UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 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 September 30, 2021

Commission file number 1-32737

KOPPERS HOLDINGS INC.

(Exact name of registrant as specified in its charter)

Pennsylvania (State of incorporation)	20-1878963 (IRS Employer Identification No.)

436 Seventh Avenue
Pittsburgh, Pennsylvania 15219
(Address of principal executive offices)

(412) 227-2001
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act.

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock	KOP	The New York Stock Exchange

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

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

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

Large accelerated filer ☐ Accelerated filer ☒ Non-accelerated filer ☐ Smaller reporting company ☐ Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards 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 ☒

Common Stock, par value $0.01 per share, outstanding at October 29, 2021 amounted to 21,306,315 shares.

PART I—FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

KOPPERS HOLDINGS INC.
CONDENSED CONSOLIDATED STATEMENT OF OPERATIONS AND COMPREHENSIVE (LOSS) INCOME

	Three Months Ended September 30,		*Nine Months Ended September 30,*	
	2021	*2020*	*2021*	*2020*
(Dollars in millions, except per share amounts)	*(Unaudited)*	*(Unaudited)*	*(Unaudited)*	*(Unaudited)*
Net sales	$ 424.8	$ 437.5	$ 1,273.3	$ 1,276.0
Cost of sales	348.9	329.8	1,012.1	1,004.8
Depreciation and amortization	13.4	12.9	43.4	39.7
Gain on sale of assets	0.0	0.0	(7.8)	0.0
Impairment and restructuring charges	0.1	1.6	2.2	5.5
Selling, general and administrative expenses	37.8	34.6	110.6	104.1
Operating profit	24.6	58.6	112.8	121.9
Other income, net	0.9	0.9	2.7	1.9
Interest expense	10.2	11.8	30.5	38.6
Income from continuing operations before income taxes	15.3	47.7	85.0	85.2
Income tax provision	4.8	8.6	22.4	14.8
Income from continuing operations	10.5	39.1	62.6	70.4
Income (loss) from discontinued operations, net of tax benefit of $0.0, $0.4, $0.0 and $1.4	0.0	0.6	0.1	(3.8)
(Loss) gain on sale of discontinued operations, net of tax benefit (expense) of $0.2, $(8.3), $0.3, $(8.3)	(0.5)	35.8	0.0	35.8
Net income	10.0	75.5	62.7	102.4
Net loss attributable to noncontrolling interests	(0.2)	(0.1)	(0.3)	(1.0)
Net income attributable to Koppers	$ 10.2	$ 75.6	$ 63.0	$ 103.4
Earnings (loss) per common share attributable to Koppers common shareholders:				
Basic -				
Continuing operations	$ 0.50	$ 1.86	$ 2.96	$ 3.37
Discontinued operations	(0.02)	1.73	0.01	1.56
Earnings per basic common share	$ 0.48	$ 3.59	$ 2.97	$ 4.93
Diluted -				
Continuing operations	$ 0.49	$ 1.83	$ 2.87	$ 3.33
Discontinued operations	(0.02)	1.70	0.00	1.55
Earnings per diluted common share	$ 0.47	$ 3.53	$ 2.87	$ 4.88
Comprehensive (loss) income	$ (17.4)	$ 103.3	$ 45.7	$ 125.9
Comprehensive (loss) income attributable to noncontrolling interests	(0.2)	0.9	(0.2)	(0.1)
Comprehensive (loss) income attributable to Koppers	$ (17.2)	$ 102.4	$ 45.9	$ 126.0
Weighted average shares outstanding (in thousands):				
Basic	21,322	21,047	21,253	20,968
Diluted	21,947	21,380	21,949	21,227

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

KOPPERS HOLDINGS INC.
CONDENSED CONSOLIDATED BALANCE SHEET

(Dollars in millions, except per share amounts)	*September 30, 2021* *(Unaudited)*	*December 31, 2020*
Assets		
Cash and cash equivalents, including restricted cash (Note 4)	$ 44.9	$ 38.5
Accounts receivable, net of allowance of $3.3 and $2.6	198.5	175.1
Inventories, net	295.1	295.8
Derivative contracts	51.9	38.5
Other current assets	23.8	16.6
Total current assets	614.2	564.5
Property, plant and equipment, net	460.9	409.1
Operating lease right-of-use assets	95.2	102.5
Goodwill	296.1	297.8
Intangible assets, net	135.6	149.8
Deferred tax assets	16.5	18.4
Non-current derivative contracts	10.4	31.9
Other assets	23.3	24.6
Total assets	$ 1,652.2	$ 1,598.6
Liabilities		
Accounts payable	$ 159.9	$ 154.1
Accrued liabilities	80.7	106.7
Current operating lease liabilities	21.6	21.2
Current maturities of long-term debt	4.6	10.1
Total current liabilities	266.8	292.1
Long-term debt	802.6	765.8
Accrued postretirement benefits	44.6	46.2
Deferred tax liabilities	20.3	21.3
Operating lease liabilities	73.8	81.3
Other long-term liabilities	43.6	45.9
Total liabilities	1,251.7	1,252.6
Commitments and contingent liabilities (Note 18)		
Equity		
Senior Convertible Preferred Stock, $0.01 par value per share; 10,000,000 shares authorized; no shares issued	0.0	0.0
Common Stock, $0.01 par value per share; 80,000,000 shares authorized; 23,993,214 and 23,688,347 shares issued	0.2	0.2
Additional paid-in capital	246.2	234.1
Retained earnings	278.8	215.8
Accumulated other comprehensive loss	(33.0)	(15.9)
Treasury stock, at cost, 2,686,899 and 2,589,803 shares	(95.8)	(92.5)
Total Koppers shareholders' equity	396.4	341.7
Noncontrolling interests	4.1	4.3
Total equity	400.5	346.0
Total liabilities and equity	$ 1,652.2	$ 1,598.6

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

KOPPERS HOLDINGS INC.
CONDENSED CONSOLIDATED STATEMENT OF CASH FLOWS

	Nine Months Ended September 30,	
	2021	*2020*
(Dollars in millions)	*(Unaudited)*	*(Unaudited)*
Cash provided by (used in) operating activities:		
Net income	$ 62.7	$ 102.4
Adjustments to reconcile net cash provided by (used in) operating activities:		
Depreciation and amortization	43.4	39.7
Stock-based compensation	9.8	8.5
Change in derivative contracts	2.7	(4.2)
Non-cash interest expense	2.0	2.0
Gain on sale of assets	(7.8)	(35.8)
Insurance proceeds	(3.6)	(0.7)
Deferred income taxes	1.0	(3.2)
Change in other liabilities	3.8	(0.5)
Other - net	2.6	1.8
Changes in working capital:		
Accounts receivable	(26.7)	(35.3)
Inventories	(4.2)	31.3
Accounts payable	7.7	(43.6)
Accrued liabilities	(29.4)	6.7
Other working capital	(4.4)	(3.6)
Net cash provided by operating activities	59.6	65.5
Cash (used in) provided by investing activities:		
Capital expenditures	(87.6)	(43.8)
Insurance proceeds received	3.6	0.7
Cash provided by sale of assets	5.3	78.1
Net cash (used in) provided by investing activities	(78.7)	35.0
Cash provided by (used in) financing activities:		
Net increase (decrease) in credit facility borrowings	37.1	(85.6)
Repayments of long-term debt	(7.6)	(7.5)
Issuances of Common Stock	2.1	0.8
Repurchases of Common Stock	(3.3)	(1.2)
Payment of debt issuance costs	0.0	(0.2)
Net cash provided by (used in) financing activities	28.3	(93.7)
Effect of exchange rate changes on cash	(2.8)	(0.3)
Change in cash and cash equivalents of discontinued operations held for sale	0.0	0.7
Net increase in cash and cash equivalents	6.4	7.2
Cash and cash equivalents at beginning of period	38.5	32.3
Cash and cash equivalents at end of period	$ 44.9	$ 39.5
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash outflow from operating leases	$ 23.2	$ 23.6
Supplemental disclosure of non-cash investing and financing activities:		
Right-of-use assets obtained in exchange for new operating lease liabilities	$ 10.7	$ 5.9
Supplemental disclosure of cash flow information:		
Non-cash investing activities		
Accrued capital expenditures	$ 8.6	$ 3.7

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

1. Basis of Presentation

The accompanying unaudited condensed consolidated financial statements and related disclosures have been prepared in accordance with accounting principles generally accepted in the United States applicable to interim financial information and with the instructions to Form 10-Q and Rule 10-01 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements. In the opinion of management, all adjustments considered necessary for a fair presentation of Koppers Holdings Inc.'s and its subsidiaries' ("Koppers", "Koppers Holdings", the "Company", "we" or "us") financial position and interim results as of and for the periods presented have been included. All such adjustments are of a normal recurring nature unless disclosed otherwise. Because our business is seasonal, results for interim periods are not necessarily indicative of those that may be expected for a full year. The Condensed Consolidated Balance Sheet as of December 31, 2020 has been summarized from the audited balance sheet contained in the Annual Report on Form 10-K as of and for the year ended December 31, 2020. Certain prior period amounts in the consolidated financial statements and notes to the consolidated financial statements have been reclassified to conform to the current period's presentation as a result of reporting discontinued operations. See Note 4 – "Discontinued Operations."

The financial information included herein should be read in conjunction with our audited consolidated financial statements and related notes included in our Annual Report on Form 10-K for the year ended December 31, 2020.

COVID-19 Assessment

In March 2020, the World Health Organization categorized the current coronavirus disease ("COVID-19") as a pandemic. COVID-19 continues to impact the United States and other countries across the world, and the duration and ultimate severity of its effects are currently unknown. This current level of uncertainty over the economic and operational impacts of COVID-19 means the related future financial impact cannot be reasonably estimated at this time. Our condensed consolidated financial statements presented herein reflect certain estimates and assumptions made by management that affect the reported amounts of assets and liabilities and disclosure of such assets and liabilities at the date of the condensed consolidated financial statements and reported amounts of revenue and expenses during the reporting periods presented.

Such estimates and assumptions affect, among other things, our goodwill, long-lived asset and intangible asset valuation; inventory valuation; assessment of the annual effective tax rate; valuation of deferred income taxes; the allowance for doubtful accounts; and measurement of cash incentive plans. Events and changes in circumstances arising after September 30, 2021, including those resulting from the impacts of COVID-19, will be reflected in management's estimates for future periods.

2. New Accounting Pronouncements

In March 2020, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2020-04: Reference Rate Reform (Topic 848) Facilitation of the Effects of Reference Rate Reform on Financial Reporting. This update provides temporary optional expedients and exceptions to U.S. GAAP on contract modifications, hedging relationships, and other transactions affected by reference rate reform to ease entities' financial reporting burdens as the market transitions from the London Interbank Offered Rate (LIBOR) and other interbank offered rates to alternative reference rates. The guidance was effective upon issuance and may be applied prospectively to contract modifications made, hedging relationships entered into, and other transactions affected by reference rate reform, evaluated on or before December 31, 2022, beginning during the reporting period in which the guidance has been elected. Our debt agreements include the use of alternate rates when LIBOR is not available and we do not maintain hedging relationships applicable to this ASU. We do not expect the application of this update to have a material impact on our financial statements and, to the extent we enter into modifications of agreements that are impacted by the LIBOR phase-out, we will apply such guidance to those contract modifications.

3. Plant Closures and Divestitures

Over the past seven years, we have been restructuring our Carbon Materials and Chemicals ("CMC") segment in order to concentrate our facilities in regions where we believe we hold key competitive advantages to better serve our global customers. Recent closure activities include:

- In June 2021, we sold a subsidiary related to our closed facility located in Uithoorn, the Netherlands and we recorded a gain on sale of $0.3 million. In April 2014, we had ceased coal tar distillation activities at the facility.

- In February 2021, we sold our closed Follansbee, West Virginia coal tar distillation facility and we recorded a gain on sale of $5.7 million, consisting of $2.6 million from cash proceeds in addition to the assumption of certain liabilities by the buyer.
- In September 2020, we sold Koppers (Jiangsu) Carbon Chemical Company Limited ("KJCC"). Refer to Note 4 – "Discontinued Operations" for more details.
- In October 2018, we sold our closed Clairton, Pennsylvania coal tar distillation facility. In the first quarter of 2021, certain post-sale conditions were achieved and the buyer of the property released cash held in escrow to us resulting in a gain on sale of $1.8 million.

Other closure and divestiture activity relates to our Railroad Utility Products and Services ("RUPS") segment. Most recently, we discontinued production activities at our crosstie treating plant located in Denver, Colorado in the third quarter of 2020. In October 2021, we sold the facility and will recognize a gain on the transaction of approximately $23 million during the three months ended December 31, 2021.

Details of the restructuring activities and related reserves are as follows:

(Dollars in millions)	*Severance and employee benefits*	*Asset Retirement*	*Other*	*Total*
Reserve at December 31, 2019	$ 0.9	$ 0.7	$ 2.4	$ 4.0
Accrual	0.5	2.9	3.4	6.8
Cost charged against assets	0.0	0.0	(3.4)	(3.4)
Reversal of accrued charges	(0.3)	0.0	0.0	(0.3)
Cash paid	(0.2)	(0.8)	(0.3)	(1.3)
Currency translation	0.0	0.0	0.2	0.2
Reserve at December 31, 2020	$ 0.9	$ 2.8	$ 2.3	$ 6.0
Accrual	0.0	0.0	2.4	2.4
Cost charged against assets	0.0	0.0	(2.4)	(2.4)
Reversal of accrued charges	(0.2)	(0.7)	0.0	(0.9)
Cash paid	(0.7)	(1.9)	0.0	(2.6)
Sale of subsidiary	0.0	(0.2)	(2.3)	(2.5)
Reserve at September 30, 2021	$ 0.0	$ 0.0	$ 0.0	$ 0.0

4. Discontinued Operations

On September 30, 2020, we sold KJCC to Fangda Carbon New Material Co., Ltd and C-Chem Co., Ltd., a subsidiary of Nippon Steel Chemical & Material Co., Ltd. KJCC was located in Pizhou, Jiangsu Province, China and was a 75 percent-owned coal tar distillation company which was part of our CMC segment. Included in the cash proceeds is restricted cash of $2.3 million which is being held in an escrow account and is recorded within cash and cash equivalents as of September 30, 2021 to cover potential customary indemnity claims by the buyers for a remaining period of six months. In addition, an amount of $6.1 million and $5.6 million is recorded in accrued liabilities as of September 30, 2021 and December 31, 2020, respectively, in anticipation of final post-closing working capital adjustments payable to the buyers and related withholding taxes. This final adjustment was paid to the buyers in October 2021.

The sale of KJCC represented a strategic shift that had a major effect on our operations and financial results in 2020 and were, therefore, classified as discontinued operations in our condensed consolidated financial statements.

Net sales and operating loss from discontinued operations for the three and nine months ended September 30, 2020 consisted of the following amounts:

	Three Months Ended September 30,	*Nine Months Ended September 30,*
	2020	*2020*
(Dollars in millions)		
Net sales	$ 8.8	$ 31.6
Operating income (loss)	0.3	(5.0)

In addition, we ceased carbon black production at our CMC facility located in Kurnell, Australia during 2011. Costs associated with this closure are also included in income (loss) from discontinued operations on the condensed consolidated statement of operations and comprehensive (loss) income.

5. Fair Value Measurements

Carrying amounts and the related estimated fair values of our financial instruments as of September 30, 2021 and December 31, 2020 are as follows:

	September 30, 2021		December 31, 2020	
	Fair Value	Carrying Value	Fair Value	Carrying Value
(Dollars in millions)				
Financial assets:				
Investments and other assets	$ 1.2	$ 1.2	$ 1.2	$ 1.2
Financial liabilities:				
Long-term debt (including current portion)	$ 828.5	$ 813.5	$ 799.2	$ 784.2

Investments and other assets – Represents the broker-quoted cash surrender value on universal life insurance policies. This asset is classified as Level 2 in the valuation hierarchy and is measured from values received from financial institutions.

Debt – The fair value of our long-term debt is estimated based on the market prices for the same or similar issuances or on the current rates offered to us for debt of the same remaining maturities (Level 2). The fair value of our Credit Facility approximates carrying value due to the variable rate nature of this instrument.

6. Comprehensive (Loss) Income and Equity

Total comprehensive (loss) income for the three and nine months ended September 30, 2021 and 2020 is summarized in the table below:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
(Dollars in millions)				
Net income	$ 10.0	$ 75.5	$ 62.7	$ 102.4
Changes in other comprehensive (loss) income:				
Currency translation adjustment	(11.1)	12.3	(14.5)	3.1
Unrealized (loss) gain on cash flow hedges, net of tax benefit (expense) of $6.1, $(5.3), $1.2 and $(6.9)	(16.6)	15.3	(3.3)	19.8
Unrecognized pension net loss, net of tax expense of $0.1, $0.1, $0.3 and $0.2	0.3	0.2	0.8	0.6
Total comprehensive (loss) income	(17.4)	103.3	45.7	125.9
Comprehensive (loss) income attributable to noncontrolling interests	(0.2)	0.9	(0.2)	(0.1)
Comprehensive (loss) income attributable to Koppers	$ (17.2)	$ 102.4	$ 45.9	$ 126.0

Amounts reclassified from accumulated other comprehensive loss to net income consist of amounts shown for changes in or amortization of unrecognized pension net loss. This component of accumulated other comprehensive loss is included in the computation of net periodic pension cost as disclosed in Note 13 – “Pensions and Post-Retirement Benefit Plans.” Other amounts reclassified from accumulated other comprehensive loss related to derivative financial instruments, net of tax, of $11.1 million and $31.0 million for the three and nine months ended September 30, 2021, respectively, and $1.3 million and $2.1 million for the three and nine months ended September 30, 2020, respectively.

The following tables present the change in equity for the three months ended September 30, 2021 and 2020, respectively:

(Dollars in millions)	*Common Stock*	*Additional Paid-In Capital*	*Retained Earnings*	*Accumulated Other Comprehensive Loss*	*Treasury Stock*	*Noncontrolling Interests*	*Total Equity*
Balance at June 30, 2021	$ 0.2	$ 242.7	$ 268.8	$ (5.5)	$ (94.4)	$ 4.3	$ 416.1
Net income (loss)	0.0	0.0	10.2	0.0	0.0	(0.2)	10.0
Issuance of common stock	0.0	0.3	0.0	0.0	0.0	0.0	0.3
Employee stock plans	0.0	3.3	0.0	0.0	0.0	0.0	3.3
Other comprehensive income (loss)							
Currency translation adjustment	0.0	0.0	(0.3)	(11.1)	0.0	0.0	(11.4)
Unrealized loss on cash flow hedges	0.0	0.0	0.0	(16.6)	0.0	0.0	(16.6)
Unrecognized pension net loss	0.0	0.0	0.0	0.3	0.0	0.0	0.3
Repurchases of common stock	0.0	0.0	0.0	0.0	(1.4)	0.0	(1.4)
Balance at September 30, 2021	$ 0.2	$ 246.2	$ 278.8	$ (33.0)	$ (95.8)	$ 4.1	$ 400.5

(Dollars in millions)	*Common Stock*	*Additional Paid-In Capital*	*Retained Earnings*	*Accumulated Other Comprehensive Loss*	*Treasury Stock*	*Noncontrolling Interests*	*Total Equity*
Balance at June 30, 2020	$ 0.2	$ 228.0	$ 121.6	$ (81.8)	$ (92.1)	$ 10.4	$ 186.3
Net income (loss)	0.0	0.0	75.6	0.0	0.0	(0.1)	75.5
Issuance of common stock	0.0	0.3	0.0	0.0	0.0	0.0	0.3
Employee stock plans	0.0	2.9	0.0	0.0	0.0	0.0	2.9
Sale of discontinued operations	0.0	0.0	0.0	0.0	0.0	(7.2)	(7.2)
Other comprehensive income							
Currency translation adjustment	0.0	0.0	0.0	11.3	0.0	1.0	12.3
Unrealized gain on cash flow hedges	0.0	0.0	0.0	15.3	0.0	0.0	15.3
Unrecognized pension net loss	0.0	0.0	0.0	0.2	0.0	0.0	0.2
Balance at September 30, 2020	$ 0.2	$ 231.2	$ 197.2	$ (55.1)	$ (92.1)	$ 4.1	$ 285.5

The following tables present the change in equity for the nine months ended September 30, 2021 and 2020, respectively:

(Dollars in millions)	*Common Stock*	*Additional Paid-In Capital*	*Retained Earnings*	*Accumulated Other Comprehensive Loss*	*Treasury Stock*	*Noncontrolling Interests*	*Total Equity*
Balance at December 31, 2020	$ 0.2	$ 234.1	$ 215.8	$ (15.9)	$ (92.5)	$ 4.3	$ 346.0
Net income (loss)	0.0	0.0	63.0	0.0	0.0	(0.3)	62.7
Issuance of common stock	0.0	2.2	0.0	0.0	0.0	0.0	2.2
Employee stock plans	0.0	9.9	0.0	0.0	0.0	0.0	9.9
Other comprehensive income (loss)							
Currency translation adjustment	0.0	0.0	0.0	(10.2)	0.0	0.1	(10.1)
Cumulative translation adjustment loss on sale of subsidiary	0.0	0.0	0.0	(4.4)	0.0	0.0	(4.4)
Unrealized loss on cash flow hedges	0.0	0.0	0.0	(3.3)	0.0	0.0	(3.3)
Unrecognized pension net loss	0.0	0.0	0.0	0.8	0.0	0.0	0.8
Repurchases of common stock	0.0	0.0	0.0	0.0	(3.3)	0.0	(3.3)
Balance at September 30, 2021	$ 0.2	$ 246.2	$ 278.8	$ (33.0)	$ (95.8)	$ 4.1	$ 400.5

(Dollars in millions)	*Common Stock*	*Additional Paid-In Capital*	*Retained Earnings*	*Accumulated Other Comprehensive Loss*	*Treasury Stock*	*Noncontrolling Interests*	*Total Equity*
Balance at December 31, 2019	$ 0.2	$ 221.9	$ 93.8	$ (77.7)	$ (90.9)	$ 11.4	$ 158.7
Net income (loss)	0.0	0.0	103.4	0.0	0.0	(1.0)	102.4
Issuance of common stock	0.0	0.8	0.0	0.0	0.0	0.0	0.8
Employee stock plans	0.0	8.5	0.0	0.0	0.0	0.0	8.5
Sale of discontinued operations	0.0	0.0	0.0	0.0	0.0	(7.2)	(7.2)
Other comprehensive income (loss)							
Currency translation adjustment	0.0	0.0	0.0	2.1	0.0	1.0	3.1
Unrealized gain on cash flow hedges	0.0	0.0	0.0	19.8	0.0	0.0	19.8
Unrecognized pension net loss	0.0	0.0	0.0	0.6	0.0	0.0	0.6
Repurchases of common stock	0.0	0.0	0.0	0.0	(1.2)	0.0	(1.2)
Balance at September 30, 2020	$ 0.2	$ 231.2	$ 197.2	$ (55.1)	$ (92.1)	$ 4.1	$ 285.5

7. Earnings per Common Share

The computation of basic earnings per common share for the periods presented is based upon the weighted average number of common shares outstanding during the periods. The computation of diluted earnings per common share includes the effect of non-vested nonqualified stock options and restricted stock units assuming such options and stock units were outstanding common shares at the beginning of the period. The effect of antidilutive securities is excluded from the computation of diluted loss per common share, if any.

The following table sets forth the computation of basic and diluted earnings per common share:

	Three Months Ended September 30,		*Nine Months Ended September 30,*	
	2021	*2020*	*2021*	*2020*
(Dollars in millions, except share amounts, in thousands)				
Net income attributable to Koppers	$ 10.2	$ 75.6	$ 63.0	$ 103.4
Less: Income (loss) from discontinued operations, net of tax	0.0	0.6	0.1	(3.8)
(Loss) gain on sale of discontinued operations	(0.5)	35.8	0.0	35.8
Noncontrolling interest related to discontinued operations	0.0	0.1	0.0	0.8
Income from continuing operations attributable to Koppers	$ 10.7	$ 39.1	$ 62.9	$ 70.6
Weighted average common shares outstanding:				
Basic	21,322	21,047	21,253	20,968
Effect of dilutive securities	625	333	696	259
Diluted	21,947	21,380	21,949	21,227
Earnings per common share – continuing operations:				
Basic earnings per common share	$ 0.50	$ 1.86	$ 2.96	$ 3.37
Diluted earnings per common share	0.49	1.83	2.87	3.33
Other data:				
Antidilutive securities excluded from computation of diluted earnings per common share	563	876	437	862

8. Stock-based Compensation

We have outstanding stock-based compensation awards that were granted under the amended and restated 2005 Long-Term Incentive Plan (the “2005 LTIP”), the 2018 Long-Term Incentive Plan (the “2018 LTIP”) and the 2020 Long-Term Incentive Plan, as amended (the “2020 LTIP”). The 2005 LTIP, the 2018 LTIP and the 2020 LTIP are collectively referred to as the “LTIP”. The LTIP provides for the grant to eligible persons of stock options, stock appreciation rights, restricted stock, restricted stock units, performance shares, performance awards, dividend equivalents and other stock-based awards, which are collectively referred to as the “awards.” On May 6, 2021, the shareholders approved an amendment to our 2020 LTIP and an Amended and Restated Employee Stock Purchase Plan to increase the number of shares available for grant by 1,500,000 and 300,000, respectively.

Restricted Stock Units and Performance Stock Units

Under the LTIP, the board of directors grants restricted stock units and performance stock units to certain employee participants (collectively, the “stock units”). Compensation expense for non-vested stock units is recorded over the vesting period based on the fair value at the date of grant. The fair value of restricted stock units is the market price of the underlying common stock on the date of grant and the fair value of performance stock units is determined using a Monte Carlo valuation model. For grants to most employees, the restricted stock units vest in four equal annual installments. Restricted stock units that have one-year vesting periods are also issued under the LTIP to members of the board of directors in connection with annual director compensation and, from time to time, are issued to employees in connection with employee compensation with vesting periods of typically two years or less.

Performance stock units have vesting based upon a market condition. These performance stock units have multi-year performance objectives and a three-year period for vesting (if the applicable performance objectives are achieved). The applicable performance objective is based on our total shareholder return relative to the Standard & Poor’s SmallCap 600 Materials Index. The number of performance stock units granted represents the target award and participants have the ability to earn between zero and 200 percent of the target award based upon actual performance. If minimum performance criteria are not achieved, no performance stock units will vest. We have the discretion to settle the award in cash rather than shares, although we currently expect that all awards will be settled by the issuance of shares.

We calculated the fair value of the performance stock unit awards on the date of grant using the assumptions listed below:

	January 2021 Grant	March 2020 Grant	March 2019 Grant
Grant date price per share of performance award	$ 29.84	$ 19.63	$ 26.63
Expected dividend yield per share	0.00%	0.00%	0.00%
Expected volatility	68.70%	45.60%	39.00%
Risk-free interest rate	0.16%	0.72%	2.50%
Look-back period in years	3.00	2.83	2.82
Grant date fair value per share	$ 41.50	$ 11.56	$ 40.30

Dividends declared, if any, on our common stock during the period prior to vesting of the stock units are credited at equivalent value as additional stock units and become payable as additional common shares upon vesting. In the event of termination of employment, other than retirement, death or disability, any non-vested stock units are forfeited, including additional stock units credited from dividends. In the event of termination of employment due to retirement, death or disability, pro-rata vesting of the stock units over the service period will result. There are special vesting provisions for the stock units related to a change in control.

The following table shows a summary of the performance stock units as of September 30, 2021:

Performance Period	Minimum Shares	Target Shares	Maximum Shares
2019 – 2021	0	234,597	281,330
2020 – 2022	0	154,099	308,198
2021 – 2023	0	149,874	299,748

The following table shows a summary of the status and activity of non-vested stock units for the nine months ended September 30, 2021:

	Restricted Stock Units	Performance Stock Units	Total Stock Units	Weighted Average Grant Date Fair Value per Unit
Non-vested at December 31, 2020	509,509	391,744	901,253	$ 25.48
Granted	222,299	149,874	372,173	$ 34.91
Performance share adjustment	0	(1,296)	(1,296)	$ 44.29
Vested	(199,837)	(1,821)	(201,658)	$ 22.52
Forfeited	(690)	(103)	(793)	$ 30.94
Non-vested at September 30, 2021	531,281	538,398	1,069,679	$ 29.23

Stock Options

Stock options to executive officers vest and become exercisable in four equal annual installments. The stock options have a term of ten years. In the event of termination of employment, other than retirement, death or disability, any non-vested options are forfeited. In the event of termination of employment due to retirement, death or disability, pro-rata vesting of the options over the service period will result. There are special vesting provisions for the stock options related to a change in control.

Compensation expense for non-vested stock options is recorded over the vesting period based on the fair value at the date of grant. We calculated the fair value of stock options on the date of grant using the Black-Scholes-Merton model and the assumptions listed below:

	January 2021 Grant	*March 2020 Grant*	*March 2019 Grant*	*March 2018 Grant*
Grant date price per share of stock option award	$ 29.84	$ 19.63	$ 26.63	$ 41.60
Expected dividend yield per share	0.00%	0.00%	0.00%	0.00%
Expected life in years	6.64	6.40	6.14	5.73
Expected volatility	54.80%	42.85%	39.44%	37.05%
Risk-free interest rate	0.59%	0.87%	2.53%	2.67%
Grant date fair value per share of option awards	$ 15.79	$ 8.42	$ 11.29	$ 16.38

We do not expect to declare any dividends for the foreseeable future. The expected life in years is based on historical exercise data of options previously granted by us. Expected volatility is based on the historical volatility of our common stock and the historical volatility of certain other similar public companies. The risk-free interest rate is based on U.S. Treasury bill rates for the expected life of the option.

The following table shows a summary of the status and activity of stock options for the nine months ended September 30, 2021:

	Options	*Weighted Average Exercise Price per Option*	*Weighted Average Remaining Contractual Term (in years)*	*Aggregate Intrinsic Value (in millions)*
Outstanding at December 31, 2020	1,120,254	$ 26.89		
Granted	90,879	$ 29.84		
Exercised	(71,785)	$ 17.74		
Expired	(25,402)	$ 40.26		
Outstanding at September 30, 2021	1,113,946	$ 27.41	5.21	$ 7.8
Exercisable at September 30, 2021	797,911	$ 28.16	4.08	$ 5.7

Stock Compensation Expense

Total stock-based compensation expense recognized under our LTIP and employee stock purchase plan for the three and nine months ended September 30, 2021 and 2020 is as follows:

	Three Months Ended September 30,		*Nine Months Ended September 30,*	
(Dollars in millions)	*2021*	*2020*	*2021*	*2020*
Stock-based compensation expense recognized:				
Selling, general and administrative expenses	$ 3.2	$ 2.9	$ 9.8	$ 8.5
Less related income tax benefit	0.8	0.7	2.6	2.2
Decrease in net income attributable to Koppers	$ 2.4	$ 2.2	$ 7.2	$ 6.3
Intrinsic value of exercised stock options	$ 0.0	$ 0.0	$ 2.2	$ 0.0
Cash received from the exercise of stock options	$ 0.0	$ 0.0	$ 2.3	$ 0.0

As of September 30, 2021, total future compensation expense related to non-vested stock-based compensation arrangements is expected to total $19.5 million and the weighted-average period over which this expense is expected to be recognized is approximately 27 months.

9. Segment Information

We have three reportable segments: Railroad and Utility Products and Services, Performance Chemicals ("PC") and Carbon Materials and Chemicals. Our reportable segments contain multiple aggregated business units since management believes the long-term financial performance of these business units is affected by similar economic conditions. The reportable segments are each managed separately because they manufacture and distribute distinct products with different production processes.

Our RUPS segment sells treated and untreated wood products, manufactured products and services primarily to the railroad and public utility markets. Railroad products and services include procuring and treating items such as crossties, switch ties and various types of lumber used for railroad bridges and crossings and the manufacture of rail joint bars. Utility products include transmission and distribution poles and pilings. The segment also operates a railroad services business that conducts engineering, design, repair and inspection services for railroad bridges, a business related to the recovery of used crossties and a business related to the inspection of utility poles.

Our PC segment develops, manufactures, and markets wood preservation chemicals and wood treatment technologies and services a diverse range of end-markets including infrastructure, residential and commercial construction, and agriculture.

Our CMC segment is primarily a manufacturer of creosote, carbon pitch, naphthalene, phthalic anhydride and carbon black feedstock. Creosote is used in the treatment of wood and carbon black feedstock is used in the production of carbon black. Carbon pitch is used in the production of aluminum and steel in electric arc furnaces. Naphthalene is used for the production of phthalic anhydride and as a surfactant in the production of concrete. Phthalic anhydride is used in the production of plasticizers, polyester resins and alkyd paints.

We evaluate performance and determine resource allocations based on a number of factors, including earnings before interest, taxes, depreciation and amortization ("EBITDA") and operating profit or loss from operations. Operating profit or loss does not include other income or loss, interest expense, income taxes or operating costs of Koppers Holdings Inc.

Contract Balances

The timing of revenue recognition results in both billed accounts receivable and unbilled receivables, both classified as accounts receivable, net of allowance within the condensed consolidated balance sheet. Contract assets of $13.3 million and $5.8 million are recorded within accounts receivable, net of allowance within the condensed consolidated balance sheet as of September 30, 2021 and December 31, 2020, respectively.

The following table sets forth certain sales and operating data, net of all intersegment transactions, for our segments for the periods indicated:

	Three Months Ended September 30,		*Nine Months Ended September 30,*	
	2021	*2020*	*2021*	*2020*
(Dollars in millions)				
Revenues from external customers:				
Railroad and Utility Products and Services	$ 186.9	$ 191.0	$ 574.3	$ 590.9
Performance Chemicals	115.2	147.9	384.4	396.4
Carbon Materials and Chemicals(a)	122.7	98.6	314.6	288.7
Total	$ 424.8	$ 437.5	$ 1,273.3	$ 1,276.0
Intersegment revenues:				
Performance Chemicals	$ 3.9	$ 3.4	$ 11.2	$ 10.3
Carbon Materials and Chemicals	18.9	20.1	55.2	59.5
Total	$ 22.8	$ 23.5	$ 66.4	$ 69.8
Depreciation and amortization expense:				
Railroad and Utility Products and Services	$ 5.3	$ 4.9	$ 16.9	$ 14.8
Performance Chemicals	4.1	4.3	13.6	13.2
Carbon Materials and Chemicals(b)	4.0	3.7	12.9	11.7
Total	$ 13.4	$ 12.9	$ 43.4	$ 39.7
Operating profit (loss):				
Railroad and Utility Products and Services	$ (0.7)	$ 15.0	$ 12.3	$ 40.4
Performance Chemicals	11.6	30.4	65.1	67.1
Carbon Materials and Chemicals(c)	14.9	13.7	39.1	15.9
Corporate	(1.2)	(0.5)	(3.7)	(1.5)
Total	$ 24.6	$ 58.6	$ 112.8	$ 121.9

(a) *Revenue excludes KJCC revenue of $8.8 million and $31.6 million for the three and nine months ended September 30, 2020, respectively.*
(b) *Depreciation and amortization expense excludes KJCC expenses of $0.1 million and $0.6 million for the three and nine months ended September 30, 2020, respectively.*
(c) *Operating profit (loss) excludes KJCC amounts of $0.3 million and $(5.0) million for the three and nine months ended September 30, 2020, respectively.*

The following table sets forth revenues for significant product lines, net of all intersegment transactions, for our segments for the periods indicated:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
(Dollars in millions)				
Railroad and Utility Products and Services:				
Railroad treated products	$ 107.1	$ 108.4	$ 327.6	$ 345.5
Utility poles	59.6	63.6	186.2	191.4
Railroad infrastructure services	8.8	9.2	25.3	23.3
Rail joints	5.7	4.5	17.9	16.9
Other products	5.7	5.3	17.3	13.8
Total	186.9	191.0	574.3	590.9
Performance Chemicals:				
Wood preservative products	110.1	140.5	366.4	375.7
Other products	5.1	7.4	18.0	20.7
Total	115.2	147.9	384.4	396.4
Carbon Materials and Chemicals:				
Pitch and related products	70.4	62.9	177.7	171.4
Phthalic anhydride and other chemicals	19.7	14.5	52.2	49.8
Creosote and distillates	19.0	10.3	48.6	33.8
Naphthalene	6.2	3.8	15.5	12.7
Other products	7.4	7.2	20.6	21.0
Total	122.7	98.6	314.6	288.7
Total	$ 424.8	$ 437.5	$ 1,273.3	$ 1,276.0

The following table sets forth assets and goodwill allocated to each of our segments as of the dates indicated:

	September 30, 2021	December 31, 2020
(Dollars in millions)		
Segment assets:		
Railroad and Utility Products and Services	$ 590.9	$ 583.1
Performance Chemicals	586.6	536.1
Carbon Materials and Chemicals	445.2	424.2
All other	29.5	55.2
Total	$ 1,652.2	$ 1,598.6
Goodwill:		
Railroad and Utility Products and Services	$ 120.8	$ 121.1
Performance Chemicals	175.3	176.7
Total	$ 296.1	$ 297.8

10. Income Taxes

Effective Tax Rate

The income tax provision for interim periods is comprised of an estimated annual effective income tax rate applied to current year ordinary income and tax associated with discrete items. These discrete items generally relate to excess stock compensation deductions, changes in tax laws, adjustments to unrecognized tax benefits and changes of estimated tax liability to the actual liability determined upon filing income tax returns. To determine the annual effective tax rate, management is required to make estimates of annual pretax income in each domestic and foreign jurisdiction in which we conduct business. Entities that have historical pre-tax losses and current year estimated pre-tax losses that are not projected to generate a future benefit are excluded from the estimated annual effective income tax rate.

The estimated annual effective income tax rate, excluding discrete items discussed above, was 26.8 percent and 25.8 percent for nine months ended September 30, 2021 and 2020, respectively. The estimated annual effective income tax rate differs from the U.S. federal statutory tax rate due to:

	September 30,	
	2021	*2020*
Federal income tax rate	21.0%	21.0%
Foreign earnings taxed at different rates	3.6	2.7
Nondeductible expenses	1.3	1.3
State income taxes, net of federal tax benefit	0.8	0.5
Change in tax contingency reserves	0.1	0.1
GILTI inclusion, net of foreign tax credits	0.0	0.2
Estimated annual effective income tax rate	26.8%	25.8%

Income taxes as a percentage of pretax income were 31.4 percent for the three months ended September 30, 2021. This is higher than the estimated annual effective income tax rate primarily due to an increase in the estimated annual effective income tax rate when compared to the previous quarter's estimate.

Income taxes as a percentage of pretax income were 18.0 percent for the three months ended September 30, 2020. This was lower than the estimated annual effective income tax rate due to discrete items, which were a net benefit of $3.1 million for the three months ended September 30, 2020. Discrete items were primarily related to the legislative changes and finalized regulations regarding the allowable business interest expense deduction that is discussed below and a benefit due to an amended tax return.

Income taxes as a percentage of pretax income were 26.4 percent for the nine months ended September 30, 2021. This is lower than the estimated annual effective income tax rate due to several discrete items, none of which are material.

Income taxes as a percentage of pretax income were 17.4 percent for the nine months ended September 30, 2020. This was lower than the estimated annual effective income tax rate due to discrete items, which were a net benefit of $7.3 million for the nine months ended September 30, 2020. Discrete items were primarily related to the legislative changes and finalized regulations regarding the limitation on the interest expense deduction that is discussed below and a benefit due to an amended tax return. These discrete items were offset by a tax deduction reduction for vested stock awards.

During 2020, two events occurred which enabled us to adjust our interest expense limitations on our 2018 and 2019 U.S. tax returns. In March 2020, the Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act") was enacted and a provision of the CARES Act increased the allowable business interest expense deduction to 50 percent of adjusted taxable income retroactively to January 1, 2019. In July 2020, the Internal Revenue Service released regulations that were retroactive to January 1, 2018 and favorably impacted our calculation of adjusted taxable income. After application of these new regulations, the limitation of our interest expense deduction was significantly reduced when compared to the same calculations under the previous regulations. Due to these changes, in the three and nine months ended September 30, 2020 we recorded an income tax expense of $2.0 million and an income tax benefit of $2.4 million, respectively, to adjust a previously recorded valuation allowance for disallowed interest expense deductions that are eligible for carry-forward. After review and application of these changes, we determined that we would be able to fully utilize these disallowed interest expense deductions. Effective January 1, 2021, the limitation on the deduction was restored to 30 percent.

During the year, management regularly updates estimates of pre-tax income and income tax expense based on changes in pre-tax income projections by taxable jurisdiction, repatriation of foreign earnings, unrecognized tax benefits and other tax matters. To the extent that actual results vary from these estimates, the actual annual effective income tax rate at the end of the year could be materially different from the estimated annual effective income tax rate for the three and nine months ended September 30, 2021.

Unrecognized Tax Benefits

We file income tax returns in the U.S. federal jurisdiction, individual U.S. state jurisdictions and non-U.S. jurisdictions. With few exceptions, we are no longer subject to U.S. federal, U.S. state, or non-U.S. income tax examinations by tax authorities for years prior to 2016.

Unrecognized tax benefits totaled $2.3 million and $2.5 million as of September 30, 2021 and December 31, 2020. The total amount of unrecognized tax benefits that, if recognized, would affect the effective tax rate, was approximately $2.3 million and $2.5 million as of September 30, 2021 and December 31, 2020. We recognize interest expense and any related penalties from unrecognized tax benefits in income tax expense. As of September 30, 2021 and December 31, 2020, we had accrued approximately $0.8 million and $0.8 million for interest and penalties, respectively.

We do not anticipate material changes to the amount of unrecognized tax benefits within the next twelve months.

11. Inventories

Net inventories as of September 30, 2021 and December 31, 2020 are summarized in the table below:

(Dollars in millions)	September 30, 2021	December 31, 2020
Raw materials	$ 244.6	$ 233.7
Work in process	13.3	12.4
Finished goods	102.7	99.3
	$ 360.6	$ 345.4
Less revaluation to LIFO	65.5	49.6
Net	$ 295.1	$ 295.8

12. Property, Plant and Equipment

Property, plant and equipment as of September 30, 2021 and December 31, 2020 are summarized in the table below:

(Dollars in millions)	September 30, 2021	December 31, 2020
Land	$ 15.5	$ 16.7
Buildings	71.6	75.0
Machinery and equipment	807.2	812.1
	$ 894.3	$ 903.8
Less accumulated depreciation	433.4	494.7
Net	$ 460.9	$ 409.1

13. Pensions and Post-Retirement Benefit Plans

We maintain a number of defined benefit and defined contribution plans to provide retirement benefits for employees in the United States, as well as employees outside the United States. These plans are maintained and contributions are made in accordance with the Employee Retirement Income Security Act of 1974 (“ERISA”), local statutory law or as determined by the board of directors. The defined benefit pension plans generally provide benefits based upon years of service and compensation. Pension plans are funded except for three domestic non-qualified defined benefit pension plans for certain key executives.

In the United States, all qualified and two of the non-qualified defined benefit pension plans for salaried and hourly employees have been frozen and are closed to new participants. Accordingly, these pension plans no longer accrue additional years of service or recognize future increases in compensation for benefit purposes.

The defined contribution plans generally provide retirement assets to employee participants based upon employer and employee contributions to the participant’s individual investment account. We also provide retiree medical insurance coverage to certain U.S. employees and a life insurance benefit to most U.S. employees. For salaried employees, the retiree medical and retiree insurance plans have been closed to new participants.

The following table provides the components of net periodic benefit cost for the pension plans for the three and nine months ended September 30, 2021 and 2020:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(Dollars in millions)	2021	2020	2021	2020
Service cost	$ 0.4	$ 0.3	$ 1.1	$ 1.0
Interest cost	1.1	1.6	3.8	4.7
Expected return on plan assets	(1.8)	(2.0)	(5.5)	(5.8)
Amortization of net loss	0.4	0.4	1.1	1.1
Net periodic benefit cost	$ 0.1	$ 0.3	$ 0.5	$ 1.0
Defined contribution plan expense	$ 1.9	$ 1.6	$ 6.5	$ 5.6

14. Debt

Debt as of September 30, 2021 and December 31, 2020 was as follows:

(Dollars in millions)	Weighted Average Interest Rate	Maturity	September 30, 2021	December 31, 2020
Term Loan	2.56%	2024	$ 4.6	$ 12.2
Revolving Credit Facility	2.56%	2024	308.9	272.0
Senior Notes due 2025	6.00%	2025	500.0	500.0
Debt			813.5	784.2
Less short-term debt and current maturities of long-term debt			4.6	10.1
Less unamortized debt issuance costs			6.3	8.3
Long-term debt			$ 802.6	$ 765.8

Credit Facility

We maintain a $600.0 million senior secured revolving credit facility and a $100.0 million secured term loan facility (collectively, the “Credit Facility”), as amended. The secured term loan has a quarterly amortization of $2.5 million and the interest rate on the Credit Facility is variable and is based on LIBOR.

Borrowings under the Credit Facility are secured by a first priority lien on substantially all of the assets of Koppers Inc., Koppers Holdings Inc. and their material domestic subsidiaries. The Credit Facility contains certain covenants for Koppers Inc. and its restricted subsidiaries that limit capital expenditures, additional indebtedness, liens, dividends, investments or acquisitions. In addition, such covenants give rise to events of default upon the failure by Koppers Inc. and its restricted subsidiaries to meet certain financial ratios.

As of September 30, 2021, we had $283.4 million of unused revolving credit availability for working capital purposes after restrictions from certain letter of credit commitments and other covenants. As of September 30, 2021, $7.7 million of commitments were utilized by outstanding letters of credit.

Senior Notes due 2025

The 2025 Notes are senior obligations of Koppers Inc., are unsecured and are guaranteed by Koppers Holdings Inc. and certain of Koppers Inc.’s domestic subsidiaries. The 2025 Notes pay interest semi-annually in arrears on February 15 and August 15 and will mature on February 15, 2025 unless earlier redeemed or repurchased. We are entitled to redeem all or a portion of the 2025 Senior Notes at a redemption price of 104.5 percent of principal value, declining to a redemption price of 101.5 percent on or after February 15, 2022 until the redemption price is equivalent to the principal value on April 15, 2023.

The indenture governing the 2025 Senior Notes includes customary covenants that restrict, among other things, the ability of Koppers Inc. and its restricted subsidiaries to incur additional debt, pay dividends or make certain other restricted payments, incur liens, merge or sell all or substantially all of the assets of Koppers Inc. or its subsidiaries or enter into various transactions with affiliates.

15. Asset Retirement Obligations

We recognize asset retirement obligations for the removal and disposal of residues; dismantling of certain tanks required by governmental authorities; cleaning and dismantling costs for owned railcars; cleaning costs for leased rail-cars and barges; and site demolition, when required by governmental authorities or by contract. The following table reflects changes in the carrying values of asset retirement obligations:

(Dollars in millions)	September 30, 2021	December 31, 2020
Asset retirement obligation at beginning of year	$ 19.8	$ 20.7
Accretion expense	0.7	1.1
Revision in estimated cash flows	(2.8)	4.6
Cash expenditures	(6.7)	(6.6)
Balance at end of period	$ 11.0	$ 19.8

16. Leases

We recognize lease obligations and associated right-of-use assets for existing non-cancelable leases. We have non-cancelable operating leases primarily associated with railcars, office and manufacturing facilities, storage tanks, ships, production equipment and vehicles. Many of our leases include both lease (e.g., fixed rent) and non-lease components (e.g., maintenance and services). For certain asset classes such as railcars, storage tanks and ships, we have separated the lease and non-lease components based on the estimated stand-alone price for each component. For the remaining asset classes, we have elected to account for these components as a single lease component. In addition, we exclude leases expiring within twelve months from balance sheet recognition.

Many of our leases include one or more options to renew. We evaluate renewal options at the lease commencement date and regularly thereafter to determine if we are reasonably certain to exercise the option, in which case we include the renewal period in our lease term. As most of our leases do not provide an implicit rate, we use our incremental borrowing rate based on information available to determine the present value of the lease payments.

Lease expense for operating leases is recognized on a straight-line basis over the lease term. Variable lease expense is recognized in the period in which the obligation for those payments is incurred. Operating lease costs were $7.5 million and $22.8 million during the three and nine months ended September 30, 2021, respectively, and $8.1 million and $23.2 million during the three and nine months ended September 30, 2020, respectively. Variable lease costs were $0.8 million and $2.4 million during the three and nine months ended September 30, 2021, respectively, and $0.8 million and $2.7 million during the three and nine months ended September 30, 2020, respectively.

The following table presents information about the amount and timing of cash flows arising from our operating leases as of September 30, 2021:

(Dollars in millions)		
2021	$	7.3
2022		27.3
2023		21.3
2024		17.3
2025		14.0
Thereafter		34.8
Total lease payments	$	122.0
Less: Interest		(26.6)
Present value of lease liabilities	$	95.4

Supplemental condensed consolidated balance sheet information related to leases is as follows:

(Dollars in millions)		*September 30, 2021*		*December 31, 2020*
Operating leases:				
Operating lease right-of-use assets	$	95.2	$	102.5
Current operating lease liabilities	$	21.6	$	21.2
Operating lease liabilities		73.8		81.3
Total operating lease liabilities	$	95.4	$	102.5
Weighted average remaining lease term, in years		5.7		6.4
Weighted average discount rate		7.2%		7.5%

17. Derivative Financial Instruments

We utilize derivative instruments to manage exposures to risks that have been identified, measured and are capable of being mitigated. The primary risks that we manage by using derivative instruments are commodity price risk associated with copper and foreign currency exchange risk associated with a number of currencies, principally the U.S. dollar, the Euro and British pounds. Swap contracts on copper are used to manage the price risk associated with forecasted purchases of materials used in our manufacturing processes. Generally, we will not hedge cash flow exposures for durations longer than 36 months and we have hedged certain volumes of copper through the end of 2022. We enter into foreign currency forward contracts to manage foreign currency risk associated with our receivable and payable balances in addition to foreign-denominated sales. Generally, we enter into master netting arrangements with the counterparties and offset net derivative positions with the same counterparties. Currently, our agreements do not require cash collateral.

ASC Topic 815-10, “Derivatives and Hedging,” requires companies to recognize all derivative instruments as either assets or liabilities at fair value in the balance sheet. Derivative instruments’ fair value is determined using significant other observable inputs, or Level 2 in the fair value hierarchy. In accordance with ASC Topic 815-10, we designate certain of our commodity swaps as cash flow hedges of forecasted purchases of commodities. For derivative instruments that are designated and qualify as cash flow hedges, the effective portion of the gain or loss on the derivative is reported as a component of other comprehensive income and is reclassified into earnings in the same period or periods during which the hedged transaction affects earnings. Gains and losses on the derivative instruments representing hedge ineffectiveness are recognized in current earnings.

For those commodity swaps where hedge accounting is not elected, the fair value of the commodity swap is recognized as an asset or liability in the consolidated balance sheet and the related gain or loss on the derivative is reported in current earnings. These amounts are classified in cost of sales in the condensed consolidated statement of operations.

As of September 30, 2021 and December 31, 2020, we had outstanding copper swap contracts of the following amounts:

	Units Outstanding (in Pounds)		*Net Fair Value - Asset*	
	September 30, 2021	*December 31, 2020*	*September 30, 2021*	*December 31, 2020*
(Amounts in millions)				
Cash flow hedges	36.1	62.3	$ 54.0	$ 58.3
Contracts where hedge accounting was not elected	5.1	11.5	$ 8.1	10.9
Total	41.2	73.8	$ 62.1	$ 69.2

As of September 30, 2021 and December 31, 2020, the fair value of the outstanding copper swap contracts is recorded in the balance sheet as follows:

	September 30, 2021	*December 31, 2020*
(Dollars in millions)		
Derivative contracts	$ 51.7	$ 37.3
Non-current derivative contracts	10.4	31.9
Asset on balance sheet	$ 62.1	$ 69.2
Accumulated other comprehensive gain, net of tax	$ 41.3	$ 44.4

In the next twelve months, we estimate that $34.4 million of unrealized gains, net of tax, related to commodity price hedging will be reclassified from other comprehensive (loss) income into earnings.

See Note 6 – “Comprehensive (Loss) Income and Equity”, for amounts recorded in other comprehensive (loss) income and for amounts reclassified from accumulated other comprehensive loss into net income for the periods specified below.

For the three and nine months ended September 30, 2021 and 2020, the unrealized (loss) gain from contracts where hedge accounting was not elected is as follows:

	Three Months Ended September 30,		*Nine Months Ended September 30,*	
	2021	*2020*	*2021*	*2020*
(Dollars in millions)				
(Loss) gain from contracts where hedge accounting was not elected	(4.4)	3.9	(2.7)	4.2

The fair value associated with forward contracts related to foreign currency that are not designated as hedges are immediately charged to earnings. These amounts are classified in cost of sales in the condensed consolidated statement of operations and comprehensive (loss) income.

As of September 30, 2021 and December 31, 2020, the fair value of outstanding foreign currency forward contracts is recorded in the balance sheet as follows:

	September 30, 2021	*December 31, 2020*
(Dollars in millions)		
Derivative contracts	$ 0.1	$ 1.2
Accrued liabilities	(0.3)	(0.5)
Net (liability) asset on balance sheet	$ (0.2)	$ 0.7

As of September 30, 2021 and December 31, 2020, the net currency units outstanding for these contracts were:

(In millions)	*September 30, 2021*	*December 31, 2020*
British Pounds	GBP 0.0	GBP 2.0
United States Dollars	USD 5.2	USD 7.6
Euro	EUR 0.4	EUR 0.0

18. Commitments and Contingent Liabilities

We are involved in litigation and various proceedings relating to environmental laws and regulations, product liability and other matters. Certain of these matters are discussed below. The ultimate resolution of these contingencies is subject to significant uncertainty and should we fail to prevail in any of these legal matters or should several of these legal matters be resolved against us in the same reporting period, these legal matters could, individually or in the aggregate, be material to the consolidated financial statements.

Legal Proceedings

Coal Tar Pitch Cases. Koppers Inc. is one of several defendants in lawsuits filed in two states in which the plaintiffs claim they suffered a variety of illnesses (including cancer) as a result of exposure to coal tar pitch sold by the defendants. There were 61 plaintiffs in 32 cases pending as of September 30, 2021, compared to 64 plaintiffs in 34 cases pending as of December 31, 2020. As of September 30, 2021, there were 31 cases pending in the Court of Common Pleas of Allegheny County, Pennsylvania, and one case pending in the Circuit Court of Knox County, Tennessee.

The plaintiffs in all 32 pending cases seek to recover compensatory damages. Plaintiffs in 27 of those cases also seek to recover punitive damages. The plaintiffs in the 31 cases filed in Pennsylvania seek unspecified damages in excess of the court’s minimum jurisdictional limit. The plaintiff in the Tennessee state court case seeks damages of $15.0 million. The other defendants in these lawsuits vary from case to case and include companies such as Beazer East, Inc. (“Beazer East”), Honeywell International Inc., Graftech International Holdings, Dow Chemical Company, UCAR Carbon Company, Inc., and SGL Carbon Corporation. Discovery is proceeding in these cases. No trial dates have been set in any of these cases.

We have not provided a reserve for the coal tar pitch lawsuits because, at this time, we cannot reasonably determine the probability of a loss, and the amount of loss, if any, cannot be reasonably estimated. The timing of resolution of these cases cannot be reasonably determined. Although Koppers Inc. is vigorously defending these cases, an unfavorable resolution of these matters may have a material adverse effect on our business, financial condition, cash flows and results of operations.

Environmental and Other Litigation Matters

We are subject to federal, state, local and foreign laws and regulations and potential liabilities relating to the protection of the environment and human health and safety including, among other things, the cleanup of contaminated sites, the treatment, storage and disposal of wastes, the discharge of effluent into waterways, the emission of substances into the air and various health and safety matters. We expect to incur substantial costs for ongoing compliance with such laws and regulations. We may also face governmental or third-party claims, or otherwise incur costs, relating to cleanup of, or for injuries resulting from, contamination at sites associated with past and present operations. We accrue for environmental liabilities when a determination can be made that a liability is probable and reasonably estimable.

Environmental and Other Liabilities Retained or Assumed by Others. We have agreements with former owners of certain of our operating locations under which the former owners retained, assumed and/or agreed to indemnify us against certain environmental and other liabilities. The most significant of these agreements was entered into at Koppers Inc.’s formation on December 29, 1988 (the “Acquisition”). Under the related asset purchase agreement between Koppers Inc. and Beazer East, subject to certain limitations, Beazer East retained the responsibility for and agreed to indemnify Koppers Inc. against certain liabilities, damages, losses and costs, including, with certain limited exceptions, liabilities under and costs to comply with environmental laws to the extent attributable to acts or omissions occurring prior to the Acquisition and liabilities related to products sold by Beazer East prior to the Acquisition (the “Indemnity”). Beazer Limited, the parent company of Beazer East, unconditionally guaranteed Beazer East’s performance of the Indemnity pursuant to a guarantee (the “Guarantee”).

The Indemnity provides different mechanisms, subject to certain limitations, by which Beazer East is obligated to indemnify Koppers Inc. with regard to certain environmental, product and other liabilities and imposes certain conditions on Koppers Inc. before receiving such indemnification, including, in some cases, certain limitations regarding the time period as to which claims for indemnification can be brought. In July 2004, Koppers Inc. and Beazer East agreed to amend the environmental indemnification provisions of the December 29, 1988 asset purchase agreement to extend the indemnification period for pre-closing environmental liabilities, subject to the following paragraph, and agreed to share toxic tort litigation defense arising from any sites acquired from Beazer East.

Qualified expenditures under the Indemnity are not subject to a monetary limit. Qualified expenditures under the Indemnity include (i) environmental cleanup liabilities required by third parties, such as investigation, remediation and closure costs, relating to pre-December 29, 1988 ("Pre-Closing") acts or omissions of Beazer East or its predecessors; (ii) environmental claims by third parties for personal injuries, property damages and natural resources damages relating to Pre-Closing acts or omissions of Beazer East or its predecessors; (iii) punitive damages for the acts or omissions of Beazer East and its predecessors without regard to the date of the alleged conduct and (iv) product liability claims for products sold by Beazer East or its predecessors without regard to the date of the alleged conduct. The indemnification period ended July 14, 2019 (the "Claim Deadline") and Beazer East may now tender certain third-party claims described in sections (i) and (ii) above to Koppers Inc. However, to the extent the third-party claims described in sections (i) and (ii) above were tendered to Beazer East by the Claim Deadline, Beazer East will continue to be required to pay the costs arising from such claims under the Indemnity. Furthermore, the Claim Deadline did not change the provisions of the Indemnity with respect to indemnification for non-environmental claims, such as product liability claims, which claims may continue to be tendered by Koppers Inc. to Beazer East.

The Indemnity provides for the resolution of issues between Koppers Inc. and Beazer East by an arbitrator on an expedited basis upon the request of either party. The arbitrator could be asked, among other things, to make a determination regarding the allocation of environmental responsibilities between Koppers Inc. and Beazer East. Arbitration decisions under the Indemnity are final and binding on the parties.

Contamination has been identified at most manufacturing and other sites of our subsidiaries. One site currently owned and operated by Koppers Inc. in the United States is listed on the National Priorities List promulgated under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"). Currently, at the properties acquired from Beazer East (which includes the National Priorities List site and all but one of the sites permitted under the Resource Conservation and Recovery Act ("RCRA")), a significant portion of all investigative, cleanup and closure activities are being conducted and paid for by Beazer East pursuant to the terms of the Indemnity. In addition, other of Koppers Inc.'s sites are or have been operated under RCRA and various other environmental permits, and remedial and closure activities are being conducted at some of these sites.

To date, the parties that retained, assumed and/or agreed to indemnify us against the liabilities referred to above, including Beazer East, have performed their obligations in all material respects. We believe that, for the last three years ended December 31, 2020, amounts paid by Beazer East as a result of its environmental remediation obligations under the Indemnity have averaged, in total, approximately $6.4 million per year. Periodically, issues have arisen between Koppers Inc. and Beazer East and/or other indemnitors that have been resolved without arbitration. Koppers Inc. and Beazer East engage in discussions from time to time that involve, among other things, the allocation of environmental costs related to certain operating and closed facilities.

If for any reason (including disputed coverage or financial incapability) one or more of such parties fail to perform their obligations and we are held liable for or otherwise required to pay all or part of such liabilities without reimbursement, the imposition of such liabilities on us could have a material adverse effect on our business, financial condition, cash flows and results of operations. Furthermore, we could be required to record a contingent liability on our balance sheet with respect to such matters, which could result in a negative impact to our business, financial condition, cash flows and results of operations.

Domestic Environmental Matters. Koppers Inc. has been named as one of the potentially responsible parties ("PRPs") at the Portland Harbor CERCLA site located on the Willamette River in Oregon. Koppers Inc. operated a coal tar pitch terminal near the site. Koppers Inc. has responded to an EPA information request and has executed a PRP agreement which outlines a private process to develop an allocation of past and future costs among more than 80 parties to the site. Koppers Inc. believes it is a *de minimis* contributor at the site.

The EPA issued its Record of Decision ("ROD") in January 2017 for the Portland Harbor CERCLA site. The selected remedy includes a combination of sediment removal, capping, enhanced and monitored natural recovery and riverbank improvements. The ROD does not determine who is responsible for remediation costs. The net present value and undiscounted costs of the selected remedy as estimated in the ROD are approximately $1.1 billion and $1.7 billion, respectively. These costs may increase given the remedy will not be implemented for several years. Responsibility for implementing and funding that work will be decided in the separate private allocation process which is ongoing.

Additionally, Koppers Inc. is involved in two separate matters involving natural resource damages at the Portland Harbor site. One matter involves claims by the trustees to recover damages based upon an assessment of damages to natural resources caused by the releases of hazardous substances to the Willamette River. The assessment serves as the foundation to estimate liabilities for settlements of natural resource damages claims or litigation to recover from those who do not settle with the trustee groups. Koppers Inc. has been engaged in a process to resolve its natural resource damage liabilities for the assessment area. A second matter involves a lawsuit filed in January 2017 by the Yakama Nation in Oregon federal court. Yakama Nation seeks recovery for response costs and the costs of assessing injury to natural resources to waterways beyond the current assessment area. Following the most recent court rulings, the Yakama Nation case has been stayed pending completion of the private allocation process for the Portland Harbor CERCLA site.

In September 2009, Koppers Inc. received a general notice letter notifying it that it may be a PRP at the Newark Bay CERCLA site. In January 2010, Koppers Inc. submitted a response to the general notice letter asserting that Koppers Inc. is a *de minimis* party at this site.

We have accrued the estimated costs of participating in the PRP group at the Portland Harbor and Newark Bay CERCLA sites as a *de minimis* contributor and estimated such settlement amounts at the sites totaling $3.4 million as of September 30, 2021. The actual cost could be materially higher as there has not been a determination of how those costs will be allocated among the PRPs at the sites. Accordingly, an unfavorable resolution of these matters may have a material adverse effect on our business, financial condition, cash flows and results of operations.

There are two plant sites related to the Performance Chemicals business and one plant site related to the Utility and Industrial Products business in the United States where we have recorded environmental remediation liabilities for soil and groundwater contamination which occurred prior to our acquisition of the businesses. As of September 30, 2021, our estimated environmental remediation liability for these acquired sites totals $4.2 million.

Foreign Environmental Matters**.** There is one plant site related to the Performance Chemicals business located in Australia where we have recorded an environmental remediation liability for soil and groundwater contamination which occurred prior to the acquisition of the site. As of September 30, 2021, our estimated environmental remediation liability for the site totals $1.4 million.

Environmental Reserves Rollforward. The following table reflects changes in the accrual for environmental remediation. A total of $2.8 million and $2.9 million are classified as current liabilities as of September 30, 2021 and December 31, 2020:

		Period ended
	September 30, 2021	*December 31, 2020*
(Dollars in millions)		
Balance at beginning of year	$ 11.0	$ 9.5
Expense	0.2	1.8
Reversal of reserves	(0.1)	0.0
Cash expenditures	(0.3)	(0.4)
Currency translation	(0.2)	0.1
Balance at end of period	$ 10.6	$ 11.0

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

This report and any documents incorporated herein by reference contain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 and may include, but are not limited to, statements about sales levels, acquisitions, restructuring, declines in the value of Koppers assets and the effect of any related impairment charges, profitability and anticipated expenses and cash outflows. All forward-looking statements involve risks and uncertainties. All statements contained herein that are not clearly historical in nature are forward-looking, and words such as "believe," "anticipate," "expect," "estimate," "may," "will," "should," "continue," "plans," "potential," "intends," "likely," or other similar words or phrases are generally intended to identify forward-looking statements. Any forward-looking statement contained herein, in press releases, written statements or documents filed with the Securities and Exchange Commission, or in Koppers communications and discussions with investors and analysts in the normal course of business through meetings, phone calls and conference calls, regarding expectations with respect to sales, earnings, cash flows, operating efficiencies, restructurings, product introduction or expansion, the benefits of acquisitions and divestitures, or other matters as well as financings and debt reduction, are subject to known and unknown risks, uncertainties and contingencies. Many of these risks, uncertainties and contingencies are beyond our control, and may cause actual results, performance or achievements to differ materially from anticipated results, performance or achievements. Factors that might affect such forward-looking statements, include, among other things, the impact of changes in commodity prices, such as oil and copper, on product margins; general economic and business conditions; existing and future adverse effects as a result of the coronavirus (COVID-19) pandemic; disruption in the U.S. and global financial markets; potential difficulties in protecting our intellectual property; the ratings on our debt and our ability to repay or refinance our outstanding indebtedness as it matures; our ability to operate within the limits of our debt covenants; potential impairment of our goodwill and/or long-lived assets; demand for Koppers goods and services; competitive conditions; interest rate and foreign currency rate fluctuations; availability and costs of key raw materials and unfavorable resolution of claims against us, as well as those discussed more fully elsewhere in this report and in documents filed with the Securities and Exchange Commission by Koppers, particularly our latest annual report on Form 10-K and subsequent filings. We caution you that the foregoing list of important factors may not contain all of the material factors that are important to you. In addition, in light of these risks and uncertainties, the matters referred to in the forward-looking statements contained in this report and the documents incorporated by reference herein may not in fact occur. Any forward-looking statements in this report speak only as of the date of this report, and we undertake no obligation to update any forward-looking statement to reflect events or circumstances after that date or to reflect the occurrence of unanticipated events.

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with the unaudited financial statements and related notes included in Item 1 of this Part I as well as the audited consolidated financial statements and the related notes included in our Annual Report on Form 10-K for the year ended December 31, 2020.

Overview

We are a leading integrated global provider of treated wood products, wood preservation chemicals and carbon compounds. Our products and services are used in a variety of niche applications in a diverse range of end-markets, including the railroad, specialty chemical, utility, residential lumber, agriculture, aluminum, steel, rubber and construction industries. We serve our customers through a comprehensive global manufacturing and distribution network, with manufacturing capabilities in North America, South America, Australasia and Europe.

We operate three principal businesses: Railroad and Utility Products and Services ("RUPS"), Performance Chemicals ("PC") and Carbon Materials and Chemicals ("CMC").

Through our RUPS business, we believe that we are the largest supplier of wood crossties to the Class I railroads in North America. Our other treated wood products include utility poles for the electric, telephone, and broadband utility industries in the United States and Australia and construction pilings in the U.S. We also provide rail joint bar products as well as various services to the railroad and utility industries in North America.

Through our PC business, we believe that we are the global leader in developing, manufacturing and marketing wood preservation chemicals and wood treatment technologies for use in the pressure treating of lumber for residential, industrial and agricultural applications.

Our CMC business processes coal tar into a variety of products, including creosote, carbon pitch, carbon black feedstock, naphthalene and phthalic anhydride, which are intermediate materials necessary in the pressure treatment of wood, the production of aluminum, the production of carbon black, the production of high-strength concrete, and the production of plasticizers and specialty chemicals, respectively.

Outlook

Trend Overview

Our businesses and results of operations are affected by various competitive and other factors including (i) the impact of global economic conditions on demand for our products, including the impact of imported products from competitors in certain regions where we operate; (ii) raw material pricing and availability, in particular the cost and availability of hardwood lumber for railroad crossties and softwood lumber for utility poles, scrap copper prices, and the cost and amount of coal tar available in global markets, which is negatively affected by reductions in blast furnace steel production; (iii) volatility in oil prices, which impacts the cost of coal tar and certain other raw materials, as well as selling prices and margins for certain of our products including carbon black feedstock, phthalic anhydride, and naphthalene; (iv) competitive conditions in global carbon pitch markets; and (v) changes in foreign exchange rates.

Effects of COVID-19 on our operations

Our operating results may fluctuate due to a variety of factors that are outside of our control, including from the effects of the current pandemic. The COVID-19 outbreak began to have a global effect in the first quarter of 2020 and continues to have a significant impact on global markets driven by supply chain and production disruptions, workforce restrictions, trends in spending patterns and other factors. During the COVID-19 pandemic, substantially all of our global businesses have continued to operate without significant disruption. In the U.S., Koppers was designated as an essential business, as determined by the Cybersecurity and Infrastructure Security Agency (CISA) within the Department of Homeland Security. As a result, we have been able to meet the demands of our customers in the various markets we serve by continuing to operate to transport critical goods, provide power and connectivity to homes and businesses, and keep our infrastructure running reliably.

Our condensed consolidated financial statements and discussion and analysis of financial condition and results of operations reflect estimates and assumptions made by us as of September 30, 2021, including those related to COVID-19. Events and changes in circumstances arising after September 30, 2021, including those resulting from the impacts of COVID-19, will be reflected in our estimates for future periods.

Railroad and Utility Products and Services

We provide our customers with treated and untreated wood products, rail joint bars and services primarily for the railroad markets in the United States and Canada. We also operate a railroad services business that conducts engineering, design, repair and inspection services primarily for railroad bridges in the U.S. and Canada. In addition, we supply treated utility poles for the utility sector in the United States and Australia. The primary end-markets for RUPS are the North American railroad industry, which has an installed base of approximately 450 million wood crossties, and the utility industry which utilizes wooden distribution and transmission poles. Both crossties and utility poles require periodic replacement.

For the past several years, the major companies in the rail industry substantially reduced both operating and capital spending from peak spending levels, which had a negative impact on sales of various products and services that we provide to that industry. We currently supply all seven of the North American Class I railroads and have long-standing relationships with these customers. Approximately 70 percent of our North American sales are under long-term contracts and we believe that we are positioned to maintain or grow our current market position.

Historically, North American demand for crossties had been in the range of 22 million to 25 million crossties annually. However, the crosstie replacement market has been significantly lower in recent years. According to the Railway Tie Association ("RTA"), the reported total crosstie installations in 2020 were approximately 18 million, of which 14 million were for Class I railroads. Throughout 2020, there was a decline in freight-rail traffic, which prompted larger track maintenance windows to be available and, as a result, the railroad industry managed to offset lower volumes with increased productivity as certain railroads used the reduced track time to increase maintenance on their infrastructure. According to a mid-year forecast update issued by the RTA, demand for crossties in 2021 is expected to be 18.9 million, or 4.7 percent growth. However, the RTA reports that significant forces are weighing upon the markets for wood and crossties. A number of sawmills are continuing to utilize their capacity to process softwood logs instead of hardwoods for crossties due to higher profitability in cutting construction lumber. Additionally, the sawmills are facing supply chain issues resulting from a combination of a lack of available labor, insufficient number of truck drivers, and a rise in freight costs.

According to the American Association of Railroads ("AAR"), for the year-to-date period through September 30, 2021, total U.S. carload traffic increased 7.9 percent from the prior year, while intermodal units increased by 9.9 percent. The combined U.S. traffic for carloads and intermodal units was higher by 9.0 percent as compared with the prior year. In recent months, the limited availability of downstream truck and warehouse capacity has negatively affected rail intermodal volumes due to the lack of freight outflows in order to make room for new freight inflows. The AAR reports that in an attempt to help mitigate these issues, the railroads are bringing intermodal yard capacity back online to increase storage availability as well as working with their customers and truckers to accelerate container pickup and other efforts as applicable.

With respect to our utility products business, utilities need to maintain their infrastructure to avoid interruptions in service as large sections of the population continue to work remotely due to the COVID-19 pandemic. As long as there are not any extended supply chain disruptions, we anticipate that 2021 demand will be relatively stable to slightly higher, given that the overall industry is trending toward expanded and upgraded transmission networks. We continue to evaluate opportunities to potentially expand our market presence in the U.S. as well as certain overseas markets.

From a long-term perspective, we believe there remains an overall need for sustained investment in infrastructure and capacity expansion. We believe that with our vertical integration capabilities in wood treatment and strong customer relationships, we will ultimately benefit from increased demand.

For distribution poles, nearly half of the installed base is over 40 years old, and demand has historically been in the range of two million to three million poles annually. On an overall basis, we believe that the rate at which utilities purchase utility poles will grow as they continue replacement programs within their service territories. As a whole, the key factors that drive growth in the utility poles market include growing global energy consumption as well as expansion of the global telecommunication industry.

In the U.S., a significant amount of utility poles are treated with pentachlorophenol ("penta"), a wood preservative. The sole producer of penta in North America announced plans to exit penta production at the end of 2021. Given that penta availability will begin to be phased out over the next 12 months, we will transition from using penta for treating utility poles to other wood-treatment preservatives. Our internally-produced creosote and chromated copper arsenate ("CCA") products are viable alternatives to penta and are currently used in the treatment of utility poles. As a result, we are currently working with our utility customers who use penta-treated poles to evaluate the use of CCA or creosote as potential treatment options. In July 2021, we began the process of converting our facilities that previously utilized penta to other wood preservatives for the treatment of utility poles. We anticipate that this will be completed by mid-2022, after which those facilities will be able to offer a variety of preservative treatment options to customers, including copper naphthenate, CCA and creosote. In undertaking this effort, we believe that Koppers will be in an optimal position to respond quickly to future market needs.

With respect to raw materials, we expect that there will be an unfavorable effect on the availability of pole supply due to construction lumber continuing to be in high demand. The supply for untreated crossties can vary at times based upon weather conditions in addition to other factors. We have a nationwide wood procurement team that maintains close working relationships with a network of sawmills. We procure untreated crossties, either on behalf of our customers, or for our own inventory for future treating. We also procure switch ties and various other types of lumber used for railroad bridges and crossings. Untreated crossties go through a six to nine-month air seasoning process before they are ready to be pressure treated. After the air seasoning process is complete, the crossties are pressure treated using creosote-only treatment or a combined creosote and borate treatment.

During any given year, there is a seasonal effect in the winter and spring months on our crosstie business depending on weather conditions for harvesting lumber and crosstie installation. Currently, there are several key factors impacting the untreated crosstie market and the related availability of crosstie supply. Due to a strong market for housing construction, the sawmills are producing fewer crossties as well as dealing with a labor shortage, consequently leading to higher input prices.

Strategic Initiatives and Integration Synergies

As part of optimizing our business, we continue to evaluate a number of opportunities to improve efficiencies in our operational processes, people and facilities. With our 15 North American RUPS treating facilities operating at less than full utilization, our goal is to either capture more volume through the existing facilities or consolidate our operating footprint. In the second quarter of 2021, we exited our Jasper, Texas facility lease and relocated the production of utility products to our Somerville, Texas plant. Separately, in the third quarter of 2020, we permanently closed our Denver, Colorado wood treatment facility. Concurrent with the decision to close the Denver facility, we announced our plan to modernize and upgrade parts of our treating network, specifically at our facility in North Little Rock, Arkansas, which will be primarily funded through proceeds from the sale of non-core assets, including the Denver facility. In October 2021, we sold the Denver, Colorado facility and will recognize a gain on the transaction of approximately $23 million during the three months ended December 31, 2021.

Performance Chemicals

The largest geographic market for wood treating chemicals sold by our PC business is in North America, and the largest application for our products is the residential remodeling market. We also have a market presence in Europe, South America, Australia, New Zealand and Africa. We believe that PC is the largest global manufacturer and supplier of water-based wood preservatives and wood specialty additives to treaters that supply pressure treated wood products to large retailers and independent lumber dealers. These retailers and dealers, in turn, serve the residential, agricultural and industrial pressure-treated wood market. Our primary products are copper-based wood preservatives and fire-retardant chemicals ("FlamePro®"). Our copper-based wood preservatives include micronized copper azole ("MicroPro®") and micronized pigments ("MicroShades®"). Applications for these products include decking, fencing, utility poles, construction lumber and other outdoor structures.

In North America, we are vertically integrated due to our manufacturing capabilities for copper compounds for our copper-based wood preservatives. We believe our vertical integration is part of our proprietary processes and reflects an important competitive advantage.

As most of the products sold by PC are copper-based products, changes in the price and availability of copper can have a significant impact on product pricing and margins. We attempt to moderate the variability in copper pricing over time by entering into hedging transactions for the majority of our copper needs, which primarily range from six months up to 36 months. These hedges typically match expected customer purchases and receive hedge accounting treatment, with any ineffectiveness reflected in current earnings. From time to time, we enter into forward transactions based upon long-term forecasted needs of copper. These forward positions are typically marked to market. Currently, we have forward swap positions for copper extending to the end of 2022.

Product demand for our PC business has historically been closely associated with consumer spending on home repair and remodeling projects, and therefore, trends in existing home sales serve as a leading indicator. Overall, the market for existing homes are showing strong demand. According to the National Association of Realtors® ("NAR"), total existing-home sales rose 7.0 percent on a seasonally adjusted annual rate from August to September, with all regions showing an increase. The inventory of unsold homes decreased 0.8 percent from August to September. The median existing-home sales price was higher year-over-year by 13.3 percent, as prices rose in each region and marked 115 consecutive months of year-over-year increases. Supply has improved in prior months which helped to drive up sales in September. Housing demand remains strong as buyers are likely looking to secure a home before interest rates potentially increase further in the next year.

According to the Leading Indicator of Remodeling Activity ("LIRA") reported by the Joint Center for Housing Studies of Harvard University, the annual growth in home renovation and repair expenditures is now projected to reach 9.0 percent in the fourth quarter and maintain that pace into 2022 and reach $400 billion in annual remodeling expenditures to owner-occupied homes by the third quarter of 2022. Residential remodeling is anticipated to continue to benefit from a strong housing market. With significant price appreciation in many markets, the expansion of homeowners' equity is likely to fuel demand for more home improvement projects. Nevertheless, there may be some headwinds that could still taper the expected growth in remodeling activity including the rising cost of labor and building materials.

The Conference Board Consumer Confidence Index® increased in October, following declines in the prior three months. The Index now stands at 113.8, up from 109.8 in September. The Conference Board reports that consumer confidence improved, reversing a three-month downward trend as concerns eased about the spread of the Delta variant and consumers continued to spend money on travel and in-person services. While short-term inflation concerns showed an increase, the impact on confidence was muted. Also, the proportion of consumers planning to purchase homes, automobiles, and major appliances all increased in October—a sign that economic growth will likely continue through the end of 2021.

The market data and projections for home improvements are continually changing and we are closely monitoring customer demand for residential treated wood in North America, primarily in the U.S. Overall, strong gains in retail sales of building materials suggest that the remodeling market will continue to be supported by do-it-yourself activities.

Carbon Materials and Chemicals

The primary products produced by CMC are creosote, which is a registered pesticide in the United States and used primarily in the pressure treatment of railroad crossties, and carbon pitch, which is sold primarily to the aluminum industry for the production of carbon anodes used in the smelting of aluminum. We have realigned capacity in our CMC plants in North America and Europe over the past several years to levels required to meet creosote demand in North America for the treatment of railroad crossties. The CMC business currently supplies our North American RUPS business with its creosote requirements.

The availability of coal tar, the primary raw material for our CMC business, is linked to levels of metallurgical coke production. As the global steel industry, excluding Asia, has reduced the production of steel using metallurgical coke, the volumes of coal tar have been reduced. Also, coal tar raw material supply remains constrained globally due to reductions in blast furnace steel capacity. For the past decade, the coal tar distillation industry has operated in an excess capacity mode, which further increased the competition for a limited amount of coal tar in North America. As part of our restructuring initiatives beginning in 2015, we have now consolidated our operating footprint and significantly lowered production levels at the same time that we added distribution assets to move finished products from Europe to the United States more efficiently. As a result, our raw material needs in North America have been significantly less than historically required.

While the sale of carbon pitch remains a significant portion of our sales volume, the reduction of aluminum smelting capacity in the United States, Australia and Western Europe has led to sharply lower demand for carbon pitch over the past several years. Accordingly, we have experienced significantly lower sales volumes due to the reduction in aluminum production in parts of the world where the majority of our production facilities are located. For the external markets served by our CMC business, we anticipate a relative stability in manufacturing overall as well as in the steel, aluminum and carbon black industries. According to IHS Markit Automotive Group (IHS), light vehicle production has been revised from 1.6 percent growth in 2021 globally to 0.3 percent. The adjustment to the outlook reflects heightened risk as challenges to the supply chain are expected to remain entrenched for the next six to twelve months. IHS now anticipates double-digit production growth in 2022, projected to be at 10.6 percent year-over-year growth, compared with 9.1 percent previously.

Seasonality and Effects of Weather on Operations

Our quarterly operating results fluctuate due to a variety of factors that are outside of our control, including inclement weather conditions, which in the past have affected operating results. Operations at some of our facilities have at times been reduced during the winter months. Moreover, demand for some of our products declines during periods of inclement weather. As a result of the foregoing, we anticipate that we may experience material fluctuations in quarterly operating results. Historically, our operating results have been significantly lower in the first and fourth calendar quarters as compared to the second and third calendar quarters.

Results of Operations – Comparison of Three Months Ended September 30, 2021 and 2020

Consolidated Results

Net sales for the three months ended September 30, 2021 and 2020 are summarized by segment in the following table:

	Three Months Ended September 30,		
	2021	*2020*	*Net Change*
(Dollars in millions)			
Railroad and Utility Products and Services	$ 186.9	$ 191.0	-2%
Performance Chemicals	115.2	147.9	-22%
Carbon Materials and Chemicals	122.7	98.6	24%
	$ 424.8	$ 437.5	-3%

RUPS net sales decreased by $4.1 million or two percent compared to the prior year period. The sales decrease was primarily due to volume decreases of untreated crossties for our Class I customers. Increased demand for lumber driven by strong construction markets resulted in decreased supply and decreased purchasing activity of untreated crossties by our customers during the current period. Volume decreases in our utility pole business due to transitioning production from the Texas Electric Cooperatives' Jasper, Texas plant to our Somerville, Texas plant also contributed to the reduction from the prior year period. These decreases were offset, in part, by volume increases in our commercial crosstie business and pricing increases in various markets within the segment.

PC net sales decreased by $32.7 million or 22 percent compared to the prior year period. The sales decrease was primarily due to volume decreases for preservatives in North America as high lumber prices and a temporary change in consumer spending habits have tempered customer demand in the current year period coupled with high levels of demand in the prior year period as a result of the pandemic. The decreases were offset, in part, by pricing increases in the current year period for our copper-based preservatives. Foreign currency changes compared to the prior year period from our international markets had a favorable impact on sales in the current year period of $1.5 million.

CMC net sales increased by $24.1 million or 24 percent compared to the prior year period due mainly to higher sales prices for carbon pitch, carbon black feedstock and phthalic anhydride in the current year period. These increases were offset, in part, by lower sales volumes of carbon pitch in the current year period.

Cost of sales as a percentage of net sales was 82 percent for the quarter ended September 30, 2021 compared to 75 percent in the prior year quarter. Gross margin at RUPS was unfavorably impacted in the current year period by LIFO expense of $7.5 million compared to the prior year period which was favorably impacted by a LIFO benefit of $2.9 million. Gross margin at PC was unfavorably impacted in the current year period by sales volume decreases and a $4.4 million unrealized loss from our copper swap contracts compared to the prior year period which was favorably impacted by an $3.9 million unrealized gain from our copper swap contracts. Gross margin at CMC was negatively affected in the current year period by higher raw material costs.

Depreciation and amortization charges for the quarter ended September 30, 2021 were $0.5 million higher when compared to the prior year period due mainly to an increase in capitalized assets in our North American RUPS operations.

Impairment and restructuring charges for the quarter ended September 30, 2021 were $1.5 million lower when compared to the prior year period. The prior year period included accelerated depreciation, demolition and other plant closure period costs related to the closure of our Denver, Colorado facility.

Selling, general and administrative expenses for the quarter ended September 30, 2021 were $3.2 million higher when compared to the prior year period due mainly to an increase of $2.2 million for consulting and professional services and $1.2 million for employee benefit related expenses.

Interest expense for the quarter ended September 30, 2021 was $1.6 million lower when compared to the prior year period primarily due to our lower average debt level and lower interest rates due to the significant decrease in underlying LIBOR rates. In the third quarter of 2020, we used the net proceeds of the KJCC sale to reduce our borrowings under the Credit Facility.

Income tax expense for the quarter ended September 30, 2021 was $4.8 million, a decrease of $3.8 million when compared to the prior year quarter. The decrease is primarily due to a significant reduction in pre-tax income of $32.4 million in the current period when compared to the prior year period. Additionally, this decrease was mitigated by the favorable discrete benefit of $3.1 million recorded in the third quarter of 2020 related to coronavirus tax relief measures and an amended tax return.

Discontinued operations for the quarter ended September 30, 2021 resulted in a loss of $0.5 million primarily due to a working capital adjustment to the sales price of our noncontrolling interest in KJCC, which was sold in 2020.

Segment Results.

Segment operating profit for the three months ended September 30, 2021 and 2020 is summarized by segment in the following table:

	Three Months Ended September 30, 2021	Three Months Ended September 30, 2020	% Change
(Dollars in millions)			
Operating profit (loss):			
Railroad and Utility Products and Services	$ (0.7)	$ 15.0	-105%
Performance Chemicals	11.6	30.4	-62%
Carbon Materials and Chemicals	14.9	13.7	9%
Corporate	(1.2)	(0.5)	-140%
	$ 24.6	$ 58.6	-58%
Operating profit (loss) as a percentage of net sales:			
Railroad and Utility Products and Services	-0.4%	7.9%	-8.3%
Performance Chemicals	10.1%	20.6%	-10.5%
Carbon Materials and Chemicals	12.1%	13.9%	-1.8%
	5.8%	13.4%	-7.6%

RUPS operating loss was $0.7 million for the three months ended September 30, 2021. RUPS operating profit was $15.0 million for the three months ended September 30, 2020. Operating loss as a percentage of net sales was 0.4 percent, compared to operating profit as a percentage of net sales of 7.9 percent in the prior year period. Operating loss as a percentage of net sales for the quarter ended September 30, 2021 was unfavorably impacted primarily by LIFO expense of $7.5 million compared to the prior year period which was favorably impacted by a LIFO benefit of $2.9 million. Excluding the effect of LIFO, our operating profit as a percentage of net sales was 3.6 percent in the current year period compared with 6.4 percent in the prior year period. The current year period was also unfavorably impacted by the effect on profitability from volume decreases of untreated crosstie sales to our Class I customers, including the effects of reduced utilization of plant capacity.

PC operating profit decreased by $18.8 million compared to the prior year period. Operating profit as a percentage of net sales decreased to 10.1 percent from 20.6 percent in the prior year period. The current year period was unfavorably impacted by sales volume decreases for our copper-based preservatives in North America compared to high levels of demand in the prior year period as a result of the pandemic. The current year period was also unfavorably impacted by a $4.4 million unrealized loss from our copper swap contracts compared to the prior year period which was favorably impacted by a $3.9 million unrealized gain from our copper swap contracts. Excluding the effect of unrealized gains and losses from our copper swap contracts, our operating profit as a percentage of net sales was 13.9 percent in the current year period compared with 17.9 percent in the prior year period.

CMC operating profit increased by $1.2 million compared to the prior year period. Operating profit as a percentage of net sales decreased to 12.1 percent from 13.9 percent in the prior year period. Operating profit margin for the quarter ended September 30, 2021 was unfavorably impacted primarily by higher raw material costs in the current year period. These increased costs were offset, in part, by higher sales prices for carbon pitch, carbon black feedstock and phthalic anhydride in the current year period.

Results of Operations – Comparison of Nine Months Ended September 30, 2021 and 2020

Consolidated Results

Net sales for the nine months ended September 30, 2021 and 2020 are summarized by segment in the following table:

	Nine Months Ended September 30, 2021	Nine Months Ended September 30, 2020	Net Change
(Dollars in millions)			
Railroad and Utility Products and Services	$ 574.3	$ 590.9	-3%
Performance Chemicals	384.4	396.4	-3%
Carbon Materials and Chemicals	314.6	288.7	9%
	$ 1,273.3	$ 1,276.0	0%

RUPS net sales decreased by $16.6 million or three percent compared to the prior year period. The sales decrease was primarily due to volume decreases in the commercial crosstie market as well as volume decreases of untreated crossties for our Class I customers. Increased demand for lumber driven by strong construction markets resulted in decreased supply and decreased purchasing activity of untreated crossties by our customers during the current period. Volume decreases in our utility pole business due to transitioning production from the Texas Electric Cooperatives' Jasper, Texas plant to our Somerville, Texas plant also contributed to the reduction from the prior year period. These decreases were offset, in part, by volume increases in our maintenance-of-way and crosstie disposal businesses and pricing increases in various markets within the segment. Foreign currency changes compared to the prior year period had a favorable impact on sales in the current year period of $3.8 million, mainly from our Australian utility pole business.

PC net sales decreased by $12.0 million or three percent compared to the prior year period. The sales decrease was primarily due to volume decreases for preservatives in North America as high lumber prices and a temporary change in consumer spending habits have tempered customer demand in the current year period coupled with high levels of demand in the prior year period as a result of the pandemic. The increases were offset, in part, by higher demand for preservatives in our international markets resulting from continued pent-up demand after the lifting of earlier restrictions associated with the pandemic. PC also benefitted from pricing increases in the current year period for our copper-based preservatives. Foreign currency changes compared to the prior year period from our international markets had a favorable impact on sales in the current year period of $6.8 million.

CMC net sales increased by $25.9 million or nine percent compared to the prior year period due mainly to higher sales prices for carbon black feedstock, carbon pitch and phthalic anhydride in the current year period. Foreign currency translation also had a favorable impact on sales in the current year period of $13.0 million, mainly from our Australian and European markets. These increases were offset, in part, by lower sales volumes of carbon pitch and phthalic anhydride in the current year period.

Cost of sales as a percentage of net sales was 79 percent for the nine months ended September 30, 2021, consistent with prior year. Gross margin at CMC was favorably impacted by higher sales prices for carbon black feedstock, carbon pitch and phthalic anhydride in the current year period, a recovery of $2.9 million from insurance proceeds in the current year period and a reduction in certain restructuring-related charges from the prior year period. These favorable drivers were offset, in part, by gross margin at RUPS which was negatively affected in the current year period by LIFO expense of $10.3 million compared to the prior year period which was favorably impacted by a LIFO benefit of $5.2 million as well as volume decreases in our domestic utility pole business, our commercial crosstie market and volume decreases of untreated crossties for our Class I customers principally due to decreased supply and decreased purchasing activity of untreated crossties due to higher lumber prices. Gross margin at PC was relatively consistent with the prior year period.

Depreciation and amortization charges for the nine months ended September 30, 2021 were $3.7 million higher when compared to the prior year period due mainly to an increase in asset retirement obligations at our European CMC operations as well as an increase in capitalized assets in our North American RUPS operations.

Gain on sale of assets for the nine months ended September 30, 2021 was $7.8 million and is primarily related to the sales of two previously decommissioned plants as described in Note 3 – "Plant Closures and Divestitures".

Impairment and restructuring charges for the nine months ended September 30, 2021 were $3.3 million lower when compared to the prior year period. We recorded charges of $2.9 million for asset retirement obligations and $1.3 million for fixed asset write-offs and severance in the nine months ended September 30, 2020 related to the announced closure of our Denver, Colorado facility. The current year period included remaining demolition and other plant closure period costs related to the closure.

Selling, general and administrative expenses for the nine months ended September 30, 2021 were $6.5 million higher when compared to the prior year period due mainly to an increase of $4.9 million in employee benefit related expenses and $1.8 million for consulting and professional services.

Interest expense for the nine months ended September 30, 2021 was $8.1 million lower when compared to the prior year period primarily due to our lower average debt level and lower interest rates due to the significant decrease in underlying LIBOR rates. In the third quarter of 2020, we used the net proceeds of the KJCC sale to reduce our borrowings under the Credit Facility.

Income tax expense for the nine months ended September 30, 2021 was $22.4 million, an increase of $7.6 million when compared to the prior year period. The increase is primarily due to a reduction in the amount of favorable discrete items when compared to the prior year period. The discrete items in the prior year period were primarily related to coronavirus tax relief measures.

Discontinued operations for the nine months ended September 30, 2021 resulted in income of $0.4 million compared to a loss of $3.8 million in the prior year period. In the prior year period, the loss was driven by a reduction in net sales and lower end market demand attributable to the economic effects of COVID-19 on our KJCC operations, which was sold in the third quarter of 2020 and resulted in a gain on sale of discontinued operations of $35.8 million. See Note 4 – "Discontinued Operations" for further detail.

Segment Results.

Segment operating profit for the nine months ended September 30, 2021 and 2020 is summarized by segment in the following table:

	Nine Months Ended September 30,		
	2021	*2020*	*% Change*
(Dollars in millions)			
Operating profit (loss):			
Railroad and Utility Products and Services	$ 12.3	$ 40.4	-70%
Performance Chemicals	65.1	67.1	-3%
Carbon Materials and Chemicals	39.1	15.9	146%
Corporate	(3.7)	(1.5)	-147%
	$ 112.8	$ 121.9	-7%
Operating profit as a percentage of net sales:			
Railroad and Utility Products and Services	2.1%	6.8%	-4.7%
Performance Chemicals	16.9%	16.9%	0.0%
Carbon Materials and Chemicals	12.4%	5.5%	6.9%
	8.9%	9.6%	-0.7%

RUPS operating profit decreased by $28.1 million compared to the prior year period. Operating profit as a percentage of net sales decreased to 2.1 percent from 6.8 percent in the prior year period. Operating profit as a percentage of net sales for the nine months ended September 30, 2021 was unfavorably impacted primarily by LIFO expense of $10.3 million compared to the prior year period which was favorably impacted by a LIFO benefit of $5.2 million. Excluding the effect of LIFO, our operating profit as a percentage of net sales was 3.9 percent in the current year period compared with 6.0 percent in the prior year period. The effect on profitability from volume decreases in the commercial crosstie market as well as volume decreases of untreated crossties for our Class I customers and volume decreases in our utility pole business, including the effects of reduced utilization of plant capacity also contributed to reduced margins. These decreases were offset, in part, by higher margins in our Australian utility pole business.

PC operating profit decreased by $2.0 million compared to the prior year period. Operating profit as a percentage of net sales of 16.9 percent is consistent with the prior year period. The current year period was favorably impacted by pricing increases for our copper-based preservatives, higher demand for preservatives in our international markets and lower realized net raw material costs associated with our copper hedging program. These favorable drivers were offset primarily by sales volume decreases for preservatives in North America.

CMC operating profit increased by $23.2 million compared to the prior year period. Operating profit as a percentage of net sales increased to 12.4 percent from 5.5 percent in the prior year period. Operating profit for the nine months ended September 30, 2021 was favorably impacted by higher sales prices for carbon black feedstock, carbon pitch and phthalic anhydride in the current year period, a recovery of $2.9 million from insurance proceeds in the current year period and a reduction in certain restructuring-related charges from the prior year period.

Cash Flow

Net cash provided by operating activities for the nine months ended September 30, 2021 was $59.6 million compared to net cash provided by operating activities of $65.5 million in the prior year period. The net decrease of $5.9 million in cash provided by operations was due primarily to higher working capital usage of $12.5 million compared to the prior year period, mainly due to a decrease in accrued liabilities in the current year period. These drivers were partly offset by an increase in certain other operating activities of $6.6 million from the prior year period, which had a favorable result on cash provided by operations in the current year period.

Net cash used in investing activities for the nine months ended September 30, 2021 was $78.7 million compared to net cash provided by investing activities of $35.0 million in the prior year period. The net change of $113.7 million in cash used in investing activities was primarily due to an increase in capital expenditures of $43.8 million in the current year period and net cash of $78.1 million provided by the sale of KJCC in the prior year period, partially offset by cash received related to sales of two previously decommissioned CMC plants and insurance proceeds in the current year period.

Net cash provided by financing activities was $28.3 million for the nine months ended September 30, 2021 compared to $93.7 million of net cash used in financing activities in the prior year period. The cash provided by financing activities in the nine months ended September 30, 2021 reflected net borrowings of debt of $29.5 million partially offset by repurchases of common stock of $3.3 million related to long-term incentive compensation plans. The cash used in financing activities in the prior year period primarily reflected net repayments of debt of $93.1 million.

Liquidity and Capital Resources

We have a $600.0 million senior secured revolving credit facility and a $100.0 million secured term loan facility (collectively, the "Credit Facility") as described in Note 14 "Debt."

Restrictions on Dividends to Koppers Holdings

Koppers Holdings depends on the dividends from the earnings of Koppers Inc. and its subsidiaries to generate the funds necessary to meet its financial obligations, including the payment of any declared dividend of Koppers Holdings. The Credit Facility prohibits Koppers Inc. from making dividend payments to Koppers Holdings unless (1) such dividend payments are permitted by the indenture governing Koppers Inc.'s $500 million Senior Notes due 2025 (the "2025 Notes"), (2) no event of default or potential default has occurred or is continuing under our Credit Facility, and (3) we are in pro forma compliance with our fixed charge coverage ratio covenant after giving effect to such dividend. The indenture governing the 2025 Notes restricts Koppers Inc.'s ability to finance our payment of dividends if (1) a default has occurred or would result from such financing, (2) Koppers Inc., or a restricted subsidiary of Koppers Inc. which is not a guarantor under the indenture, is not able to incur additional indebtedness (as defined in the indenture), and (3) the sum of all restricted payments (as defined in the indenture) have exceeded the permitted amount (which we refer to as the "basket") at such point in time.

The basket is governed by a formula based on the sum of a beginning amount, plus or minus a percentage of Koppers Inc.'s consolidated net income (as defined in the indenture), plus the net proceeds of Koppers Inc.'s qualified stock issuance or conversions of debt to qualified stock, plus the net proceeds from the sale of or a reduction in an investment (as defined in the indenture) or the value of the assets of an unrestricted subsidiary which is designated a restricted subsidiary. At September 30, 2021, the basket totaled $258.8 million. Notwithstanding such restrictions, the indenture governing the 2025 Notes permits an additional aggregate amount of $0.30 per share each fiscal quarter to finance dividends on the capital stock of Koppers Holdings, whether or not there is any basket availability, provided that at the time of such payment, no default in the indenture has occurred or would result from financing the dividends.

In addition, certain required coverage ratios in Koppers Inc.'s Credit Facility may restrict the ability of Koppers Inc. to pay dividends.

Liquidity

The following table summarizes our estimated liquidity as of September 30, 2021 *(dollars in millions)*:

Cash and cash equivalents[1]	$	42.6
Amount available under Credit Facility		283.4
Total estimated liquidity[2]	$	326.0

(1) Cash includes approximately $41.9 million held by foreign subsidiaries and excludes approximately $2.3 million of restricted cash.
(2) Liquidity will fluctuate before, after and throughout periods based upon timing of receipts and payments.

Our liquidity was $344 million as of December 31, 2020.

Our need for cash in the next twelve months relates primarily to contractual obligations which include debt service, pension plan funding, purchase commitments and operating leases, as well as working capital, capital maintenance programs, the funding of plant consolidation and rationalizations and share repurchases. We may also use cash to pursue other potential strategic acquisitions or voluntary pension plan contributions. Capital expenditures in 2021, excluding acquisitions, if any, are expected to total approximately $115 to $120 million and are expected to be funded by cash from operations. We anticipate that our estimated liquidity will continue to be adequate to fund our cash requirements for the next twelve months.

Debt Covenants

The covenants that affect availability of the Credit Facility and which may restrict the ability of Koppers Inc. to pay dividends include the following financial ratios:

- The fixed charge coverage ratio, calculated as of the end of each fiscal quarter for the four fiscal quarters then ended, is not permitted to be less than 1.10. The fixed charge coverage ratio as of September 30, 2021 was 1.77.
- The total secured leverage ratio, calculated as of the end of each fiscal quarter for the four fiscal quarters then ended, is not permitted to exceed 2.75. The total secured leverage ratio as of September 30, 2021 was 1.36.
- The total leverage ratio, calculated as of the end of each fiscal quarter for the four fiscal quarters then ended, is not permitted to exceed 5.00. The total leverage ratio as of September 30, 2021 was 3.51. The maximum permitted total leverage ratio will step down to 4.75 on December 31, 2021. This change is not expected to have a material impact on liquidity.

We are currently in compliance with all covenants governing the Credit Facility. Our continued ability to meet those financial ratios can be affected by events beyond our control, however, excluding possible acquisitions, we currently expect that our net cash flows from operating activities and funds available from our Credit Facility will be sufficient to provide for our working capital needs and capital spending requirements over the next twelve months.

Non-GAAP Financial Measures

We utilize certain financial measures that are not in accordance with U.S. generally accepted accounting principles (GAAP) to analyze and manage the performance of the business. We believe that EBITDA (as defined below), adjusted EBITDA, adjusted EBITDA margin, and net leverage ratio provide information useful to investors in understanding the underlying operational performance of our business and performance trends, and facilitate comparisons between periods and with other corporations in similar industries. The exclusion of certain items permits evaluation and a comparison of results for ongoing business operations, and it is on this basis that our management internally assesses our performance. In addition, our board of directors and executive management team use adjusted EBITDA as a performance measure under our annual incentive plans.

Although we believe that these non-GAAP financial measures enhance investors’ understanding of its business and performance, these non-GAAP financial measures should not be considered an alternative to GAAP basis financial measures and should be read in conjunction with the relevant GAAP financial measures. Other companies in a similar industry may define or calculate these measures differently than we do, limiting their usefulness as comparative measures. Because of these limitations, these non-GAAP financial measures should not be considered in isolation or as substitutes for performance measures calculated in accordance with GAAP.

EBITDA is a non-GAAP financial measure defined as net income from continuing operations before income taxes and interest, depreciation and amortization. The adjustments to arrive at adjusted EBITDA are items that we believe are not representative of underlying business performance. Adjusted items typically include certain expenses associated with impairment, restructuring and plant closure costs, significant gains and losses on asset disposals or business combinations, other non-recurring items or recurring income or expense items such as LIFO and mark-to-market commodity hedging.

A reconciliation of segment net income to adjusted segment EBITDA is not available without unreasonable efforts as we do not measure net income at the segment level or use it as a measure of operating performance.

The following table summarizes EBITDA and adjusted EBITDA on a consolidated basis as calculated by us for the three and nine month periods indicated below:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(amounts in millions)	*2021*	*2020*	*2021*	*2020*
Net income	$ 10.0	$ 75.5	$ 62.7	$ 102.4
Interest expense	10.2	11.8	30.5	38.6
Depreciation and amortization	13.4	12.9	43.4	39.7
Depreciation in impairment and restructuring charges	0.7	1.3	0.7	2.0
Income tax provision	4.8	8.6	22.4	14.8
Discontinued operations	0.5	(36.4)	(0.1)	(32.0)
EBITDA with noncontrolling interests	39.6	73.7	159.6	165.5
Adjustments to arrive at adjusted EBITDA:				
Impairment, restructuring and plant closure (benefits) costs	(0.7)	1.9	(3.5)	11.4
Non-cash LIFO expense (benefit)	10.6	(5.0)	15.8	(8.8)
Mark-to-market commodity hedging losses (gains)	4.4	(3.9)	2.8	(4.2)
Total adjustments	14.3	(7.0)	15.1	(1.6)
Adjusted EBITDA	$ 53.9	$ 66.7	$ 174.7	$ 163.9

The following table summarizes EBITDA and adjusted EBITDA on a consolidated and segment basis as calculated by us for the three and nine month periods indicated below:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(amounts in millions)	*2021*	*2020*	*2021*	*2020*
EBITDA with noncontrolling interests:				
Railroad and Utility Products and Services	$ 3.8	$ 20.9	$ 27.3	$ 56.3
Performance Chemicals	15.8	35.4	79.7	81.9
Carbon Materials and Chemicals	19.5	17.2	51.0	26.8
Corporate unallocated	0.5	0.2	1.6	0.5
Total EBITDA with noncontrolling interests	$ 39.6	$ 73.7	$ 159.6	$ 165.5
Adjusted EBITDA:				
Railroad and Utility Products and Services	$ 10.7	$ 18.5	$ 39.1	$ 55.1
Performance Chemicals	20.2	31.5	82.5	77.7
Carbon Materials and Chemicals	22.5	16.5	51.5	30.6
Corporate unallocated	0.5	0.2	1.6	0.5
Total Adjusted EBITDA	$ 53.9	$ 66.7	$ 174.7	$ 163.9
Adjusted EBITDA margin as a percentage of GAAP sales:				
Railroad and Utility Products and Services	5.7%	9.7%	6.8%	9.3%
Performance Chemicals	17.5%	21.3%	21.5%	19.6%
Carbon Materials and Chemicals	18.3%	16.7%	16.4%	10.6%
Total Adjusted EBITDA margin	12.7%	15.2%	13.7%	12.8%

The decrease in adjusted EBITDA of $12.8 million for the three months ended September 30, 2021 from the prior year period is primarily due to decreased profitability at RUPS, which was unfavorably impacted primarily by the effect on profitability from volume decreases of untreated crosstie sales to our Class I customers, including the effects of reduced utilization of plant capacity. An increase in raw material costs, including the price of hardwoods as the pandemic continues, also contributed to reduced margins. PC's adjusted EBITDA was unfavorably impacted by volume decreases for our copper-based preservatives in North America in the current year period. These drivers were offset, in part, by increased profitability at CMC, which was favorably impacted by higher sales prices for carbon pitch and carbon black feedstock in Europe and Australia and phthalic anhydride in North America in the current year period.

The increase in adjusted EBITDA of $10.8 million for the nine months ended September 30, 2021 over the prior year period is primarily due to profitability at CMC, which was favorably impacted by higher sales prices for carbon black feedstock and carbon pitch in Europe and Australia as well as phthalic anhydride in North America in the current year period, a recovery of insurance proceeds in the current year period and a reduction in certain restructuring-related charges from the prior year period. EBITDA at PC was favorably impacted by higher sales volumes for preservatives in our international markets along with pricing increases in the current year period for our copper-based preservatives in the Americas. These favorable drivers were offset, in part, by lower EBITDA at RUPS which was negatively affected in the current year period by volume decreases in the commercial crosstie market as well as volume decreases of untreated crossties for our Class I customers principally due to decreased supply and decreased purchasing activity of untreated crossties due to higher lumber prices.

A reconciliation of operating profit (loss) to adjusted EBITDA on a segment basis is presented below:

	Three Months Ended September 30, 2021				
	RUPS	*PC*	*CMC*	*Corporate Unallocated*	*Consolidated*
Operating profit (loss)	$ (0.7)	$ 11.6	$ 14.9	$ (1.2)	$ 24.6
Other income (loss)	(0.8)	0.1	(0.1)	1.7	0.9
Depreciation and amortization	5.3	4.1	4.0	0.0	13.4
Depreciation in impairment and restructuring charges	0.0	0.0	0.7	0.0	0.7
EBITDA with noncontrolling interest	$ 3.8	$ 15.8	$ 19.5	$ 0.5	$ 39.6
Adjustments to arrive at adjusted EBITDA:					
Impairment, restructuring and plant closure benefits	(0.6)	0.0	(0.1)	0.0	(0.7)
Non-cash LIFO expense	7.5	0.0	3.1	0.0	10.6
Mark-to-market commodity hedging losses	0.0	4.4	0.0	0.0	4.4
Adjusted EBITDA	$ 10.7	$ 20.2	$ 22.5	$ 0.5	$ 53.9
Adj. EBITDA % of Consolidated Adj. EBITDA (excluding corporate unallocated)	*20.0%*	*37.8%*	*42.1%*		

	Three Months Ended September 30, 2020				
	RUPS	*PC*	*CMC*	*Corporate Unallocated*	*Consolidated*
Operating profit (loss)	$ 15.0	$ 30.4	$ 13.7	$ (0.5)	$ 58.6
Other income (loss)	(0.3)	0.7	(0.2)	0.7	0.9
Depreciation and amortization	4.9	4.3	3.7	0.0	12.9
Depreciation in impairment and restructuring charges	1.3	0.0	0.0	0.0	1.3
EBITDA with noncontrolling interest	$ 20.9	$ 35.4	$ 17.2	$ 0.2	$ 73.7
Adjustments to arrive at adjusted EBITDA:					
Impairment, restructuring and plant closure costs	0.5	0.0	1.4	0.0	1.9
Non-cash LIFO benefit	(2.9)	0.0	(2.1)	0.0	(5.0)
Mark-to-market commodity hedging gains	0.0	(3.9)	0.0	0.0	(3.9)
Adjusted EBITDA	$ 18.5	$ 31.5	$ 16.5	$ 0.2	$ 66.7
Adj. EBITDA % of Consolidated Adj. EBITDA (excluding corporate unallocated)	*27.8%*	*47.4%*	*24.8%*		

	Nine Months Ended September 30, 2021									
		RUPS		PC		CMC		Corporate Unallocated		Consolidated
Operating profit (loss)	$	12.3	$	65.1	$	39.1	$	(3.7)	$	112.8
Other income (loss)		(1.9)		1.0		(1.7)		5.3		2.7
Depreciation and amortization		16.9		13.6		12.9		0.0		43.4
Depreciation in impairment and restructuring charges		0.0		0.0		0.7		0.0		0.7
EBITDA with noncontrolling interest	$	27.3	$	79.7	$	51.0	$	1.6	$	159.6
Adjustments to arrive at adjusted EBITDA:										
Impairment, restructuring and plant closure (benefits) costs		1.6		0.0		(5.1)		0.0		(3.5)
Non-cash LIFO expense		10.2		0.0		5.6		0.0		15.8
Mark-to-market commodity hedging losses		0.0		2.8		0.0		0.0		2.8
Adjusted EBITDA	$	39.1	$	82.5	$	51.5	$	1.6	$	174.7
Adj. EBITDA % of Consolidated Adj. EBITDA (excluding corporate unallocated)		*22.6%*		*47.7%*		*29.8%*				

	Nine Months Ended September 30, 2020									
		RUPS		PC		CMC		Corporate Unallocated		Consolidated
Operating profit (loss)	$	40.4	$	67.1	$	15.9	$	(1.5)	$	121.9
Other income (loss)		(0.9)		1.6		(0.8)		2.0		1.9
Depreciation and amortization		14.8		13.2		11.7		0.0		39.7
Depreciation in impairment and restructuring charges		2.0		0.0		0.0		0.0		2.0
EBITDA with noncontrolling interest	$	56.3	$	81.9	$	26.8	$	0.5	$	165.5
Adjustments to arrive at adjusted EBITDA:										
Impairment, restructuring and plant closure costs		4.0		0.0		7.4		0.0		11.4
Non-cash LIFO benefit		(5.2)		0.0		(3.6)		0.0		(8.8)
Mark-to-market commodity hedging gains		0.0		(4.2)		0.0		0.0		(4.2)
Adjusted EBITDA	$	55.1	$	77.7	$	30.6	$	0.5	$	163.9
Adj. EBITDA % of Consolidated Adj. EBITDA (excluding corporate unallocated)		*33.7%*		*47.6%*		*18.7%*				

Net leverage ratio is a non-GAAP financial measure defined as net debt (total debt, calculated as total debt less unamortized debt issuance costs, less cash and restricted cash) divided by adjusted EBITDA for the latest twelve months and is a financial measure used by us to assess our borrowing capacity and ability to service our debt. The following table summarizes net leverage ratio as calculated by us for the twelve month periods indicated below:

	Twelve Months Ended					
(amounts in millions)		September 30, 2021		December 31, 2020		September 30, 2020
Total Debt	$	807.2	$	775.9	$	809.8
Less: Cash		44.9		38.5		39.5
Net Debt	$	762.3	$	737.4	$	770.3
Adjusted EBITDA	$	221.8	$	211.0	$	203.7
Net Leverage Ratio		3.4		3.5		3.8

Our net leverage ratio decreased over the past 12 months primarily due to an increase in adjusted EBITDA of $18.1 million during that period, along with an $8.6 million decrease in net debt, principally due to cash generated from operating activities.

The following table summarizes EBITDA and adjusted EBITDA on a consolidated basis as calculated by us for the twelve month periods indicated below:

	Twelve Months Ended		
	September 30, 2021	December 31, 2020	September 30, 2020
Net income	$ 81.3	$ 121.0	$ 119.5
Interest expense	40.8	48.9	52.9
Depreciation and amortization	58.5	56.1	54.4
Income tax provision	28.6	21.0	8.1
Discontinued operations, net of tax	(0.1)	(31.9)	(30.6)
EBITDA	209.1	215.1	204.3
Adjustments to arrive at adjusted EBITDA:			
Impairment, restructuring and plant closure costs	0.9	15.7	16.8
Non-cash LIFO expense (benefit)	11.0	(13.7)	(9.2)
Mark-to-market commodity hedging gains	(2.3)	(9.2)	(8.2)
Pension settlement	0.1	0.1	0.0
Discretionary incentive	3.0	3.0	0.0
Adjusted EBITDA with noncontrolling interests	$ 221.8	$ 211.0	$ 203.7

Legal Matters

The information set forth in Note 18 to the Condensed Consolidated Financial Statements of Koppers Holdings Inc. included in Item 1 of this Part I is incorporated herein by reference.

Recently Issued Accounting Guidance

The information set forth in Note 2 to the Condensed Consolidated Financial Statements of Koppers Holdings Inc. included in Item 1 of this Part I is incorporated herein by reference.

Critical Accounting Policies

There have been no material changes to our critical accounting policies as disclosed in our Annual Report on Form 10-K for the year ended December 31, 2020.

Environmental and Other Matters

The information set forth in Note 18 to the Condensed Consolidated Financial Statements of Koppers Holdings Inc. included in Item 1 of this Part I is incorporated herein by reference.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

There are no material changes to the disclosure on this matter made in our Annual Report on Form 10-K for the year ended December 31, 2020.

ITEM 4. CONTROLS AND PROCEDURES

Our management, with the participation of the Chief Executive Officer and Chief Financial Officer and utilizing the Committee of Sponsoring Organizations of the Treadway Commission (COSO) Internal Control – Integrated Framework (2013), have evaluated the effectiveness of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934 as of the end of the period covered by this report. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer have concluded that these controls and procedures were effective as of the end of the period covered by this report. There were no changes in our internal control over financial reporting (as such term is defined in Rule 13a-15(f) under the Exchange Act) that occurred during the quarter ended September 30, 2021 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. We have not experienced any material impact to our internal controls over financial reporting despite the fact that a portion of our employees are working remotely due to the COVID-19 pandemic. We are continually monitoring and assessing the impact of the COVID-19 outbreak on our internal controls over financial reporting to minimize the impact, if any, on their design and operating effectiveness.

PART II—OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

The information set forth in Note 18 to the Condensed Consolidated Financial Statements of Koppers Holdings Inc. included in Item 1 of Part I of this report is incorporated herein by reference.

ITEM 1A. RISK FACTORS

There have been no material changes to the Risk Factors previously disclosed in Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2020.

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

The following table sets forth information regarding Koppers Holdings' repurchases of shares of its common stock during the three months ended September 30, 2021:

Period	*Total Number of Common Shares Purchased (1)*		*Average Price paid per Common Share*	*Total Number of Common Shares Purchased as Part of Publicly Announced Plans or Programs*		*Approximate Dollar Value of Common Shares that May Yet be Purchased Under the Plans or Programs (Dollars in Millions)*
July 1 – July 31	0	$	0.00	0	$	0.0
August 1 – August 31	39,000	$	31.45	39,000	$	98.8
September 1 – September 30	6,000	$	33.50	6,000	$	98.6
Total	45,000	$	31.72	45,000	$	98.6

(1) On August 6, 2021, we announced that the board of directors approved a $100 million share repurchase program. The repurchase program has no expiration date and replaces our previous share repurchase program of $75 million, which was approved in November 2011 and had approximately $24.8 million remaining prior to approval of the new program.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

Not applicable.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

Not applicable.

ITEM 6. EXHIBITS

31.1*	Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Chief Executive Officer and Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS*	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH*	Inline XBRL Taxonomy Extension Schema Document
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

* Filed herewith.

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.

KOPPERS HOLDINGS INC.
(REGISTRANT)

Date: November 4, 2021

By: /s/ MICHAEL J. ZUGAY
Michael J. Zugay
Chief Financial Officer
(Principal Financial Officer and Duly Authorized Officer)

Exhibit 31.1

CERTIFICATIONS

I, Leroy M. Ball, certify that:

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

Date: November 4, 2021

/s/ Leroy M. Ball
Leroy M. Ball
President and Chief Executive Officer

Exhibit 31.2

CERTIFICATIONS

I, Michael J. Zugay, certify that:

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

Date: November 4, 2021

/s/ MICHAEL J. ZUGAY
Michael J. Zugay
Chief Financial Officer

Exhibit 32.1

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

In connection with the Quarterly Report of Koppers Holdings Inc. (the "Company") on Form 10-Q for the quarter ending September 30, 2021 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned hereby certifies in his capacity as an officer of the Company, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, 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.

/s/ Leroy M. Ball	/s/ Michael J. Zugay
Leroy M. Ball	Michael J. Zugay
President and Chief Executive Officer	Chief Financial Officer
November 4, 2021	November 4, 2021