UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q

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

For the quarterly period ended March 31, 2019

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 1-5667

Cabot Corporation

(Exact name of registrant as specified in its charter)

Delaware **(State or other jurisdiction of incorporation or organization)**	**04-2271897** **(I.R.S. Employer Identification No.)**
Two Seaport Lane **Boston, Massachusetts** **(Address of principal executive offices)**	**02210-2019** **(Zip Code)**

Registrant's telephone number, including area code: (617) 345-0100

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, 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 ☒

Securities registered pursuant to Section 12(b) of the Securities Exchange Act of 1934:

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common Stock, $1 par value per share	CBT	The New York Stock Exchange

The Company had 58,467,044 shares of common stock, $1.00 par value per share, outstanding as of May 7, 2019.

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Part I. Financial Information

Item 1. Financial Statements

CABOT CORPORATION
CONSOLIDATED STATEMENTS OF OPERATIONS
UNAUDITED

	Three Months Ended March 31		Six Months Ended March 31	
	2019	2018	2019	2018
	(In millions, except per share amounts)			
Net sales and other operating revenues	$ 844	$ 818	$ 1,665	$ 1,538
Cost of sales	666	630	1,321	1,174
Gross profit	178	188	344	364
Selling and administrative expenses	70	79	143	149
Research and technical expenses	15	16	31	31
Specialty Fluids held for sale assets impairment (Note D)	20	—	20	—
Purification Solutions long-lived assets impairment (Note F)	—	162	—	162
Purification Solutions goodwill impairment (Note F)	—	92	—	92
Income (loss) from operations	73	(161)	150	(70)
Interest and dividend income	2	3	4	6
Interest expense	(14)	(14)	(29)	(27)
Other income (expense)	(12)	1	(6)	12
Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies	49	(171)	119	(79)
(Provision) benefit for income taxes	(20)	7	(13)	(198)
Equity in earnings of affiliated companies, net of tax	—	1	—	2
Net income (loss)	29	(163)	106	(275)
Net income (loss) attributable to noncontrolling interests, net of tax	6	10	14	20
Net income (loss) attributable to Cabot Corporation	$ 23	$ (173)	$ 92	$ (295)
Weighted-average common shares outstanding:				
Basic	59.1	61.8	59.5	61.8
Diluted	59.3	61.8	59.7	61.8
Earnings per common share:				
Basic	$ 0.39	$ (2.80)	$ 1.53	$ (4.78)
Diluted	$ 0.39	$ (2.80)	$ 1.53	$ (4.78)
Dividends per common share	$ 0.33	$ 0.315	$ 0.66	$ 0.63

The accompanying notes are an integral part of these consolidated financial statements.

CABOT CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
UNAUDITED

	Three Months Ended March 31		Six Months Ended March 31	
	2019	2018	2019	2018
	(In millions)			
Net income (loss)	$ 29	$ (163)	$ 106	$ (275)
Other comprehensive income (loss), net of tax				
Foreign currency translation adjustment, net of tax (provision) benefit of $(1), $2, $(3) and $4	8	59	(16)	59
Derivatives: net investment hedges				
(Gains) losses reclassified to interest expense, net of tax provision (benefit) of $1, $—, $1 and $—	(1)	(1)	(2)	(2)
(Gains) losses excluded from effectiveness testing and amortized to interest expense, net of tax provision (benefit) of $(1), $—, $(1) and $—	—	—	—	—
Pension and other postretirement benefit liability adjustments				
Pension and other postretirement benefit liability adjustments arising during the period, net of tax	—	—	22	—
Other comprehensive income (loss)	7	58	4	57
Comprehensive income (loss)	36	(105)	110	(218)
Net income (loss) attributable to noncontrolling interests, net of tax	6	10	14	20
Foreign currency translation adjustment attributable to noncontrolling interests, net of tax	2	4	2	7
Comprehensive income (loss) attributable to noncontrolling interests, net of tax	8	14	16	27
Comprehensive income (loss) attributable to Cabot Corporation	$ 28	$ (119)	$ 94	$ (245)

The accompanying notes are an integral part of these consolidated financial statements.

CABOT CORPORATION
CONSOLIDATED BALANCE SHEETS
ASSETS
UNAUDITED

	March 31, 2019	September 30, 2018
	(In millions)	
Current assets:		
Cash and cash equivalents	$ 176	$ 175
Accounts and notes receivable, net of reserve for doubtful accounts of $5 and $7	555	637
Inventories:		
Raw materials	139	129
Work in process	1	3
Finished goods	363	329
Other	51	50
Total inventories	554	511
Prepaid expenses and other current assets	59	63
Assets held for sale	179	—
Total current assets	1,523	1,386
Property, plant and equipment, net	1,297	1,296
Goodwill	91	93
Equity affiliates	38	52
Intangible assets, net	93	98
Assets held for rent	—	118
Deferred income taxes	158	134
Other assets	72	67
Total assets	$ 3,272	$ 3,244

The accompanying notes are an integral part of these consolidated financial statements.

CABOT CORPORATION
CONSOLIDATED BALANCE SHEETS
LIABILITIES AND STOCKHOLDERS' EQUITY
UNAUDITED

	March 31, 2019	September 30, 2018
	(In millions, except share and per share amounts)	
Current liabilities:		
Short-term borrowings	$ 576	$ 249
Accounts payable and accrued liabilities	529	613
Income taxes payable	2	29
Current portion of long-term debt	5	35
Liabilities held for sale	21	—
Redeemable preferred stock	—	26
Total current liabilities	1,133	952
Long-term debt	672	719
Deferred income taxes	42	42
Other liabilities	193	252
Commitments and contingencies (Note I)		
Stockholders' equity:		
Preferred stock:		
Authorized: 2,000,000 shares of $1 par value	—	—
Issued and Outstanding: None and none		
Common stock:		
Authorized: 200,000,000 shares of $1 par value		
Issued: 58,644,974 and 60,566,375 shares		
Outstanding: 58,449,603 and 60,366,569 shares	59	61
Less cost of 195,371 and 199,806 shares of common treasury stock	(7)	(7)
Additional paid-in capital	—	—
Retained earnings	1,367	1,417
Accumulated other comprehensive income (loss)	(315)	(317)
Total Cabot Corporation stockholders' equity	1,104	1,154
Noncontrolling interests	128	125
Total stockholders' equity	1,232	1,279
Total liabilities and stockholders' equity	$ 3,272	$ 3,244

The accompanying notes are an integral part of these consolidated financial statements.

CABOT CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS
UNAUDITED

	Six Months Ended March 31	
	2019	**2018**
	(In millions)	
Cash Flows from Operating Activities:		
Net income (loss)	$ 106	$ (275)
Adjustments to reconcile net income (loss) to cash provided by operating activities:		
Depreciation and amortization	73	79
Impairment of held for sale assets	20	—
Impairment of investment in equity affiliate	11	—
Long-lived assets impairment charge	—	162
Goodwill impairment charge	—	92
Deferred tax provision (benefit)	(29)	157
Gain on sale of investments	—	(10)
Employee benefit plan settlement	6	—
Gain on sale of land	—	(11)
Equity in net income of affiliated companies	—	(2)
Non-cash compensation	7	12
Other non-cash (income) expense	(1)	14
Changes in assets and liabilities:		
Accounts and notes receivable	39	(87)
Inventories	(51)	(61)
Prepaid expenses and other current assets	(7)	(12)
Accounts payable and accrued liabilities	(77)	33
Income taxes payable	(21)	1
Other liabilities	(27)	(18)
Cash dividends received from equity affiliates	2	7
Cash provided (used) by operating activities	51	81
Cash Flows from Investing Activities:		
Additions to property, plant and equipment	(97)	(109)
Cash paid for acquisition of business, net of cash acquired of $— and $1	—	(64)
Proceeds from sale of investments	—	10
Proceeds from sale of land	—	13
Other	(1)	(7)
Cash used by investing activities	(98)	(157)
Cash Flows from Financing Activities:		
Borrowings under financing arrangements	29	2
Proceeds from (repayments of) issuance of commercial paper, net	297	258
Repayments of long-term debt	(75)	(251)
Repayments of redeemable preferred stock	(25)	—
Purchases of common stock	(112)	(16)
Proceeds from sales of common stock	1	1
Cash dividends paid to noncontrolling interests	(17)	(6)
Cash dividends paid to common stockholders	(40)	(39)
Cash provided (used) by financing activities	58	(51)
Effects of exchange rate changes on cash	(10)	26
Increase (decrease) in cash and cash equivalents	1	(101)
Cash and cash equivalents at beginning of period	175	280
Cash and cash equivalents at end of period	$ 176	$ 179

The accompanying notes are an integral part of these consolidated financial statements.

CABOT CORPORATION
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY
UNAUDITED

	Common Stock, Net of Treasury Stock		Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Cabot Corporation Stockholders' Equity	Noncontrolling Interests	Total Stockholders' Equity
	Shares	Cost						
	(In millions, except share amounts)							
Balance at September 30, 2018	60,367	$ 54	$ —	$ 1,417	$ (317)	$ 1,154	$ 125	$ 1,279
Net income (loss)				69		69	8	77
Total other comprehensive income (loss)					(3)	(3)	—	(3)
Cash dividends paid:								
Common stock, $0.33 per share				(20)		(20)	—	(20)
Issuance of stock under equity compensation plans	344	—	—			—		—
Amortization of share-based compensation			5			5		5
Purchase and retirement of common stock	(1,201)	(1)	(5)	(56)		(62)		(62)
Balance at December 31, 2018	59,510	53	—	1,410	(320)	1,143	133	1,276
Net income (loss)				23		23	6	29
Total other comprehensive income (loss)					5	5	2	7
Cash dividends declared to noncontrolling interests							(13)	(13)
Cash dividends paid:								
Common stock, $0.33 per share				(20)		(20)		(20)
Issuance of stock under equity compensation plans	41	1	—			1		1
Amortization of share-based compensation			2			2		2
Purchase and retirement of common stock	(1,101)	(2)	(2)	(46)		(50)		(50)
Balance at March 31, 2019	58,450	$ 52	$ —	$ 1,367	$ (315)	$ 1,104	$ 128	$ 1,232

The accompanying notes are an integral part of these consolidated financial statements.

CABOT CORPORATION
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY
UNAUDITED

	Common Stock, Net of Treasury Stock		Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Cabot Corporation Stockholders' Equity	Noncontrolling Interests	Total Stockholders' Equity
	Shares	Cost						
				(In millions, except share amounts)				
Balance at September 30, 2017	61,884	$ 56	$ —	$ 1,707	$ (259)	$ 1,504	$ 121	$ 1,625
Net income (loss)				(122)		(122)	10	(112)
Total other comprehensive income (loss)					(4)	(4)	3	(1)
Cash dividends paid:								
Common stock, $0.315 per share				(20)		(20)		(20)
Cash dividends declared to noncontrolling interests							(10)	(10)
Issuance of stock under equity compensation plans	178	—	—			—		—
Amortization of share-based compensation			6			6		6
Purchase and retirement of common stock	(265)	—	(6)	(10)		(16)		(16)
Balance at December 31, 2017	61,797	56	—	1,555	(263)	1,348	124	1,472
Net income (loss)				(173)		(173)	10	(163)
Total other comprehensive income (loss)					54	54	4	58
Cash dividends paid:								
Common stock, $0.315 per share				(19)		(19)	(11)	(30)
Issuance of stock under equity compensation plans	30	—	1			1		1
Amortization of share-based compensation			6			6		6
Purchase and retirement of common stock	(8)	(1)	(7)	7		(1)		(1)
Balance at March 31, 2018	61,819	$ 55	$ —	$ 1,370	$ (209)	$ 1,216	$ 127	$ 1,343

The accompanying notes are an integral part of these consolidated financial statements.

A. Basis of Presentation

The consolidated financial statements have been prepared in conformity with accounting policies generally accepted in the United States ("U.S.") and include the accounts of Cabot Corporation ("Cabot" or the "Company") and its wholly owned subsidiaries and majority-owned and controlled U.S. and non-U.S. subsidiaries. Additionally, Cabot considers consolidation of entities over which control is achieved through means other than voting rights. Intercompany transactions have been eliminated in consolidation.

The unaudited consolidated financial statements have been prepared in accordance with the requirements of Form 10-Q and consequently do not include all disclosures required by Form 10-K. Additional information may be obtained by referring to Cabot's Annual Report on Form 10-K for its fiscal year ended September 30, 2018 ("2018 10-K").

The financial information submitted herewith is unaudited and reflects all adjustments which are, in the opinion of management, necessary to provide a fair statement of the results for the interim periods ended March 31, 2019 and 2018. All such adjustments are of a normal recurring nature. The results for interim periods are not necessarily indicative of the results to be expected for the fiscal year.

Effective October 1, 2018, the Company adopted the new revenue recognition standard that amended the pre-existing accounting standard for revenue recognition. The Company used a modified retrospective approach, which is discussed in further detail in Note B.

Effective October 1, 2018, the Company adopted the new pension standard that amended the requirements on the presentation of net periodic pension and postretirement benefit costs. The Company used a retrospective transition method to reclassify net periodic benefit cost, other than the service component, from Cost of sales, Selling and administrative expenses and Research and technical expenses to Other income (expense) in the Consolidated Statements of Operations for the prior periods presented, which is discussed in further detail in Note B.

In October 2018, the Company realigned its business reporting structure under the Performance Chemicals segment and now combines the specialty carbons, fumed metal oxides and aerogel product lines into the Performance Additives business, and the specialty compounds and inkjet product lines into the Formulated Solutions business. Prior period Performance Chemicals segment revenue results have been recast to reflect the realignment.

In January 2019, the Company entered into an agreement to sell its Specialty Fluids business to Sinomine (Hong Kong) Rare Metals Resources Co. Limited, a wholly owned subsidiary of Sinomine Resource Group Co., Ltd. ("Sinomine"). In light of this impending transaction, the assets and liabilities of the Specialty Fluids business are included in Assets held for sale and Liabilities held for sale in the Consolidated Balance Sheet as of March 31, 2019. The sale of the Specialty Fluids business does not meet the criteria to be reported as a discontinued operation and, therefore, prior periods' consolidated financial statements and disclosures have not been recast. Refer to Note D for further details regarding the pending sale of the Specialty Fluids business.

B. Significant Accounting Policies

Revenue Recognition

Cabot recognizes revenue when its customers obtain control of promised goods or services. The revenue recognized is the amount of consideration which the Company expects to receive in exchange for those goods or services. Cabot derives the majority of its revenues from contracts for the sale of products from its Reinforcement Materials, Performance Chemicals and Purification Solutions segments. The Company's contracts with customers are generally for products only and do not include other performance obligations. Generally, Cabot considers purchase orders, which in some cases are governed by master supply agreements, to be contracts with customers. The transaction price as specified on the purchase order or sales contract is considered the standalone selling price for each distinct product. To determine the transaction price at the time when revenue is recognized, the Company evaluates whether the price is subject to adjustments, such as for returns, discounts or volume rebates, which are stated in the customer contract, to determine the net consideration to which the Company expects to be entitled. Revenue from product sales is recognized based on a point in time model when control of the product is transferred to the customer, which typically occurs upon shipment or delivery of the product to the customer and title, risk and rewards of ownership have passed to the customer. Payment terms typically range from zero to ninety days.

Shipping and handling activities that occur after the transfer of control to the customer are billed to customers and are recorded as sales revenue, as the Company considers these to be fulfillment costs. Shipping and handling costs are expensed in the period incurred and included in Cost of sales within the Consolidated Statement of Operations. Taxes collected on sales to customers are excluded from the transaction price.

The Company generally provides a warranty that its products will substantially conform to the identified specifications. The Company's liability typically is limited to either a credit equal to the purchase price or replacement of the non-conforming product. Returns under warranty have historically been immaterial.

Revenue in the Specialty Fluids segment arises primarily from the rental of cesium formate. This revenue is recognized throughout the rental period based on the contracted rental terms. Customers are also billed and revenue is recognized, typically at the end of the rental period, for cesium formate product that is not returned. The Company also generates revenues from cesium formate sold outside of the rental process and from the sale of fine cesium chemicals. This revenue is recognized when control of the product transfers to the customer, which is typically upon delivery of the product.

The Company does not have contract assets or liabilities that are material.

As permitted by the revenue recognition standard, *Revenue from Contracts with Customers*, when the period of time between the transfer of control of the goods and the time the customer pays for the goods is one year or less, the Company does not consider there to be a significant financing component associated with the contract.

Intangible Assets and Goodwill Impairment

The Company records tangible and intangible assets acquired and liabilities assumed in business combinations under the acquisition method of accounting. Amounts paid for an acquisition are allocated to the assets acquired and liabilities assumed based on their fair values at the date of acquisition. The Company uses assumptions and estimates in determining the fair value of assets acquired and liabilities assumed in a business combination. The determination of the fair value of intangible assets requires the use of significant judgment with regard to assumptions used in the valuation model. The Company estimates the fair value of identifiable acquisition-related intangible assets principally based on projections of cash flows that will arise from these assets. The projected cash flows are discounted to determine the fair value of the assets at the dates of acquisition.

Definite-lived intangible assets, which are comprised of trademarks, customer relationships and developed technologies, are amortized over their estimated useful lives and are reviewed for impairment when indication of potential impairment exists, such as a significant reduction in cash flows associated with the assets.

Goodwill is comprised of the purchase price of business acquisitions in excess of the fair value assigned to the net tangible and identifiable intangible assets acquired. Goodwill is not amortized, but is reviewed for impairment annually as of May 31, or when events or changes in the business environment indicate that the carrying value of the reporting unit may exceed its fair value. A reporting unit, for the purpose of the impairment test, is at or below the operating segment level, and constitutes a business for which discrete financial information is available and regularly reviewed by segment management. Reinforcement Materials, and the fumed metal oxides and specialty compounds product lines within Performance Chemicals, which are considered separate reporting units, carry the Company's goodwill balances as of March 31, 2019.

For the purpose of the goodwill impairment test, the Company first assesses qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If an initial qualitative assessment identifies that it is more likely than not that the carrying value of a reporting unit exceeds its estimated fair value, an additional quantitative evaluation is performed. Alternatively, the Company may elect to proceed directly to the quantitative goodwill impairment test. If based on the quantitative evaluation the fair value of the reporting unit is less than its carrying amount, a goodwill impairment loss would result. The goodwill impairment loss would be the amount by which the carrying value of the reporting unit, including goodwill, exceeds its fair value, limited to the total amount of goodwill allocated to that reporting unit. The fair value of a reporting unit is based on discounted estimated future cash flows. The fair value is also benchmarked against a market approach using the guideline public companies method. The assumptions used to estimate fair value include management's best estimates of future growth rates, operating cash flows, capital expenditures and discount rates over an estimate of the remaining operating period at the reporting unit level. Based on the Company's most recent annual goodwill impairment test performed as of May 31, 2018, the fair values of the Reinforcement Materials, Fumed Metal Oxides and Specialty Compounds reporting units were substantially in excess of their carrying values. No events occurred subsequent to the last impairment evaluation that would suggest that it is more likely than not that the carrying values of any of the Company's reporting units exceeded their fair value. Refer to Note F for details on the Purification Solutions goodwill impairment test and the resulting impairment charge recorded in the second quarter of fiscal 2018.

Long-lived Assets Impairment

The Company's long-lived assets primarily include property, plant and equipment, intangible assets, long-term investments and assets held for rent. The carrying values of long-lived assets are reviewed for impairment whenever events or changes in business circumstances indicate that the carrying amount of an asset may not be recoverable.

To test for impairment of assets, the Company generally uses a probability-weighted estimate of the future undiscounted net cash flows of the assets over their remaining lives to determine if the value of the asset is recoverable. Long-lived assets are grouped with other assets and liabilities at the lowest level for which independent identifiable cash flows are determinable.

An asset impairment is recognized when the carrying value of the asset is not recoverable based on the analysis described above, in which case the asset is written down to its fair value. If the asset does not have a readily determinable fair value, a discounted cash flow model may be used to determine the fair value of the asset. In circumstances when an asset does not have separately identifiable cash flows, an impairment charge is recorded when the Company no longer intends to use the asset. In the second quarter of fiscal 2018, the Company determined that the carrying value of the long-lived asset group of the Purification Solutions segment was not recoverable. Accordingly, the Company recorded an impairment charge for the carrying value in excess of the fair value of the asset group. Refer to Note F regarding the results of the recoverability test performed on the long-lived assets of the Purification Solutions segment and the resulting impairment charge recorded.

The Company continues to pursue strategic options for its Purification Solutions business. Depending on the actions taken, there could be a negative impact on the fair value of the Purification Solution reporting unit, which may lead to further impairment.

Property, Plant and Equipment

Property, plant and equipment are recorded at cost. Depreciation of property, plant and equipment is calculated using the straight-line method over the estimated useful lives of the related assets. The depreciable lives for buildings, machinery and equipment, and other fixed assets are between twenty and twenty-five years, ten and twenty-five years, and three and twenty-five years, respectively. The cost and accumulated depreciation for property, plant and equipment sold, retired, or otherwise disposed of are removed from the Consolidated Balance Sheets and resulting gains or losses are included in earnings in the Consolidated Statements of Operations. Expenditures for repairs and maintenance are charged to expenses as incurred. Expenditures for major renewals and betterments, which significantly extend the useful lives of existing plant and equipment, are capitalized and depreciated.

Income Tax in Interim Periods

The Company records its tax provision or benefit on an interim basis using an estimated annual effective tax rate. This rate is applied to the current period ordinary income or loss to determine the income tax provision or benefit allocated to the interim period. Losses from jurisdictions for which no benefit can be recognized and the income tax effects of unusual or infrequent items are excluded from the estimated annual effective tax rate and are recognized in the impacted interim period.

Valuation allowances are provided against the future tax benefits that arise from the deferred tax assets in jurisdictions for which no benefit can be recognized. The estimated annual effective tax rate may be significantly impacted by nondeductible expenses and the Company's projected earnings mix by tax jurisdiction. Adjustments to the estimated annual effective income tax rate are recognized in the period when such estimates are revised.

Inventory Valuation

Inventories are stated at the lower of cost or net realizable value. The cost of Specialty Fluids inventories that are classified as assets held for rent is determined using the average cost method. The cost of all other inventories is determined using the FIFO method.

Cabot periodically reviews inventory for both potential obsolescence and potential declines in anticipated selling prices. In this review, the Company makes assumptions about the future demand for and market value of the inventory, and based on these assumptions estimates the amount of any obsolete, unmarketable, slow moving, or overvalued inventory. Cabot writes down the value of these inventories by an amount equal to the difference between the cost of the inventory and its estimated net realizable value.

Pensions and Other Postretirement Benefits

The Company recognizes the funded status of defined benefit pension and other postretirement benefit plans as an asset or liability. This amount is defined as the difference between the fair value of plan assets and the benefit obligation. The Company is required to recognize as a component of Other comprehensive income (loss), net of tax, the actuarial gains/losses and prior service costs/credits that arise but were not previously required to be recognized as components of net periodic benefit cost. Other comprehensive income (loss) is adjusted as these amounts are later recognized in income as components of net periodic benefit cost.

Redeemable Preferred Stock

In November 2013, the Company purchased all of its joint venture partner's common stock in the former NHUMO, S.A. de C.V. ("NHUMO") joint venture. At the close of the transaction, NHUMO issued redeemable preferred stock to the joint venture partner with a repurchase value of $25 million and a fixed dividend rate of 6% per annum. In November 2018, the preferred stock was repurchased for $25 million and a final dividend payment of approximately $1.4 million was made. The preferred stock was accounted for as a financing obligation and was separately presented in the Consolidated Balance Sheets as a current liability as of September 30, 2018.

Accumulated Other Comprehensive Income (Loss)

Accumulated other comprehensive income (loss) ("AOCI"), which is included as a component of stockholders' equity, includes unrealized gains or losses on available-for-sale marketable securities and derivative instruments, currency translation adjustments in foreign subsidiaries, translation adjustments on foreign equity securities and minimum pension liability adjustments.

Recently Adopted Accounting Standards

In May 2014, the Financial Accounting Standards Board ("FASB") issued a new standard, *Revenue from Contracts with Customers*, that amended the existing accounting standards for revenue recognition. The standard requires entities to recognize revenue when they transfer promised goods or services to customers in an amount that reflects the consideration the entity expects to be entitled to in exchange for those goods or services. This standard is applicable for fiscal years beginning after December 15, 2017. The Company adopted this standard on October 1, 2018 and applied a modified retrospective approach. The comparative information has not been restated and continues to be reported under the accounting standards in effect during those periods, as discussed in the Company's 2018 10-K.

The adoption of this standard did not have an impact on how the Company recognizes revenue. As such, an adjustment to opening retained earnings was not required as a result of adopting this new standard. The Company implemented the updates that were necessary to its revenue recognition policy, internal controls, processes and financial statement disclosures as part of this adoption. The updated disclosures are reflected under the heading "Revenue Recognition" within Note B and the Company's disaggregated revenue is reflected within Note P.

In addition, as part of an assessment performed in connection with adopting this standard, the Company reviewed its classification of by-product sales, which consist of sales generated from the production of steam or electricity from the Company's energy centers primarily from its carbon black manufacturing sites and sales of hydrochloric acid generated from the production of fumed silica. Historically, the Company presented by-product sales as a reduction of Cost of sales within the Consolidated Statement of Operations. However, upon further evaluation of these sales in connection with the implementation of this standard, the Company determined that it is appropriate to present by-product sales as Net sales and other operating revenues. Effective October 1, 2018, these sales are now included within Net sales and other operating revenues in the Consolidated Statement of Operations. This change did not result in a cumulative adjustment to opening retained earnings as it is a classification change within the Consolidated Statement of Operations. If the Company had continued to classify by-product sales within Cost of sales, there would have been a decrease to Net sales and other operating revenues and Cost of sales of $20 million and $40 million for the three and six months ended March 31, 2019, respectively.

In August 2016, the FASB issued final amendments to clarify how entities should classify certain cash receipts and cash payments on the statement of cash flows, such as distributions received from equity method investees, proceeds from the settlement of insurance claims, and proceeds from the settlement of corporate-owned life insurance policies. The new standard is effective for fiscal years beginning after December 15, 2017, including interim periods within those years, and early adoption is permitted. The Company adopted this standard on October 1, 2018. The adoption of this standard did not have a material impact to the Company's consolidated financial statements.

In March 2017, the FASB issued a new standard that amends the requirements on the presentation of net periodic pension and postretirement benefit costs. The new standard requires the service cost component to be presented with other employee compensation costs. The other components will be reported separately outside of operations. Only the service cost component will be eligible for capitalization. Entities are required to use a retrospective transition method to adopt the requirement for separate income statement presentation of the service cost and other components, and a prospective transition method to adopt the requirement to limit the capitalization of benefit cost to the service component. The Company adopted the standard on October 1, 2018 and used a retrospective transition method to reclassify net periodic benefit cost, other than the service component, from Cost of sales, Selling and administrative expenses and Research and technical expenses to Other income (expense) in the Consolidated Statements of Operations for the prior periods presented. In accordance with the standard, the Company utilized prior period footnote disclosures as a practical expedient to apply these retrospective presentations, which is shown in the table below:

Consolidated Statements of Operations	Three Months Ended March 31			Six Months Ended March 31		
	2018			2018		
	As Originally Reported	Effect of Change	As Adjusted	As Originally Reported	Effect of Change	As Adjusted
	(In millions, except per share amounts)					
Cost of sales	$ 628	$ 2	$ 630	$ 1,170	$ 4	$ 1,174
Gross profit	$ 190	$ (2)	$ 188	$ 368	$ (4)	$ 364
Selling and administrative expenses	$ 78	$ 1	$ 79	$ 147	$ 2	$ 149
Research and technical expenses	$ 16	$ —	$ 16	$ 31	$ —	$ 31
Income (loss) from operations	$ (158)	$ (3)	$ (161)	$ (64)	$ (6)	$ (70)
Other income (expense)	$ (2)	$ 3	$ 1	$ 6	$ 6	$ 12

In August 2018, the FASB issued a new standard to align the requirements for capitalizing implementation costs incurred in a cloud computing arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. The updated guidance also requires an entity to expense the capitalized implementation costs of a cloud computing arrangement that is a service contract over the term of the arrangement and includes expanded disclosure requirements for such costs. The new standard is effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. Early adoption is permitted, and the guidance may be applied either retrospectively or prospectively. The Company adopted this standard prospectively on January 1, 2019. The adoption of this standard did not have a material impact to the Company's consolidated financial statements.

Recent Accounting Pronouncements

In February 2016, the FASB issued a new standard for the accounting for leases. This new standard requires lessees to recognize assets and liabilities for most leases, but recognize expenses on their income statements in a manner that is similar to the current accounting treatment for leases. The standard is applicable for fiscal years beginning after December 15, 2018 and for interim periods within those years, and early adoption is permitted. The Company expects to adopt the standard on October 1, 2019. The Company is currently evaluating the impact of the adoption of this standard on its consolidated financial statements. The Company has established a project plan and implementation team that is analyzing the current portfolio of leases to determine the impact of adopting this new standard. The implementation team is also responsible for evaluating and designing the necessary changes to the Company's business processes, lease policies, systems and internal controls to support recognition and disclosure under the new guidance.

In February 2018, the FASB issued a new standard that allows entities to reclassify from AOCI to Retained earnings stranded tax effects resulting from changes made as a result of the Tax Cuts and Jobs Act of 2017 (the "Act"). The amendments in this new standard also require certain disclosures about stranded tax effects. The new standard is effective for all entities for fiscal years beginning after December 15, 2018, including interim periods within those years, and early adoption is permitted. The Company is evaluating this standard and the timing of its adoption. The adoption of this standard is not expected to materially impact the Company's consolidated financial statements.

C. Acquisitions

Tech Blend

In November 2017, the Company acquired Tech Blend, a North American producer of black masterbatches, for a purchase price of $65 million, paid in cash. The purchase price was subject to a working capital adjustment, which was immaterial. The operating results of the business are included in the Company's Performance Chemicals segment. The acquisition extended the Company's global footprint in black masterbatch and compounds and provides a platform to serve global customers and grow in conductive formulations.

NSCC Carbon (Jiangsu) Co. Ltd

In September 2018, the Company acquired NSCC Carbon, a carbon black manufacturing facility in Pizhou, Jiangsu Province, China for a purchase price of $8 million. The purchase price is payable upon satisfaction of certain conditions that are expected to be satisfied within the next twelve months and is recorded within Accounts payable and accrued liabilities on the Consolidated Balance Sheets. The Company plans to modify this facility to produce specialty carbons. The plant is temporarily mothballed. The modifications are expected to be completed, and production is expected to commence, in 2021. During the three and six months ended March 31, 2019 the Company has incurred $1 million and $3 million, respectively, of transition-related costs related to this acquisition.

Note D. Pending Sale of the Specialty Fluids Business

In January 2019, the Company entered into a Stock Purchase Agreement to sell its Specialty Fluids business, an operating segment of the Company, to Sinomine, on a cash-free and debt-free basis in a transaction valued at $135 million. The purchase price consists of $130 million to be paid at closing, subject to customary closing adjustments (including a customary working capital adjustment), and additional cash royalties of up to $5 million for lithium products, payable over a ten-year period.

The sale of the Specialty Fluids business is expected to be completed during the third quarter of fiscal 2019 and is subject to customary closing conditions, including, among other things, the receipt of certain regulatory approvals and notices with respect to the People's Republic of China and Canada.

In light of this impending transaction, during the second quarter of fiscal 2019, the assets and liabilities of the Specialty Fluids business met the criteria for assets held for sale. The sale of the Specialty Fluids business does not meet the criteria to be reported as a discontinued operation as it does not constitute a significant strategic business shift for the Company.

In addition, based on the carrying value of the Specialty Fluids business as of March 31, 2019 and an estimate of the total cash proceeds from the sale, after giving effect to estimated closing adjustments, the Company recorded an impairment charge of $20 million during the second quarter of fiscal 2019.

The following table summarizes the carrying amounts of the major classes of assets and liabilities of the Specialty Fluids business classified as held for sale as of March 31, 2019 and the associated impairment charge:

	(In millions)
Assets	
Accounts and notes receivable, net of reserve for doubtful accounts	$ 42
Inventories	5
Prepaid expenses and other current assets	4
Property, plant and equipment, net	13
Assets held for rent	134
Deferred income taxes	1
Total assets held for sale	199
Impairment of held for sale assets	(20)
Adjusted assets held for sale	$ 179
Liabilities	
Accounts payable and accrued liabilities	$ 5
Income taxes payable	5
Deferred income taxes	4
Other liabilities	7
Total liabilities held for sale	21
Total net assets held for sale	$ 158

E. Employee Benefit Plans

Net periodic defined benefit pension and other postretirement benefit costs include the following:

	Three Months Ended March 31							
	2019		2018		2019		2018	
	Pension Benefits				Postretirement Benefits			
	U.S.	Foreign	U.S.	Foreign	U.S.	Foreign	U.S.	Foreign
	(In millions)							
Service cost	$ —	$ 2	$ —	$ 2	$ —	$ —	$ —	$ —
Interest cost	2	1	1	2	1	—	—	—
Expected return on plan assets	(3)	(2)	(3)	(3)	—	—	—	—
Amortization of prior service credit	—	—	—	—	(1)	—	—	—
Amortization of actuarial loss	—	—	—	—	—	—	—	—
Settlement and curtailment gain	—	—	—	—	—	—	—	—
Net periodic benefit (credit) cost	$ (1)	$ 1	$ (2)	$ 1	$ —	$ —	$ —	$ —

	Six Months Ended March 31							
	2019		2018		2019		2018	
	Pension Benefits				Postretirement Benefits			
	U.S.	Foreign	U.S.	Foreign	U.S.	Foreign	U.S.	Foreign
	(In millions)							
Service cost	$ —	$ 4	$ —	$ 4	$ —	$ —	$ —	$ —
Interest cost	3	3	2	4	1	—	—	—
Expected return on plan assets	(5)	(6)	(5)	(7)	—	—	—	—
Amortization of prior service credit	—	—	—	—	(1)	—	(1)	—
Amortization of actuarial loss	—	1	—	1	—	—	—	—
Settlement and curtailment gain	—	(6)	—	—	—	—	—	—
Net periodic benefit (credit) cost	$ (2)	$ (4)	$ (3)	$ 2	$ —	$ —	$ (1)	$ —

Curtailments and Settlements of Employee Benefit Plans

In December 2018, the Company transferred the majority of the defined benefit obligations and pension plan assets in one of its foreign defined benefit plans to a multi-employer plan. This action moved the administrative, asset custodial, asset investment, actuarial, communication and benefit payment obligations to the multi-employer fund administrator. As a result of the transfer, there was a $30 million reduction in net pension obligations associated with the plan, and a pre-tax gain of $6 million was recorded in the first quarter of fiscal 2019, which is included in Other income (expense) in the Consolidated Statement of Operations. The pre-tax gain consisted of a curtailment credit of less than $1 million for the accelerated recognition of prior service credit and a settlement credit of $5 million for the accelerated recognition of the unrecognized gain upon the transfer of the assets. As of March 31, 2019, approximately $2 million of plan assets remain to be transferred. Such assets are expected to be transferred by the end of the third quarter of fiscal 2019 and such transfer may result in an additional immaterial settlement gain or loss. In addition, as part of the transfer the Company recorded a $3 million charge in the first quarter of fiscal 2019 for the Company's agreement to fund the actuarial loss gap between the terminated plan and the multi-employer plan, which will be paid over the next five years. This charge is included Other income (expense) in the Consolidated Statement of Operations and the liability is included in Accounts payable and accrued liabilities and Other liabilities on the Consolidated Balance Sheet.

F. Purification Solutions Goodwill and Long-Lived Assets Impairment Charges

During the second quarter of fiscal 2018, the Company recorded impairment charges relating to the goodwill and long-lived assets of the Purification Solutions reporting unit, and an associated deferred tax benefit, in the Consolidated Statement of Operations as follows:

	Three Months Ended March 31, 2018
	(In millions)
Purification Solutions goodwill impairment charge	$ 92
Purification Solutions long-lived assets impairment charge	162
Benefit for income taxes	(30)
Impairment charges, after tax	$ 224

In the second quarter of fiscal 2018, the Purification Solutions reporting unit had experienced share losses, lower customer demand and declining prices in the mercury removal and North America powdered activated carbon applications, which led the Company to reassess its previous estimates for expected growth in volumes, prices and margins in the reporting unit. Due to the revised forecasts at the time, the Company performed a quantitative goodwill impairment test and determined that the estimated fair value of the Purification Solutions reporting unit was lower than the reporting unit's carrying value, resulting in a goodwill impairment charge of $92 million.

Prior to determining the goodwill impairment charge, the Company considered whether the assets of the reporting unit were recoverable. As a result of that assessment, the Company recorded an inventory reserve adjustment of $13 million and impairments to long-lived assets of $162 million. The adjustment to inventory carrying value was determined based on reassessments of volumes, pricing, and margins for the reporting unit at the time and was recorded in Cost of sales in the Consolidated Statements of Operations. The impairment analysis to assess if definite-lived intangible assets and property, plant and equipment were recoverable was based on the estimated undiscounted cash flows of the reporting unit, and these cash flows were not sufficient to recover the carrying value of the long-lived assets over their remaining useful lives. Accordingly, the Company recorded impairment charges of $64 million and $98 million to its definite-lived intangible assets and property, plant and equipment, respectively, in the quarter ended March 31, 2018 based on the lower of the carrying amount or fair value of the long-lived assets.

Cabot will continue to monitor for events or changes in business circumstances that may indicate that the remaining carrying value of the asset group may not be recoverable.

Additionally, the Company recorded a tax benefit related to the impairment charges of $30 million in the second quarter of fiscal 2018 which was subsequently reduced by $1 million after the impairment charges by tax jurisdiction were finalized.

G. Goodwill and Intangible Assets

The carrying amount of goodwill attributable to each reportable segment with goodwill balances and the changes in those balances during the six month period ended March 31, 2019 are as follows:

	Reinforcement Materials	Performance Chemicals	Total
		(In millions)	
Balance at September 30, 2018	$ 52	$ 41	$ 93
Foreign currency impact	(1)	(1)	(2)
Balance at March 31, 2019	$ 51	$ 40	$ 91

The following table provides information regarding the Company’s intangible assets:

	March 31, 2019			September 30, 2018		
	Gross Carrying Value	Accumulated Amortization	Net Intangible Assets	Gross Carrying Value	Accumulated Amortization	Net Intangible Assets
			(In millions)			
Intangible assets with finite lives						
Developed technologies	$ 51	$ (3)	$ 48	$ 52	$ (2)	$ 50
Trademarks	8	—	8	8	—	8
Customer relationships	50	(13)	37	51	(11)	40
Total intangible assets	$ 109	$ (16)	$ 93	$ 111	$ (13)	$ 98

Intangible assets are amortized over their estimated useful lives, which range between twelve and twenty-five years, with a weighted average amortization period of approximately nineteen years. Amortization expense for the three month periods ended March 31, 2019 and 2018 was $2 million and $3 million, respectively, and is included in Cost of sales, Selling and administrative expenses, and research and technical expenses in the Consolidated Statements of Operations. Amortization expense for the six month periods ended March 31, 2019 and 2018 was $3 million and $5 million, respectively, and is included in Cost of sales, Selling and administrative expenses, and research and technical expenses in the Consolidated Statements of Operations. Total amortization expense is estimated to be approximately $6 million each year for the next five fiscal years.

H. Accumulated Other Comprehensive Income (Loss)

Comprehensive income combines net income (loss) and other comprehensive income items, which are reported as components of stockholders' equity in the accompanying Consolidated Balance Sheets.

Changes in each component of AOCI, net of tax, were as follows:

	Currency Translation Adjustment	Unrealized Gains on Investments	Pension and Other Postretirement Benefit Liability Adjustments	Total
		(In millions)		
Balance at September 30, 2018, attributable to Cabot Corporation	$ (266)	$ 1	$ (52)	$ (317)
Other comprehensive income (loss) before reclassifications	(24)	—	30	6
Amounts reclassified from AOCI	(1)	—	(8)	(9)
Less: Other comprehensive income (loss) attributable to noncontrolling interests	—	—	—	—
Balance at December 31, 2018, attributable to Cabot Corporation	$ (291)	$ 1	$ (30)	$ (320)
Other comprehensive income (loss) before reclassifications	8	—	1	9
Amounts reclassified from AOCI	(1)	—	(1)	(2)
Less: Other comprehensive income (loss) attributable to noncontrolling interests	2	—	—	2
Balance at March 31, 2019, attributable to Cabot Corporation	(286)	1	(30)	(315)

The amounts reclassified out of AOCI and into the Consolidated Statements of Operations in the three and six months ended March 31, 2019 and 2018 were as follows:

	Affected Line Item in the Consolidated Statements of Operations	Three Months Ended March 31		Six Months Ended March 31	
		2019	2018	2019	2018
		(In millions)			
Derivatives: net investment hedges					
(Gains) losses reclassified to interest expense	Interest expense	$ (2)	$ (1)	$ (3)	$ (2)
(Gains) losses excluded from effectiveness testing and amortized to interest expense	Interest expense	$ 1	$ —	$ 1	$ —
Pension and other postretirement benefit liability adjustment					
Amortization of actuarial losses	Net Periodic Benefit Cost - see Note E for details	—	—	1	1
Amortization of prior service credit	Net Periodic Benefit Cost - see Note E for details	(1)	—	(1)	(1)
Settlement and curtailment gain	Net Periodic Benefit Cost - see Note E for details	—	—	(6)	—
Total before tax		(2)	(1)	(8)	(2)
Tax impact	Provision (benefit) for income taxes	—	—	(3)	—
Total after tax		$ (2)	$ (1)	$ (11)	$ (2)

I. Commitments and Contingencies

Purchase Commitments

Cabot has entered into long-term purchase agreements primarily for the purchase of raw materials. Under certain of these agreements, the quantity of material being purchased is fixed, but the price paid changes as market prices change. For these purchase commitments, the amounts included in the table below are based on market prices at March 31, 2019, which may differ from actual market prices at the time of purchase.

	Payments Due by Fiscal Year						
	Remainder of Fiscal 2019	2020	2021	2022	2023	Thereafter	Total
				(In millions)			
Reinforcement Materials	$ 173	$ 244	$ 134	$ 131	$ 123	$ 1,607	$ 2,412
Performance Chemicals	42	59	56	56	32	459	704
Purification Solutions	4	6	1	—	—	—	11
Specialty Fluids[(1)]	12	—	—	—	—	—	12
Total	$ 231	$ 309	$ 191	$ 187	$ 155	$ 2,066	$ 3,139

(1) The remaining purchase commitments, none of which are expected to be satisfied prior to the sale of the Specialty Fluids business, will remain with the business that is being transferred at the closing of the transaction.

Guarantee Agreements

Cabot has provided certain indemnities pursuant to which it may be required to make payments to an indemnified party in connection with certain transactions and agreements. In connection with certain acquisitions and divestitures, Cabot has provided routine indemnities with respect to such matters as environmental, tax, insurance, product and employee liabilities. In connection with various other agreements, including service and supply agreements with customers, Cabot has provided indemnities for certain contingencies and routine warranties. Cabot is unable to estimate the maximum potential liability for these types of indemnities as a maximum obligation is not explicitly stated in most cases and the amounts, if any, are dependent upon the outcome of future contingent events, the nature and likelihood of which cannot be reasonably estimated. The duration of the indemnities vary, and in many cases are indefinite. Cabot has not recorded any liability for these indemnities in the consolidated financial statements, except as otherwise disclosed.

Contingencies

Cabot is a defendant, or potentially responsible party, in various lawsuits and environmental proceedings wherein substantial amounts are claimed or at issue.

Environmental Matters

As of March 31, 2019 and September 30, 2018, Cabot had $14 million and $15 million, respectively, reserved for environmental matters. These environmental matters mainly relate to former operations. The Company's reserves for environmental matters represent Cabot's best estimates of the probable costs to be incurred at those sites where costs are reasonably estimable based on the Company's analysis of the extent of clean up required, alternative clean-up methods available, abilities of other responsible parties to contribute and its interpretation of laws and regulations applicable to each site.

Cash payments related to these environmental matters were $1 million and $2 million in the first six months of fiscal 2019 and fiscal 2018, respectively. Cabot reviews the adequacy of the reserves as circumstances change at individual sites and adjusts the reserves as appropriate. Almost all of Cabot's environmental issues relate to sites that are mature and have been investigated and studied and, in many cases, are subject to agreed upon remediation plans. However, depending on the results of future testing, changes in risk assessment practices, remediation techniques and regulatory requirements, newly discovered conditions, and other factors, it is reasonably possible that the Company could incur additional costs in excess of environmental reserves currently recorded. Management estimates, based on the latest available information, that any such future environmental remediation costs that are reasonably possible to be in excess of amounts already recorded would be immaterial to the Company's consolidated financial statements.

Respirator Liabilities

Cabot has exposure in connection with a safety respiratory products business that a subsidiary acquired from American Optical Corporation ("AO") in an April 1990 asset purchase transaction. The subsidiary manufactured respirators under the AO brand and disposed of that business in July 1995. In connection with its acquisition of the business, the subsidiary agreed, in certain circumstances, to assume a portion of AO's liabilities, including costs of legal fees together with amounts paid in settlements and judgments, allocable to AO respiratory products used prior to the 1990 purchase by the Cabot subsidiary. In exchange for the subsidiary's assumption of certain of AO's respirator liabilities, AO agreed to provide to the subsidiary the benefits of: (i) AO's insurance coverage for the period prior to the 1990 acquisition and (ii) a former owner's indemnity of AO holding it harmless from any liability allocable to AO respiratory products used prior to May 1982. As more fully described in the 2018 10-K, the respirator liabilities generally involve claims for personal injury, including asbestosis, silicosis and coal worker's pneumoconiosis, allegedly resulting from the use of respirators that are alleged to have been negligently designed and/or labeled. Neither Cabot, nor its past or present subsidiaries, at any time manufactured asbestos or asbestos-containing products. At no time did this respiratory product line represent a significant portion of the respirator market.

As of March 31, 2019, and September 30, 2018, there were approximately 36,000 and 35,000 claimants, respectively, in pending cases asserting claims against AO in connection with respiratory products. Cabot has a reserve to cover its expected share of liability for existing and future respirator liability claims. At March 31, 2019 and September 30, 2018, the reserve was $22 million and $25 million, respectively. The Company made payments related to its respirator liability of $3 million and $1 million in the first six months of fiscal 2019 and fiscal 2018, respectively.

The Company's current estimate of the cost of its share of existing and future respirator liability claims is based on facts and circumstances existing at this time. Developments that could affect the Company's estimate include, but are not limited to, (i) significant changes in the number of future claims, (ii) changes in the rate of dismissals without payment of pending claims, (iii) significant changes in the average cost of resolving claims, (iv) significant changes in the legal costs of defending these claims, (v) changes in the nature of claims received, (vi) trial and appellate outcomes, (vii) changes in the law and procedure applicable to these claims, (viii) the financial viability of other parties that contribute to the settlement of respirator claims, (ix) a change in the availability of insurance coverage maintained by certain of the other parties that contribute to the settlement of respirator claims, or the indemnity provided by a former owner of the business, (x) changes in the allocation of costs among the various parties paying legal and settlement costs, and (xi) a determination that the assumptions that were used to estimate Cabot's share of liability are no longer reasonable. The Company cannot determine the impact of these potential developments on its current estimate of its share of liability for existing and future claims. Accordingly, the actual amount of these liabilities for existing and future claims could be larger than the reserved amount.

Other Matters

The Company has various other lawsuits, claims and contingent liabilities arising in the ordinary course of its business and with respect to its divested businesses. The Company does not believe that any of these matters will have a material adverse effect on its financial position; however, litigation is inherently unpredictable. Cabot could incur judgments, enter into settlements or revise its expectations regarding the outcome of certain matters, and such developments could have a material impact on its results of operations in the period in which the amounts are accrued or its cash flows in the period in which the amounts are paid.

J. Income Tax

Effective Tax Rate

	Three Months Ended March 31		Six Months Ended March 31	
	2019	2018	2019	2018
	(Dollars in millions)			
(Provision) benefit for income taxes	$ (20)	$ 7	$ (13)	$ (198)
Effective tax rate	41%	4%	11%	(248)%

For the three and six months ended March 31, 2019, the tax (provision) benefit included a net discrete tax expense of less than $1 million and a net discrete tax benefit of $24 million, respectively, of which nil and $17 million, respectively, comprised the impact of the Act. For the three and six months ended March 31, 2018, the tax (provision) benefit included a net discrete tax benefit of $26 million and a net discrete tax expense of $162 million, respectively, of which net tax expenses of $4 million and $189 million, respectively, comprised the impact of the Act.

Tax Reform

On December 22, 2017, the U.S. enacted significant changes to federal income tax law affecting the Company, including a permanent reduction of the U.S. corporate income tax rate from 35% to 21%, effective January 1, 2018, as well as a 100% dividend received deduction for foreign dividends. Although the passage of the Act reduced the U.S. tax rate and effectively created a participation exemption regime for foreign earnings, certain other aspects of the new legislation, including in particular, immediate U.S. taxation of global intangible low-taxed income ("GILTI") earned by foreign subsidiaries, will have a negative impact on earnings. In transitioning to this participation exemption regime, Cabot was also subject, during fiscal 2018, to a one-time tax on the deemed repatriation of certain foreign earnings.

As provided in Staff Accounting Bulletin 118 ("SAB 118"), the Company made certain final adjustments during the first quarter of fiscal 2019 related to the U.S. taxation of deemed foreign dividends in the transition fiscal year. For the six months ended March 31, 2019, the Company recorded an additional provisional tax benefit of $17 million related to the U.S. taxation of deemed foreign dividends in the transition fiscal year. This benefit may be reduced or eliminated in future legislation. If such legislation is enacted, Cabot will record the impact of the legislation in the quarter of enactment.

Uncertainties

Cabot and certain subsidiaries are under audit in a number of jurisdictions. In addition, certain statutes of limitations are scheduled to expire in the near future. It is reasonably possible that a further change in the unrecognized tax benefits may also occur within the next twelve months related to the settlement of one or more of these audits or the lapse of applicable statutes of limitations. However, an estimated range of the impact on the unrecognized tax benefits cannot be quantified at this time.

Cabot files U.S. federal and state and non-U.S. income tax returns in jurisdictions with varying statutes of limitations. The 2014 through 2017 tax years generally remain subject to examination by the IRS and various tax years from 2005 through 2017 remain subject to examination by the respective state tax authorities. In significant non-U.S. jurisdictions, various tax years from 2002 through 2017 remain subject to examination by their respective tax authorities. As of March 31, 2019, Cabot's significant non-U.S. jurisdictions include Canada, China, France, Germany, Italy, Japan, and the Netherlands.

During the three and six months ended March 31, 2019, Cabot released uncertain tax positions of $1 million and $8 million, respectively, due to audit settlements and the expiration of statutes of limitations in various jurisdictions. During the three and six months ended March 31, 2018, Cabot released uncertain tax positions of less than $1 million and $2 million, respectively, due to the expirations of statutes of limitations in various jurisdictions.

K. Earnings Per Share

The following tables summarize the components of the basic and diluted earnings (loss) per common share ("EPS") computations:

	Three Months Ended March 31		Six Months Ended March 31	
	2019	2018	2019	2018
	(In millions, except per share amounts)			
Basic EPS:				
Net income (loss) attributable to Cabot Corporation	$ 23	$ (173)	$ 92	$ (295)
Less: Undistributed earnings allocated to participating securities(1)	—	—	—	—
Earnings (loss) allocated to common shareholders (numerator)	$ 23	$ (173)	$ 92	$ (295)
Weighted average common shares and participating securities outstanding	60.0	62.6	60.4	62.5
Less: Participating securities(1)	0.9	0.8	0.9	0.7
Adjusted weighted average common shares (denominator)	59.1	61.8	59.5	61.8
Earnings (loss) per common share - basic:	$ 0.39	$ (2.80)	$ 1.53	$ (4.78)
Diluted EPS:				
Earnings (loss) allocated to common shareholders	$ 23	$ (173)	$ 92	$ (295)
Plus: Earnings (loss) allocated to participating securities	—	—	1	—
Less: Adjusted earnings allocated to participating securities(2)	—	—	1	—
Earnings (loss) allocated to common shareholders (numerator)	$ 23	$ (173)	$ 92	$ (295)
Adjusted weighted average common shares outstanding	59.1	61.8	59.5	61.8
Effect of dilutive securities:				
Common shares issuable(3)	0.2	—	0.2	—
Adjusted weighted average common shares (denominator)	59.3	61.8	59.7	61.8
Earnings (loss) per common share - diluted:	$ 0.39	$ (2.80)	$ 1.53	$ (4.78)

(1) Participating securities consist of shares underlying outstanding and achieved performance-based restricted stock units issued during and after fiscal 2017 and all unvested time-based restricted stock units.

Undistributed earnings are the earnings which remain after dividends declared during the period are assumed to be distributed to the common and participating shareholders. Undistributed earnings are allocated to common and participating shareholders on the same basis as dividend distributions. The calculation of undistributed earnings is as follows:

	Three Months Ended March 31		Six Months Ended March 31	
	2019	2018	2019	2018
	(In millions)			
Calculation of undistributed earnings (loss):				
Net income (loss) attributable to Cabot Corporation	$ 23	$ (173)	$ 92	$ (295)
Less: Dividends declared on common stock	20	19	40	39
Undistributed earnings (loss)	$ 3	$ (192)	$ 52	$ (334)
Allocation of undistributed earnings (loss):				
Undistributed earnings (loss) allocated to common shareholders	$ 3	$ (192)	$ 52	$ (334)
Undistributed earnings (loss)	$ 3	$ (192)	$ 52	$ (334)

(2) Undistributed earnings are adjusted for the assumed distribution of dividends to the dilutive securities, which are described in (3) below, and then reallocated to participating securities.

(3) Represents incremental shares of common stock from the (i) assumed exercise of stock options issued under Cabot's equity incentive plans; (ii) assumed issuance of shares to employees pursuant to the Company's Deferred Compensation and Supplemental Retirement Plan; and (iii) assumed issuance of shares for outstanding and achieved performance-based restricted stock unit awards issued before fiscal 2017 under Cabot's equity incentive plans using the treasury stock method. For the three and six months ended March 31, 2019, 987,896 and 845,582 incremental shares of common stock, respectively, were excluded from the calculation of diluted earnings per share because the inclusion of these shares would have been antidilutive. For the three and six months ended March 31, 2018, 827,223 and 773,357 incremental shares of common stock, respectively, were excluded from the calculation of diluted earnings per share because the inclusion of these shares would have been antidilutive.

L. Restructuring

Cabot's restructuring activities were recorded in the Consolidated Statements of Operations in the three and six months ended March 31, 2019 and 2018 as follows:

	Three Months Ended March 31		Six Months Ended March 31	
	2019	2018	2019	2018
	(In millions)			
Cost of sales	$ 2	$ (10)	$ 5	$ (9)
Selling and administrative expenses	—	1	6	1
Total	$ 2	$ (9)	$ 11	$ (8)

Details of all restructuring activities and the related reserves during the three and six months ended March 31, 2019 were as follows:

	Severance and Employee Benefits	Environmental Remediation	Asset Impairment and Accelerated Depreciation	Other	Total
			(In millions)		
Reserve at September 30, 2018	$ 1	$ 4	$ —	$ —	$ 5
Charges	7	—	1	1	9
Costs charged against assets / (liabilities)	—	1	(1)	—	—
Cash paid	(1)	—	—	(1)	(2)
Reserve at December 31, 2018	7	5	—	—	12
Charges (gain)	1	—	—	1	2
Costs charged against assets / (liabilities)	—	—	—	—	—
Cash paid	(1)	—	—	(1)	(2)
Reserve at March 31, 2019	$ 7	$ 5	$ —	$ —	$ 12

Cabot's severance and employee benefit reserves and other closure related reserves are reflected in Accounts payable and accrued liabilities on the Company's Consolidated Balance Sheets. Cabot's environmental remediation reserves related to restructuring activities are reflected in Other liabilities on the Company's Consolidated Balance Sheets.

Purification Solutions Transformation Plan

In December 2018, the Company began implementation of a transformation plan to improve the long-term performance of the Purification Solutions segment. The purpose of the plan is to focus the business's product portfolio, optimize its manufacturing assets, and streamline its organizational structure to support the new focus. The Company recorded charges of approximately $1 million of severance costs related to this plan in the three months ended March 31, 2019 and recorded charges of approximately $9 million related to this plan in the six months ended March 31, 2019, comprised of approximately $8 million of severance costs and $1 million of professional fees. Cabot paid approximately $1 million and $2 million related to these activities in the three and six months ended March 31, 2019, respectively, and expects to pay approximately $7 million in the remainder of fiscal 2019 and thereafter. As of March 31, 2019, Cabot had $6 million of accrued severance charges in the Consolidated Balance Sheets related to these actions.

Marshall, Texas Plan

In October 2017, Cabot indefinitely idled three of the seven production units at its activated carbon manufacturing facility in Marshall, Texas. Total costs recorded related to this plan, which was completed in fiscal 2018, were $1 million, comprised of approximately $1 million of non-cash accelerated depreciation costs and less than $1 million of severance costs.

2016 Plan

In October 2015, in response to challenging macroeconomic conditions, the Company announced its intention to restructure its operations subject to local consultation requirements and processes in certain locations.

Most of the charges and cash outlays related to this plan were recorded in fiscal 2016. The Company recorded pre-tax cash charges related to this plan of less than $1 million and $1 million in the first six months of fiscal 2019 and 2018, respectively. No further charges are expected related to this plan.

Additionally, in fiscal 2016 Cabot closed its carbon black manufacturing facility in Merak, Indonesia to consolidate production in Asia using the Company's Cilegon, Indonesia and other Asian and global carbon black production sites to meet regional demand. The decision was driven by the financial performance at the Merak facility in the years preceding the closure. Manufacturing operations ceased at the end of January 2016.

The Company completed the sale of the land in Merak on which the facility was located in the second quarter of fiscal 2018 for cash consideration totaling approximately $13 million, resulting in a net pre-tax gain of approximately $11 million recorded to Cost of sales in the Company's Consolidated Statements of Operations.

Other Actions

Cabot recorded approximately $1 million of severance charges in the six months ended March 31, 2019, nearly all of which was paid during that period. The balance of less than $1 million is expected to be paid during the remainder of fiscal 2019. Additionally, Cabot recorded approximately $1 million of accelerated depreciation charges in the first six months of fiscal 2019 and expects to record approximately $1 million of additional accelerated depreciation in the remainder of fiscal 2019 and less than $1 million thereafter.

Cabot recorded approximately $1 million of severance charges in the first six month of fiscal 2018, nearly all of which was paid in that period.

Additionally, in previous years, the Company entered into other various restructuring actions that have been substantially completed. As of March 31, 2019, Cabot had approximately $5 million of accrued environmental and closure costs in the Consolidated Balance Sheets related to these actions which it expects to pay in the remainder of fiscal 2019 and thereafter.

M. Financial Instruments and Fair Value Measurements

The FASB authoritative guidance on fair value measurements defines fair value, provides a framework for measuring fair value, and requires certain disclosures about fair value measurements. The required disclosures focus on the inputs used to measure fair value. The guidance establishes the following hierarchy for categorizing these inputs:

Level 1 — Quoted market prices in active markets for identical assets or liabilities

Level 2 — Significant other observable inputs (e.g., quoted prices for similar items in active markets, quoted prices for identical or similar items in markets that are not active, inputs other than quoted prices that are observable such as interest rate and yield curves, and market-corroborated inputs)

Level 3 — Significant unobservable inputs

There were no transfers of financial assets or liabilities measured at fair value between Level 1 and Level 2 and there were no Level 3 investments during the first six months of either fiscal 2019 or 2018.

At March 31, 2019 and September 30, 2018, Cabot had derivatives relating to foreign currency risks carried at fair value. At March 31, 2019 and September 30, 2018, the fair value of these derivatives was a net liability of $7 million and $18 million, respectively, and was included in Prepaid expenses and other current assets and Other liabilities on the Consolidated Balance Sheets. These derivatives are classified as Level 2 instruments within the fair value hierarchy as the fair value determination was based on observable inputs.

At both March 31, 2019 and September 30, 2018, the fair value of guaranteed investment contracts, included in Other assets on the Consolidated Balance Sheets, was $11 million. Guaranteed investment contracts were classified as Level 2 instruments within the fair value hierarchy as the fair value determination was based on other observable inputs.

At March 31, 2019 and September 30, 2018, the fair values of cash and cash equivalents, accounts and notes receivable, accounts payable and accrued liabilities, and short-term borrowings and variable rate debt approximated their carrying values due to the short-term nature of these instruments. The carrying value and fair value of the long-term fixed rate debt were $670 million and $686 million, respectively, as of March 31, 2019, and $747 million and $742 million, respectively, as of September 30, 2018. The fair values of Cabot's fixed rate long-term debt are estimated based on comparable quoted market prices at the respective period ends. The carrying amounts of Cabot's floating rate long-term debt and capital lease obligations approximate their fair values. All such measurements are based on observable inputs and are classified as Level 2 within the fair value hierarchy. The valuation technique used is the discounted cash flow model.

N. Derivatives

Foreign Currency Risk Management

Cabot's international operations are subject to certain risks, including currency exchange rate fluctuations and government actions. Cabot endeavors to match the currency in which debt is issued to the currency of the Company's major, stable cash receipts. In some situations, Cabot has issued debt denominated in U.S. dollars and then entered into cross-currency swaps that exchange the dollar principal and interest payments into Euro-denominated principal and interest payments.

Additionally, the Company has foreign currency exposure arising from its net investments in foreign operations. Cabot may enter into cross-currency swaps to mitigate the impact of currency rate changes on the Company's net investments.

The Company also has foreign currency exposure arising from the denomination of monetary assets and liabilities in foreign currencies other than the functional currency of a given subsidiary as well as the risk that currency fluctuations could affect the dollar value of future cash flows generated in foreign currencies. Accordingly, Cabot uses short-term forward contracts to minimize the exposure to foreign currency risk. In certain situations where the Company has forecasted purchases under a long-term commitment or forecasted sales denominated in a foreign currency, Cabot may enter into appropriate financial instruments in accordance with the Company's risk management policy to hedge future cash flow exposures.

The following table provides details of the derivatives held as of March 31, 2019 and September 30, 2018 to manage foreign currency risk.

		Notional Amount		
Description	**Borrowing**	**March 31, 2019**	**September 30, 2018**	**Hedge Designation**
Cross-Currency Swaps	3.4% Notes	USD 250 million swapped to EUR 223 million	USD 250 million swapped to EUR 223 million	Net investment
Forward Foreign Currency Contracts (1)	N/A	USD (3) million	USD 18 million	No designation

(1) Cabot's forward foreign exchange contracts are denominated in the Canadian dollar, Indonesian rupiah and Czech koruna.

Accounting for Derivative Instruments and Hedging Activities

The Company determines the fair value of financial instruments using quoted market prices whenever available. When quoted market prices are not available for various types of financial instruments (such as forwards, options and swaps), the Company uses standard models with market-based inputs, which take into account the present value of estimated future cash flows and the ability of Cabot or the financial counterparty to perform. For interest rate and cross-currency swaps, the significant inputs to these models are interest rate curves for discounting future cash flows and are adjusted for credit risk. For forward foreign currency contracts, the significant inputs are interest rate curves for discounting future cash flows, and exchange rate curves of the foreign currency for translating future cash flows.

Fair Value Hedge

For derivative instruments that are designated and qualify as fair value hedges, the gain or loss on the derivative as well as the offsetting gain or loss on the hedged item attributable to the hedged risk are recognized in current period earnings.

Cash Flow Hedge

For derivative instruments that are designated and qualify as cash flow hedges, the effective portion of the gain or loss on the derivative is recorded in AOCI and reclassified to earnings in the same period or periods during which the hedged transaction affects earnings. Gains and losses on the derivative representing either hedge ineffectiveness or hedge components excluded from the assessment of effectiveness are recognized in current period earnings.

Net Investment Hedge

For net investment hedges, changes in the fair value of the effective portion of the derivatives' gains or losses are reported as foreign currency translation gains or losses in AOCI while changes in the ineffective portion are reported in earnings. Effectiveness is assessed using the method based on changes in spot exchange rates. The gains or losses on derivative instruments reported in AOCI are reclassified to earnings in the period in which earnings are affected by the underlying item, such as a disposal or substantial liquidations of the entities being hedged.

The Company has cross-currency swaps with a notional amount of $250 million, which are designated as hedges of its net investments in certain Euro-denominated subsidiaries. Cash settlements occur semi-annually on March 15th and September 15th for fixed rate interest payments and a cash exchange of the notional currency amount will occur at the end of the term in 2026. As of March 31, 2019, the fair value of these swaps was a net liability of $7 million and was included in Prepaid expenses and other current assets and Other liabilities and the cumulative loss of $4 million was included in AOCI on the Consolidated Balance Sheets. As of September 30, 2018, the fair value of these swaps was a net liability of $18 million and was included in Prepaid expenses and other current assets and Other Liabilities and the cumulative loss of $14 million was included in AOCI on the Consolidated Balance Sheets.

The following tables summarize the impact of the cross-currency swaps to AOCI and the Consolidated Statements of Operations:

	Three Months Ended March 31					
	2019	2018	2019	2018	2019	2018
Description	Gain/(Loss) Recognized in AOCI		(Gain)/Loss Reclassified from AOCI into Interest Expense in the Consolidated Statements of Operations		(Gain)/Loss Recognized in Interest Expense in the Consolidated Statements of Operations (Amount Excluded from Effectiveness Testing)	
	(In millions)					
Cross-currency swaps	$ 5	$ (8)	$ (2)	$ (1)	$ 1	$ 1

	Six Months Ended March 31					
	2019	2018	2019	2018	2019	2018
Description	Gain/(Loss) Recognized in AOCI		(Gain)/Loss Reclassified from AOCI into Interest Expense in the Consolidated Statements of Operations		(Gain)/Loss Recognized in Interest Expense in the Consolidated Statements of Operations (Amount Excluded from Effectiveness Testing)	
	(In millions)					
Cross-currency swaps	$ 13	$ (13)	$ (3)	$ (2)	$ 1	$ 1

Other Derivative Instruments

From time to time, the Company may enter into certain derivative instruments that may not be designated as hedges for accounting purposes, which may include cross-currency swaps, foreign currency forward contracts and commodity derivatives. For cross-currency swaps and foreign currency forward contracts not designated as hedges, the Company uses standard models with market-based inputs. The significant inputs to these models are interest rate curves for discounting future cash flows, and exchange rate curves of the foreign currency for translating future cash flows. In determining the fair value of the commodity derivatives, the significant inputs to valuation models are quoted market prices of similar instruments in active markets. Although these derivatives do not qualify for hedge accounting, Cabot believes that such instruments are closely correlated with the underlying exposure, thus managing the associated risk. The gains or losses from changes in the fair value of derivative instruments that are not accounted for as hedges are recognized in current period earnings.

At March 31, 2019, the fair value of derivative instruments not designated as hedges were immaterial and were presented in Accounts payable and accrued liabilities, and Prepaid expenses and other current assets on the Consolidated Balance Sheets. At September 30, 2018, the fair value of derivative instruments not designated as hedges were immaterial and were presented in Accounts payable and accrued liabilities on the Consolidated Balance Sheets.

O. Hyperinflationary Economies

Argentina

Cabot owns 100% of a carbon black operating entity in Argentina. Effective July 1, 2018, the operating entity was considered to be functioning in a highly inflationary economy and began using Cabot's reporting currency, the U.S. dollar, as its functional currency. Since the conversion, all impacts of foreign exchange changes between the reporting currency and Argentine peso are reflected in earnings in the Consolidated Statements of Operations.

The Company's income from operations has not been significantly impacted from this change because the operating entity's sales and a portion of its raw material purchases were already denominated in U.S. dollars. The operating entity's net revenue represented approximately 2% of Cabot's total net revenue for both the three months and six months ended March 31, 2019.

The operating entity's assets and liabilities held in local currency, which consist primarily of cash and cash equivalents, inventories, property, plant and equipment and accounts payable and accrued liabilities, made up less than 2% of Cabot's total assets and total liabilities as of both March 31, 2019 and September 30, 2018. Changes in the Argentine peso exchange rate will result in foreign currency exchange gains or losses on the operating entity's peso-denominated monetary assets and liabilities. For the three and six months ended March 31, 2019, the Company recorded a net gain of less than $1 million and a net loss of less than $1 million, respectively, within Other (income) expense in the Consolidated Statements of Operations, which reflects the remeasurement of the operating entity's net monetary liabilities denominated in Argentine pesos using an exchange rate of 43.63 Argentine pesos to the U.S. dollar at March 31, 2019.

The Company will continue to monitor the developments in Argentina and their potential impact on the operating entity's operations or carrying value.

Venezuela

Cabot owns 49% of a carbon black operating affiliate in Venezuela, which is accounted for as an equity affiliate, through wholly-owned subsidiaries that carry the investment and receive its dividends. While the operating entity has historically been profitable, it has not been operational in recent periods due to a lack of available raw materials, which is expected to continue for the foreseeable future. As such, in the second quarter of fiscal 2019, the Company performed an impairment analysis and determined that the decrease in fair value of the Venezuelan equity investment is other-than-temporary and that the investment is fully impaired. The Company recorded an impairment charge of $11 million, which is included in Other income (expense) within the Consolidated Statement of Operations.

P. Financial Information by Segment

The Company identifies a business as an operating segment if: (i) it engages in business activities from which it may earn revenues and incur expenses; (ii) its operating results are regularly reviewed by the Chief Operating Decision Maker ("CODM"), who is Cabot's President and Chief Executive Officer, to make decisions about resources to be allocated to the segment and assess its performance; and (iii) it has available discrete financial information. The Company has determined that all of its businesses are operating segments. The CODM reviews financial information at the operating segment level to allocate resources and to assess the operating results and financial performance for each operating segment. Operating segments are aggregated into a reportable segment if the operating segments are determined to have similar economic characteristics and if the operating segments are similar in the following areas: (i) nature of products and services; (ii) nature of production processes; (iii) type or class of customer for their products and services; (iv) methods used to distribute the products or provide services; and (v) if applicable, the nature of the regulatory environment.

The Company has four reportable segments: Reinforcement Materials, Performance Chemicals, Purification Solutions and Specialty Fluids.

The Reinforcement Materials segment represents the rubber blacks and elastomer composites product lines.

The Performance Chemicals segment combines the specialty carbons, fumed metal oxides and aerogel product lines into the Performance Additives business, and combines the specialty compounds and inkjet colorants product lines into the Formulated Solutions business. These businesses are similar in terms of economic characteristics, nature of products, processes, customer class and product distribution methods, and, therefore, have been aggregated into one reportable segment. The net sales from each of these businesses for the three and six months ended March 31, 2019 and 2018 were as follows:

	Three Months Ended March 31		Six Months Ended March 31	
	2019	2018	2019	2018
	(In millions)			
Performance Additives	$ 179	$ 177	$ 346	$ 336
Formulated Solutions	75	91	139	161
Performance Chemicals	$ 254	$ 268	$ 485	$ 497

The Purification Solutions segment represents the Company's activated carbon business and the Specialty Fluids segment includes cesium formate oil and gas drilling fluids and high-purity fine cesium chemicals product lines.

Income (loss) from continuing operations before income taxes ("Segment EBIT") is presented for each reportable segment in the table below. Segment EBIT excludes certain items, meaning items management does not consider representative of on-going operating segment results. In addition, Segment EBIT includes Equity in earnings of affiliated companies, net of tax, the full operating results of a contractual joint venture in Purification Solutions, royalties, Net income attributable to noncontrolling interests, net of tax, and discounting charges for certain Notes receivable, but excludes Interest expense, foreign currency transaction gains and losses, interest income, dividend income, unearned revenue, general unallocated expense and unallocated corporate costs.

Financial information by reportable segment is as follows:

	Reinforcement Materials	Performance Chemicals	Purification Solutions	Specialty Fluids	Segment Total	Unallocated and Other(1)	Consolidated Total
				(In millions)			
Three Months Ended March 31, 2019							
Revenues from external customers(2)	$ 445	$ 254	$ 72	$ 24	$ 795	$ 49	$ 844
Income (loss) from continuing operations before income taxes(3)	$ 61	$ 38	$ 1	$ 12	$ 112	$ (63)	$ 49
Three Months Ended March 31, 2018							
Revenues from external customers(2)	$ 454	$ 268	$ 66	$ 6	$ 794	$ 24	$ 818
Income (loss) from continuing operations before income taxes(3)	$ 79	$ 57	$ (6)	$ (3)	$ 127	$ (298)	$ (171)
Six Months Ended March 31, 2019							
Revenues from external customers(2)	$ 902	$ 485	$ 137	$ 43	$ 1,567	$ 98	$ 1,665
Income (loss) from continuing operations before income taxes(3)	$ 123	$ 74	$ (2)	$ 22	$ 217	$ (98)	$ 119
Six Months Ended March 31, 2018							
Revenues from external customers(2)	$ 841	$ 497	$ 136	$ 12	$ 1,486	$ 52	$ 1,538
Income (loss) from continuing operations before income taxes(3)	$ 141	$ 104	$ —	$ (5)	$ 240	$ (319)	$ (79)

(1) Unallocated and Other includes certain items and eliminations necessary to reflect management's reporting of operating segment results. These items are reflective of the segment reporting presented to the CODM.

(2) Consolidated Total Revenues from external customers reconciles to Net sales and other operating revenues on the Consolidated Statements of Operations. Revenues from external customers that are categorized as Unallocated and Other reflects royalties, external shipping and handling fees, the impact of unearned revenue, the removal of 100% of the sales of an equity method affiliate, discounting charges for certain Notes receivable, and by-product revenue. Details are provided in the table below:

	Three Months Ended March 31		Six Months Ended March 31	
	2019	2018	2019	2018
		(In millions)		
Royalties, the impact of unearned revenue, the removal of 100% of the sales of an equity method affiliate and discounting charges for certain notes receivable	$ (3)	$ (9)	$ (6)	$ (8)
Shipping and handling fees	32	33	64	60
By-product sales(a)	20	—	40	—
Total	$ 49	$ 24	$ 98	$ 52

(a) As of October 1, 2018, as part of the adoption of the new accounting standard, *Revenue from Contracts with Customers*, the Company began presenting revenue from by-products produced in manufacturing operations in Net sales and other operating revenues, which in prior years was included as a reduction in Cost of sales.

(3) Consolidated Total Income (loss) from continuing operations before income taxes reconciles to Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies on the Consolidated Statements of Operations. Income (loss) from continuing operations before income taxes that are categorized as Unallocated and Other includes:

	Three Months Ended March 31		Six Months Ended March 31	
	2019	2018	2019	2018
	(In millions)			
Interest expense	$ (14)	$ (14)	$ (29)	$ (27)
Certain items[a]				
Specialty Fluids held for sale asset impairment charge (Note D)	(20)	—	(20)	—
Equity affiliate investment impairment charge (Note O)	(11)	—	(11)	—
Purification Solutions goodwill and long-lived assets impairment charge (Note F)	—	(254)	—	(254)
Inventory reserve adjustment (Note F)	—	(13)	—	(13)
Global restructuring activities (Note L)	(2)	9	(11)	8
Legal and environmental matters and reserves	(1)	(5)	(1)	(6)
Gains (losses) on sale of investments	—	—	—	10
Acquisition and integration-related charges	(1)	(1)	(4)	(1)
Other	(2)	—	—	(1)
Total certain items, pre-tax	(37)	(264)	(47)	(257)
Unallocated corporate costs[b]	(13)	(16)	(25)	(30)
General unallocated income (expense)[c]	1	(3)	3	(3)
Less: Equity in earnings of affiliated companies, net of tax[d]	—	1	—	2
Total	$ (63)	$ (298)	$ (98)	$ (319)

(a) Certain items are items of expense and income that management does not consider representative of the Company's fundamental on-going segment results and they are, therefore, excluded from Segment EBIT.

(b) Unallocated corporate costs are costs that are not controlled by the segments and primarily benefit corporate interests.

(c) General unallocated income (expense) consists of gains (losses) arising from foreign currency transactions, net of other foreign currency risk management activities, the profit or loss related to the corporate adjustment for unearned revenue, and the impact of including the full operating results of a contractual joint venture in Purification Solutions Segment EBIT.

(d) Equity in earnings of affiliated companies, net of tax, is included in Segment EBIT and is removed in Unallocated and other to reconcile to Income (loss) from operations before income taxes and equity in earnings from affiliated companies.

The Company's segments operate globally. In addition to presenting Revenue from external customers by reportable segment, the following tables further disaggregate Revenue from external customers by geographic region.

	Three Months Ended March 31, 2019				
	Reinforcement Materials	Performance Chemicals	Purification Solutions	Specialty Fluids	Consolidated Total
	(In millions)				
Americas	$ 169	$ 81	$ 31	$ 2	$ 283
Asia Pacific	180	75	7	—	262
Europe, Middle East and Africa	96	98	34	22	250
Segment revenues from external customers	445	254	72	24	795
Unallocated and other					49
Net sales and other operating revenues					$ 844

	Six Months Ended March 31, 2019				
	Reinforcement Materials	Performance Chemicals	Purification Solutions	Specialty Fluids	Consolidated Total
	(In millions)				
Americas	$ 336	$ 153	$ 60	$ 4	$ 553
Asia Pacific	382	160	16	1	559
Europe, Middle East and Africa	184	172	61	38	455
Segment revenues from external customers	902	485	137	43	1,567
Unallocated and other					98
Net sales and other operating revenues					$ 1,665

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

Critical Accounting Policies

Our consolidated financial statements have been prepared in conformity with accounting policies generally accepted in the United States ("GAAP"). The preparation of our financial statements requires management to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues, and expenses and related disclosure of contingent assets and liabilities. We consider an accounting estimate to be critical to the financial statements if (i) the estimate is complex in nature or requires a high degree of judgment and (ii) different estimates and assumptions were used, the results could have a material impact on the consolidated financial statements. On an ongoing basis, we evaluate our estimates and the application of our policies. We base our estimates on historical experience, current conditions and on various other assumptions that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates. Our critical accounting policies have not substantially changed from those described in the 2018 Form 10-K, other than our method for accounting for revenue recognition which we changed effective October 1, 2018, as described below.

Revenue Recognition

We recognize revenue when our customers obtain control of promised goods or services. The revenue recognized is the amount of consideration which we expect to receive in exchange for those goods or services. We derive the majority of our revenues from contracts for the sale of products from our Reinforcement Materials, Performance Chemicals and Purification Solutions segments. Our contracts with customers are generally for products only and do not include other performance obligations. Generally, we consider purchase orders, which in some cases are governed by master supply agreements, to be contracts with customers. The transaction price as specified on the purchase order or sales contract is considered the standalone selling price for each distinct product. To determine the transaction price at the time when revenue is recognized, we evaluate whether the price is subject to adjustments, such as for returns, discounts or volume rebates, which are stated in the customer contract, to determine the net consideration to which we expect to be entitled. Revenue from product sales is recognized based on a point in time model when control of the product is transferred to the customer, which typically occurs upon shipment or delivery of the product to the customer and title, risk and rewards of ownership have passed to the customer. Payment terms typically range from zero to ninety days.

Shipping and handling activities that occur after the transfer of control to the customer are billed to customers and are recorded as sales revenue, as we consider these to be fulfillment costs. Shipping and handling costs are expensed in the period incurred and included in Cost of sales within the Consolidated Statement of Operations. Taxes collected on sales to customers are excluded from the transaction price.

We generally provide a warranty that our products will substantially conform to the identified specifications. Our liability typically is limited to either a credit equal to the purchase price or replacement of the non-conforming product. Returns under warranty have historically been immaterial.

Revenue in the Specialty Fluids segment arises primarily from the rental of cesium formate. This revenue is recognized throughout the rental period based on the contracted rental terms. Customers are also billed and revenue is recognized, typically at the end of the rental period, for cesium formate product that is not returned. We also generate revenues from cesium formate sold outside of the rental process and from the sale of fine cesium chemicals. This revenue is recognized when control of the product transfers to the customer, which is typically upon delivery of the product.

We do not have contract assets or liabilities that are material.

As permitted by the revenue recognition standard, *Revenue from Contracts with Customers*, when the period of time between the transfer of control of the goods and the time the customer pays for the goods is one year or less, we do not consider there to be a significant financing component associated with the contract.

Recently Issued Accounting Pronouncements

Refer to the discussion under the headings "Recently Adopted Accounting Standards" and "Recent Accounting Pronouncements" in Note B of our Notes to the Consolidated Financial Statements.

Results of Operations

Cabot is organized into four reportable business segments: Reinforcement Materials, Performance Chemicals, Purification Solutions and Specialty Fluids. Cabot is also organized for operational purposes into three geographic regions: the Americas; Europe, Middle East and Africa; and Asia Pacific. The discussions of our results of operations for the periods presented reflect these structures. In October 2018, the Company realigned its business reporting structure under the Performance Chemicals segment and now combines the specialty carbons, fumed metal oxides and aerogel product lines into the Performance Additives business, and the specialty compounds and inkjet product lines into the Formulated Solutions business. Prior period Performance Chemicals Segment revenue results have been recast to reflect the realignment.

Our analysis of our financial condition and operating results should be read with our consolidated financial statements and accompanying notes.

Definition of Terms and Non-GAAP Financial Measures

When discussing our results of operations, we use several terms as described below.

The term "product mix" refers to the mix of types and grades of products sold or the mix of geographic regions where products are sold, and the positive or negative impact this has on the revenue or profitability of the business and/or segment.

Our discussion under the heading "(Provision) Benefit for Income Taxes and Reconciliation of Effective Tax Rate to Operating Tax Rate" includes a discussion of our historical and expected "effective tax rate" and our "operating tax rate" and includes a reconciliation of the two rates. Our operating tax rate is a non-GAAP financial measure and should not be considered as an alternative to our effective tax rate, the most comparable GAAP financial measure. In calculating our operating tax rate, we exclude discrete tax items, which include: (i) unusual or infrequent items, such as a significant release or establishment of a valuation allowance, (ii) items related to uncertain tax positions, such as the tax impact of audit settlements, interest on tax reserves, and the release of tax reserves from the expiration of statutes of limitations, and (iii) other discrete tax items, such as the tax impact of legislative changes and, on a quarterly basis, the timing of losses in certain jurisdictions and the cumulative rate adjustment, if applicable. We also exclude the tax impact of certain items, as defined below in the discussion of Total segment EBIT, on both operating income and the tax provision. Our definition of the operating tax rate may not be comparable to the definition used by other companies. Management believes that this non-GAAP financial measure is useful supplemental information because it helps our investors compare our tax rate year to year on a consistent basis and to understand what our tax rate on current operations would be without the impact of these items.

Our discussion under the heading "Second Quarter and First Six Months of Fiscal 2019 versus Second Quarter and First Six Months of Fiscal 2018—By Business Segment" includes a discussion of Total segment EBIT, which is a non-GAAP financial measure defined as Income (loss) from continuing operations before income taxes and equity in earnings from affiliated companies less certain items and other unallocated items. Our Chief Operating Decision Maker, who is our President and Chief Executive Officer, uses segment EBIT to evaluate the operating results of each segment and to allocate resources to the segments. We believe Total segment EBIT, which reflects the sum of EBIT from our four reportable segments, provides useful supplemental information for our investors as it is an important indicator of our operational strength and performance, allows investors to see our results through the eyes of management, and provides context for our discussion of individual business segment performance. Total segment EBIT should not be considered an alternative for Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies, which is the most directly comparable GAAP financial measure. A reconciliation of Total segment EBIT to Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies is provided under the heading "Second Quarter of Fiscal 2019 versus Second Quarter of Fiscal 2018—By Business Segment". Investors should consider the limitations associated with this non-GAAP measure, including the potential lack of comparability of this measure from one company to another.

In calculating Total segment EBIT, we exclude from our Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies (i) items of expense and income that management does not consider representative of our fundamental on-going segment results, which we refer to as “certain items”, and (ii) items that, because they are not controlled by the business segments and primarily benefit corporate objectives, are not allocated to our business segments, such as interest expense and other corporate costs, which include unallocated corporate overhead expenses such as certain corporate salaries and headquarter expenses, plus costs related to special projects and initiatives, which we refer to as “other unallocated items”. Management believes excluding the items identified as certain items facilitates operating performance comparisons from period to period by eliminating differences caused by the existence and timing of certain expense and income items that would not otherwise be apparent on a GAAP basis and also facilitates an evaluation of our operating performance without the impact of these costs or benefits. The items of income and expense that we have excluded from Total segment EBIT, as applicable, but that are included in our GAAP Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies, as applicable, are described below.

- Asset impairment charges, which primarily include charges associated with an impairment of goodwill or other long-lived assets.
- Inventory reserve adjustment, which resulted from an evaluation performed as part of an impairment analysis.
- Global restructuring activities, which include costs or benefits associated with cost reduction initiatives or plant closures and are primarily related to (i) employee termination costs, (ii) asset impairment charges associated with restructuring actions, (iii) costs to close facilities, including environmental costs and contract termination penalties and (iv) gains realized on the sale of land or equipment associated with restructured plants or locations.
- Acquisition and integration-related charges, which include transaction costs, redundant costs incurred during the period of integration, and costs associated with transitioning certain management and business processes to our processes.
- Legal and environmental reserves and matters, which consist of costs or benefits for matters typically related to former businesses or that are otherwise incurred outside of the ordinary course of business.
- Gains (losses) on sale of investments, which primarily relate to the sale of investments accounted for using the cost method.
- Non-recurring gains (losses) on foreign exchange, which primarily relate to the impact of controlled currency devaluations on our net monetary assets denominated in that currency.
- Executive transition costs, which include incremental charges, including stock compensation charges, associated with the retirement or termination of employment of senior executives of the Company.

Overview

During the second quarter of fiscal 2019, Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies increased compared to the second quarter of fiscal 2018. The increase reflects the Purification Solutions asset impairment charge of $254 million recorded in the second quarter of fiscal 2018 that did not reoccur in fiscal 2019, partially offset by the Specialty Fluids asset impairment and Venezuelan equity affiliate investment impairment charges recorded in the second quarter of fiscal 2019 (combined $31 million). The increase in Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies was also partially offset by lower margins in Reinforcement Materials and Performance Chemicals driven by the unfavorable impact to margins in China from a combination of weaker pricing due to softening automotive production, a less favorable product and regional mix and higher raw material costs.

Second Quarter of Fiscal 2019 versus Second Quarter of Fiscal 2018—Consolidated

Net Sales and Other Operating Revenues and Gross Profit

	Three Months Ended March 31		Six Months Ended March 31	
	2019	2018	2019	2018
	(In millions)			
Net sales and other operating revenues	$ 844	$ 818	$ 1,665	$ 1,538
Gross profit	$ 178	$ 188	$ 344	$ 364

The $26 million increase in net sales in the second quarter of fiscal 2019 compared to the second quarter of fiscal 2018 was primarily driven by the impact of the change in classification of by-product sales, effective October 1, 2018, from a reduction of Cost of sales to an inclusion in Net sales and other operating revenues ($20 million). Net sales from the business segments was consistent in the second quarter of fiscal 2019 when compared to the same period of the prior year. For the first six months of fiscal 2019, net sales increased $127 million compared to the first six months of fiscal 2018 primarily due to a more favorable price and product mix (combined $117 million) predominantly in Reinforcement Materials and higher volumes ($7 million), partially offset by the unfavorable impact from foreign currency translation ($45 million). Net sales were also impacted by the change in classification of by-product sales, effective October 1, 2018, from a reduction of Cost of sales to an inclusion in Net sales and other operating revenues ($40 million).

Gross profit decreased by $10 million in the second quarter of fiscal 2019 compared to the second quarter of fiscal 2018, primarily due to lower unit margins in Reinforcement Materials and Performance Chemicals. Lower margins were caused by softer automotive production and weaker pricing in China. For the first six months of fiscal 2019, gross profit decreased by $20 million primarily due to lower unit margins in Reinforcement Materials and Performance Chemicals, partially offset by higher project activity from the Specialty Fluids segment.

Selling and Administrative Expenses

	Three Months Ended March 31		Six Months Ended March 31	
	2019	2018	2019	2018
	(In millions)			
Selling and administrative expenses	$ 70	$ 79	$ 143	$ 149

Selling and administrative expenses decreased by $9 million and $6 million in the second quarter and first six months of fiscal 2019 compared to the same periods of fiscal 2018, primarily due to lower incentive compensation.

Research and Technical Expenses

	Three Months Ended March 31		Six Months Ended March 31	
	2019	2018	2019	2018
	(In millions)			
Research and technical expenses	$ 15	$ 16	$ 31	$ 31

Research and technical expenses decreased by $1 million in the second quarter of fiscal 2019 compared to the second quarter of fiscal 2018, due to efforts to reduce costs in the current fiscal year. For the first six months of fiscal 2019, Research and technical expenses were flat as compared to the first six months of fiscal 2018.

Interest and Dividend Income, Interest Expense and Other Income (Expense)

	Three Months Ended March 31		Six Months Ended March 31	
	2019	2018	2019	2018
	(In millions)			
Interest and dividend income	$ 2	$ 3	$ 4	$ 6
Interest expense	$ (14)	$ (14)	$ (29)	$ (27)
Other income (expense)	$ (12)	$ 1	$ (6)	$ 12

Interest and dividend income decreased by $1 million in the second quarter of fiscal 2019 and $2 million in the first six months of fiscal 2019 compared to the same periods for fiscal 2018 primarily due to lower cash balances.

Interest expense remained consistent in the second quarter of fiscal 2019 compared to the same period of fiscal 2018. For the six months ended fiscal 2019, Interest expense increased by $2 million compared to the same period of fiscal 2018 primarily due to higher commercial paper balances and higher interest rates.

Other income (expense) changed by $13 million in the second quarter of fiscal 2019 compared to the second quarter of fiscal 2018, primarily due to the impairment charge recorded related to our investment in our Venezuelan equity affiliate. For the six months ended fiscal 2019, Other income (expense) changed by $18 million compared to the same period of fiscal 2018 due to the impairment charge related to our investment in our Venezuelan equity affiliate and a gain on the sale of cost method investments in fiscal 2018 that did not reoccur in fiscal 2019, partially offset by a pension settlement gain in the first quarter of fiscal 2019.

(Provision) Benefit for Income Taxes and Reconciliation of Effective Tax Rate to Operating Tax Rate

	Three Months Ended March 31		Six Months Ended March 31	
	2019	2018	2019	2018
	(Dollars in millions)			
(Provision) benefit for income taxes	$ (20)	$ 7	$ (13)	$ (198)
Effective tax rate	41%	4%	11%	(248)%
Impact of discrete tax items(1):				
Unusual or infrequent items	(1)%	(15)%	17%	238%
Items related to uncertain tax positions	1%	—%	3%	2%
Other discrete tax items	(1)%	—%	—%	—%
Impact of certain items	(16)%	32%	(7)%	29%
Operating tax rate	24%	21%	24%	21%

(1) For the three and six months ended March 31, 2019, Impact of discrete tax items included a net discrete tax expense of less than $1 million and a net discrete tax benefit of $24 million, respectively. For the three and six months ended March 31, 2018, Impact of discrete tax items included a net discrete tax expense of $5 million and $190 million, respectively. The nature of the discrete tax items for the periods ended March 31, 2019 and 2018 were as follows:

(a) Unusual or infrequent items during the three and six months ended March 31, 2019 and 2018 consisted of the net tax impacts of the Tax Cuts and Jobs Act of 2017 (the “Act”) (net tax benefit of nil and $17 million and net tax expenses of $4 million and $189 million, respectively), excludible foreign exchange gains and losses in certain jurisdictions, impacts related to stock compensation deductions, the tax impact of a pension settlement (fiscal 2019 six months only), and foreign exchange (gain)/loss on the re-measurement of a deferred tax liability (fiscal 2018 six months only);

(b) Items related to uncertain tax positions during the three and six months ended March 31, 2019 and 2018 included net tax impacts from the reversal of accruals for uncertain tax positions due to the expiration of statutes of limitations and the settlement of tax audits, the accrual of interest on uncertain tax positions, and the refinement of the accrual for existing uncertain tax positions (fiscal 2018 only); and

(c) Other discrete tax items during the three and six months ended March 31, 2019 and 2018 included net tax impacts as a result of changes in non-US tax laws as well as various return to provision adjustments related to tax return filings and audit settlements.

For fiscal year 2019, the Effective tax rate and Operating tax rate are expected to be in a range of 19% to 21% and 23% to 25%, respectively. The discrete tax items have the same impact on these ranges. The table provided below reconciles to the mid-point of these ranges.

	Forecast for the Year Ended September 30, 2019
Effective tax rate	20%
Impact of discrete tax items:	
Unusual or infrequent items	6%
Items related to uncertain tax positions	1%
Other discrete tax items	—%
Impact of certain items	(3)%
Operating tax rate	24%

We file U.S. federal and state and non-U.S. income tax returns in jurisdictions with varying statutes of limitations. We are under audit in a number of jurisdictions. It is possible that some of these audits will be resolved in fiscal 2019 and could impact our anticipated effective tax rate. We have filed our tax returns in accordance with the tax laws, in all material respects, in each jurisdiction and maintain tax reserves for uncertain tax positions.

Tax Reform

On December 22, 2017, the U.S. enacted significant changes to federal income tax law affecting us, including a permanent reduction of the U.S. corporate income tax rate from 35% to 21%, effective January 1, 2018, as well as a 100% dividend received deduction for foreign dividends. Although the passage of the Act reduced the U.S. tax rate and effectively created a participation exemption regime for foreign earnings, certain other aspects of the new legislation, including in particular, immediate U.S. taxation of global intangible low-taxed income ("GILTI") earned by foreign subsidiaries, will have a negative impact on earnings and this is the primary driver of the increase in the operating tax rate. In transitioning to this participation exemption regime, we were also subject, during our fiscal 2018, to a one-time tax on the deemed repatriation of certain foreign earnings.

Equity in Earnings of Affiliated Companies and Net Income (Loss) Attributable to Noncontrolling Interests

	Three Months Ended March 31		Six Months Ended March 31	
	2019	2018	2019	2018
	(In millions)			
Equity in earnings of affiliated companies, net of tax	$ —	$ 1	$ —	$ 2
Net income (loss) attributable to noncontrolling interests, net of tax	$ 6	$ 10	$ 14	$ 20

Equity in earnings of affiliated companies, net of tax, decreased by $1 million and $2 million in the second quarter and first six months of fiscal 2019 compared to the same periods of fiscal 2018, primarily due to lower earnings from our Venezuelan equity affiliate.

Net income (loss) attributable to noncontrolling interests, net of tax, decreased by $4 million in the second quarter and $6 million in the first six months of fiscal 2019 compared to the same periods of fiscal 2018, primarily due to the lower profitability from our joint ventures in China.

Net Income Attributable to Cabot Corporation

In the second quarter and first six months of fiscal 2019, we reported net income (loss) attributable to Cabot Corporation of $23 million and $92 million, or $0.39 and $1.53 per diluted common share, respectively. This compares to net income (loss) attributable to Cabot Corporation of ($173) million and ($295) million, or ($2.80) and ($4.78) per diluted common share, respectively, in the second quarter and first six months of fiscal 2018. The net loss in the second quarter and first six months of fiscal 2018 is driven by the Purification Solutions asset impairment charge of $224 million after-tax. In addition, the first six months of fiscal 2018 were impacted by a tax charge of $189 million recorded in connection with the enactment of the Act.

Second Quarter of Fiscal 2019 versus Second Quarter of Fiscal 2018—By Business Segment

Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies, certain items, other unallocated items, and Total segment EBIT for the three and six months ended March 31, 2019 and 2018 are set forth in the table below. The details of certain items and other unallocated items are shown below and in Note P of our Notes to the Consolidated Financial Statements.

	Three Months Ended March 31		Six Months Ended March 31	
	2019	2018	2019	2018
	(In millions)			
Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies	$ 49	$ (171)	$ 119	$ (79)
Less: Certain items	(37)	(264)	(47)	(257)
Less: Other unallocated items	(26)	(34)	(51)	(62)
Total segment EBIT	$ 112	$ 127	$ 217	$ 240

In the second quarter of fiscal 2019, Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies increased by $220 million and Total segment EBIT decreased by $15 million. These changes were due to lower unit margins ($31 million) driven by the Reinforcement Materials segment, partially offset by lower fixed costs ($14 million) across all segments. The lower margins in Reinforcement Materials were primarily driven by the unfavorable impact to margins in China from weaker pricing due to softening automotive production and higher raw material costs. In addition, the increase in Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies reflects the Purification Solutions asset impairment charge ($254 million) recorded in the second quarter of fiscal 2018 that did not reoccur in fiscal 2019 and the decrease in expense related to Other unallocated items ($8 million), partially offset by the Specialty Fluids asset impairment and an impairment charge related to our Venezuelan equity affiliate (combined $31 million) recorded in the second quarter of fiscal 2019.

In the first six months of fiscal 2019, Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies increased by $198 million and Total segment EBIT decreased by $23 million. These changes were due to lower unit margins ($39 million), primarily in Reinforcement Materials and Performance Chemicals, partially offset by higher volumes ($17 million) which were driven by higher activity from Specialty Fluids. The lower unit margins were primarily driven by weaker China pricing due to softening automotive production. In addition, the increase in Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies reflects the Purification Solutions asset impairment charges recorded in the second quarter of fiscal 2018 ($254 million) that did not reoccur in fiscal 2019 and the decrease in expense related to other unallocated items ($11 million), partially offset by the Specialty Fluids asset impairment and an impairment charge related to our Venezuelan equity affiliate (combined $31 million) recorded in the second quarter of fiscal 2019 and higher restructuring charges related to the Purification Solutions transformation plan.

Certain Items

Details of the certain items for the second quarter of fiscal 2019 and fiscal 2018 are as follows:

	Three Months Ended March 31		Six Months Ended March 31	
	2019	2018	2019	2018
	(In millions)			
Specialty Fluids held for sale asset impairment charge (Note D)	$ (20)	$ —	$ (20)	$ —
Equity affiliate investment impairment charge (Note O)	(11)	—	(11)	—
Purification Solutions goodwill and long-lived assets impairment charge (Note F)	—	(254)	—	(254)
Inventory reserve adjustment (Note F)	—	(13)	—	(13)
Global restructuring activities (Note L)	(2)	9	(11)	8
Legal and environmental matters and reserves	(1)	(5)	(1)	(6)
Gains (losses) on sale of investments	—	—	—	10
Acquisition and integration-related charges	(1)	(1)	(4)	(1)
Other	(2)	—	—	(1)
Total certain items, pre-tax	(37)	(264)	(47)	(257)
Tax-related certain items:				
Tax impact of certain items	1	32	3	30
Discrete tax items (Note J)	—	(5)	24	(190)
Total tax-related certain items	1	27	27	(160)
Total certain items, after tax	$ (36)	$ (237)	$ (20)	$ (417)

The tax impact of certain items is determined by (1) starting with the current and deferred income tax expense or benefit included in Net income (loss) attributable to Cabot Corporation, and (2) subtracting the tax expense or benefit on “adjusted earnings”. Adjusted earnings is defined as the pre-tax income attributable to Cabot Corporation excluding certain items. The tax expense or benefit on adjusted earnings is calculated by applying the operating tax rate, as defined under the heading “Definition of Terms and Non-GAAP Financial Measures”, to adjusted earnings.

Other Unallocated Items

	Three Months Ended March 31		Six Months Ended March 31	
	2019	2018	2019	2018
	(In millions)			
Interest expense	$ (14)	$ (14)	$ (29)	$ (27)
Unallocated corporate costs	(13)	(16)	(25)	(30)
General unallocated income (expense)	1	(3)	3	(3)
Less: Equity in earnings of affiliated companies, net of tax	—	1	—	2
Total other unallocated items	$ (26)	$ (34)	$ (51)	$ (62)

A discussion of items that we refer to as "other unallocated items" can be found under the heading "Definition of Terms and Non-GAAP Financial Measures". The balances of unallocated corporate costs are primarily comprised of expenditures related to managing a public company that are not allocated to the segments and corporate business development costs related to ongoing corporate projects. The balances of General unallocated income (expense) consist of gains (losses) arising from foreign currency transactions, net of other foreign currency risk management activities, the profit or loss related to the corporate adjustment for unearned revenue, and the impact of including the full operating results of a contractual joint venture in Purification Solutions segment EBIT.

Total other unallocated items changed by $8 million in the second quarter of fiscal 2019 as compared to the same period in fiscal 2018. Within Total other unallocated items, General unallocated income (expense) changed by $4 million over the same period of fiscal 2018 primarily due to the favorable impact of foreign currency translation. Unallocated corporate costs decreased $3 million in the second quarter of fiscal 2019 as compared to the same period in fiscal 2018 primarily due to lower spending on corporate projects and lower incentive compensation.

Total other unallocated items changed by $11 million in the first six months of fiscal 2019 as compared to the same period in fiscal 2018 primarily due to the favorable impact from foreign currency translation and higher interest income, both of which are included in General unallocated income (expense) and a decrease in Unallocated corporate costs for corporate projects and lower incentive compensation.

Reinforcement Materials

Sales and EBIT for Reinforcement Materials for the second quarter and first six months of fiscal 2019 and fiscal 2018 were as follows:

	Three Months Ended March 31		Six Months Ended March 31	
	2019	2018	2019	2018
	(In millions)			
Reinforcement Materials Sales	$ 445	$ 454	$ 902	$ 841
Reinforcement Materials EBIT	$ 61	$ 79	$ 123	$ 141

Sales in Reinforcement Materials decreased by $9 million in the second quarter of fiscal 2019 compared to the same period of fiscal 2018, primarily due to the unfavorable impact from foreign currency translation ($16 million) and lower volumes ($2 million), partially offset by more favorable pricing ($9 million). The favorable pricing was primarily due to benefits from calendar year 2019 customer agreements and partially offset by lower spot pricing in China.

In the first six months of fiscal 2019, sales in Reinforcement Materials increased by $61 million when compared to the first six months of fiscal 2018. The increase was principally driven by a more favorable price and product mix (combined $85 million) and higher volumes ($3 million), partially offset by the unfavorable impact from foreign currency translation ($28 million). The more favorable price and product mix impact was primarily due to favorable pricing related to calendar year 2018 and 2019 customer agreements and the passthrough of higher feedstock costs in our pricing.

EBIT in Reinforcement Materials decreased by $18 million in the second quarter of fiscal 2019 compared to the same period of fiscal 2018. The decrease was primarily due to lower unit margins ($25 million), the unfavorable impact of inventory comparisons ($2 million) and lower volumes ($1 million), partially offset by lower fixed costs ($9 million) and the favorable impact from foreign currency translation ($1 million). The lower unit margins were primarily due to the rapid decline of global feedstock costs during our first fiscal quarter, which resulted in a temporary pricing and cost mismatch, and the weaker pricing environment in China that more than offset the favorable pricing related to calendar year 2019 customer agreements.

EBIT in Reinforcement Materials decreased by $18 million in the first six months of fiscal 2019 compared to the same period of fiscal 2018. The decrease was principally driven by lower unit margins ($26 million), partially offset by lower fixed costs ($4 million), higher volumes ($1 million) and the favorable impact of foreign currency translation ($1 million). The lower unit margins were primarily due to the rapid decline of global feedstock costs during our first fiscal quarter, which resulted in a temporary pricing and cost mismatch, and the weaker pricing environment in China that more than offset the favorable pricing related to calendar year 2019 customer agreements.

Performance Chemicals

Sales and EBIT for Performance Chemicals for the second quarter and first six months of fiscal 2019 and fiscal 2018 were as follows:

	Three Months Ended March 31		Six Months Ended March 31	
	2019	2018	2019	2018
	(In millions)			
Performance Additives Sales	$ 179	$ 177	$ 346	$ 336
Formulated Solutions Sales	75	91	139	161
Performance Chemicals Sales	$ 254	$ 268	$ 485	$ 497
Performance Chemicals EBIT	$ 38	$ 57	$ 74	$ 104

Sales in Performance Chemicals decreased by $14 million in the second quarter of fiscal 2019 compared to the same period of fiscal 2018, primarily due to lower volumes ($15 million) and the unfavorable impact from foreign currency translation ($9 million), partially offset by a more favorable price and product mix (combined $10 million). The lower volumes were primarily due to weaker sales from the Formulated Solutions business due to softer automotive production. The favorable price and product mix was primarily related to the metal oxides product line within the Performance Additives business.

In the first six months of fiscal 2019, sales in Performance Chemicals decreased by $12 million when compared to the same period of fiscal 2018. The decrease was primarily due to lower volumes ($22 million) and the unfavorable impact from foreign currency translation ($14 million), partially offset by a more favorable price and product mix (combined $24 million). Volumes were lower across all product lines within Performance Chemicals with the most significant impact being in the Formulated Solutions business. The favorable price and product mix was driven by the metal oxides product line within Performance Additives.

EBIT in Performance Chemicals decreased by $19 million compared to the second quarter of fiscal 2018 primarily due to lower volumes ($7 million), lower unit margins ($8 million) and the unfavorable impact from foreign currency translation ($2 million). Volumes decreased by 1% in the Performance Additives business and 16% in the Formulated Solutions business. Lower volumes were primarily due to softer automotive production in EMEA and China. Lower margins were largely driven by a weaker product mix and the impact of high cost specialty carbons inventory that moved through our supply chain during the second quarter.

EBIT in Performance Chemicals decreased by $30 million in the first six months of fiscal 2019 when compared to the same period of fiscal 2018 principally due to lower volumes ($11 million), lower unit margins ($7 million), higher fixed costs ($9 million) largely related to growth investments and the unfavorable impact of foreign currency translation ($3 million). Lower volumes were primarily due to softer automotive production in EMEA and China. Lower margins were largely driven by a weaker product mix and the impact of high cost specialty carbons inventory that moved through our supply chain during the first six months of 2019. Higher fixed costs are largely related to growth investments for our two new metal oxides plants in China and the U.S.

Purification Solutions

Sales and EBIT for Purification Solutions for the second quarter and first six months of fiscal 2019 and fiscal 2018 were as follows:

	Three Months Ended March 31		Six Months Ended March 31	
	2019	2018	2019	2018
	(In millions)			
Purification Solutions Sales	$ 72	$ 66	$ 137	$ 136
Purification Solutions EBIT	$ 1	$ (6)	$ (2)	$ —

Sales in Purification Solutions increased by $6 million in the second quarter of fiscal 2019 compared to the same period of fiscal 2018 due to a more favorable price and product mix (combined $5 million) and higher volumes ($4 million), partially offset by the unfavorable impact from foreign currency translation ($3 million). The more favorable price and product mix was primarily due to higher pricing related to specialty applications. Sales in Purification Solutions increased by $1 million in the first six months of fiscal 2019 when compared to the same period of fiscal 2018 due to higher volumes in the specialty and environmental applications.

EBIT in Purification Solutions increased by $7 million compared to the second quarter of fiscal 2018 due to higher volumes ($2 million), higher unit margins ($1 million) mainly from improved pricing and lower fixed costs ($3 million). The lower fixed costs are in part due to the impacts of the previously announced transformation plan. EBIT in Purification Solutions decreased by $2 million in the first six months of fiscal 2019 when compared to the same period of fiscal 2018 due to lower unit margins ($6 million) and the receipt of royalty payments in the first six months of fiscal 2018 that did not repeat in fiscal 2019 ($5 million), partially offset by higher volumes ($2 million), lower fixed costs ($6 million) and the favorable impact from foreign currency translation ($1 million). The lower unit margins for first six months of fiscal 2019 were primarily due to ongoing competitive pressures within the mercury removal application.

Specialty Fluids

Sales and EBIT for Specialty Fluids for the second quarter and first six months of fiscal 2019 and 2018 were as follows:

	Three Months Ended March 31		Six Months Ended March 31	
	2019	2018	2019	2018
	(In millions)			
Specialty Fluids Sales	$ 24	$ 6	$ 43	$ 12
Specialty Fluid EBIT	$ 12	$ (3)	$ 22	$ (5)

Sales in Specialty Fluids increased by $18 million in the second quarter of fiscal 2019 and $31 million in the first six months of fiscal 2019 compared to the same periods of fiscal 2018 primarily due to higher volumes from increased project activity.

EBIT in Specialty Fluids increased by $15 million in the second quarter of fiscal 2019 and $27 million in the first six months of fiscal 2019 compared to the same periods of fiscal 2018 primarily due to higher volumes from increased project activity.

Outlook

While the recovery in the China economy and the automotive market are taking longer than expected, we believe the current challenges are temporary and our outlook for the fourth quarter remains strong. We anticipate improving sequential results in our Reinforcement Materials and Performance Chemicals segments driven by volume and margin recovery. We are seeing some signs of recovery as we move into the third quarter and anticipate the unfavorable impact from the timing of raw material flow-through will not repeat. We've implemented steps to control costs and manage cash, including executing on the Purification Solutions transformation plan, as well as reducing discretionary spending and net working capital levels. Additionally, we remain on track to complete the divestiture of our Specialty Fluids segment in the third fiscal quarter and begin operations at our new fumed metal oxides facility in China near the start of the fourth fiscal quarter.

Cash Flows and Liquidity

Overview

Our liquidity position, as measured by cash and cash equivalents plus borrowing availability, decreased by $296 million during the first six months of fiscal 2019, which was largely attributable to higher net working capital, share repurchases, the redemption of the preferred stock issued in the NHUMO, S.A. de C.V. ("NHUMO") transaction and the refinancing of long-term debt with commercial paper. As of March 31, 2019, we had cash and cash equivalents of $176 million and borrowing availability under our revolving credit agreement of $454 million. Our revolving credit agreement supports our commercial paper program and may be used for working capital, letters of credit and other general corporate purposes.

At March 31, 2019, we were in compliance with all covenants under our revolving credit facility, including the total consolidated debt to consolidated EBITDA (earnings before interest, taxes, depreciation and amortization) covenant.

A significant portion of our business occurs outside the U.S. and our cash generation does not always align geographically with our cash needs. The vast majority of our cash and cash equivalent holdings tend to be held outside the U.S. Cash held by foreign subsidiaries is generally used to finance the subsidiaries' operational activities and future investments. We use commercial paper throughout the year to manage short-term U.S. cash needs. The commercial paper balance is generally reduced at quarter-end using cash derived from customer collections, settlement of intercompany balances and short-term intercompany loans. The balance of commercial paper outstanding as of March 31, 2019 was $546 million. In the unusual event that additional funds are needed in the U.S., we have the ability to repatriate additional funds.

We generally manage our cash and debt on a global basis to provide for working capital requirements as needed by region or site. Cash and debt are generally denominated in the local currency of the subsidiary holding the assets or liabilities, except where there are operational cash flow reasons to hold non-functional currency or debt.

We anticipate sufficient liquidity from (i) cash on hand; (ii) cash flows from operating activities; and (iii) cash available from our revolving credit agreement and our commercial paper program to meet our operational and capital investment needs and financial obligations for the foreseeable future. The liquidity we derive from cash flows from operations is, to a large degree, predicated on our ability to collect our receivables in a timely manner, the cost of our raw materials, and our ability to manage inventory levels.

We issued $30 million of 7.42% medium term notes in fiscal 1999 that matured on December 11, 2018. We repaid these notes at maturity with a combination of cash on hand and commercial paper borrowings.

In November 2013, we purchased all of our joint venture partner's common stock in the former NHUMO joint venture. At the close of the transaction, NHUMO issued redeemable preferred stock to the joint venture partner with a repurchase value of $25 million and a fixed dividend rate of 6% per annum. In November 2018, the preferred stock was repurchased for $25 million and a final dividend payment of approximately $1.4 million was made.

The following discussion of the changes in our cash balance refers to the various sections of our Consolidated Statements of Cash Flows.

Cash Flows from Operating Activities

Cash provided by operating activities, which consists of net income adjusted for the various non-cash items included in income, changes in working capital and changes in certain other balance sheet accounts, totaled $51 million in the first six months of fiscal 2019 compared to $81 million of cash provided by operating activities during the same period of fiscal 2018.

Cash provided by operating activities in the first six months of fiscal 2019 was driven primarily by our net income of $106 million, a decrease in Accounts and notes receivable of $39 million and the non-cash impacts of depreciation and amortization of $73 million and the impairments of our held for sale assets and of our investment in our Venezuelan equity affiliate of $20 million and $11 million, respectively. Partially offsetting these cash inflows were an increase in Inventories of $51 million, a decrease in Accounts payable and accrued liabilities of $77 million, a decrease in Income taxes payable of $21 million, a decrease in Other liabilities of $27 million and the non-cash impact of a decrease in our deferred tax provision of $29 million.

Cash provided by operating activities in the first six months of fiscal 2018 was driven primarily by the non-cash impacts of the impairment of the assets and goodwill of the Purification Solutions business of $162 million and $92 million, respectively, depreciation and amortization of $79 million and an increase in our deferred tax provision of $157 million, which more than offset our net loss. In addition, there was an increase in Accounts payable and accrued liabilities. Partially offsetting these cash inflows was an increase in Accounts and notes receivable and Inventories.

In addition to the factors noted above, the following other elements of operations have a bearing on operating cash flows:

Restructurings — As of March 31, 2019, we had $12 million of total restructuring costs in accrued expenses in the Consolidated Balance Sheets related to our global restructuring activities. In the remainder of fiscal 2019 and thereafter, we expect to make cash payments totaling approximately $12 million related to these restructuring plans.

Environmental Reserves and Litigation Matters — As of March 31, 2019, we had a $14 million reserve for environmental remediation costs at various sites. These sites are primarily associated with businesses divested in prior years. Additionally, as of March 31, 2019, we had a $22 million reserve for respirator claims. Expenditures for each of these reserves will be incurred over many years. We also have other litigation costs arising in the ordinary course of business.

Cash Flows from Investing Activities

In the six months ended March 31, 2019, investing activities consumed $98 million of cash, which was primarily driven by capital expenditures. These capital expenditures were for sustaining and compliance capital projects at our operating facilities as well as capacity expansion capital expenditures in Reinforcement Materials and Performance Chemicals. In the six months ended March 31, 2018, investing activities consumed $157 million of cash, which was primarily driven by $64 million of cash paid for our acquisition of Tech Blend, net of cash acquired of $1 million, and capital expenditures of $109 million. These capital expenditures were for sustaining and compliance capital projects at our operating facilities as well as expansion capital expenditures.

Capital expenditures for fiscal 2019 are expected to be between $250 million and $275 million. Our planned capital spending program for fiscal 2019 is primarily for sustaining, compliance and improvement capital projects at our operating facilities as well as expansion capital expenditures in Reinforcement Materials and Performance Chemicals.

Cash Flows from Financing Activities

Financing activities provided $58 million of cash in the first six months of fiscal 2019 compared to $51 million of cash consumed in the first six months of fiscal 2018. In the first six months of fiscal 2019, financing activities primarily consisted of $297 million of proceeds from the issuance of commercial paper and $29 million of short-term borrowings, which was partially offset by share repurchases of $112 million, dividend payments to stockholders of $40 million, the repayment of $75 million of fixed rate debt and the redemption of $25 million of preferred stock held by our former NHUMO joint venture partner.

In the first six months of fiscal 2018, financing activities consisted of share repurchases and dividend payments to stockholders as well as the repayment of our $250 million of 2.55% fixed rate debt, which was offset by proceeds from the issuance of commercial paper.

Purchase Commitments

We have entered into long-term purchase agreements primarily for the purchase of raw materials. Under certain of these agreements the quantity of material being purchased is fixed, but the price paid changes as market prices change. For those commitments, the amounts included in the table below are based on market prices at March 31, 2019, which may differ from actual market prices at the time of purchase.

	Payments Due by Fiscal Year						
	Remainder of Fiscal 2019	2020	2021	2022	2023	Thereafter	Total
	(In millions)						
Reinforcement Materials	$ 173	$ 244	$ 134	$ 131	$ 123	$ 1,607	$ 2,412
Performance Chemicals	42	59	56	56	32	459	704
Purification Solutions	4	6	1	—	—	—	11
Specialty Fluids(1)	12	—	—	—	—	—	12
Total	$ 231	$ 309	$ 191	$ 187	$ 155	$ 2,066	$ 3,139

(1) The remaining purchase commitments, none of which are expected to be satisfied prior to the sale of the Specialty Fluids business, will remain with the business that is being transferred at the closing of the transaction.

Off-Balance Sheet Arrangements

As of March 31, 2019, we had no material transactions that meet the definition of an off-balance sheet arrangement.

Forward-Looking Information

This report on Form 10-Q contains "forward-looking statements" under the Federal securities laws. These forward-looking statements address expectations or projections about the future, including our expectations for future financial performance and the factors we expect to impact our volumes, demand for our products, costs and margins; when we expect the purchase price for our purchase of NSCC Carbon to be payable and the upgrades of that plant to be completed; when we expect the sale of our Specialty Fluids business to be completed; when we expect operations to commence at our new fumed metal oxides plant in China; the amount and timing of the charge to earnings we will record and the cash outlays we will make in connection with the closing of certain manufacturing facilities, restructuring initiatives and under our transformation plan for our Purification Solutions business; our estimated future amortization expenses for our intangible assets; the sufficiency of our cash on hand, cash provided from operations and cash available under our credit facilities to fund our cash requirements; uses of available cash including anticipated capital spending and future cash outlays associated with long-term contractual obligations; our expected tax rate for fiscal 2019; and the possible outcome of legal and environmental proceedings. From time to time, we also provide forward-looking statements in other materials we release to the public and in oral statements made by authorized officers.

Forward-looking statements are not guarantees of future performance and are subject to risks, uncertainties, potentially inaccurate assumptions, and other factors, some of which are beyond our control or difficult to predict. If known or unknown risks materialize, our actual results could differ materially from those expressed in the forward-looking statements.

In addition to factors described elsewhere in this report, the following are some of the factors that could cause our actual results to differ materially from those expressed in the forward-looking statements: changes in raw material costs; lower than expected demand for our products; changes in environmental requirements in the U.S.; the loss of one or more of our important customers; our inability to complete capacity expansions or other development projects; the availability of raw materials; our failure to develop new products or to keep pace with technological developments; fluctuations in currency exchange rates; patent rights of others; stock and credit market conditions; the timely commercialization of products under development (which may be disrupted or delayed by technical difficulties, market acceptance, competitors' new products, as well as difficulties in moving from the experimental stage to the production stage); demand for our customers' products; competitors' reactions to market conditions; unanticipated disruptions or delays in plant operations or development projects; delays in the successful integration of structural changes, including acquisitions or joint ventures; severe weather events that cause business interruptions, including plant and power outages or disruptions in supplier or customer operations; changes in global trade policies; the accuracy of the assumptions we used in establishing reserves for environmental matters and for our share of liability for respirator claims; and the outcome of pending litigation. Other factors and risks are discussed in our 2018 10-K.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Information about market risks for the period ended March 31, 2019 does not differ materially from that discussed under Item 7A of our 2018 10-K.

Item 4. Controls and Procedures

As of March 31, 2019, we carried out an evaluation, under the supervision and with the participation of our management, including our principal executive officer and our principal financial officer, of the effectiveness of our disclosure controls and procedures pursuant to Rule 13a-15 under the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Based upon that evaluation, our principal executive officer and our principal financial officer concluded that our disclosure controls and procedures were effective as of that date.

There were no changes in our internal control over financial reporting that occurred during our fiscal quarter ended March 31, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Part II. Other Information

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Issuer Purchases of Equity Securities

The table below sets forth information regarding Cabot's purchases of its equity securities during the quarter ended March 31, 2019:

Period	Total Number of Shares Purchased(1)(2)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs(1)	Maximum Number (or Approximate Dollar Value) of Shares that May Yet Be Purchased Under the Plans or Programs(1)
January 1, 2019 - January 31, 2019	—	$ —	—	8,443,345
February 1, 2019 - February 28, 2019	560,000	$ 45.74	560,000	7,883,345
March 1, 2019 - March 31, 2019	535,000	$ 45.21	535,000	7,348,345
Total	1,095,000		1,095,000	

(1) On July 13, 2018, Cabot publicly announced that the Board of Directors authorized the Company to repurchase up to an additional ten million shares of its common stock on the open market or in privately negotiated transactions, increasing the current balance of shares available for repurchase at that time to approximately eleven million shares. The current authorization does not have a set expiration date.

(2) Total number of shares purchased does not include 5,657 shares withheld to pay taxes on the vesting of equity awards made under the Company's equity incentive plans or to pay the exercise price of options exercised during the period.

Item 6. Exhibits

Exhibit No.	Description
Exhibit 3.1	Restated Certificate of Incorporation of Cabot Corporation effective January 9, 2009 (incorporated herein by reference to Exhibit 3.1 of Cabot's Quarterly Report on Form 10-Q for the quarterly period ended December 31, 2008, file reference 1-5667, filed with the SEC on February 9, 2009).
Exhibit 3.2	The By-laws of Cabot Corporation as amended January 8, 2016 (incorporated herein by reference to Exhibit 3.1 of Cabot Corporation's Quarterly Report on Form 10-Q for the quarterly period ended December 31, 2015, file reference 1-5667, filed with the SEC on February 5, 2016).
Exhibit 31.1*	Certification of Principal Executive Officer required by Rule 13a-14(a) or Rule 15d-14(a) of the Exchange Act.
Exhibit 31.2*	Certification of Principal Financial Officer required by Rule 13a-14(a) or Rule 15d-14(a) of the Exchange Act.
Exhibit 32**	Certifications of the Principal Executive Officer and the Principal Financial Officer pursuant to 18 U.S.C. Section 1350.
Exhibit 101.INS*	XBRL Instance Document.
Exhibit 101.SCH*	XBRL Taxonomy Extension Schema Document.
Exhibit 101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document.
Exhibit 101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document.
Exhibit 101.LAB*	XBRL Taxonomy Extension Label Linkbase Document.
Exhibit 101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document.

* Filed herewith.

** Furnished herewith.

SIGNATURES

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.

CABOT CORPORATION

Date: May 9, 2019

By: /s/ ERICA MCLAUGHLIN

Erica McLaughlin
Senior Vice President and Chief Financial Officer
(Duly Authorized Officer)

Date: May 9, 2019

By: /s/ JAMES P. KELLY

James P. Kelly
Vice President and Controller
(Chief Accounting Officer)

Exhibit 31.1

Principal Executive Officer Certification

I, Sean D. Keohane, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Cabot Corporation;

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(s) 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(s) 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: May 9, 2019

/s/ Sean D. Keohane

Sean D. Keohane
President and
Chief Executive Officer

Exhibit 31.2

Principal Financial Officer Certification

I, Erica McLaughlin, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Cabot Corporation;
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(s) 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(s) 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: May 9, 2019

/s/ ERICA MCLAUGHLIN

Erica McLaughlin
Senior Vice President and
Chief Financial Officer

Exhibit 32

**Certifications 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 filing of the Quarterly Report on Form 10-Q for the quarter ended March 31, 2019 (the "Report") by Cabot Corporation (the "Company"), each of the undersigned hereby certifies pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to his knowledge:

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

Date: May 9, 2019

/s/ SEAN D. KEOHANE

Sean D. Keohane
President and Chief Executive Officer

Date: May 9, 2019

/s/ ERICA MCLAUGHLIN

Erica McLaughlin
Senior Vice President and
Chief Financial Officer