated Comprehensive Income (Loss).

NOTE C– DISCONTINUED OPERATIONS

Ashland has divested certain businesses that have qualified as discontinued operations. The operating results from these divested businesses and subsequent adjustments related to ongoing assessments of certain retained liabilities and tax items have been recorded within the discontinued operations caption in the Statements of Consolidated Comprehensive Income (Loss) for all periods presented.

Components of amounts reflected in the Statements of Consolidated Comprehensive Income (Loss) related to discontinued operations are presented in the following table for the three months ended December 31, 2021 and 2020.

	Three months ended December 31	
(In millions)	2021	2020
Income (loss) from discontinued operations (net of tax)		
Performance Adhesives	$ 17	$ 18
Distribution	(1)	(1)
Gain (loss) on disposal of discontinued operations (net of taxes)		
Composites/Marl facility	—	(4)
	$ 16	$ 13

The following table presents a reconciliation of the captions within Ashland's Statements of Consolidated Comprehensive Income (Loss) for the income (loss) from discontinued operations attributable to Performance Adhesives for the three months ended December 31, 2021 and 2020.

	Three months ended December 31	
(In millions)	2021	2020
Income (loss) from discontinued operations attributable to Performance Adhesives		
Sales	$ 96	$ 84
Cost of sales	(67)	(53)
Selling, general and administrative expense	(5)	(5)
Research and development expense	(2)	(2)
Pretax income of discontinued operations	22	24
Income tax expense	(5)	(6)
Income from discontinued operations	$ 17	$ 18

NOTE D – RESTRUCTURING ACTIVITIES

Company-wide restructuring activities

Ashland periodically implements company-wide restructuring programs related to acquisitions, divestitures and other cost reduction programs in order to enhance profitability through streamlined operations and an improved overall cost structure.

Fiscal 2020 and 2021 restructuring program

Ashland recorded severance income of $1 million and expense of $8 million during the three months ended December 31, 2021 and 2020, respectively, attributable to executive management changes and business management changes within the organization. As of December 31, 2021, the severance reserve associated with this transition was $3 million.

The following table details at December 31, 2021 and 2020, the amount of restructuring severance reserves related to this program. The severance reserves were primarily recorded within accrued expenses and other liabilities in the Condensed Consolidated Balance Sheet as of December 31, 2021 and 2020.

(In millions)	Severance costs
Balance at of September 30, 2021	$ 6
Restructuring reserve	(1)
Utilization (cash paid)	(2)
Balance at December 31, 2021	$ 3

(In millions)	Severance costs
Balance at of September 30, 2020	$ 39
Restructuring reserve	8
Utilization (cash paid)	(11)
Balance at December 31, 2020	$ 36

NOTE E – FAIR VALUE MEASUREMENTS

As required by U.S. GAAP, Ashland uses applicable guidance for defining fair value, the initial recording and periodic remeasurement of certain assets and liabilities measured at fair value and related disclosures for instruments measured at fair value. Fair value accounting guidance establishes a fair value hierarchy, which prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. The fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). An instrument's categorization within the fair value hierarchy is based upon the lowest level of input that is significant to the instrument's fair value measurement. The three levels within the fair value hierarchy are described as follows.

Level 1 – Observable inputs such as unadjusted quoted prices in active markets for identical assets or liabilities.

Level 2 – Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. These include quoted prices for similar assets or liabilities in active markets and quoted prices for identical or similar assets or liabilities in markets that are not active.

Level 3 – Unobservable inputs for the asset or liability for which there is little, if any, market activity at the measurement date. Unobservable inputs reflect Ashland's own assumptions about what market participants would use to price the asset or liability. The inputs are developed based on the best information available in the circumstances, which might include Ashland's own financial data such as internally developed pricing models, discounted cash flow methodologies, as well as instruments for which the fair value determination requires significant management judgment.

For assets that are measured using quoted prices in active markets (Level 1), the total fair value is the published market price per unit multiplied by the number of units held without consideration of transaction costs. Assets and liabilities that are measured using significant other observable inputs (Level 2) are primarily valued by reference to quoted prices of similar assets or liabilities in active markets, adjusted for any terms specific to that asset or liability. For all other assets and liabilities for which unobservable inputs are used (Level 3), fair value is derived using fair value models, such as a discounted cash flow model or other standard pricing models that Ashland deems reasonable.

The following table summarizes financial instruments subject to recurring fair value measurements as of December 31, 2021.

(In millions)	Carrying value	Total fair value	Quoted prices in active markets for identical assets Level 1	Significant other observable inputs Level 2	Significant unobservable inputs Level 3
Assets					
Cash and cash equivalents	$ 194	$ 194	$ 194	$ —	$ —
Restricted investments (a) (b)	426	426	426	—	—
Investment of captive insurance company (c)	9	9	9	—	—
Foreign currency derivatives (d)	2	2	—	2	—
Commodity derivatives (d)	2	2	—	2	—
Total assets at fair value	$ 633	$ 633	$ 629	$ 4	$ —
Liabilities					
Foreign currency derivatives (e)	$ 1	$ 1	$ —	$ 1	$ —
Commodity derivatives (e)	1	1	—	1	—
Total liabilities at fair value	$ 2	$ 2	$ —	$ 2	$ —

(a) Included in restricted investments and $36 million within other current assets in the Condensed Consolidated Balance Sheets.

(b) Includes $335 million related to the Asbestos trust and $91 million related to the Environmental trust.

(c) Included in other noncurrent assets in the Condensed Consolidated Balance Sheets.

(d) Included in accounts receivable in the Condensed Consolidated Balance Sheets.

(e) Included in accrued expenses and other liabilities in the Condensed Consolidated Balance Sheets.

The following table summarizes financial asset instruments subject to recurring fair value measurements as of September 30, 2021.

(In millions)	Carrying value	Total fair value	Quoted prices in active markets for identical assets Level 1	Significant other observable inputs Level 2	Significant unobservable inputs Level 3
Assets					
Cash and cash equivalents	$ 210	$ 210	$ 210	$ —	$ —
Restricted investments (a) (b)	421	421	421	—	—
Investment of captive insurance company (c)	8	8	8	—	—
Foreign currency derivatives (d)	1	1	—	1	—
Commodity derivatives (d)	5	5	—	5	—
Total assets at fair value	$ 645	$ 645	$ 639	$ 6	$ —
Liabilities					
Foreign currency derivatives (e)	$ 2	$ 2	$ —	$ 2	$ —

(a) Included in restricted investments and $37 million within other current assets in the Condensed Consolidated Balance Sheets.

(b) Includes $333 million related to the Asbestos trust and $88 million related to the Environmental trust.

(c) Included in other noncurrent assets in the Condensed Consolidated Balance Sheets.

(d) Included in accounts receivable in the Condensed Consolidated Balance Sheets.

(e) Included in accrued expenses and other liabilities in the Condensed Consolidated Balance Sheets.

Restricted investments

Investment income and realized gains and losses on these company-restricted investments are reported within the net interest and other expense caption on the Statements of Consolidated Comprehensive Income (Loss). The following table provides a summary of the activity within the investment portfolio as of December 31, 2021 and September 30, 2021:

(In millions)	December 31 2021	September 30 2021
Original cost	$ 335	$ 335
Accumulated adjustments, net	37	(50)
Adjusted cost, beginning of year (a)	372	285
Investment income (b)	8	12
Net unrealized gain (c)	53	49
Realized gains (c)	—	17
Funds restricted for specific transactions (d)	—	91
Disbursements	(7)	(33)
Fair value	$ 426	$ 421

(a) The adjusted cost of the demand deposits includes accumulated investment income, realized gains, additional funds restricted for specific transactions and disbursements recorded in previous periods. The adjusted cost as of December 31, 2021 includes the $90 million funding to establish the environmental trust.

(b) Investment income relates to the demand deposit and includes interest income as well as dividend income transferred from the equity and fixed income mutual funds.

(c) Presented under the original cost method.

(d) The September 30, 2021 period included $90 million to establish the environmental trust.

The following table presents gross unrealized gains and losses for the restricted investment securities as of December 31, 2021 and September 30, 2021:

(In millions)	Adjusted Cost	Gross Unrealized Gain	Gross Unrealized Loss	Fair Value
As of December 31, 2021				
Demand deposit	$ 11	$ —	$ —	$ 11
Equity mutual fund	139	51	—	190
Fixed income mutual fund	223	4	(2)	225
Fair value	$ 373	$ 55	$ (2)	$ 426
As of September 30, 2021				
Demand deposit	$ 6	$ —	$ —	$ 6
Equity mutual fund	143	44	(1)	186
Fixed income mutual fund	223	7	(1)	229
Fair value	$ 372	$ 51	$ (2)	$ 421

The following table presents the investment income, net gains and losses realized and disbursements related to the investments within the portfolio for the three months ended December 31, 2021 and 2020.

	Three months ended December 31	
(In millions)	2021	2020
Investment income	$ 8	$ 5
Net gains (losses) (a)	4	18
Disbursements	(7)	(8)

(a) Ashland determined that all gains and (losses) were related to investment securities with readily determinable fair values. Due to the accounting guidance adopted in the first quarter of fiscal year 2019, the net unrealized gains and (losses) during fiscal September 30, 2019 and forward were recorded within the net interest and other expense caption in the Statements of Consolidated Income (Loss).

Foreign currency derivatives

Ashland conducts business in a variety of foreign currencies. Accordingly, Ashland regularly uses foreign currency derivative instruments to manage exposure on certain transactions denominated in foreign currencies to curtail potential earnings volatility effects on certain assets and liabilities, including short-term inter-company loans, denominated in currencies other than Ashland's functional currency of an entity. These derivative contracts generally require exchange of one foreign currency for another at a fixed rate at a future date and generally have maturities of less than twelve months. The impacts of these contracts were largely offset by gains and losses resulting from the impact of changes in exchange rates on transactions denominated in non-functional currencies. The following table summarizes the net gains and losses recognized during the three months ended December 31, 2021 and 2020 within the Statements of Consolidated Comprehensive Income (Loss).

	Three months ended December 31	
(In millions)	2021	2020
Foreign currency derivative gains	$ 2	$ 3

The following table summarizes the fair values of the outstanding foreign currency derivatives as of December 31, 2021 and September 30, 2021 included in accounts receivable and accrued expenses and other liabilities of the Condensed Consolidated Balance Sheets.

(In millions)	December 31 2021	September 30 2021
Foreign currency derivative assets	$ 2	$ 1
Notional contract values	252	150
Foreign currency derivative liabilities	$ 1	$ 2
Notional contract values	156	212

Commodity derivatives

To manage its exposure to the market price volatility of natural gas consumed by its US plants during the manufacturing process, Ashland regularly enters into forward contracts that are designated as cash flow hedges. Ashland recognized gains of $2 million and zero during the three months ended December 31, 2021 and 2020, respectively, within the Statements of Consolidated Comprehensive Income (Loss).

The following table summarizes the fair values of the outstanding commodity derivatives as of December 31, 2021, and September 30, 2021 included in accounts receivable and accrued expenses and other liabilities of the Condensed Consolidated Balance Sheets.

(In millions)	December 31 2021	September 30 2021
Commodity derivative assets	$ 2	$ 11
Notional contract values	5	6
Commodity derivative liabilities	$ 1	$ —
Notional contract values	7	—

Other financial instruments

At December 31, 2021 and September 30, 2021, Ashland's long-term debt (including the current portion and excluding debt issuance cost discounts) had a carrying value of $1,610 million and $1,622 million, respectively, compared to a fair value of $1,752 million and $1,794 million, respectively. The fair values of long-term debt are based on quoted market prices or, if market prices are not available, the present values of the underlying cash flows discounted at Ashland’s incremental borrowing rates.

NOTE F – INVENTORIES

Inventories are carried at the lower of cost or net realizable value. Inventories are primarily stated at cost using the weighted-average cost method. In addition, certain inventories are valued at cost using the last-in, first-out (LIFO) method.

The following table summarizes Ashland’s inventories as of the reported Condensed Consolidated Balance Sheet dates.

(In millions)	December 31 2021	September 30 2021
Finished products	$ 319	$ 282
Raw materials, supplies and work in process	211	191
	$ 530	$ 473

NOTE G – GOODWILL AND OTHER INTANGIBLES

Goodwill

Ashland tests goodwill and other indefinite-lived intangible assets for impairment annually as of July 1 and when events and circumstances indicate an impairment may have occurred. Ashland tests goodwill and other indefinite-lived intangible assets for impairment by comparing the estimated fair value of the reporting units (for goodwill) and other indefinite-lived intangible assets to the related carrying value. If the carrying amount of a reporting unit or other indefinite-lived intangible asset exceeds its estimated fair value, Ashland records an impairment loss based on the difference between fair value and carrying amount, in the case of reporting units, not to exceed to the associated carrying amount of goodwill.

No indicators of impairment were identified in the three months ended December 31, 2021.

Ashland's assessment of an impairment on any of these assets classified currently as having indefinite lives, including goodwill, could change in future periods if significant events happen and/or circumstances change that effect the previously mentioned assumptions such as: a significant change in projected business results, a divestiture decision, increase in Ashland's weighted-average cost of capital rates, decrease in growth rates or assumptions, economic deterioration that is more severe or of a longer duration than anticipated, or another significant economic event.

The following is a progression of goodwill by reportable segment for the three months ended December 31, 2021.

(In millions)	Life Sciences	Personal Care (a)	Specialty Additives (a)	Intermediates (a)	Total
Balance at September 30, 2021	$ 856	$ 129	$ 445	$ —	$ 1,430
Currency translation	(12)	(2)	(5)	—	(19)
Balance at December 31, 2021	$ 844	$ 127	$ 440	$ —	$ 1,411

(a) As of December 31, 2021 and September 30, 2021, there were accumulated impairments of $356 million, $174 million and $90 million related to the Personal Care, Specialty Additives and Intermediates reportable segments, respectively.

Other intangible assets

Intangible assets principally consist of trademarks and trade names, intellectual property and customer and supplier relationships. Intangible assets classified as finite are amortized on a straight-line basis over their estimated useful lives. The cost of trademarks and trade names is amortized principally over 3 to 25 years, intellectual property over 5 to 25 years, and customer and supplier relationships over 3 to 24 years.

Ashland annually reviews, as of July 1, indefinite-lived intangible assets for possible impairment or whenever events or changes in circumstances indicate that carrying amounts may not be recoverable.

No indicators of impairment were identified in the three months ended December 31, 2021.

Intangible assets were comprised of the following as of December 31, 2021 and September 30, 2021.

	December 31, 2021		
(In millions)	Gross carrying amount	Accumulated amortization	Net carrying amount
Definite-lived intangibles			
Trademarks and trade names	$ 100	$ (34)	$ 66
Intellectual property	745	(504)	241
Customer and supplier relationships	842	(359)	483
Total definite-lived intangibles	1,687	(897)	790
Indefinite-lived intangibles			
Trademarks and trade names	278	—	278
Total intangible assets	$ 1,965	$ (897)	$ 1,068

(In millions)	September 30, 2021 Gross carrying amount	Accumulated amortization	Net carrying amount
Definite-lived intangibles			
Trademarks and trade names	$ 101	$ (32)	$ 69
Intellectual property	750	(495)	255
Customer and supplier relationships	849	(352)	497
Total definite-lived intangibles	1,700	(879)	821
Indefinite-lived intangibles			
Trademarks and trade names	278	—	278
Total intangible assets	$ 1,978	$ (879)	$ 1,099

Amortization expense recognized on intangible assets was $24 million and $21 million for the three months ended December 31, 2021 and 2020, respectively, and is included in the intangibles amortization expense caption of the Statements of Consolidated Comprehensive Income (Loss). Estimated amortization expense for future periods is $94 million in 2022 (includes three months actual and nine months estimated), $93 million in 2023, $80 million in 2024, $78 million in 2025 and $75 million in 2026. Actual amounts may change from such estimated amounts due to fluctuations in foreign currency exchange rates, additional intangible asset acquisitions and divestitures, potential impairment, accelerated amortization, or other events.

NOTE H – DEBT AND OTHER FINANCING ACTIVITIES

The following table summarizes Ashland's current and long-term debt as of the dates reported in the Condensed Consolidated Balance Sheets.

(In millions)	December 31, 2021	September 30, 2021
3.375% Senior Notes, due 2031	$ 450	$ 450
2.00% Senior Notes, due 2028 (Euro 500 million principal)	566	580
6.875% notes, due 2043	282	282
Term loan A	250	250
Accounts receivable securitizations	113	117
6.50% junior subordinated notes, due 2029	58	57
Revolving credit facility	240	225
Other (a)	10	9
Total debt	1,969	1,970
Short-term debt (includes current portion of long-term debt)	(389)	(374)
Long-term debt (less current portion)	$ 1,580	$ 1,596

(a) Includes $17 million of debt issuance cost discounts as of both December 31, 2021 and September 30, 2021. Additionally, as of both December 31, 2021 and September 30, 2021, Other includes a European short-term loan facility with an outstanding balance $23 million.

The scheduled aggregate maturities of long-term debt by year (including the current portion and excluding debt issuance costs) are as follows as of December 31, 2021: $9 million remaining in 2022, $22 million in 2023, $44 million in 2024, $175 million in 2025 and zero in 2026.

Accounts Receivable Facilities and Off-Balance Sheet Arrangements

U.S. Accounts Receivable Sales Program

Ashland continues to maintain its U.S. Accounts Receivable Sales Program entered into during fiscal 2021. Ashland accounts for the receivables transferred to buyers as sales. Ashland recognizes any gains or losses based on the excess of proceeds received net of buyer's discounts and fees compared to the carrying value of the assets. Proceeds received, net of buyer's discounts and fees, are recorded within the operating activities of the Statement of Condensed Consolidated Cash Flows. Losses on sale of assets, including related transaction expenses are recorded within the Net interest and other expense (income) caption of the Statement of Consolidated Comprehensive Income (Loss). Ashland regularly assesses its servicing obligations and records them as assets or liabilities when appropriate. Ashland also monitors its obligation with regards to the limited guarantee and records the resulting guarantee liability when warranted. When applicable, Ashland discloses the amount of the receivable that serves as over-collateralization as a restricted asset.

Ashland recognized a loss of less then $1 million within its Statement of Consolidated Comprehensive Income (Loss) for the three months ended December 31, 2021 within the net interest and other expense (income) caption associated with sales under the program. Ashland has recorded $100 million of sales at December 31, 2021 against the buyer’s limit, which was $100 million at December 31, 2021 compared to $113 million of sales at September 30, 2021 against the buyer's limit, which was $125 million at September 30, 2021. Ashland transferred $143 million and $167 million in receivables to the special purpose entity (SPE) as of December 31, 2021 and September 30, 2021, respectively. Ashland recorded liabilities related to its service obligations and limited guarantee as of December 31, 2021 and September 30, 2021 of less than $1 million. As of December 31, 2021, the year-to-date gross cash proceeds received for receivables transferred and derecognized was $124 million, of which $137 million was collected, which includes collections from the sales in prior year transferred to the buyer. The difference of $13 million for receivables transferred and derecognized versus collected represents the impact of a reduction in sales volume during the current quarter, of which $3 million related to Performance Adhesives.

Foreign Accounts Receivable Securitization Facility

Ashland continues to maintain its Foreign 2018 Accounts Receivable Securitization Facility. Ashland accounts for the Foreign 2018 Accounts Receivable Securitization Facility as secured borrowings, and the receivables sold pursuant to the facility are included in the Consolidated Balance Sheets as accounts receivable. At December 31, 2021 and September 30, 2021, the outstanding amount of accounts receivable transferred by Ashland was $138 million and $152 million, respectively, and there were $113 million and $117 million, respectively, of borrowings (denominated in multiple currencies) under the facility.

Available borrowing capacity and liquidity

The borrowing capacity remaining under the 2020 Credit Agreement which included the $600 million Revolving Credit Facility was $341 million due to an outstanding balance of $240 million, as well as a reduction of $19 million for letters of credit outstanding as of December 31, 2021. Ashland's total borrowing capacity at December 31, 2021 was $341 million, which included zero of available capacity from the foreign 2018 Accounts Receivable Securitization Facility.

Additionally, Ashland had no available liquidity under its current U.S. Accounts Receivable Sales Program as of December 31, 2021.

Covenants related to current Ashland debt agreements

Ashland's debt contains usual and customary representations, warranties and affirmative and negative covenants, including financial covenants for leverage and interest coverage ratios, limitations on liens, additional subsidiary indebtedness, restrictions on subsidiary distributions, investments, mergers, sale of assets and restricted payments and other customary limitations. As of December 31, 2021, Ashland is in compliance with all debt agreement covenant restrictions.

The maximum consolidated net leverage ratio permitted under Ashland's current credit agreement (the 2020 Credit Agreement) is 4.0. At December 31, 2021, Ashland’s calculation of the consolidated net leverage ratio was 3.1.

The minimum required consolidated interest coverage ratio under the 2020 Credit Agreement during its entire duration is 3.0. At December 31, 2021, Ashland’s calculation of the interest coverage ratio was 9.4.

NOTE I – LEASING ARRANGEMENTS

Ashland leases certain office buildings, transportation equipment, warehouses and storage facilities, and equipment. Substantially all of Ashland’s leases are operating leases or short-term leases. Real estate leases represented over 80% of the total lease liability at December 31, 2021 and September 30, 2021, respectively.

The components of lease cost recognized within the Statements of Consolidated Comprehensive Income (Loss) were as follows:

		Three months ended December 31	
(In millions)	Location	2021	2020
Lease cost:			
Operating lease cost	Selling, General & Administrative	$ 3	$ 3
Operating lease cost	Cost of Sales	4	4
Variable lease cost	Selling, General & Administrative	1	—
Variable lease cost	Cost of Sales	1	1
Short-term leases	Cost of Sales	1	1
Total lease cost		$ 10	$ 9

The following table summarizes Ashland's lease assets and liabilities as presented in the Condensed Consolidated Balance Sheet:

(In millions)	December 31 2021	September 30 2021
Assets		
Operating lease assets, net	$ 117	$ 124
Total lease assets	$ 117	$ 124
Liabilities		
Current operating lease obligations	$ 22	$ 23
Non-current operating lease obligations	104	110
Total lease liabilities	$ 126	$ 133

Ashland often has options to renew lease terms for buildings and other assets. The exercise of lease renewal options are generally at Ashland's sole discretion. In addition, certain lease arrangements may be terminated prior to their original expiration date at Ashland's discretion. Ashland evaluates renewal and termination options at the lease commencement date to determine if it is reasonably certain to exercise the option on the basis of economic factors. The weighted average remaining lease term for operating leases as of both December 31, 2021 and September 30, 2021 was approximately 15 years.

Residual value guarantees are not common within Ashland's lease agreements nor are restrictions or covenants imposed by leases. Ashland has elected the practical expedient to combine lease and non-lease components. The discount rate implicit within the leases is generally not determinable. Therefore, Ashland determines the discount rate based on its incremental borrowing rate. The incremental borrowing rate is determined using a buildup method resulting in an estimated range of secured borrowing rates matching the lease term and the currency of the jurisdiction in which lease payments are made, adjusted for impacts of collateral. Consideration was given to Ashland's own relevant debt issuances as well as debt instruments of comparable companies with similar credit characteristics. The weighted average discount rate used to measure operating lease liabilities as of December 31, 2021 and September 30, 2021 was 2.8%, respectively. There are no leases that have not yet commenced but that create significant rights and obligations.

Right-of-use assets exchanged for new operating lease obligations was $1 million and $2 million for the three months ended December 31, 2021 and 2020, respectively.

The following table provides cash paid for amounts included in the measurement of operating lease liabilities:

	Three months ended December 31	
(In millions)	2021	2020
Operating cash flows from operating leases	$ 7	$ 7

The following table summarizes Ashland's maturities of lease liabilities as of December 31, 2021 and September 30, 2021:

(In millions)	December 31 2021	September 30 2021
Remainder of 2022	$ 32	$ 39
2023	20	20
2024	16	16
2025	11	11
2026	9	9
Thereafter	77	78
Total lease payments	165	173
Less amount of lease payment representing interest	(39)	(40)
Total present value of lease payments	$ 126	$ 133

NOTE J – INCOME TAXES

Current fiscal year

Ashland's effective tax rate in any interim period is subject to adjustments related to discrete items and the mix of domestic and foreign operating results. The overall effective tax rate was 13% for the three months ended December 31, 2021.

The current quarter tax rate was impacted by jurisdictional income mix, as well as $3 million from favorable tax discrete items.

Prior fiscal year

The overall effective tax rate was a benefit of 13% for the three months ended December 31, 2020. The quarter tax rate was primarily impacted by jurisdictional income mix, as well as $13 million from favorable tax discrete items primarily related to the Specialty Additives facility sale.

Unrecognized tax benefits

Changes in unrecognized tax benefits are summarized as follows for the three months ended December 31, 2021.

(In millions)	
Balance at October 1, 2021	$ 82
Increases related to positions taken in the current year	1
Lapse of statute of limitations	(1)
Balance at December 31, 2021	$ 82

From a combination of statute expirations and audit settlements in the next twelve months, Ashland expects a decrease in the amount accrued for uncertain tax positions of between $6 million and $16 million for continuing operations. It is reasonably possible that there could be other material changes to the amount of uncertain tax positions due to activities of the taxing authorities, settlement of audit issues or the reassessment of existing uncertain tax positions; however, Ashland is not able to estimate the impact of these items at this time.

NOTE K - EMPLOYEE BENEFIT PLANS

Plan contributions

For the three months ended December 31, 2021, Ashland contributed $1 million to its non-U.S. pension plans and zero to its U.S. pension plans. Ashland expects to make additional contributions of approximately $4 million to its non-U.S. and less than $1 million to its U.S. pension plans during the remainder of fiscal 2022.

Components of net periodic benefit costs (income)

The following table details the components of pension and other postretirement benefit costs for continuing operations.

(In millions)	Pension benefits 2021	Pension benefits 2020	Other postretirement benefits 2021	Other postretirement benefits 2020
Three months ended December 31				
Service cost	$ 1	$ 1	$ —	$ —
Interest cost	2	2	—	—
Expected return on plan assets	(2)	(2)	—	—
Total net periodic benefit costs	$ 1	$ 1	$ —	$ —

For segment reporting purposes, service cost is proportionately allocated to each segment, excluding the Unallocated and other segment, and is recorded within the selling, general and administrative expense and cost of sales captions on the Statements of Consolidated Comprehensive Loss (Income). All other components are recorded within the other net periodic benefit income caption on the Statements of Consolidated Comprehensive Loss (Income), which netted to zero for the three months ended December 31, 2021 and 2020.

NOTE L – LITIGATION, CLAIMS AND CONTINGENCIES

Asbestos litigation

Ashland is subject to liabilities from claims alleging personal injury caused by exposure to asbestos. Such claims result from indemnification obligations undertaken in 1990 in connection with the sale of Riley Stoker Corporation (Riley) and the acquisition of Hercules in November 2008. Although Riley, a former subsidiary, was neither a producer nor a manufacturer of asbestos, its industrial boilers contained some asbestos-containing components provided by other companies. Hercules, an indirect wholly-owned subsidiary of Ashland, has liabilities from claims alleging personal injury caused by exposure to asbestos. Such claims typically arise from alleged exposure to asbestos fibers from resin encapsulated pipe and tank products sold by one of Hercules' former subsidiaries to a limited industrial market.

To assist in developing and annually updating independent reserve estimates for future asbestos claims and related costs given various assumptions for Ashland and Hercules asbestos claims, Ashland retained third party actuarial experts Gnarus. The methodology used by Gnarus to project future asbestos costs is based largely on recent experience, including claim-filing and settlement rates, disease mix, enacted legislation, open claims and litigation defense. The claim experience of Ashland and Hercules are separately compared to the results of previously conducted third party epidemiological studies estimating the number of people likely to develop asbestos-related diseases. Those studies were undertaken in connection with national analyses of the population expected to have been exposed to asbestos. Using that information, Gnarus estimates a range of the number of future claims that may be filed, as well as the related costs that may be incurred in resolving those claims. Changes in asbestos-related liabilities and receivables are recorded on an after-tax basis within the discontinued operations caption in the Statements of Consolidated Comprehensive Income (Loss).

Ashland asbestos-related litigation

The claims alleging personal injury caused by exposure to asbestos asserted against Ashland result primarily from indemnification obligations undertaken in 1990 in connection with the sale of Riley. The amount and timing of settlements and number of open claims can fluctuate from period to period. A summary of Ashland asbestos claims activity, excluding Hercules claims, follows.

(In thousands)	Three months ended December 31 2021	2020	Years ended September 30 2021	2020	2019
Open claims - beginning of year	46	49	49	53	53
New claims filed	—	1	2	2	2
Claims settled	—	—	(1)	(1)	(1)
Claims dismissed	(1)	(1)	(4)	(5)	(1)
Open claims - end of period	45	49	46	49	53

Ashland asbestos-related liability

From the range of estimates, Ashland records the amount it believes to be the best estimate of future payments for litigation defense and claim settlement costs, which generally approximates the mid-point of the estimated range of exposure from model results. Ashland reviews this estimate and related assumptions quarterly and annually updates the results of a non-inflated, non-discounted approximate 50-year model developed with the assistance of Gnarus.

During the most recent annual update of this estimate completed during fiscal year 2021, it was determined that the liability for Ashland asbestos-related claims should be increased by $12 million. Total reserves for asbestos claims were $307 million at December 31, 2021 compared to $320 million at September 30, 2021.

A progression of activity in the asbestos reserve is presented in the following table.

(In millions)	Three months ended December 31 2021	2020	Years ended September 30 2021	2020	2019
Asbestos reserve - beginning of year	$ 320	$ 335	$ 335	$ 352	$ 380
Reserve adjustment	—	—	12	13	1
Amounts paid	(13)	(10)	(27)	(30)	(29)
Asbestos reserve - end of period (a)	$ 307	$ 325	$ 320	$ 335	$ 352

(a) Included $29 million classified in accrued expenses and other liabilities on the Condensed Consolidated Balance Sheets as of December 31, 2021 and September 30, 2021.

Ashland asbestos-related receivables

Ashland has insurance coverage for certain litigation defense and claim settlement costs incurred in connection with its asbestos claims, and coverage-in-place agreements exist with the insurance companies that provide substantially all of the coverage that will be accessed.

For the Ashland asbestos-related obligations, Ashland has estimated the value of probable insurance recoveries associated with its asbestos reserve based on management’s interpretations and estimates surrounding the available or applicable insurance coverage, including an assumption that all solvent insurance carriers remain solvent. A substantial portion of the estimated receivables from insurance companies are expected to be due from domestic insurers.

At December 31, 2021, Ashland’s receivable for recoveries of litigation defense and claim settlement costs from insurers amounted to $99 million (excluding the Hercules receivable for asbestos claims) compared to $100 million at September 30, 2021. During fiscal year 2021, the annual update of the model used for purposes of valuing the asbestos reserve and its impact on valuation of future recoveries from insurers was completed. This model update resulted in a $8 million increase in the receivable for probable insurance recoveries.

A progression of activity in the Ashland insurance receivable is presented in the following table.

(In millions)	Three months ended December 31		Years ended September 30		
	2021	2020	2021	2020	2019
Insurance receivable - beginning of year	$ 100	$ 103	$ 103	$ 123	$ 140
Receivable adjustment (a)	—	(2)	6	1	(5)
Insurance settlement	—	—	—	(10)	—
Amounts collected	(1)	(3)	(9)	(11)	(12)
Insurance receivable - end of period (b)	$ 99	$ 98	$ 100	$ 103	$ 123

(a) The three months ended December 31, 2020 includes a reserve adjustment of $2 million related to allowances for credit losses as a result of Ashland's adoption of the new credit measurement standard. The total allowance for credit losses was $2 million as of December 31, 2021.

(b) Includes $12 million classified in accounts receivable on the Condensed Consolidated Balance Sheets as of December 31, 2021 and September 30, 2021.

Hercules asbestos-related litigation

Hercules has liabilities from claims alleging personal injury caused by exposure to asbestos. Such claims typically arise from alleged exposure to asbestos fibers from resin encapsulated pipe and tank products which were sold by one of Hercules' former subsidiaries to a limited industrial market. The amount and timing of settlements and number of open claims can fluctuate from period to period. A summary of Hercules' asbestos claims activity follows.

(In thousands)	Three months ended December 31		Years ended September 30		
	2021	2020	2021	2020	2019
Open claims - beginning of year	12	12	12	13	13
New claims filed	1	1	1	1	1
Claims dismissed	(1)	(1)	(1)	(2)	(1)
Open claims - end of period	12	12	12	12	13

Hercules asbestos-related liability

From the range of estimates, Ashland records the amount it believes to be the best estimate of future payments for litigation defense and claim settlement costs, which generally approximates the mid-point of the estimated range of exposure from model results. Ashland reviews this estimate, and related assumptions quarterly and annually updates the results of a non-inflated, non-discounted approximate 50-year model developed with the assistance of Gnarus. As a result of the most recent annual update of this estimate, completed during fiscal year 2021, it was determined that the liability for Hercules asbestos-related claims should be increased by $8 million. Total reserves for asbestos claims were $211 million at December 31, 2021 compared to $217 million at September 30, 2021.

A progression of activity in the asbestos reserve is presented in the following table.

(In millions)	Three months ended December 31		Years ended September 30		
	2021	2020	2021	2020	2019
Asbestos reserve - beginning of year	$ 217	$ 229	$ 229	$ 252	$ 282
Reserve adjustments	—	—	8	(3)	(10)
Amounts paid	(6)	(5)	(20)	(20)	(20)
Asbestos reserve - end of period (a)	$ 211	$ 224	$ 217	$ 229	$ 252

(a) Included $17 million and $18 million classified in accrued expenses and other liabilities on the Condensed Consolidated Balance Sheets as of December 31, 2021 and September 30, 2021, respectively.

Hercules asbestos-related receivables

For the Hercules asbestos-related obligations, certain reimbursement obligations pursuant to coverage-in-place agreements with insurance carriers exist. Ashland has estimated the value of probable insurance recoveries associated with its asbestos reserve based on management's interpretations and estimates surrounding the available or applicable insurance coverage, including an assumption that all solvent insurance carriers remain solvent. The estimated receivable consists exclusively of solvent domestic insurers.

As of December 31, 2021, Ashland's receivable for recoveries of litigation defense and claims costs from insurers with respect to Hercules amounted to $47 million. During fiscal year 2021, the annual update of the model used for purposes of valuing the asbestos reserve and its impact on valuation of future recoveries from insurers was completed. This model update resulted in an increase of $2 million in the receivable for probable insurance recoveries.

A progression of activity in the Hercules insurance receivable is presented in the following table.

	Three months ended December 31		Years ended September 30		
(In millions)	2021	2020	2021	2020	2019
Insurance receivable - beginning of year	$ 47	$ 47	$ 47	$ 49	$ 54
Receivable adjustment (a)	—	(1)	1	(2)	(5)
Amounts collected	—	—	(1)	—	—
Insurance receivable - end of period (b)	$ 47	$ 46	$ 47	$ 47	$ 49

(a) The three months ended December 31, 2020 includes a reserve adjustment of $1 million related to allowances for credit losses as a result of Ashland's adoption of the new credit measurement standard. The total allowance for credit losses was $1 million as of December 31, 2021.

(b) Includes $1 million classified in accounts receivable on the Condensed Consolidated Balance Sheets as of December 31, 2021 and September 30, 2021.

Asbestos litigation cost projection

Projecting future asbestos costs is subject to numerous variables that are extremely difficult to predict. In addition to the significant uncertainties surrounding the number of claims that might be received, other variables include the type and severity of the disease alleged by each claimant, the long latency period associated with asbestos exposure, mortality rates, dismissal rates, costs of medical treatment, the impact of bankruptcies of other companies that are co-defendants in claims, uncertainties surrounding the litigation process from jurisdiction to jurisdiction and from case to case, and the impact of potential changes in legislative or judicial standards. Furthermore, any predictions with respect to these variables are subject to even greater uncertainty as the projection period lengthens. Considering these inherent uncertainties, Ashland believes that the asbestos reserves for Ashland and Hercules represent the best estimate within a range of possible outcomes. As a part of the process to develop these estimates of future asbestos costs, a range of long-term cost models was developed. These models are based on national studies that predict the number of people likely to develop asbestos-related diseases and are heavily influenced by assumptions regarding long-term inflation rates for indemnity payments and legal defense costs, as well as other variables mentioned previously. Ashland has currently estimated in various models ranging from approximately 40 to 50 year periods that it is reasonably possible that total future litigation defense and claim settlement costs on an inflated and undiscounted basis could range as high as approximately $482 million for the Ashland asbestos-related litigation (current reserve of $307 million) and approximately $334 million for the Hercules asbestos-related litigation (current reserve of $211 million), depending on the combination of assumptions selected in the various models. If actual experience is worse than projected, relative to the number of claims filed, the severity of alleged disease associated with those claims or costs incurred to resolve those claims, or actuarial refinement or improvements to the assumptions used within these models are initiated, Ashland may need to further increase the estimates of the costs associated with asbestos claims and these increases could be material over time.

Environmental remediation and asset retirement obligations

Ashland is subject to various federal, state and local environmental laws and regulations that require environmental assessment or remediation efforts (collectively, environmental remediation) at multiple locations. At December 31, 2021, such locations included 80 sites where Ashland has been identified as a potentially responsible party under Superfund or similar state laws, 112 current and former operating facilities (including certain operating facilities conveyed as part of previous divestitures) and about 1,225 service station properties, of which 17 are being actively remediated.

Ashland’s reserves for environmental remediation and related environmental litigation amounted to $197 million at December 31, 2021 compared to $207 million at September 30, 2021, of which $142 million at December 31, 2021 and $152 million at September 30, 2021 were classified in other noncurrent liabilities on the Condensed Consolidated Balance Sheets. The remaining reserves were classified in accrued expenses and other liabilities on the Condensed Consolidated Balance Sheets.

The following table provides a reconciliation of the changes in the environmental remediation reserves during the three months ended December 31, 2021 and 2020.

	Three months ended December 31	
(In millions)	2021	2020
Reserve - beginning of period	$ 207	$ 200
Disbursements	(14)	(10)
Revised obligation estimates and accretion	4	5
Reserve - end of period	$ 197	$ 195

The total reserves for environmental remediation reflect Ashland’s estimates of the most likely costs that will be incurred over an extended period to remediate identified conditions for which the costs are reasonably estimable, without regard to any third-party recoveries. Engineering studies, probability techniques, historical experience and other factors are used to identify and evaluate remediation alternatives and their related costs in determining the estimated reserves for environmental remediation. Ashland continues to discount certain environmental sites and regularly adjusts its reserves as environmental remediation continues. Ashland has estimated the value of its probable insurance recoveries associated with its environmental reserve based on management’s interpretations and estimates surrounding the available or applicable insurance coverage. At December 31, 2021 and September 30, 2021, Ashland’s recorded receivable for these probable insurance recoveries was $15 million and $16 million, of which $13 million at December 31, 2021 and September 30, 2021 was classified in other noncurrent assets on the Condensed Consolidated Balance Sheets.

Components of environmental remediation expense included within the selling, general and administrative expense caption of the Statements of Consolidated Comprehensive Income (Loss) are presented in the following table for the three ended December 31, 2021 and 2020.

	Three months ended December 31	
(In millions)	2021	2020
Environmental expense	$ 3	$ 5
Legal expense	1	1
Total expense	4	6
Insurance receivable	—	(1)
Total expense, net of receivable activity (a)	$ 4	$ 5

(a) Net expense of $1 million for the three months ended December 31, 2021 and 2020, relates to divested businesses which qualified for treatment as discontinued operations for which certain environmental liabilities were retained by Ashland. These amounts are classified within the income from discontinued operations caption of the Statements of Consolidated Comprehensive Income (loss).

Environmental remediation reserves are subject to numerous inherent uncertainties that affect Ashland’s ability to estimate its share of the costs. Such uncertainties involve the nature and extent of contamination at each site, the extent of required cleanup efforts under existing environmental regulations, widely varying costs of alternate cleanup methods, changes in environmental regulations, the potential effect of continuing improvements in remediation technology, and the number and financial strength of other potentially responsible parties at multiparty sites. Although it is not possible to predict with certainty the ultimate costs of environmental remediation, Ashland currently estimates that the upper end of the reasonably possible range of future costs for identified sites could be as high as approximately $465 million. The largest reserve for any site is 14% of the remediation reserve.

Other legal proceedings and claims

In addition to the matters described above, there are other various claims, lawsuits and administrative proceedings pending or threatened against Ashland and its current and former subsidiaries. Such actions are with respect to commercial matters, product liability, toxic tort liability, and other environmental matters, which seek remedies or damages, some of which are for substantial amounts. While Ashland cannot predict with certainty the outcome of such actions, it believes that adequate reserves have been recorded and losses already recognized with respect to such actions were immaterial as of December 31, 2021 and September 30, 2021. There is a reasonable possibility that a loss exceeding amounts already recognized may be incurred related to these actions; however, Ashland believes that such potential losses were immaterial as of December 31, 2021.

NOTE M – EARNINGS PER SHARE

The following is the computation of basic and diluted earnings per share (EPS) from continuing operations attributable to Ashland. Stock appreciation rights (SARs), stock options and warrants available to purchase shares outstanding for each reporting period whose grant price was greater than the average market price of Ashland Common Stock for each applicable period were not included in the computation of income from continuing operations per diluted share because the effect of these instruments would be antidilutive. The total number of these shares outstanding was approximately 1 million and 2 million at December 31, 2021 and 2020, respectively. Earnings per share is reported under the treasury stock method.

	Three months ended December 31	
(In millions, except per share data)	2021	2020
Numerator		
Numerator for basic and diluted EPS - Income (loss) from continuing operations	$ 32	$ 43
Denominator		
Denominator for basic EPS - Weighted-average common shares outstanding	57	60
Share based awards convertible to common shares	1	1
Denominator for diluted EPS - Adjusted weighted-average shares and assumed conversions	58	61
EPS from continuing operations		
Basic	$ 0.56	$ 0.71
Diluted	0.55	0.70

NOTE N – EQUITY ITEMS

Stockholder dividends

Dividends of 30 cents per share were paid in the first quarter of fiscal 2022 and 27.5 cents per share were paid in the first quarter of fiscal 2021.

Accumulated other comprehensive income (loss)

Components of other comprehensive income (loss) recorded in the Statements of Consolidated Comprehensive Income (Loss) are presented below, before tax and net of tax effects.

	2021			2020		
(In millions)	Before tax	Tax (expense) benefit	Net of tax	Before tax	Tax (expense) benefit	Net of tax
Three months ended December 31						
Other comprehensive income (loss)						
Unrealized translation gain (loss)	$ (18)	$ 1	$ (17)	$ 48	$ —	$ 48
Unrealized gain (loss) on commodity hedges	(4)	1	(3)	—	—	—
Total other comprehensive income (loss)	$ (22)	$ 2	$ (20)	$ 48	$ —	$ 48

Summary of stockholders' equity

A reconciliation of changes in stockholders' equity are as follows:

(In millions)	Three months ended December 31 2021	2020
Common stock and paid in capital		
Balance, beginning of period	$ 328	$ 770
Common shares issued under stock incentive and other plans (a)	—	1
Balance, end of period	328	771
Retained earnings		
Balance, beginning of period	2,796	2,649
Adoption of new accounting pronouncements	—	(2)
Net income	48	56
Regular dividends	(17)	(17)
Balance, end of period	2,827	2,686
Accumulated other comprehensive income (loss)		
Balance, beginning of period	(372)	(383)
Unrealized translation gain (loss)	(17)	48
Unrealized loss on commodity hedges	(3)	—
Balance, end of period	(392)	(335)
Total stockholders' equity	$ 2,763	$ 3,122
Cash dividends declared per common share	$ 0.300	$ 0.275

(a) Common shares issued were 94,715 shares and 99,194 for the three months ended December 31, 2021 and 2020, respectively.

NOTE O – STOCK INCENTIVE PLANS

The components of Ashland's pre-tax stock-based compensation expense included in continuing operations are as follows:

(In millions)	Three months ended December 31 2021 (a)	2020 (b)
SARs	$ —	$ 1
Nonvested stock awards	4	2
Performance share awards	2	2
	$ 6	$ 5

(a) Included $2 million of expense related to cash-settled nonvested restricted stock awards during the three months ended December 31, 2021.

(b) Included $1 million of expense related to cash-settled nonvested restricted stock awards during the three months ended December 31, 2020.

NOTE P – REVENUE

Disaggregation of revenue

Ashland disaggregates its revenue by segment and geographical region as Ashland believes these categories best depict how management reviews the financial performance of its operations. See the following tables for details. See Note Q for additional information.

Sales by geography

(In millions)	Three months ended December 31	
	2021	2020
Life Sciences		
North America	$ 53	$ 51
Europe	55	54
Asia Pacific	46	47
Latin America & other	16	18
	$ 170	$ 170

(In millions)	Three months ended December 31	
	2021	2020
Personal Care		
North America	$ 41	$ 41
Europe	57	46
Asia Pacific	32	21
Latin America & other	17	18
	$ 147	$ 126

(In millions)	Three months ended December 31	
	2021	2020
Specialty Additives		
North America	$ 52	$ 45
Europe	55	52
Asia Pacific	41	41
Latin America & other	8	9
	$ 156	$ 147

(In millions)	Three months ended December 31	
	2021	2020
Intermediates		
North America	$ 32	$ 21
Europe	10	4
Asia Pacific	9	7
Latin America & other	2	1
	$ 53	$ 33

Trade receivables

Trade receivables are defined as receivables arising from contracts with customers and are recorded within the accounts receivable caption within the Condensed Consolidated Balance Sheets. Ashland’s trade receivables were $288 million and $308 million as of December 31, 2021 and September 30, 2021, respectively. See Note H for additional information on Ashland’s program to sell certain receivables on a revolving basis to third party banks up to an aggregate purchase limit (U.S Accounts Receivable Sales Program).

NOTE Q – REPORTABLE SEGMENT INFORMATION

Ashland determines its reportable segments based on how operations are managed internally for the products and services sold to customers, including how the results are reviewed by the chief operating decision maker, which includes determining resource allocation methodologies used for reportable segments. Operating income and EBITDA are the primary measures of performance that are reviewed by the chief operating decision maker in assessing each reportable segment's financial performance. Ashland does not aggregate operating segments to arrive at these reportable segments.

Change in reportable segments

As previously described in Note B, Ashland announced that it had signed a definitive agreement on August 30, 2021 to sell its Performance Adhesives segment. The operating results and cash flows for the Performance Adhesives segment have been classified as discontinued operations within the Consolidated Financial Statements for all periods presented. As a result, Ashland's reportable segments included Life Sciences, Personal Care, Specialty Additives and Intermediates.

Unallocated and Other includes corporate governance activities and certain legacy matters. The historical segment information has been recast to conform to the current segment structure.

Reportable segment business descriptions

Life Sciences is comprised of pharmaceuticals, nutrition, nutraceuticals, agricultural chemicals, advanced materials and fine chemicals. Pharmaceutical solutions include controlled release polymers, disintegrants, film coatings, solubilizers, and tablet binders. Nutrition solutions include for thickeners, stabilizers, emulsifiers and additives for enhancing mouthfeel, controlling moisture migration, reducing oil uptake and controlling color. Nutraceutical solutions include products for weight management, joint comfort, stomach and intestinal health, sports nutrition and general wellness, and provide custom formulation, toll processing and particle engineering solutions. Customers include pharmaceutical, food, beverage, nutraceuticals and supplements manufacturers, hospitals and radiologists and industrial manufacturers.

Personal Care (formerly Personal Care & Household) is comprised of biofunctionals, preservatives, skin care, sun care, oral care, hair care and household. These businesses have a broad range of nature-based, biodegradable, and performance ingredients for customer-driven solutions to help protect, renew, moisturize and revitalize skin and hair, and provide solutions for toothpastes, mouth washes and rinses, denture cleaning and care for teeth. Household supplies nature-derived rheology ingredients, biodegradable surface wetting agents, performance encapsulates, and specialty polymers for household, industrial and institutional cleaning products. Customers include formulators at large multinational branded consumer products companies and smaller, independent boutique companies.

Specialty Additives is comprised of rheology- and performance-enhancing additives serving the coatings, construction, energy, automotive and various industrial markets. Solutions include coatings additives for architectural paints, finishes and lacquers, cement- and gypsum- based dry mortars, ready-mixed joint compounds, synthetic plasters for commercial and residential construction, and specialty materials for industrial applications. Products include rheology modifiers (cellulosic and associative thickeners), foam control agents, surfactants and wetting agents, pH neutralizers, advanced ceramics used in catalytic converters, and environmental filters, ingredients that aid the manufacturing process of ceramic capacitors, plasma display panels and solar cells, ingredients for textile printing, thermoplastic metals and alloys for welding. Products help improve desired functional outcomes through rheology modification and control, water retention, workability, adhesive strength, binding power, film formation, deposition and suspension and emulsification. Customers include global paint manufacturers, electronics and automotive manufacturers, textile mills, the construction industry, and welders.

Intermediates (formerly Intermediates and Solvents) is comprised of the production of 1,4 butanediol (BDO) and related derivatives, including n-methylpyrrolidone. These products are used as chemical intermediates in the production of engineering polymers and polyurethanes, and as specialty process solvents in a wide array of applications including electronics, pharmaceuticals, water filtration membranes and more. Butanediol is also provided as a feedstock to Life Sciences, Personal Care, and Specialty Additives for use as a raw material.

Unallocated and Other generally includes items such as certain significant company-wide restructuring activities, corporate governance costs and legacy costs or activities that relate to divested businesses that are no longer operated by Ashland.

Reportable segment results

Results of Ashland's reportable segments are presented based on its management and internal accounting structure. The structure is specific to Ashland; therefore, the financial results of Ashland's reportable segments are not necessarily comparable with similar information for other comparable companies. Ashland allocates all significant costs to its reportable segments except for certain significant company-wide restructuring activities, certain corporate governance costs and other costs or activities that relate to former businesses that Ashland no longer operates. The service cost component of pension and other postretirement benefits costs is allocated to each reportable segment on a ratable basis; while the remaining components of pension and other postretirement benefits costs are recorded within the other net periodic benefit income caption on the Statements of Consolidated Comprehensive Income (Loss). Ashland refines its expense allocation methodologies to the reportable segments from time to time as internal accounting practices are improved, more refined information becomes available and the industry or market changes. Significant revisions to Ashland's methodologies are adjusted for all segments on a retrospective basis.

The following table presents various financial information for each reportable segment for the three months ended December 31, 2021 and 2020.

	Three months ended December 31	
(In millions - unaudited)	2021	2020
SALES		
Life Sciences	$ 170	$ 170
Personal Care	147	126
Specialty Additives	156	147
Intermediates	53	33
Intersegment sales (a)	(14)	(8)
	$ 512	$ 468
OPERATING INCOME (LOSS)		
Life Sciences	$ 21	$ 29
Personal Care	15	15
Specialty Additives (b)	17	2
Intermediates	16	2
Unallocated and other	(27)	(31)
	$ 42	$ 17
DEPRECIATION EXPENSE		
Life Sciences	$ 8	$ 9
Personal Care	9	10
Specialty Additives	16	16
Intermediates	3	3
	$ 36	$ 38
AMORTIZATION EXPENSE		
Life Sciences	$ 7	$ 7
Personal Care	12	9
Specialty Additives	5	5
Intermediates	—	—
	$ 24	$ 21
EBITDA (c)		
Life Sciences	$ 36	$ 45
Personal Care	36	34
Specialty Additives	38	23
Intermediates	19	5
Unallocated and other	(27)	(31)
	$ 102	$ 76

(In millions - unaudited)	December 31 2021	September 30 2021
TOTAL ASSETS		
Life Sciences	$ 1,922	$ 1,945
Personal Care	1,110	1,145
Specialty Additives	1,618	1,636
Intermediates	163	160
Unallocated and other	1,736	1,726
	$ 6,549	$ 6,612

(a) Intersegment sales from Intermediates are accounted for at prices that approximate fair value. All other intersegment sales are accounted for at cost.

(b) Includes a capital project impairment of $9 million for the three months ended December 20, 2020 relating to a long-term capital project plan change at a plant facility.

(c) Excludes income (loss) from discontinued operations, other net periodic benefit income (expense) and net income (loss) on divestitures. See the Statement of Consolidated Comprehensive Income (Loss) for applicable amounts excluded.

FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements including, without limitation, statements made under the caption "Management's Discussion and Analysis of Financial Condition and Results of Operation" (MD&A), within the meaning of Section 27A of the Securities Act of 1933, as amended and Section 21E of the Securities Exchange Act of 1934, as amended. Ashland has identified some of these forward-looking statements with words such as "anticipates," "believes," "expects," "estimates," "is likely," "predicts," "projects," "forecasts," "objectives," "may," "will," "should," "plans" and "intends" and the negative of these words or other comparable terminology. Ashland may from time to time make forward-looking statements in its Annual Report to Shareholders, quarterly reports and other filings with the Securities and Exchange Commission (SEC), news releases and other written and oral communications. These forward-looking statements are based on Ashland's expectations and assumptions, as of the date such statements are made, regarding Ashland's future operating performance and financial condition and expected effects of the COVID-19 pandemic on Ashland's business, as well as the economy and other future events or circumstances. Ashland's expectations and assumptions include, without limitation, those mentioned within the MD&A, internal forecasts and analyses of current and future market conditions and trends, management plans and strategies, operating efficiencies, cost savings and economic conditions (such as prices, supply and demand, cost of raw materials, and the ability to recover raw-material cost increases through price increases), and risks and uncertainties associated with the following: the impact of acquisitions and/or divestitures Ashland has made or may make, including the acquisition of Schülke & Mayr's personal care business and the sale of the Performance Adhesive business (including the possibility that Ashland may not realize the anticipated benefits from such transactions); Ashland's substantial indebtedness (including the possibility that such indebtedness and related restrictive covenants may adversely affect Ashland's future cash flows, results of operations, financial condition and its ability to repay debt); execution risks associated with Ashland's growth strategies; the competitive nature of Ashland's business; severe weather, natural disasters, public health crises (including the COVID-19 pandemic), cyber events and legal proceedings and claims (including product recalls, environmental and asbestos matters); the effects of the COVID-19 pandemic on the geographies in which Ashland operates, the end markets Ashland serves and on Ashland's supply chain and customers; and without limitation, risks and uncertainties affecting Ashland that are contained in "Use of estimates, risks and uncertainties" in Note A of Notes to Consolidated Financial Statements and in Item 1A in its most recent Form 10-K filed with the SEC, which is available on Ashland's website at http://investor.ashland.com or on the SEC's website at http://www.sec.gov. Various risks and uncertainties may cause actual results to differ materially from those stated, projected or implied by any forward-looking statements. The extent and duration of the COVID-19 pandemic on our business and operations is uncertain. Factors that influence the impact on our business and operations include the duration and extent of the pandemic, the extent of imposed or recommended containment and mitigation measures, and the general economic consequences of the pandemic. Ashland believes its expectations and assumptions are reasonable, but there can be no assurance that the expectations reflected herein will be achieved. Unless legally required, Ashland undertakes no obligation to update any forward-looking statements made in this Form 10-Q whether as a result of new information, future events or otherwise. Information on Ashland's website is not incorporated into or a part of this Form 10-Q.

ASHLAND GLOBAL HOLDINGS INC. AND CONSOLIDATED SUBSIDIARIES
MANAGEMENT’S DISCUSSION AND ANALYSIS

The following discussion should be read in conjunction with the Condensed Consolidated Financial Statements and the accompanying Notes to Condensed Consolidated Financial Statements herein.

BUSINESS OVERVIEW

Ashland profile

Ashland is a premier specialty additives and materials company with a conscious and proactive mindset for sustainability. The Company serves customers in a wide range of consumer and industrial markets, including adhesives, architectural coatings, construction, energy, food and beverage, nutraceuticals, personal care and pharmaceutical. With approximately 4,100 (3,800 excluding Performance Adhesives) employees worldwide, Ashland serves customers in more than 100 countries.

Ashland’s sales generated outside of North America were 68% for both the three months ended December 31, 2021 and 2020. Sales by region expressed as a percentage of total consolidated sales for the three months ended December 31 were as follows:

	Three months ended December 31	
Sales by Geography	2021	2020
North America (a)	32 %	32 %
Europe	35 %	34 %
Asia Pacific	25 %	25 %
Latin America & other	8 %	9 %
	100 %	100 %

(a) Ashland includes only U.S. and Canada in its North America designation.

Reportable segments

On August 31, 2021, Ashland announced its agreement with Arkema, a French société anonyme, to sell the Performance Adhesive business for the sum of $1.65 billion. The transaction is expected to close by the March 2022 quarter end, subject to closing conditions. Ashland expects net proceeds from the sale to be approximately $1.2 to $1.3 billion, with the aim of using the proceeds to invest in the growth of its other reportable core businesses as well as to optimize its balance sheet through debt reductions or utilization of unused authorized share repurchase program amounts. The expected divestiture represents a strategic shift in Ashland's business and qualifies as a discontinued operation. As a result, the assets, liabilities, operating results and cash flows related to Performance Adhesives have been classified as discontinued operations for all periods presented within the Consolidated Financial Statements.

As a result, Ashland’s reportable segments include Life Sciences, Personal Care (formerly Personal Care & Household), Specialty Additives and Intermediates (formerly Intermediates and Solvents). Unallocated and Other includes corporate governance activities and certain legacy matters. The contribution to sales by each reportable segment expressed as a percentage of total consolidated sales for the three months ended December 31 was as follows:

Sales by Reportable Segment	Three months ended December 31 2021	2020
Life Sciences	33 %	36 %
Personal Care	29 %	27 %
Specialty Additives	30 %	32 %
Intermediates	8 %	5 %
	100 %	100 %

KEY DEVELOPMENTS

Business results current quarter

Ashland recorded net income of $48 million (income of $32 million in continuing operations and $16 million in discontinued operations) and net income of $56 million (income of $43 million in continuing operations and $13 million in discontinued operations) in the current and prior year quarters, respectively. Ashland’s EBITDA of $118 million increased by $15 million for the current quarter, while Ashland’s Adjusted EBITDA of $106 million increased by $5 million for the current quarter, each compared to the prior year quarter (see U.S. GAAP reconciliation below under consolidated review). These increases were primarily driven by the operations of the acquired Schülke business along with improved pricing and mix, partially offset by increased plant, manufacturing, and shipping costs and unfavorable foreign currency.

Uncertainty relating to the COVID-19 pandemic

Ashland continues to closely monitor the impact of the COVID-19 pandemic on all aspects of its business and geographies, including how it will impact customers, employees, suppliers, vendors, business partners and distribution channels. Ashland is unable to predict the impact that the COVID-19 pandemic will have on its future financial position and operating results due to numerous uncertainties. These uncertainties include the severity of the virus, the duration of the outbreak, governmental, business or other actions, impacts on Ashland’s supply chain, the effect on customer demand, or changes to Ashland’s operations. The health of Ashland’s workforce and its ability to meet staffing needs throughout the critical functions cannot be predicted and is vital to operations. Further, the impacts of a potential worsening of global economic conditions and the continued disruptions to, and volatility in, the credit and financial markets, consumer spending as well as other unanticipated consequences remain unknown. In addition, Ashland cannot predict the impact that the COVID-19 pandemic will have on its customers, vendors, suppliers and other business partners; however, any material effect on these parties could adversely impact Ashland.

Ashland continues to successfully navigate the uncertain environment associated with the COVID-19 pandemic. Through the first quarter of fiscal 2022, Ashland has not experienced any additional major operating surprises related to the COVID-19 pandemic, continues to maintain supply chains in a challenging environment, had strong safety performance in the face of unprecedented pressures and improved operating discipline across each of its businesses. Ashland's businesses continued to show resiliency in the face of difficult economic circumstances. While sales were up in the quarter period-over-period, continued supply-chain and labor-shortage challenges inhibited Ashland's ability to meet strong overall customer demand. As a result, approximately $20 million of confirmed orders were delayed in late December with the large majority being shipped in early January. Additionally, Ashland continues to carry a large backlog of unconfirmed orders it cannot commit to supply at this time. Ashland’s overall liquidity remains strong and Ashland is able to meet its operating cash needs and other investing and financing cash requirements at this time, including those necessary to grow the business.

The situation surrounding the COVID-19 pandemic remains fluid, and Ashland is actively managing its response in collaboration with customers, government officials, team members and business partners. For further information regarding the impact of the COVID-19 pandemic on the Company, please see Item 1A, Risk Factors in Ashland’s most recent Form 10-K filed with the SEC.

Other items

Performance Adhesives

In May 2021, Ashland announced a strategic review of its Performance Adhesives business unit. On August 31, 2021, Ashland announced that it had signed a definitive agreement to sell substantially all of the assets and liabilities of its Performance Adhesives segment in a transaction valued at $1.65 billion. The transaction is expected to close prior to the end of the March 2022 quarter, contingent on certain customary regulatory approvals, standard conditions and completion of required employee information and consultation processes. Since this transaction represents a strategic shift in Ashland's business and had a major effect on Ashland's operations and financial results, the operating results and cash flows related to Performance Adhesives have been reflected as discontinued operations in the statement of Consolidated Comprehensive Income (Loss) and Statements of Condensed Consolidated Cash Flows. See Notes B and C of the Notes to the Condensed Consolidated Financial Statements for more information. Certain indirect corporate costs included within the selling, general and administrative expense caption of the Statement of Consolidated Comprehensive Income (Loss) that were previously allocated to the Performance Adhesives segment do not qualify for classification within discontinued operations and are now reported as selling, general and administrative expense within continuing operations on a consolidated basis and within the Unallocated and other segment. These costs were $4 million for both the three months ended December 31, 2021, and 2020, respectively. Ashland is currently implementing plans to eliminate certain of these costs.

Operational business model changes and restructurings

As previously disclosed, during the second quarter of fiscal year 2020, Ashland changed the manner in which it manages the business moving from a functionally led to a business led organization. This new business-centric operational redesign of core operating systems and processes lead to a realignment in both the selling, general and administrative and research and development costs (SARD) associated with each business. In addition to the realignment of SARD, a productivity review with a focus on cost of goods sold (COGS) was also initiated. Based on these initiatives, Ashland targeted the following savings:

- $50 million of incremental SARD cost savings
- $50 million of incremental COGS productivity savings

As of December 31, 2021, Ashland has substantially achieved all of its target run-rate cost savings under these initiatives.

RESULTS OF OPERATIONS – CONSOLIDATED REVIEW

Consolidated review

Net income

Ashland's net income is primarily affected by results within operating income, net interest and other expense (income), income taxes, discontinued operations and other significant events or transactions that are unusual or nonrecurring.

Key financial results for the three months ended December 31, 2021 and 2020 included the following:

- Ashland's net income amounted to $48 million compared to $56 million for the three months ended December 31, 2021 and 2020, respectively, or income of $0.83 and $0.92 diluted earnings per share, respectively.
- Discontinued operations, which are reported net of taxes, resulted in income of $16 million and $13 million during the three months ended December 31, 2021 and 2020, respectively.
- Income from continuing operations, which excludes results from discontinued operations, amounted to income of $32 million and $43 million for the three months ended December 31, 2021 and 2020, respectively.
- The effective income tax rates were an expense of 13% and a benefit of 13% for the three months ended December 31, 2021 and 2020, respectively, and were significantly impacted by certain tax discrete items in both the current and prior year quarters.
- Ashland incurred pretax net interest and other expense (income) of $5 million and income of $7 million for the three months ended December 31, 2021 and 2020, respectively. This includes gains of $4 million and $18 million on restricted investments, respectively, for the current and prior year quarters.

- Net income on acquisitions and divestitures totaled income $14 million for the three months ended December 31, 2020.
- Operating income was $42 million and $17 million for the three months ended December 31, 2021 and 2020, respectively.

For further information on the items reported above, see the discussion in the comparative Statements of Consolidated Comprehensive Income (Loss) caption review analysis.

Operating income

Operating income/loss amounted to income of $42 million and $17 million for the three months ended December 31, 2021 and 2020, respectively. The current and prior year quarters' operating income included certain key items that were excluded to arrive at Adjusted EBITDA and are quantified in the table below in the "EBITDA and Adjusted EBITDA" section. These operating key items for the applicable periods are summarized as follows:

- Restructuring, separation and other costs – Ashland periodically implements company-wide cost reduction programs related to acquisitions, divestitures and other cost reduction programs in order to enhance profitability through streamlined operations and an improved overall cost structure. Ashland often incurs severance, facility and integration costs associated with these programs. As a result of these activities, Ashland recorded expenses in the current and prior year quarters. See Note D in the Notes to Condensed Consolidated Financial Statements for further information on the restructuring activities.
- During the three months ended December 31, 2020, Ashland incurred an impairment charge associated with a long-term capital project plan change at a plant facility.
- Environmental reserve adjustments – Ashland is subject to various federal, state and local environmental laws and regulations that require environmental assessment or remediation efforts (collectively environmental remediation) at multiple locations. As a result of these activities, Ashland recorded adjustments during the current and prior year quarters to its environmental liabilities and receivables related to operating facilities and previously divested businesses or non-operational sites. See Note L of the Notes to Condensed Consolidated Financial Statements for more information.

Operating income for the three months ended December 31, 2021 and 2020 included depreciation and amortization of $60 million and $59 million, respectively.

Non-operating key items affecting EBITDA

- Net income on acquisitions and divestitures – Ashland recorded income of $14 million during the three months ended December 31, 2020 related to the sale of a Specialty Additives facility.

Statements of Consolidated Comprehensive Income (Loss) – caption review

A comparative analysis of the Statements of Consolidated Comprehensive Income (Loss) by caption is provided as follows for the three months ended December 31, 2021 and 2020.

	Three months ended December 31		
(In millions)	2021	2020	Change
Sales	$ 512	$ 468	$ 44

The following table provides a reconciliation of the change in sales for the three ended December 31, 2021 and 2020.

(In millions)	Three months ended December 31, 2021
Volume	$ 5
Pricing	26
Currency exchange	(6)
Acquisition	19
Change in sales	$ 44

Sales for the current quarter increased $44 million compared to the prior year quarter. Favorable volume, including the acquisition of Schülke within the Personal Care reportable segment, and product pricing associated with cost inflation pricing actions increased sales by $24 million and $26 million, respectively, partially offset by unfavorable foreign currency exchange of $6 million.

	Three months ended December 31		
(In millions)	2021	2020	Change
Cost of sales	$ 351	$ 321	$ 30
Gross profit as a percent of sales	31.4%	31.4%	

The following table provides a reconciliation of the change in cost of sales between the three months ended December 31, 2021 and 2020.

(In millions)	Three months ended December 31, 2021
Changes in:	
Volume	$ 4
Price/mix	19
Currency exchange	(3)
Acquisition	10
Change in cost of sales	$ 30

Cost of sales for the current quarter increased $30 million compared to the prior year quarter. Price/mix, which includes cost inflation associated with plant manufacturing and shipping costs, and higher volume, including Schülke, increased cost of sales by $19 million and $14 million, respectively. These increases were partially offset by foreign currency exchange, which decreased cost of sales by $3 million.

	Three months ended December 31		
(In millions)	2021	2020	Change
Selling, general and administrative expense	$ 82	$ 101	$ (19)
As a percent of sales	16.0%	21.6%	

Selling, general and administrative expense for the current quarter decreased $19 million compared to the prior year quarter with expenses as a percent of sales decreasing 5.6 percentage points. Key drivers of the fluctuation in selling, general and administrative expense compared to the prior year quarter were:

- Expense of $1 million and $12 million comprised of key items for severance, lease abandonment and other restructuring costs during the three months ended December 31, 2021 and 2020, respectively;
- $9 million related to a capital project impairment during the three months ended December 31, 2020;
- $3 million and $4 million in net environmental-related expenses during the current and prior year period, respectively (see Note L for more information); and
- $2 million increase in selling, general and administrative expense related to the Schülke acquisition.

	Three months ended December 31		
(In millions)	2021	2020	Change
Research and development expense	$ 13	$ 13	$ —

Research and development expense is consistent with the prior year quarter.

	Three months ended December 31		
(In millions)	2021	2020	Change
Intangibles amortization expense	$ 24	$ 21	$ 3

The increase in amortization expense in the current quarter is due to the amortization of intangible assets associated with the Schülke acquisition.

(In millions)	Three months ended December 31 2021	2020	Change
Equity and other income			
Other income	$ —	$ 5	$ (5)
	$ —	$ 5	$ (5)

Other income of $5 million in the prior year quarter is primarily due to a gain on sale of excess corporate property of roughly $4 million.

(In millions)	Three months ended December 31 2021	2020	Change
Net interest and other expense (income)			
Interest expense	$ 16	$ 15	$ 1
Loss (income) from restricted investments	(12)	(23)	11
Other financing costs	1	1	—
	$ 5	$ (7)	$ 12

Net interest and other expense increased by $12 million during the current quarter compared to the prior year quarter. Interest expense increased $1 million primarily due to higher debt levels during the current quarter compared to the prior year quarter. Restricted investments income of $12 million and $23 million included gains of $4 million compared to $18 million for the three months ended December 31, 2021 and 2020, respectively. See Note E for more information on the restricted investments.

(In millions)	Three months ended December 31 2021	2020	Change
Net income on acquisitions and divestitures	$ —	$ 14	$ (14)

The activity in the prior year quarter relates to a a $14 million gain related to the sale of a Specialty Additives facility.

(In millions)	Three months ended December 31 2021	2020	Change
Income tax expense (benefit)	$ 5	$ (5)	$ 10
Effective tax rate	13 %	(13)%	

Ashland’s effective tax rate in any interim period is subject to adjustments related to discrete items and the mix of domestic and foreign operating results. The overall effective tax rate was 13% for the three months ended December 31, 2021 and was primarily impacted by jurisdictional income mix, as well as favorable discrete items of $3 million.

The overall effective tax rate was a benefit of 13% for the three months ended December 31, 2020 and was primarily impacted by jurisdictional income mix, as well as favorable discrete items of $13 million primarily related to the sale of a Specialty Additives facility.

Adjusted income tax expense (benefit)

Key items are defined as the financial effects from significant transactions that may have caused short-term fluctuations in net income and/or operating income which Ashland believes do not accurately reflect Ashland’s underlying business performance and trends. Tax specific key items are defined as the financial effects from tax specific financial transactions, tax law changes or other matters that fall within the definition of key items as previously described. The effective tax rate, excluding key items, which is a non-GAAP measure, has been prepared to illustrate the ongoing tax effects of Ashland’s operations. Management believes investors and analysts use this financial measure in assessing Ashland's business performance and that presenting this non-GAAP measure on a consolidated basis assists investors in better understanding Ashland’s ongoing business performance and enhancing their ability to compare period-to-period financial results.

The effective tax rate during the three months ended December 31, 2021 and 2020 was significantly impacted by the following tax specific key items:

- Restructuring and separation activity – Includes the impact from company-wide cost reduction programs, and the impact of the sale of a Specialty Additives facility.

The following table is a calculation of the effective tax rate, excluding these key items.

(In millions)	Three months ended December 31 2021		2020	
Income (loss) from continuing operations before income taxes	$	37	$	38
Key items (pre-tax) (a)		—		(7)
Adjusted income from continuing operations before income taxes	$	37	$	31
Income tax expense (benefit)	$	5	$	(5)
Income tax rate adjustments:				
Tax effect of key items		—		(3)
Tax specific key items: (b)				
Restructuring and separation activity		—		13
Total income tax rate adjustments		—		10
Adjusted income tax expense	$	5	$	5
Effective tax rate, excluding key items (Non-GAAP) (c)		13 %		17 %

(a) See Adjusted EBITDA reconciliation table disclosed in this MD&A for a summary of the key items, before tax.
(b) For additional information on the effect that these tax specific key items had on EPS, see the Adjusted Diluted EPS table disclosed in this MD&A.
(c) Due to rounding conventions, the effective tax rate presented may not recalculate precisely based on the numbers disclosed within this table.

(In millions)	Three months ended December 31 2021		2020		Change	
Income (loss) from discontinued operation (net of taxes)						
Performance Adhesives	$	17	$	18	$	(1)
Distribution		(1)		(1)		—
Gain (loss) on disposal of discontinued operations (net of taxes)						
Composites/Marl facility		—		(4)		4
	$	16	$	13	$	3

The activity for Distribution and Composites/Marl facility during the current and prior year quarters was related to post-closing adjustments. The Composites/Marl Facility activity for the prior year quarter included post-closing purchase price dispute adjustments. The Performance Adhesives segment sales and pre-tax operating income included in discontinued operations were $96 million and $22 million, and $84 million and $24 million respectively, for the current and prior year quarter.

Other comprehensive income (loss)

A comparative analysis of the components of other comprehensive income is provided below for the three months ended December 31, 2021 and 2020.

(In millions)	Three months ended December 31 2021		2020		Change	
Other comprehensive income (loss) (net of taxes)						
Unrealized translation gain (loss)	$	(17)	$	48	$	(65)
Unrealized gain (loss) on commodity hedges		(3)		—		(3)
	$	(20)	$	48	$	(68)

Total other comprehensive income (loss), net of tax, for the current quarter decreased $68 million compared to the prior year quarter primarily as a result of the following:

- For the three months ended December 31, 2021, the change in unrealized gain (loss) from foreign currency translation adjustments resulted in a loss of $17 million compared to a gain of $48 million for the three months ended December 31, 2020. The fluctuations in unrealized translation gains and losses are primarily due to translating foreign subsidiary financial statements from local currencies to U.S. Dollars.
- For the three months ended December 31, 2021, the change in commodity hedges is primarily due to the fluctuations of the market prices of the underlying commodities.

Use of non-GAAP measures

Ashland has included within this document the following non-GAAP measures, on both a consolidated and reportable segment basis, which are not defined within U.S. GAAP and do not purport to be alternatives to net income or cash flows from operating activities as a measure of operating performance or cash flows:

- EBITDA – net income (loss), plus income tax expense (benefit), net interest and other expenses, and depreciation and amortization.
- Adjusted EBITDA – EBITDA adjusted for noncontrolling interests, discontinued operations, net income (loss) on acquisitions and divestitures, other income and (expense) and key items (including remeasurement gains and losses related to pension and other postretirement plans).
- Adjusted EBITDA margin – Adjusted EBITDA divided by sales.
- Adjusted diluted earnings per share (EPS) – income (loss) from continuing operations, adjusted for key items, net of tax, divided by the average outstanding diluted shares for the applicable period.
- Adjusted diluted earnings per share (EPS) excluding intangibles amortization expense – Adjusted earnings per share adjusted for intangibles amortization expense net of tax, divided by the average outstanding diluted shares for the applicable period.
- Free cash flow – operating cash flows less capital expenditures.
- Ongoing free cash flow – operating cash flows less capital expenditures and certain other adjustments as applicable.
- Ongoing free cash flow conversion – ongoing free cash flow divided by adjusted EBITDA.

Management believes the use of EBITDA and Adjusted EBITDA measures on a consolidated and reportable segment basis assists investors in understanding the ongoing operating performance by presenting comparable financial results between periods. Ashland believes that by removing the impact of depreciation and amortization and excluding certain non-cash charges, amounts spent on interest and taxes and certain other charges that are highly variable from year to year, EBITDA and Adjusted EBITDA provide Ashland’s investors with performance measures that reflect the impact to operations from trends in changes in sales, margin and operating expenses, providing a perspective not immediately apparent from net income and operating income. The adjustments Ashland makes to derive the non-GAAP measures of EBITDA and Adjusted EBITDA exclude items which may cause short-term fluctuations in net income and operating income and which Ashland does not consider to be the fundamental attributes or primary drivers of its business. EBITDA and Adjusted EBITDA provide disclosure on the same basis as that used by Ashland’s management to evaluate financial performance on a consolidated and reportable segment basis and provide consistency in our financial reporting, facilitate internal and external comparisons of Ashland’s historical operating performance and its business units and provide continuity to investors for comparability purposes.

The Adjusted diluted EPS metric enables Ashland to demonstrate what effect key items have on an earnings per diluted share basis by taking income (loss) from continuing operations, adjusted for key items after tax that have been identified in the Adjusted EBITDA table, and dividing by the average outstanding diluted shares for the applicable period. Ashland’s management believes this presentation is helpful to illustrate how the key items have impacted this metric during the applicable period.

The Adjusted diluted EPS, excluding intangibles amortization expense metric enables Ashland to demonstrate the impact of non-cash intangibles amortization expense on EPS, in addition to the key items previously mentioned. Ashland’s management believes this presentation is helpful to illustrate how previous acquisitions impact applicable period results.

The free cash flow metrics enable Ashland to provide a better indication of the ongoing cash being generated that is ultimately available for both debt and equity holders as well as other investment opportunities. Unlike cash flow provided by operating activities, free cash flow and ongoing free cash flow includes the impact of capital expenditures from continuing operations and other significant items impacting cash flow, providing a more complete picture of current and future cash generation. Free cash flow has certain limitations, including that it does not reflect adjustment for certain non-discretionary cash flows such as mandatory debt repayments. The amount of mandatory versus discretionary expenditures can vary significantly between periods.

Although Ashland may provide forward-looking guidance for Adjusted EBITDA, Adjusted diluted EPS and ongoing free cash flow, Ashland is not reaffirming or providing forward-looking guidance for U.S. GAAP-reported financial measures or a reconciliation of forward-looking non-GAAP financial measures to the most directly comparable U.S. GAAP measure because it is unable to predict with reasonable certainty the ultimate outcome of certain significant items that affect these metrics such as domestic and international economic, political, legislative, regulatory and legal actions. In addition, certain economic conditions, such as recessionary trends, inflation, interest and monetary exchange rates, government fiscal policies and changes in the prices of certain key raw materials, can have a significant effect on operations and are difficult to predict with certainty.

These non-GAAP measures should be considered supplemental in nature and should not be construed as more significant than comparable measures defined by U.S. GAAP. Limitations associated with the use of these non-GAAP measures include that these measures do not present all of the amounts associated with our results as determined in accordance with U.S. GAAP. The non-GAAP measures provided are used by Ashland management and may not be determined in a manner consistent with the methodologies used by other companies. EBITDA and Adjusted EBITDA provide a supplemental presentation of Ashland's operating performance on a consolidated and reportable segment basis. Adjusted EBITDA generally includes adjustments for items that impact comparability between periods. In addition, certain financial covenants related to Ashland's 2020 Credit Agreement are based on similar non-GAAP measures and are defined further in the sections that refer to this metric.

EBITDA and Adjusted EBITDA

EBITDA totaled income of $118 million and $103 million for the three months ended December 31, 2021 and 2020, respectively. EBITDA and Adjusted EBITDA results in the table below have been prepared to illustrate the ongoing effects of Ashland's operations, which exclude certain key items previously described. Management believes the use of such non-GAAP measures on a consolidated and reportable segment basis assists investors in understanding the ongoing operating performance by presenting the financial results between periods on a more comparable basis.

	Three months ended December 31	
(In millions)	2021	2020
Net income (loss)	$ 48	$ 56
Income tax expense (benefit)	5	(5)
Net interest and other expense (income)	5	(7)
Depreciation and amortization	60	59
EBITDA	118	103
Income from discontinued operations (net of tax)	(16)	(13)
Key items included in EBITDA:		
Restructuring, separation and other costs	1	12
Capital project impairment	—	9
Environmental reserve adjustments	3	4
Net gain on acquisitions and divestitures	—	(14)
Total key items included in EBITDA	4	11
Adjusted EBITDA	$ 106	$ 101
Total key items included in EBITDA	$ 4	$ 11
Unrealized gain on securities	(4)	(18)
Total key items, before tax	$ —	$ (7)

Diluted EPS and Adjusted Diluted EPS

The following table reflects the U.S. GAAP calculation for the income from continuing operations adjusted for the cumulative diluted EPS effect for key items after tax that have been identified in the Adjusted EBITDA table in the previous section. Key items are defined as the financial effects from significant transactions that may have caused short-term fluctuations in net income and/or operating income which Ashland believes do not accurately reflect Ashland's underlying business performance and trends. The Adjusted diluted EPS for the income from continuing operations in the following table has been prepared to illustrate the ongoing effects of Ashland's operations. Management believes investors and analysts use this financial measure in assessing Ashland's business performance and that presenting this non-GAAP measure on a consolidated basis assists investors in better understanding Ashland's ongoing business performance and enhances their ability to compare period-to-period financial results.

	Three months ended December 31	
	2021	2020
Diluted EPS from continuing operations (as reported)	$ 0.55	$ 0.70
Key items, before tax:		
Restructuring, separation and other costs	0.02	0.18
Environmental reserve adjustments	0.05	0.06
Capital project impairment	—	0.16
Unrealized gain on securities	(0.07)	(0.29)
Net gain on acquisitions and divestitures	—	(0.23)
Key items, before tax	—	(0.12)
Tax effect of key items (a)	—	0.05
Key items, after tax	—	(0.07)
Tax specific key items:		
Restructuring and separation activity	—	(0.22)
Tax specific key items (b)	—	(0.22)
Total key items	—	(0.29)
Adjusted diluted EPS from continuing operations (non-GAAP)	$ 0.55	$ 0.41
Amortization expense adjustment (net of tax) (c)	$ 0.33	$ 0.28
Adjusted diluted EPS from continuing operations (non-GAAP) excluding intangibles amortization expense	$ 0.88	$ 0.69

(a) Represents the diluted EPS impact from the tax effect of the key items that are identified above.

(b) Represents the diluted EPS impact from tax specific financial transactions, tax law changes or other matters that fall within the definition of key items. For additional explanation of these tax specific key items, see the income tax expense (benefit) discussion within the Statements of Consolidated Comprehensive Income (Loss) caption review section above.

(c) Amortization expense adjustment (net of tax) tax rates were 20% and 21% for the three months ended December 31, 2021 and 2020, respectively.

RESULTS OF OPERATIONS – REPORTABLE SEGMENT REVIEW

Ashland's reportable segments include Life Sciences, Personal Care (formerly Personal Care and Household), Specialty Additives, and Intermediates (formerly Intermediates and Solvents). Unallocated and Other includes corporate governance activities and certain legacy matters.

Results of Ashland's reportable segments are presented based on its management and internal accounting structure. The structure is specific to Ashland; therefore, the financial results of Ashland's reportable segments are not necessarily comparable with similar information for other companies. Ashland allocates all significant costs to its reportable segments except for certain significant company-wide restructuring activities, certain corporate governance costs and other costs or activities that relate to former businesses that Ashland no longer operates. The service cost component of pension and other postretirement benefits costs is allocated to each reportable segment on a ratable basis; while the remaining components of pension and other postretirement benefits costs are recorded within the other net periodic benefit income caption on the Statements of Consolidated Comprehensive Income (Loss). Ashland refines its expense allocation methodologies to the reportable segments from time to time as internal accounting practices are improved, more refined information becomes available and the industry or market changes. Significant revisions to Ashland's methodologies are adjusted for all segments on a retrospective basis.

The following table discloses sales, operating income, depreciation and amortization and EBITDA by reportable segment for the three months ended December 31, 2021 and 2020.

	Three months ended December 31	
(In millions - unaudited)	2021	2020
SALES		
Life Sciences	$ 170	$ 170
Personal Care	147	126
Specialty Additives	156	147
Intermediates	53	33
Intersegment sales (a)	(14)	(8)
	$ 512	$ 468
OPERATING INCOME (LOSS)		
Life Sciences	$ 21	$ 29
Personal Care	15	15
Specialty Additives (b)	17	2
Intermediates	16	2
Unallocated and other	(27)	(31)
	$ 42	$ 17
DEPRECIATION EXPENSE		
Life Sciences	$ 8	$ 9
Personal Care	9	10
Specialty Additives	16	16
Intermediates	3	3
	$ 36	$ 38
AMORTIZATION EXPENSE		
Life Sciences	$ 7	$ 7
Personal Care	12	9
Specialty Additives	5	5
Intermediates	—	—
	$ 24	$ 21
EBITDA (c)		
Life Sciences	$ 36	$ 45
Personal Care	36	34
Specialty Additives	38	23
Intermediates	19	5
Unallocated and other	(27)	(31)
	$ 102	$ 76

(a) Intersegment sales from Intermediates are accounted for at prices that approximate fair value. All other intersegment sales are accounted for at cost.

(b) Includes a capital project impairment of $9 million for the three months ended December 31, 2020 relating to a long-term capital project plan change at a plant facility.

(c) Excludes income (loss) from discontinued operations, other net periodic benefit income (expense) and net income (loss) on divestitures. See the Statement of Consolidated Comprehensive Income (Loss) for applicable amounts excluded.

Life Sciences

Life Sciences is comprised of pharmaceuticals, nutrition, nutraceuticals, agricultural chemicals, advanced materials and fine chemicals. Pharmaceutical solutions include controlled release polymers, disintegrants, film coatings, solubilizers, and tablet binders. Nutrition solutions include thickeners, stabilizers, emulsifiers and additives for enhancing mouthfeel, controlling moisture migration, reducing oil uptake and controlling color. Nutraceutical solutions include products for weight management, joint comfort, stomach and intestinal health, sports nutrition and general wellness, and providing custom formulation, toll processing and particle engineering solutions. Customers include pharmaceutical, food, beverage, nutraceuticals and supplements manufacturers, hospitals and radiologists and industrial manufacturers.

December 2021 quarter compared to December 2020 quarter

Life Sciences' sales remained consistent at $170 million in the current quarter. Favorable pricing increased sales by $3 million, while lower volume and unfavorable foreign currency decreased sales by $1 million and $2 million, respectively.

Operating income decreased $8 million to income of $21 million for the current quarter. Unfavorable price/mix, lower volume, unfavorable foreign currency and higher costs decreased operating income by $5 million, $1 million, $1 million and $1 million, respectively. Current quarter EBITDA decreased $9 million to $36 million. EBITDA margin decreased 5.3 percentage points in the current quarter to 21.2%.

EBITDA and Adjusted EBITDA reconciliation

The EBITDA and Adjusted EBITDA amounts presented within this business section are provided as a means to enhance the understanding of financial measurements that Ashland has internally determined to be relevant measures of comparison for each segment. Each of these non-GAAP measures is defined as follows: EBITDA (operating income plus depreciation and amortization), Adjusted EBITDA (EBITDA adjusted for key items, which may include pro forma effects for significant acquisitions or divestitures, as applicable), and Adjusted EBITDA margin (Adjusted EBITDA, which may include pro forma adjustments, divided by sales or sales adjusted for pro forma results). Ashland does not allocate items to each reportable segment below operating income, such as interest expense and income taxes. As a result, reportable segment EBITDA and Adjusted EBITDA are reconciled directly to operating income since it is the most directly comparable Statements of Consolidated Comprehensive Income (Loss) caption.

The following EBITDA presentation for the three months ended December 31, 2021 and 2020 is provided as a means to enhance the understanding of financial measurements that Ashland has internally determined to be relevant measures of comparison for the results of Life Sciences. Life Sciences had no key items for the three months ended December 31, 2021 or 2020.

	Life Sciences	
	Three months ended December 31	
(In millions)	2021	2020
Operating income	$ 21	$ 29
Depreciation and amortization	15	16
EBITDA	$ 36	$ 45

Personal Care

Personal Care is comprised of biofunctionals, preservatives, skin care, sun care, oral care, hair care and household. These businesses have a broad range of nature-based, biodegradable, and performance-enhancing ingredients for customer-driven solutions to help protect, renew, moisturize and revitalize skin and hair, and provide solutions for toothpastes, mouth washes and rinses, denture cleaning and care for teeth. Household supplies nature-derived rheology ingredients, biodegradable surface wetting agents, performance encapsulates, and specialty polymers for household, industrial and institutional cleaning products. Customers include formulators at large multinational branded consumer products companies and smaller, independent boutique companies. As previously disclosed, on April 30, 2021 Ashland completed the $312 million acquisition of the personal care business from Schülke.

December 2021 quarter compared to December 2020 quarter

Personal Care' sales increased $21 million to $147 million in the current quarter. Favorable product pricing and volume/mix, including the impact of the Schülke acquisition, increased sales by $2 million and $21 million, respectively. Unfavorable currency exchange decreased sales by $2 million.

Operating income of $15 million remained consistent for the current quarter. Lower costs, favorable impact of the Schülke acquisition and higher volume increased operating income by $3 million, $3 million and $1 million, respectively. Unfavorable price/mix decreased operating income by $7 million. Current quarter EBITDA increased $2 million to $36 million. EBITDA margin decreased 2.5 percentage points in the current quarter to 24.5%.

EBITDA and Adjusted EBITDA reconciliation

The following EBITDA presentation for the three months ended December 31, 2021 and 2020 is provided as a means to enhance the understanding of financial measurements that Ashland has internally determined to be relevant measures of comparison for the results of Personal Care. Personal Care had no key items for the three months ended December 31, 2021 or 2020.

	Personal Care	
	Three months ended December 31	
(In millions)	2021	2020
Operating income	$ 15	$ 15
Depreciation and amortization	21	19
EBITDA	$ 36	$ 34

Specialty Additives

Specialty Additives is comprised of rheology- and performance-enhancing additives serving the coatings, construction, energy, automotive and various industrial markets. Solutions include coatings additives for architectural paints, finishes and lacquers, cement- and gypsum- based dry mortars, ready-mixed joint compounds, synthetic plasters for commercial and residential construction, and specialty materials for industrial applications. Products include rheology modifiers (cellulosic and associative thickeners), foam-control agents, surfactants and wetting agents, pH neutralizers, advanced ceramics used in catalytic converters, and environmental filters, ingredients that aid the manufacturing process of ceramic capacitors, plasma display panels and solar cells, ingredients for textile printing, thermoplastic metals and alloys for welding. Products help improve desired functional outcomes through rheology modification and control, water retention, workability, adhesive strength, binding power, film formation, deposition and suspension and emulsification. Customers include global paint manufacturers, electronics and automotive manufacturers, textile mills, the construction industry, and welders.

December 2021 quarter compared to December 2020 quarter

Specialty Additives' sales increased $9 million to $156 million in the current quarter. Favorable product pricing and volume/mix increased sales by $8 million and $2 million, respectively. Unfavorable currency exchange decreased sales by $1 million.

Operating income increased $15 million to income of $17 million for the current quarter. Lower costs, favorable volume, favorable pricing/mix, and a capital project impairment in the prior year quarter increased operating income by $4 million, $1 million, $1 million and $9 million, respectively. Current quarter EBITDA increased $15 million to $38 million while Adjusted EBITDA increased $6 million to $38 million. Adjusted EBITDA margin increased 2.6 percentage points in the current quarter to 24.4%.

EBITDA and Adjusted EBITDA reconciliation

The following EBITDA presentation for the three months ended December 31, 2021 and 2020 is provided as a means to enhance the understanding of financial measurements that Ashland has internally determined to be relevant measures of comparison for the results of Specialty Additives. The key items during the three months ended December 31, 2020 related to a capital project impairment within Specialty Additives.

	Specialty Additives	
	Three months ended December 31	
(In millions)	2021	2020
Operating income	$ 17	$ 2
Depreciation and amortization	21	21
EBITDA	38	23
Capital project impairment	—	9
Adjusted EBITDA	$ 38	$ 32

Intermediates

Intermediates is comprised of the production of 1,4 butanediol (BDO) and related derivatives, including n-methylpyrrolidone. These products are used as chemical intermediates in the production of engineering polymers and polyurethanes, and as specialty process solvents in a wide array of applications including electronics, pharmaceuticals, water filtration membranes and more. Butanediol is also provided to Life Sciences, Personal Care, and Specialty Additives for use as a raw material.

December 2021 quarter compared to December 2020 quarter

Intermediates' sales increased $20 million to $53 million in the current period primarily due to higher product pricing.

Operating income increased $14 million to $16 million for the current quarter. Price/mix increased operating income by $17 million and was partially offset by higher production costs which decreased operating income by $3 million. Current quarter EBITDA increased $14 million to $19 million. EBITDA margin increased 20.6 percentage points in the current quarter to 35.8%.

EBITDA and Adjusted EBITDA reconciliation

The following EBITDA presentation (as defined and described in the section above) for the three months ended December 31, 2021 and 2020 is provided as a means to enhance the understanding of financial measurements that Ashland has internally determined to be relevant measures of comparison for the results of Intermediates. Intermediates had no key items for the three months ended December 31, 2021 or 2020.

	Intermediates	
	Three months ended December 31	
(In millions)	2021	2020
Operating income	$ 16	$ 2
Depreciation and amortization	3	3
EBITDA	$ 19	$ 5

Unallocated and other

The following table summarizes the key components of the Unallocated and other segment's operating income (loss) for the three ended December 31, 2021 and 2020.

	Unallocated and Other	
	Three months ended December 31	
(In millions)	2021	2020
Restructuring activities	$ (5)	$ (16)
Environmental expenses	(3)	(4)
Other expenses (primarily governance and legacy expenses)	(19)	(11)
Total expense	$ (27)	$ (31)

December 2021 quarter compared to December 2020 quarter

Unallocated and other recorded expense of $27 million and $31 million for the three months ended December 31, 2021 and 2020, respectively. The current and prior year quarters included expense of $5 million and $16 million, respectively, for restructuring activities mainly comprised of severance, lease abandonment and other restructuring costs related to company-wide cost reduction programs during the current and prior year quarters, respectively, as well as stranded costs of $4 million for each period associated with the Performance Adhesives divestiture.

The current quarter and prior year quarter included $3 million and $4 million for environmental expenses, respectively.

Other expenses increase of $8 million is primarily a result of a gain of $4 million in the prior year quarter associated with excess corporate property sales as well as decreased transition services income associated with the Composites sale from INEOS in the current quarter.

FINANCIAL POSITION

Liquidity

Ashland believes that cash flow from operations, availability under existing credit facilities and arrangements, current cash and investment balances and the ability to obtain other financing, if necessary, will provide adequate cash funds for Ashland's foreseeable working capital needs, capital expenditures at existing facilities, dividend payments and debt service obligations. Ashland's cash requirements are subject to change as business conditions warrant and opportunities arise. The timing and size of any new business ventures or acquisitions that the Company may complete may also impact its cash requirements. For information regarding the impact of COVID-19 on the Company, including on its liquidity and capital resources, please see item 1A, in Ashland's most recent Form 10-K filed with the SEC.

Cash flows

Ashland's cash flows from operating, investing and financing activities, as reflected in the Statements of Condensed Consolidated Cash Flows, are summarized as follows for the three months ended December 31, 2021 and 2020.

	Three months ended December 31	
(In millions)	2021	2020
Cash provided (used) by:		
Operating activities from continuing operations	$ 14	$ 81
Investing activities from continuing operations	(7)	(4)
Financing activities from continuing operations	(11)	(207)
Discontinued operations	(9)	8
Effect of currency exchange rate changes on cash and cash equivalents	(3)	3
Net decrease in cash and cash equivalents	$ (16)	$ (119)

Cash and cash equivalents decreased $16 million for the three months ended December 31, 2021 compared to a $119 million decrease for the three months ended December 31, 2020.

The $16 million decrease for the three months ended December 31, 2021 was primarily driven by payment of cash dividends of $17 million and additions to property, plant and equipment of $15 million offset by net proceeds from short-term debt of $11 million. Operating cash flows from continuing operations were inflows of $14 million, while discontinued operations cash flows were outflows of $9 million.

The $119 million decrease for the three months ended December 31, 2020 was primarily driven by repayment of short-term debt of $187 million offset by $81 million of operating cash flows from continuing operations.

Free cash flow and other liquidity resources

The following represents Ashland's calculation of free cash flow and ongoing free cash flows for the disclosed periods. Free cash flow does not reflect adjustments for certain non-discretionary cash flows such as mandatory debt repayments.

(In millions)	2021	2020
Total cash flows provided by operating activities from continuing operations	$ 14	$ 81
less:		
Additions to property, plant and equipment	(15)	(30)
Free cash flows	(1)	51
Cash (inflows) outflows from U.S. Accounts Receivable Sales Program (a)	10	—
Restructuring-related payments (b)	4	14
Environmental and related litigation payments (c)	13	9
Ongoing free cash flow	$ 26	$ 74
Adjusted EBITDA (d)	106	101
Ongoing free cash flow conversion (e)	25 %	73 %

(a) Represents activity associated with the U.S. Accounts Receivable Sales Program impacting each period presented.

(b) Restructuring payments incurred during each period.

(c) Represents cash outflows associated with environmental and related litigation payments which will be reimbursed by the environmental trust.

(d) See adjusted EBITDA reconciliation.

(e) Ongoing free cash flow divided by Adjusted EBITDA.

Working capital (current assets minus current liabilities, excluding long-term debt due within one year) amounted to $839 million and $792 million as of December 31, 2021 and September 30, 2021, respectively. The $47 million increase in working capital was the primary reason of the $48 million decline in ongoing free cash flows between periods primarily as a result of increased inventories to navigate supply-chain issues as well as cost inflation and reduced accrued expenses as a result of annual incentive program payouts. Liquid assets (cash, cash equivalents and accounts receivable) amounted to 62% and 65% of current liabilities (excluding current liabilities held for sale) as of December 31, 2021 and September 30, 2021, respectively.

The following summary reflects Ashland's cash, unused borrowing capacity and liquidity as of December 31, 2021 and September 30, 2021.

(In millions)	December 31 2021	September 30 2021
Cash and investment securities		
Cash and cash equivalents	$ 194	$ 210
Restricted investments (a)	426	421
Unused borrowing capacity and liquidity		
Revolving credit facility	341	356
2018 accounts receivable securitization (foreign)	—	—
Accounts receivable sales program (U.S.)	—	12

(a) Includes $335 million and $333 million related to the Asbestos trust and $91 million and $88 million related to the Environmental trust as of December 31, 2021 and September 30, 2021, respectively.

The borrowing capacity remaining under the $600 million revolving credit facility was $341 million due to an outstanding balance of $240 million, as well as a reduction of $19 million for letters of credit outstanding at December 31, 2021. In total, Ashland's available liquidity position, which includes cash, the revolving credit facility and foreign accounts receivable securitization facility, was $535 million at December 31, 2021, compared to $566 million at September 30, 2021. Ashland had no available liquidity under the U.S. Accounts Receivable Sales Program as of December 31, 2021. Ashland also maintained $426 million of restricted investments to pay for future asbestos claims and environmental remediation and related litigation.

Capital resources

Debt

The following summary reflects Ashland's debt as of December 31, 2021 and September 30, 2021.

(In millions)	December 31 2021	September 30 2021
Short-term debt (includes current portion of long-term debt)	$ 389	$ 374
Long-term debt (less current portion and debt issuance cost discounts) (a)	1,580	1,596
Total debt	$ 1,969	$ 1,970

(a) Includes $17 million of debt issuance cost discounts as of December 31, 2021 and September 30, 2021, respectively.

Debt as a percent of capital employed was 42% at December 31, 2021 and at September 30, 2021, respectively. At December 31, 2021, Ashland's total debt had an outstanding principal balance of $2,025 million, discounts of $39 million, and debt issuance costs of $17 million. The scheduled aggregate maturities of long-term debt by year (including the current portion and excluding debt issuance costs) are as follows: $9 million in 2022, $22 million in 2023, $44 million in 2024, $175 million in 2025 and zero in 2026.

Ashland credit ratings

Ashland's corporate credit ratings remained unchanged at BB+ by Standard & Poor's and Ba1 by Moody's Investor Services. As of December 31, 2021, both Moody's Investor Services and Standard & Poor's outlook remained at stable. Subsequent changes to these ratings or outlook may have an effect on Ashland's borrowing rate or ability to access capital markets in the future.

Ashland debt covenant restrictions

Ashland's current credit agreement (the 2020 Credit Agreement) contains usual and customary representations, warranties and affirmative and negative covenants, including financial covenants for leverage and interest coverage ratios, limitations on liens, additional subsidiary indebtedness, restrictions on subsidiary distributions, investments, mergers, sale of assets and restricted payments and other customary limitations. As of December 31, 2021, Ashland is in compliance with all debt agreement covenant restrictions under the 2020 Credit Agreement.

The maximum consolidated net leverage ratio permitted under the 2020 Credit Agreement is 4.0. The 2020 Credit Agreement defines the consolidated net leverage ratio as the ratio of consolidated indebtedness minus unrestricted cash and cash equivalents to consolidated EBITDA (Covenant Adjusted EBITDA) for any measurement period. In general, the 2020 Credit Agreement defines Covenant Adjusted EBITDA as net income plus consolidated interest charges, taxes, depreciation and amortization expense, fees and expenses related to capital market transactions and proposed or actual acquisitions and divestitures, restructuring and integration charges, noncash stock and equity compensation expense, and any other nonrecurring expenses or losses that do not represent a cash item in such period or any future period; less any noncash gains or other items increasing net income. The computation of Covenant Adjusted EBITDA differs from the calculation of EBITDA and Adjusted EBITDA, which have been reconciled above in the "consolidated review" section. In general, consolidated indebtedness includes debt plus all purchase money indebtedness, banker's acceptances and bank guaranties, deferred purchase price of property or services, attributable indebtedness and guarantees. At December 31, 2021, Ashland's calculation of the consolidated net leverage ratio was 3.1.

The minimum required consolidated interest coverage ratio under the 2020 Credit Agreement is 3.0. The 2020 Credit Agreement defines the consolidated interest coverage ratio as the ratio of Covenant Adjusted EBITDA to consolidated interest charges for any measurement period. At December 31, 2021, Ashland's calculation of the consolidated interest coverage ratio was 9.4.

Any change in Covenant Adjusted EBITDA of $100 million would have an approximate 0.5x effect on the consolidated net leverage ratio and a 1.6x effect on the consolidated interest coverage ratio. The change in consolidated indebtedness of $100 million would affect the consolidated leverage ratio by approximately 0.2x.

Additional capital resources

Total equity

Total equity increased by $11 million since September 30, 2021 to $2,763 million at December 31, 2021. The increase of $11 million was due to net income of $48 million, offset by dividends of $17 million, deferred translation loss of $17 million, and $3 million of deferred loss on commodity hedges.

Stockholder dividends

Ashland paid a dividend of 30 cents per share for the first quarter of fiscal 2022 and 27.5 cents per share in the first quarter of fiscal 2021.

Capital expenditures

Capital expenditures were $15 million for the three months ended December 31, 2021 compared to $30 million for the three months ended December 31, 2020.

CRITICAL ACCOUNTING POLICIES

The preparation of Ashland’s Condensed Consolidated Financial Statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, sales and expenses, and the disclosures of contingent assets and liabilities. Significant items that are subject to such estimates and assumptions include, but are not limited to, long-lived assets (including goodwill and other intangible assets), income taxes, other liabilities and receivables associated with asbestos litigation and environmental remediation. These accounting policies are discussed in detail in “Management’s Discussion and Analysis – Critical Accounting Policies” in Ashland’s Annual Report on Form 10-K for the fiscal year ended September 30, 2021. Although management bases its estimates on historical experience and various other assumptions that are believed to be reasonable under the circumstances, actual results could differ significantly from the estimates under different assumptions or conditions. Management has reviewed the estimates affecting these items with the Audit Committee of Ashland’s Board of Directors. No material changes have been made to the valuation techniques during the three months ended December 31, 2021.

OUTLOOK

Ashland issued its outlook for fiscal 2022 in November 2021. This outlook has not changed and remains the same as shown in the table below. Ashland's most recent forecast projects full-year Adjusted EBITDA below the midpoint of the range.

	FY 2022 Outlook
Key Operating Metrics	
Sales	$2.25 - $2.35 billion
Adjusted EBITDA	$550 - $570 million

Ashland is unable to reconcile forward-looking adjusted EBITDA to forward-looking net income, the most closely comparable GAAP financial measure, because the information needed to provide such reconciliation would require unreasonable efforts.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Ashland’s market risk exposure at December 31, 2021 is generally consistent with the types of market risk exposures presented in Ashland’s Annual Report on Form 10-K for the fiscal year ended September 30, 2021.

ITEM 4. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures - As of the end of the period covered by this quarterly report, Ashland, under the supervision and with the participation of its management, including Ashland’s Chief Executive Officer and its Chief Financial Officer, evaluated the effectiveness of Ashland’s disclosure controls and procedures pursuant to Rule 13a-15(b) and 15d-15(b) promulgated under the Securities Exchange Act of 1934, as amended. Based upon that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that the disclosure controls and procedures were effective as of December 31, 2021.

Changes in Internal Control over Financial Reporting - During the three months ended December 31, 2021, there were no significant changes in Ashland's internal control over financial reporting, or in other factors, that occurred during the period covered by this quarterly report that have materially affected, or are reasonably likely to materially affect, Ashland's internal control over financial reporting.

Ashland completed its purchase of Schülke in the quarter ended June 30, 2021. Although management believes appropriate internal controls and procedures have been maintained, Schülke's controls and procedures for the recording, processing, and summarizing of financial information have not been fully evaluated by Ashland's management as of December 31, 2021. Ashland anticipates to have this assessment complete during Fiscal 2022. As such, there is a risk that deficiencies may exist and not yet be identified that could constitute significant deficiencies or in the aggregate, a material weakness related to Schülke's business.

PART II – OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

The following is a description of Ashland's material legal proceedings. Ashland's threshold for disclosing material environmental legal proceedings involving a governmental authority where potential monetary sanctions are involved is $1 million.

Asbestos-Related Litigation

Ashland is subject to liabilities from claims alleging personal injury caused by exposure to asbestos. Such claims result primarily from indemnification obligations undertaken in 1990 in connection with the sale of Riley Stoker Corporation (Riley), a former subsidiary. Although Riley was neither a producer nor a manufacturer of asbestos, its industrial boilers contained some asbestos-containing components provided by other companies.

Hercules LLC (formerly Hercules Incorporated), an indirect wholly-owned subsidiary of Ashland, is also subject to liabilities from asbestos-related personal injury lawsuits involving claims which typically arise from alleged exposure to asbestos fibers from resin encapsulated pipe and tank products which were sold by one of Hercules' former subsidiaries to a limited industrial market.

Ashland and Hercules are also defendants in lawsuits alleging exposure to asbestos at facilities formerly or presently owned or operated by Ashland or Hercules.

For additional detailed information regarding liabilities arising from asbestos-related litigation, see Note L of Notes to Condensed Consolidated Financial Statements in this quarterly report on Form 10-Q.

Environmental Proceedings

(a) CERCLA and Similar State Law Sites - Under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 and similar state laws, Ashland and its subsidiaries may be subject to joint and several liability for cleanup costs in connection with alleged releases of hazardous substances at sites where it has been identified as a "potentially responsible party" (PRP). As of December 31, 2021, Ashland and its subsidiaries have been identified as a PRP by U.S. federal and state authorities, or by private parties seeking contribution, for the cost of environmental investigation and/or cleanup at 80 sites. These sites are currently subject to ongoing investigation and remedial activities, overseen by the United States Environmental Protection Agency (USEPA) or a state agency, in which Ashland or its subsidiaries are typically participating as a member of a PRP group. Generally, the types of relief sought include remediation of contaminated soil and/or groundwater, reimbursement for past costs of site cleanup and administrative oversight and/or long-term monitoring of environmental conditions at the sites. The ultimate costs are not predictable with assurance.

(b) Lower Passaic River, New Jersey Matters - Ashland, through two formerly owned facilities, and ISP, through a now-closed facility, have been identified as PRPs, along with approximately 70 other companies (the Cooperating Parties Group or the CPG), in a May 2007 Administrative Order of Consent (AOC) with the USEPA. The parties are required to perform a remedial investigation and feasibility study (RI/FS) of the entire 17 miles of the Passaic River. In June 2007, the USEPA separately commenced a Focused Feasibility Study (FFS) as an interim measure. In accordance with the 2007 AOC, in June 2012 the CPG voluntarily entered into another AOC for an interim removal action focused solely at mile 10.9 of the Passaic River. The allocations for the 2007 AOC and the 2012 removal action are based on interim allocations, are immaterial and have been accrued. In April 2014, the USEPA released the FFS. The CPG submitted the Draft RI/FS Report on April 30, 2015. The USEPA has released the FFS Record of Decision for the lower 8 miles and recently reached an agreement with another chemical company to conduct and pay for the remedial design. This chemical company has sued Ashland, ISP and numerous other defendants to recover past and future costs pursuant to the CERCLA. Ashland, ISP and numerous other defendants have filed a Motion to Dismiss all of the claims. Ashland and ISP are participating in an USEPA allocation process. The release of the FFS Record of Decision, the current allocations proceedings and the lawsuit are not expected to be material to Ashland.

For additional information regarding environmental matters and reserves, see Note L of Notes to Condensed Consolidated Financial Statements in this quarterly report on Form 10-Q.

Other Pending Legal Proceedings

In addition to the matters described above, there are other various claims, lawsuits and administrative proceedings pending or threatened against Ashland and its current and former subsidiaries. Such actions are with respect to commercial matters, product liability, toxic tort liability and other environmental matters which seek remedies or damages, some of which are for substantial amounts. While Ashland cannot predict with certainty the outcome of such actions, it believes that adequate reserves have been recorded and losses already recognized with respect to such actions were immaterial as of December 31, 2021. There is a reasonable possibility that a loss exceeding amounts already recognized may be incurred related to these actions; however, Ashland believes that such potential losses were immaterial as of December 31, 2021.

ITEM 1A. RISK FACTORS

During the period covered by this report, there were no material changes from the risk factors previously disclosed in Ashland's Annual Report on Form 10-K for the fiscal year ended September 30, 2021.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

There was no share repurchase activity during the three months ended December 31, 2021.

Issuer Purchases of Equity Securities

Q1 Fiscal Periods	Total Number of Shares Purchased	Average Price Paid Per Share, including commission	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Dollar Value of Shares that May Be Purchased Under the Plans or Programs (in millions) (a)
October 1, 2021 to October 31, 2021	—	$ —	—	$ 350
November 1, 2021 to November 30, 2021	—	—	—	350
December 1, 2021 to December 31, 2021	—	—	—	350
Total	—		—	$ 350

(a) During March 2018, Ashland's Board of Directors approved a new $1 billion stock repurchase program, which replaced the previous stock repurchase program. Ashland's stock repurchase program does not obligate it to acquire any specific number of shares. Under the program, shares may be repurchased in privately negotiated and/or open market transactions, including under plans complying with Rule 10b5-1 of the Exchange Act. As of December 31, 2021, $350 million remains available for repurchase under this authorization.

ITEM 6. EXHIBITS

(a) Exhibits

3.1	Amended and Restated By-Laws of Ashland Global Holdings Inc. (filed as Exhibit 3.1 to Ashland's Form 8-K filed on January 27, 2022 (SEC File No. 333-211719) and incorporated by referenced herein by reference.
10.1*	Amendment to Supplemental Confirmation dated November 22, 2021 to the Master Confirmation - Uncollared Accelerated Share Repurchase, dated September 2, 2021, between Ashland Global Holdings Inc. and JPMorgan Chase Bank, National Association.
31.1*	Certificate of Guillermo Novo, Chief Executive Officer of Ashland pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certificate of J. Kevin Willis, Chief Financial Officer of Ashland pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32*	Certificate of Guillermo Novo, Chief Executive Officer of Ashland, and J. Kevin Willis, Chief Financial Officer of Ashland pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS**	Inline XBRL Instance Document.
101.SCH**	Inline XBRL Taxonomy Extension Schema Document.
101.CAL**	Inline XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF**	Inline XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB**	Inline XBRL Taxonomy Extension Label Linkbase Document.
101.PRE**	Inline XBRL Taxonomy Extension Presentation Linkbase Document.
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101).

* Filed herewith.

** Attached as Exhibit 101 to this report are the following documents formatted in XBRL (Extensible Business Reporting Language): (i) Statements of Consolidated Comprehensive Income (Loss) for the three months ended December 31, 2021 and December 31, 2020; (ii) Condensed Consolidated Balance Sheets at December 31, 2021 and September 30, 2021; (iii) Statements of Condensed Consolidated Cash Flows for the three months ended December 31, 2021 and December 31, 2020; and (iv) Notes to Condensed Consolidated Financial Statements.

SM Service mark, Ashland or its subsidiaries, registered in various countries.

TM Trademark, Ashland or its subsidiaries, registered in various countries.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

	Ashland Global Holdings Inc.
	(Registrant)
February 3, 2022	/s/ J. Kevin Willis
	J. Kevin Willis Senior Vice President and Chief Financial Officer (on behalf of the Registrant and as principal financial officer)

AMENDMENT TO SUPPLEMENTAL CONFIRMATION

THIS AMENDMENT (this “**Amendment**”) is made as of November 22, 2021, between JPMorgan Chase Bank, National Association, London Branch (“**JPMorgan**”) and Ashland Global Holdings Inc., a Delaware corporation (“**Counterparty**”).

WHEREAS, JPMorgan and Counterparty entered into a Master Confirmation dated as of September 2, 2021 (the “**Master Confirmation**”), as supplemented by the Supplemental Confirmation entered into between the parties as of the same date (the “**Supplemental Confirmation**” and, together with the Master Confirmation, the “**Confirmation**”), governing the accelerated share repurchase transaction entered into between the parties (the “**Transaction**”);

WHEREAS, Counterparty has requested to amend the terms of the Transaction as described herein;

NOW, THEREFORE, in consideration of their mutual covenants herein contained, the parties hereto agree to amend the Supplemental Confirmation as follows:

Section 1. Terms Used but Not Defined Herein. Terms used but not defined herein shall have the respective meanings given to them in the Confirmation.

Section 2. Amendments to the Supplemental Confirmation. The Supplemental Confirmation is hereby amended as follows:

(a) Section 2 is hereby amended by deleting the definition of “Scheduled Termination Date” in its entirety and replacing it with the following:

“Scheduled Termination Date: April 1, 2022

(b) Section 3 is hereby amended by deleting from the definition of “Calculation Dates” the following:

November 23, 2021
November 24, 2021

(c) Section 3 is hereby further amended by inserting at the end of the table in the definition of “Calculation Dates” the following:

145	April 1, 2022

(d) Section 3 is hereby further amended by deleting “March 31, 2022” from the paragraph following the table in the definition of “Calculation Dates” and replacing it with “April 1, 2022.”

Section 3. Representations and Warranties.

(a) Each party hereto re-makes, as of the date hereof, the representations and warranties contained in Section 3(a) of the Agreement as if such representations and warranties applied to this Amendment.

(b) Counterparty re-makes, as of the date hereof, the representations and warranties contained in Sections 6(b)(vi) and 8(a) of the Master Confirmation as if such representations and warranties applied to this Amendment.

Section 4. Effectiveness of this Amendment. This Amendment shall become effective upon execution by the parties hereto.

Section 5. Counterparts. This Amendment may be signed in any number of counterparts, each of which shall be an original, with the same effect as if all of the signatures thereto and hereto were upon the same instrument.

Section 6. Governing Law. This Amendment shall be governed by and construed in accordance with the laws of the State of New York, without reference to its choice of law provisions.

Section 7. Effectiveness of the Confirmations. Except as amended hereby, all of the terms of the Confirmation shall remain and continue in full force and effect and are hereby confirmed in all respects.

IN WITNESS WHEREOF, the parties have signed this Amendment as of the date and year first above written.

JPMORGAN CHASE BANK, NATIONAL ASSOCIATION

By: /s/ Brett Chalmers
Authorized Signatory
Name: Brett Chalmers

ASHLAND GLOBAL HOLDINGS INC.

By: /s William Whitaker
Authorized Signatory
Name: William Whitaker

EXHIBIT 31.1

CERTIFICATION

I, Guillermo Novo, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Ashland Global Holdings Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented of the made in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the Audit Committee of the registrant's Board of Directors (or persons performing the equivalent functions):
    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 3, 2022

/s/ Guillermo Novo

Guillermo Novo
Chairman and Chief Executive Officer
(Principal Executive Officer)

EXHIBIT 31.2

CERTIFICATIONS

I, J. Kevin Willis, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Ashland Global Holdings Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the Audit Committee of the registrant's Board of Directors (or persons performing the equivalent functions):
    a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
    b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 3, 2022

/s/ J. Kevin Willis

J. Kevin Willis
Chief Financial Officer
(Principal Financial Officer)

EXHIBIT 32

ASHLAND GLOBAL HOLDINGS INC.

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Ashland Global Holdings Inc. (the “Company”) on Form 10-Q for the period ended December 31, 2021, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), each of the undersigned, Guillermo Novo, Chief Executive Officer of the Company, and J. Kevin Willis, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Guillermo Novo
Guillermo Novo
Chief Executive Officer
February 3, 2022

/s/ J. Kevin Willis
J. Kevin Willis
Chief Financial Officer
February 3, 2022