

**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 quarter ended September 30, 2021
or
- TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

Commission File No. 1-15579



MSA SAFETY INCORPORATED

(Exact name of registrant as specified in its charter)

Pennsylvania

46-4914539

(State or other jurisdiction of
incorporation or organization)

(IRS Employer
Identification No.)

1000 Cranberry Woods Drive
Cranberry Township, Pennsylvania

16066-5207

(Address of principal executive offices)

(Zip Code)

Registrant's telephone number, including area code: (724) 776-8600

Former name or former address, if changed since last report: N/A

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 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 during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

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

Large Accelerated Filer Accelerated filer Non-accelerated filer Smaller reporting company
Emerging growth company

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No
Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which is registered
Common Stock, no par value	MSA	New York Stock Exchange

As of October 22, 2021, 39,207,411 shares of common stock, of the registrant were outstanding.

PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

MSA SAFETY INCORPORATED
CONDENSED CONSOLIDATED STATEMENTS OF INCOME

Unaudited

(In thousands, except per share amounts)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Net sales	\$ 340,197	\$ 304,392	\$ 989,915	\$ 959,975
Cost of products sold	194,199	172,160	556,263	528,799
Gross profit	145,998	132,232	433,652	431,176
Selling, general and administrative	87,450	64,793	246,339	214,066
Research and development	14,946	13,851	42,149	41,723
Restructuring charges (Note 4)	3,853	7,603	12,239	18,475
Currency exchange losses (gains), net (Note 6)	100	2,759	(359)	3,821
Product liability expense (Note 18)	10,688	2,077	25,235	4,878
Operating income	28,961	41,149	108,049	148,213
Interest expense	3,764	2,305	7,847	7,907
Other income, net	(2,266)	(1,117)	(8,773)	(4,376)
Total other expense (income), net	1,498	1,188	(926)	3,531
Income before income taxes	27,463	39,961	108,975	144,682
Provision for income taxes (Note 10)	8,640	11,727	28,165	36,251
Net income	18,823	28,234	80,810	108,431
Net income attributable to noncontrolling interests	—	(200)	(448)	(668)
Net income attributable to MSA Safety Incorporated	\$ 18,823	\$ 28,034	\$ 80,362	\$ 107,763
Earnings per share attributable to MSA Safety Incorporated common shareholders (Note 9):				
Basic	\$ 0.48	\$ 0.72	\$ 2.05	\$ 2.77
Diluted	\$ 0.48	\$ 0.71	\$ 2.04	\$ 2.74
Dividends per common share	\$ 0.44	\$ 0.43	\$ 1.31	\$ 1.28

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

MSA SAFETY INCORPORATED
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

Unaudited

(In thousands)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Net income	\$ 18,823	\$ 28,234	\$ 80,810	\$ 108,431
Other comprehensive income (loss), net of tax:				
Foreign currency translation adjustments (Note 6)	(13,868)	15,520	(18,073)	(2,758)
Pension and post-retirement plan actuarial gains, net of tax (Note 6)	3,701	3,058	11,070	9,250
Unrealized loss on available-for-sale securities (Note 6)	(11)	(74)	(15)	(12)
Reclassification of currency translation from accumulated other comprehensive loss into net income (Note 6)	—	—	—	720
Total other comprehensive (loss) income, net of tax	(10,178)	18,504	(7,018)	7,200
Comprehensive income	8,645	46,738	73,792	115,631
Less: Comprehensive income attributable to noncontrolling interests	—	(494)	(356)	(865)
Comprehensive income attributable to MSA Safety Incorporated	\$ 8,645	\$ 46,244	\$ 73,436	\$ 114,766

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

MSA SAFETY INCORPORATED
CONDENSED CONSOLIDATED BALANCE SHEETS

Unaudited

(In thousands)	September 30, 2021	December 31, 2020
Assets		
Cash and cash equivalents (Note 2)	\$ 117,302	\$ 160,672
Trade receivables, less allowance for credit loss of \$4,930 and \$5,344	219,481	252,283
Inventories (Note 3)	249,449	197,819
Investments, short-term (Note 17)	48,972	74,982
Prepaid income taxes	41,098	26,185
Notes receivable, insurance companies (Note 18)	3,884	3,796
Prepaid expenses and other current assets	45,193	38,541
Total current assets	<u>725,379</u>	<u>754,278</u>
Property, plant and equipment, net (Note 5)	204,410	189,620
Operating lease assets, net	50,731	53,451
Prepaid pension cost (Note 15)	108,842	97,545
Deferred tax assets (Note 10)	44,587	35,665
Goodwill (Note 13)	636,113	443,272
Intangible assets, net (Note 13)	312,606	161,051
Notes receivable, insurance companies, noncurrent (Note 18)	44,330	48,540
Net investment in sales-type leases, noncurrent (Note 14)	27,202	—
Insurance receivable (Note 18) and other noncurrent assets	105,252	89,062
Total assets	<u>\$ 2,259,452</u>	<u>\$ 1,872,484</u>
Liabilities		
Notes payable and current portion of long-term debt (Note 12)	\$ 20,000	\$ 20,000
Accounts payable	92,634	86,854
Employees' compensation	48,307	40,277
Insurance and product liability (Note 18)	40,188	43,706
Income taxes payable (Note 10)	22,608	3,580
Other current liabilities	113,084	116,128
Total current liabilities	<u>336,821</u>	<u>310,545</u>
Long-term debt, net (Note 12)	592,742	287,157
Pensions and other employee benefits	199,486	208,068
Noncurrent operating lease liabilities	40,854	44,639
Deferred tax liabilities (Note 10)	49,898	10,916
Product liability (Note 18) and other noncurrent liabilities	215,474	201,268
Total liabilities	<u>\$ 1,435,275</u>	<u>\$ 1,062,593</u>
Equity		
Preferred stock, 4.5% cumulative, \$50 par value (Note 7)	\$ 3,569	\$ 3,569
Common stock, no par value (Note 7)	252,084	242,693
Treasury shares, at cost (Note 7)	(331,350)	(327,756)
Accumulated other comprehensive loss (Note 6)	(189,323)	(182,397)
Retained earnings	1,089,197	1,065,789
Total MSA Safety Incorporated shareholders' equity	<u>824,177</u>	<u>801,898</u>
Noncontrolling interests (Note 19)	—	7,993
Total shareholders' equity	<u>824,177</u>	<u>809,891</u>
Total liabilities and shareholders' equity	<u>\$ 2,259,452</u>	<u>\$ 1,872,484</u>

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

MSA SAFETY INCORPORATED
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

Unaudited

(In thousands)	Nine Months Ended September 30,	
	2021	2020
Operating Activities		
Net income	\$ 80,810	\$ 108,431
Depreciation and amortization	36,270	29,284
Stock-based compensation (Note 11)	13,562	3,042
Pension expense (Note 15)	2,079	6,647
Deferred income tax benefit (Note 10)	(6,665)	(1,312)
Loss on asset dispositions, net	423	189
Pension contributions (Note 15)	(5,768)	(5,672)
Currency exchange (gains) losses, net	(359)	3,821
Product liability expense (Note 18)	25,235	4,878
Collections on insurance receivables and notes receivable, insurance companies (Note 18)	15,437	10,844
Product liability payments (Note 18)	(32,499)	(6,648)
Changes in:		
Trade receivables	40,167	23,744
Inventories (Note 3)	(32,765)	(70,148)
Accounts payable	(855)	(8,956)
Other current assets and liabilities	(2,410)	12,065
Other noncurrent assets and liabilities	(2,519)	(54)
Cash Flow From Operating Activities	130,143	110,155
Investing Activities		
Capital expenditures	(30,963)	(32,698)
Acquisition, net of cash acquired (Note 19)	(392,437)	—
Purchase of short-term investments (Note 17)	(108,938)	(174,337)
Proceeds from maturities of short-term investments (Note 17)	135,000	155,000
Property disposals and other investing	(5,249)	334
Cash Flow Used in Investing Activities	(402,587)	(51,701)
Financing Activities		
Proceeds from long-term debt (Note 12)	1,341,734	779,000
Payments on long-term debt (Note 12)	(1,032,875)	(784,000)
Debt issuance costs	(2,080)	—
Cash dividends paid	(51,322)	(49,811)
Acquisition of noncontrolling interest in consolidated subsidiaries (Note 19)	(13,381)	—
Distributions to noncontrolling interests (Note 19)	(5,632)	—
Company stock purchases (Note 7)	(6,137)	(28,691)
Exercise of stock options (Note 7)	2,671	6,969
Employee stock purchase plan (Note 7)	452	390
Cash Flow From (Used in) Financing Activities	233,430	(76,143)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(4,177)	(1,668)
Decrease in cash, cash equivalents and restricted cash	(43,191)	(19,357)
Beginning cash, cash equivalents and restricted cash	161,034	152,543
Ending cash, cash equivalents and restricted cash	\$ 117,843	\$ 133,186
Supplemental cash flow information:		
Cash and cash equivalents (Note 2)	\$ 117,302	\$ 132,830
Restricted cash included in prepaid expenses and other current assets	541	356
Total cash, cash equivalents and restricted cash	\$ 117,843	\$ 133,186

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

MSA SAFETY INCORPORATED

CONDENSED CONSOLIDATED STATEMENTS OF CHANGES IN RETAINED EARNINGS,
ACCUMULATED OTHER COMPREHENSIVE LOSS AND NONCONTROLLING INTERESTS

Unaudited

(In thousands)	Retained Earnings	Accumulated Other Comprehensive (Loss)	Noncontrolling Interests
Balances June 30, 2020	\$ 1,058,955	\$ (225,210)	\$ 7,144
Net income	28,234	—	—
Foreign currency translation adjustments	—	15,520	—
Pension and post-retirement plan adjustments, net of tax of \$1,111	—	3,058	—
Unrealized net gains on available-for-sale securities (Note 17)	—	(74)	—
Income attributable to noncontrolling interests	(200)	(294)	494
Common dividends (\$0.43 per share)	(16,761)	—	—
Preferred dividends (\$0.5625 per share)	(10)	—	—
Balances September 30, 2020	\$ 1,070,218	\$ (207,000)	\$ 7,638
Balances June 30, 2021	\$ 1,093,261	\$ (179,145)	\$ 8,349
Net income	18,823	—	—
Foreign currency translation adjustments	—	(13,868)	—
Pension and post-retirement plan adjustments, net of tax of \$1,095	—	3,701	—
Unrealized net gains on available-for-sale securities (Note 17)	—	(11)	—
Acquisition of noncontrolling interest in consolidated subsidiaries (Note 19)	—	—	(8,349)
Distributions to noncontrolling interests (Note 19)	(5,632)	—	—
Common dividends (\$0.44 per share)	(17,245)	—	—
Preferred dividends (\$0.5625 per share)	(10)	—	—
Balances September 30, 2021	\$ 1,089,197	\$ (189,323)	\$ —
Balances December 31, 2019	\$ 1,012,266	\$ (214,003)	\$ 6,773
Net income	108,431	—	—
Foreign currency translation adjustments	—	(2,758)	—
Pension and post-retirement plan adjustments, net of tax of \$3,257	—	9,250	—
Unrealized net gains on available-for-sale securities (Note 17)	—	(12)	—
Reclassification from accumulated other comprehensive (loss) into net income (Note 6)	—	720	—
Income attributable to noncontrolling interests	(668)	(197)	865
Common dividends (\$1.28 per share)	(49,781)	—	—
Preferred dividends (\$1.6875 per share)	(30)	—	—
Balances September 30, 2020	\$ 1,070,218	\$ (207,000)	\$ 7,638
Balances December 31, 2020	\$ 1,065,789	\$ (182,397)	\$ 7,993
Net income	80,810	—	—
Foreign currency translation adjustments	—	(18,073)	—
Pension and post-retirement plan adjustments, net of tax of \$3,318	—	11,070	—
Unrealized net losses on available-for-sale securities (Note 17)	—	(15)	—
Income attributable to noncontrolling interests	(448)	92	356
Acquisition of noncontrolling interest in consolidated subsidiaries (Note 19)	—	—	(8,349)
Distributions to noncontrolling interests (Note 19)	(5,632)	—	—
Common dividends (\$1.31 per share)	(51,292)	—	—
Preferred dividends (\$1.6875 per share)	(30)	—	—
Balances September 30, 2021	\$ 1,089,197	\$ (189,323)	\$ —

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

MSA SAFETY INCORPORATED

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

Unaudited

Note 1—Basis of Presentation

The condensed consolidated financial statements of MSA Safety Incorporated and its subsidiaries ("MSA" or the "Company") are unaudited. These condensed consolidated financial statements include all adjustments, consisting of normal recurring adjustments, considered necessary by management to fairly state the Company's results. Intercompany accounts and transactions have been eliminated. The results reported in these condensed consolidated financial statements are not necessarily indicative of the results that may be expected for the entire year. The December 31, 2020, Condensed Consolidated Balance Sheet data was derived from the audited Consolidated Balance Sheet, but does not include all disclosures required by accounting principles generally accepted in the United States of America (U.S. GAAP). This Form 10-Q report should be read in conjunction with MSA's Form 10-K for the year ended December 31, 2020, which includes all disclosures required by U.S. GAAP.

Reclassifications - Certain reclassifications of prior years' data have been made to conform to the current year presentation. These reclassifications relate to additional captions disclosed within the operating section of the unaudited Condensed Consolidated Statements of Cash Flows, but do not change the overall cash flow from operating activities for the prior years as previously reported.

Note 2—Cash and Cash Equivalents

Several of the Company's affiliates participate in a notional cash pooling arrangement to manage global liquidity requirements. As part of a master netting arrangement, the participants combine their cash balances in pooling accounts at the same financial institution with the ability to offset bank overdrafts of one participant against positive cash account balances held by another participant. Under the terms of the master netting arrangement, the financial institution has the right, ability and intent to offset a positive balance in one account against an overdrawn amount in another account. Amounts in each of the accounts are unencumbered and unrestricted with respect to use. As such, the net cash balance related to this pooling arrangement is included in Cash and cash equivalents in the unaudited Condensed Consolidated Balance Sheets.

The Company's net cash pool position consisted of the following:

(In thousands)	September 30, 2021
Gross cash pool position	\$ 22,508
Less: cash pool borrowings	(22,000)
Net cash pool position	<u>508</u>

Note 3—Inventories

The following table sets forth the components of inventory:

(In thousands)	September 30, 2021	December 31, 2020
Finished products	\$ 102,426	\$ 81,048
Work in process	9,863	2,618
Raw materials and supplies	187,878	161,300
Inventories at current cost	300,167	244,966
Less: LIFO valuation	(50,718)	(47,147)
Total inventories	<u>\$ 249,449</u>	<u>\$ 197,819</u>

Note 4—Restructuring Charges

During the three and nine months ended September 30, 2021, we recorded restructuring charges of \$3.9 million and \$12.2 million, respectively. International segment restructuring charges of \$10.0 million during the nine months ended September 30, 2021, were primarily related to our initiatives to drive profitable growth and right size our operations. Americas segment restructuring charges of \$2.1 million during the nine months ended September 30, 2021, were primarily related to integration related activities and costs associated with our global Fixed Gas & Flame Detection manufacturing footprint optimization as well as programs to adjust our operations in response to current business conditions.

During the three and nine months ended September 30, 2020, we recorded restructuring charges of \$7.6 million and \$18.5 million, respectively. International segment restructuring charges of \$13.7 million during the nine months ended September 30, 2020, were primarily related to severance costs for staff reductions and footprint optimization associated with our ongoing initiatives to drive profitable growth. Americas segment restructuring charges of \$3.7 million during the nine months ended September 30, 2020, were primarily related to costs associated with our global Fixed Gas & Flame Detection manufacturing footprint optimization as well as programs to adjust our operations in response to current business conditions.

Activity and reserve balances for restructuring charges by segment were as follows:

(In millions)	Americas	International	Corporate	Total
Reserve balances at December 31, 2019	\$ 0.3	\$ 5.9	\$ —	\$ 6.2
Restructuring charges	4.7	21.9	0.8	27.4
Currency translation and other adjustments	(0.1)	0.1	—	—
Cash payments / utilization	(2.1)	(8.6)	(0.4)	(11.1)
Reserve balances at December 31, 2020	\$ 2.8	\$ 19.3	\$ 0.4	\$ 22.5
Restructuring charges	2.1	10.0	0.1	12.2
Currency translation and other adjustments	(0.1)	(0.7)	—	(0.8)
Cash payments / utilization	(2.7)	(8.4)	(0.2)	(11.3)
Reserve balances at September 30, 2021	\$ 2.1	\$ 20.2	\$ 0.3	\$ 22.6

Restructuring reserves are included in Other current liabilities in the accompanying unaudited Condensed Consolidated Balance Sheets.

Note 5—Property, Plant and Equipment

The following table sets forth the components of property, plant and equipment, net:

(In thousands)	September 30, 2021	December 31, 2020
Land	\$ 5,139	\$ 4,275
Finance lease assets	1,057	—
Buildings	134,509	128,887
Machinery and equipment	449,185	422,333
Construction in progress	31,702	38,753
Total	621,592	594,249
Less: accumulated depreciation	(417,182)	(404,629)
Property, plant and equipment, net	\$ 204,410	\$ 189,620

Note 6—Reclassifications Out of Accumulated Other Comprehensive Loss

Changes in accumulated other comprehensive loss were as follows:

(In thousands)	MSA Safety Incorporated		Noncontrolling Interests	
	Three Months Ended September 30,		Three Months Ended September 30,	
	2021	2020	2021	2020
Pension and other post-retirement benefits ^(a)				
Balance at beginning of period	\$ (108,183)	\$ (118,656)	\$ —	\$ —
Amounts reclassified from accumulated other comprehensive loss into net income:				
Amortization of prior service credit (Note 15)	(24)	(52)	—	—
Recognized net actuarial losses (Note 15)	4,820	4,221	—	—
Tax benefit	(1,095)	(1,111)	—	—
Total amount reclassified from accumulated other comprehensive loss, net of tax, into net income	3,701	3,058	—	—
Balance at end of period	\$ (104,482)	\$ (115,598)	\$ —	\$ —
Available-for-sale securities				
Balance at beginning of period	\$ (5)	\$ 68	\$ —	\$ —
Unrealized loss on available-for-sale securities (Note 17)	(11)	(74)	—	—
Balance at end of period	\$ (16)	\$ (6)	\$ —	\$ —
Foreign currency translation				
Balance at beginning of period	\$ (70,957)	\$ (106,622)	\$ 280	\$ 326
Acquisition of noncontrolling interest in consolidated subsidiaries (Note 19)	—	—	(280)	—
Foreign currency translation adjustments	(13,868)	15,226	—	294
Balance at end of period	\$ (84,825)	\$ (91,396)	\$ —	\$ 620

^(a) Reclassifications out of accumulated other comprehensive loss and into net income are included in the computation of net periodic pension and other post-retirement benefit costs (refer to Note 15—Pensions and Other Post-retirement Benefits).

(In thousands)	MSA Safety Incorporated		Noncontrolling Interests	
	Nine Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Pension and other post-retirement benefits ^(a)				
Balance at beginning of period	\$ (115,552)	\$ (124,848)	\$ —	\$ —
Amounts reclassified from accumulated other comprehensive loss into net income:				
Amortization of prior service credit (Note 15)	(72)	(156)	—	—
Recognized net actuarial losses (Note 15)	14,460	12,663	—	—
Tax benefit	(3,318)	(3,257)	—	—
Total amount reclassified from accumulated other comprehensive loss, net of tax, into net income	11,070	9,250	—	—
Balance at end of period	\$ (104,482)	\$ (115,598)	\$ —	\$ —
Available-for-sale securities				
Balance at beginning of period	\$ (1)	\$ 6	\$ —	\$ —
Unrealized loss on available-for-sale securities (Note 17)	(15)	(12)	—	—
Balance at end of period	\$ (16)	\$ (6)	\$ —	\$ —
Foreign currency translation				
Balance at beginning of period	\$ (66,844)	\$ (89,161)	\$ 372	\$ 423
Reclassification from accumulated other comprehensive loss into net income	—	720 ^(b)	—	—
Acquisition of noncontrolling interest in consolidated subsidiaries (Note 19)	—	—	(280)	—
Foreign currency translation adjustments	(17,981)	(2,955)	(92)	197
Balance at end of period	\$ (84,825)	\$ (91,396)	\$ —	\$ 620

^(a) Reclassifications out of accumulated other comprehensive loss and into net income are included in the computation of net periodic pension and other post-retirement benefit costs (refer to Note 15—Pensions and Other Post-retirement Benefits).

^(b) Reclassifications into net income relate primarily to the approval of our plan to close several subsidiaries in our Europe, Middle East & Africa ("EMEA") operating segment and are included in Currency exchange losses (gains), net, within the unaudited Condensed Consolidated Statement of Income.

Note 7—Capital Stock

Preferred Stock - The Company has authorized 100,000 shares of \$50 par value 4.5% cumulative preferred nonvoting stock which is callable at \$52.50. There are 71,340 shares issued and 52,998 shares held in treasury at September 30, 2021. The Treasury shares at cost line on the unaudited Condensed Consolidated Balance Sheets includes \$1.8 million related to preferred stock. There were no treasury purchases of preferred stock shares during the nine months ended September 30, 2021. There were treasury purchases of 120 preferred stock shares during the nine months ended September 30, 2020. The Company has also authorized 1,000,000 shares of \$10 par value second cumulative preferred voting stock. No shares have been issued as of September 30, 2021.

Common Stock - The Company has authorized 180,000,000 shares of no par value common stock. There were 62,081,391 shares issued as of December 31, 2020. No new shares were issued during the nine months ended September 30, 2021, or 2020. There were 39,207,440 and 39,067,902 shares outstanding at September 30, 2021, and December 31, 2020, respectively.

Treasury Shares - The Company's share repurchase program authorizes up to \$100.0 million to repurchase MSA common stock in the open market and in private transactions. The share repurchase program has no expiration date. The maximum number of shares that may be repurchased is calculated based on the dollars remaining under the program and the respective month-end closing share price. During the nine months ended September 30, 2021, no shares were repurchased under this program. During the nine months ended September 30, 2020, 175,000 shares were repurchased under the program. There were 22,873,951 and 23,013,489 Treasury Shares at September 30, 2021, and December 31, 2020, respectively.

The Company issues Treasury Shares for all stock-based compensation plans. Shares are issued from Treasury at the average Treasury Share cost on the date of the transaction. There were 37,478 and 66,893 Treasury Shares issued for these purposes during the nine months ended September 30, 2021 and 2020, respectively.

Common stock activity is summarized as follows:

(In thousands)	Three Months Ended September 30, 2021		Three Months Ended September 30, 2020	
	Common Stock	Treasury Cost	Common Stock	Treasury Cost
Balance at beginning of period	\$ 253,773	\$ (329,439)	\$ 233,786	\$ (327,997)
Stock compensation expense	2,867	—	(1,309)	—
Restricted and performance stock awards	(159)	159	(50)	50
Stock options exercised	354	155	2,276	954
Treasury shares purchased	—	(625)	—	(439)
Acquisition of noncontrolling interest in consolidated subsidiaries (Note 19)	(4,751)	—	—	—
Balance at end of period	\$ 252,084	\$ (329,750)	\$ 234,703	\$ (327,432)

(In thousands)	Nine Months Ended September 30, 2021		Nine Months Ended September 30, 2020	
	Common Stock	Treasury Cost	Common Stock	Treasury Cost
Balance at beginning of period	\$ 242,693	\$ (326,156)	\$ 229,127	\$ (303,566)
Stock compensation expense	13,562	—	3,042	—
Restricted and performance stock awards	(1,662)	1,662	(2,513)	2,513
Stock options exercised	1,833	838	4,709	2,260
Treasury shares purchased	—	(6,137)	—	(8,578)
Acquisition of noncontrolling interest in consolidated subsidiaries (Note 19)	(4,751)	—	—	—
Employee stock purchase program	409	43	338	52
Share repurchase program	—	—	—	(20,113)
Balance at end of period	\$ 252,084	\$ (329,750)	\$ 234,703	\$ (327,432)

Note 8—Segment Information

We are organized into four geographical operating segments that are based on management responsibilities: Northern North America, Latin America, Europe, Middle East & Africa ("EMEA"), and Asia Pacific ("APAC"). The operating segments have been aggregated (based on economic similarities, the nature of their products, end-user markets and methods of distribution) into three reportable segments: Americas, International, and Corporate.

The Americas segment is comprised of our operations in North American and Latin American geographies. The International segment is comprised of our operations of all geographies outside of the Americas. Certain global expenses are allocated to each segment in a manner consistent with where the benefits from the expenses are derived.

The Company's sales are allocated to each country based primarily on the destination of the end-customer.

Adjusted operating income (loss), adjusted operating margin, adjusted earnings before interest, taxes, depreciation and amortization (EBITDA) and adjusted EBITDA margin are the measures used by the chief operating decision maker to evaluate segment performance and allocate resources. Adjusted operating income (loss) is defined as operating income excluding restructuring charges, currency exchange gains (losses), product liability expense, acquisition related costs, including acquisition related amortization, and COVID-19 related costs, consisting of a one-time bonus for essential manufacturing employees and adjusted operating margin is defined as adjusted operating income (loss) divided by segment sales to external customers. Adjusted EBITDA is defined as adjusted operating income (loss) plus depreciation and amortization and adjusted EBITDA margin is defined as adjusted EBITDA divided by segment sales to external customers. Adjusted operating income (loss), adjusted operating margin, adjusted EBITDA and adjusted EBITDA margin are not recognized terms under U.S. GAAP, and therefore, do not purport to be alternatives to operating income or operating margin as a measure of operating performance. Further, the Company's measure of adjusted operating income (loss), adjusted operating margin, adjusted EBITDA and adjusted EBITDA margin may not be comparable to similarly titled measures of other companies. Adjusted operating income (loss) and adjusted EBITDA on a consolidated basis is presented in the following table to reconcile the segment operating performance measure to operating income as presented on the Consolidated Statement of Income.

The accounting principles applied at the operating segment level in determining operating income (loss) are generally the same as those applied at the consolidated financial statement level. Sales and transfers between operating segments are accounted for at market-based transaction prices and are eliminated in consolidation.

Reportable segment information is presented in the following table:

(In thousands, except percentage amounts)	Americas	International	Corporate	Consolidated Totals
Three Months Ended September 30, 2021				
Sales to external customers	\$ 229,076	\$ 111,121	\$ —	\$ 340,197
Operating income				28,961
Restructuring charges (Note 4)				3,853
Currency exchange losses, net (Note 6)				100
Product liability expense (Note 18)				10,688
Acquisition related costs ^(a) (Note 19)				7,351
Adjusted operating income (loss)	44,364	12,599	(6,010)	50,953
Adjusted operating margin %	19.4 %	11.3 %		
Depreciation and amortization ^(a)				11,823
Adjusted EBITDA	52,514	16,142	(5,880)	62,776
Adjusted EBITDA margin %	22.9 %	14.5 %		
Nine Months Ended September 30, 2021				
Sales to external customers	\$ 655,123	\$ 334,792	\$ —	\$ 989,915
Operating income				108,049
Restructuring charges (Note 4)				12,239
Currency exchange gains, net (Note 6)				(359)
Product liability expense (Note 18)				25,235
Acquisition related costs ^(a) (Note 19)				11,891
Adjusted operating income (loss)	138,778	41,794	(23,517)	157,055
Adjusted operating margin %	21.2 %	12.5 %		
Depreciation and amortization ^(a)				33,716
Adjusted EBITDA	161,861	52,095	(23,185)	190,771
Adjusted EBITDA margin %	24.7 %	15.6 %		

(In thousands, except percentage amounts)	Americas	International	Corporate	Consolidated Totals
Three Months Ended September 30, 2020				
Sales to external customers	\$ 194,303	\$ 110,089	\$ —	\$ 304,392
Operating income				41,149
Restructuring charges (Note 4)				7,603
Currency exchange losses, net (Note 6)				2,759
Product liability expense (Note 18)				2,077
Acquisition related costs ^(a) (Note 19)				41
Adjusted operating income (loss)	40,898	15,658	(2,927)	53,629
Adjusted operating margin %	21.0 %	14.2 %		
Depreciation and amortization ^(a)				9,856
Adjusted EBITDA	47,465	18,848	(2,828)	63,485
Adjusted EBITDA margin %	24.4 %	17.1 %		
Nine Months Ended September 30, 2020				
Sales to external customers	\$ 629,787	\$ 330,188	\$ —	\$ 959,975
Operating income				148,213
Restructuring charges (Note 4)				18,475
Currency exchange losses, net (Note 6)				3,821
Product liability expense (Note 18)				4,878
Acquisition related costs ^(a) (Note 19)				202
COVID-19 related costs				757
Adjusted operating income (loss)	149,708	45,719	(19,081)	176,346
Adjusted operating margin %	23.8 %	13.8 %		
Depreciation and amortization ^(a)				29,284
Adjusted EBITDA	169,343	55,075	(18,788)	205,630
Adjusted EBITDA margin %	26.9 %	16.7 %		

^(a)Acquisition related costs include advisory, legal, accounting, valuation, and other professional or consulting fees incurred during due diligence and integration. These costs are included in Selling, general and administrative expense in the unaudited Condensed Consolidated Statements of Income. Acquisition-related costs also include the acquisition related amortization, which is included in Cost of products sold in the Condensed Consolidated Statements of Income.

Total sales by product group was as follows:

Three Months Ended September 30, 2021 (In thousands, except percentages)	Consolidated		Americas		International	
	Dollars	Percent	Dollars	Percent	Dollars	Percent
Breathing Apparatus	\$ 70,790	21%	\$ 46,095	20%	\$ 24,695	22%
Fixed Gas & Flame Detection ^(a)	79,786	23%	53,787	23%	25,999	23%
Firefighter Helmets & Protective Apparel ^(b)	49,366	15%	34,101	15%	15,265	14%
Portable Gas Detection	41,853	12%	29,186	13%	12,667	11%
Industrial Head Protection	36,764	11%	28,982	13%	7,782	7%
Fall Protection	28,223	8%	17,743	8%	10,480	9%
Other ^(c)	33,415	10%	19,182	8%	14,233	14%
Total	\$ 340,197	100%	\$ 229,076	100%	\$ 111,121	100%

Nine Months Ended September 30, 2021 (In thousands, except percentages)	Consolidated		Americas		International	
	Dollars	Percent	Dollars	Percent	Dollars	Percent
Breathing Apparatus	\$ 217,094	22%	\$ 146,329	22%	\$ 70,765	21%
Fixed Gas & Flame Detection ^(a)	204,825	21%	127,014	19%	77,811	23%
Firefighter Helmets & Protective Apparel ^(b)	148,497	15%	105,513	16%	42,984	13%
Portable Gas Detection	118,102	12%	80,281	12%	37,821	11%
Industrial Head Protection	107,615	11%	82,913	13%	24,702	7%
Fall Protection	85,098	9%	51,093	8%	34,005	10%
Other ^(c)	108,684	10%	61,980	10%	46,704	15%
Total	\$ 989,915	100%	\$ 655,123	100%	\$ 334,792	100%

Three Months Ended September 30, 2020 (In thousands, except percentages)	Consolidated		Americas		International	
	Dollars	Percent	Dollars	Percent	Dollars	Percent
Breathing Apparatus	\$ 62,454	20%	\$ 38,889	20%	\$ 23,565	21%
Fixed Gas & Flame Detection	70,038	23%	39,411	20%	30,627	28%
Firefighter Helmets & Protective Apparel	38,785	13%	33,000	17%	5,785	5%
Portable Gas Detection	32,701	11%	20,972	11%	11,729	11%
Industrial Head Protection	29,328	10%	21,489	11%	7,839	7%
Fall Protection	24,620	8%	13,109	7%	11,511	11%
Other ^(c)	46,466	15%	27,433	14%	19,033	17%
Total	\$ 304,392	100%	\$ 194,303	100%	\$ 110,089	100%

Nine Months Ended September 30, 2020 (In thousands, except percentages)	Consolidated		Americas		International	
	Dollars	Percent	Dollars	Percent	Dollars	Percent
Breathing Apparatus	\$ 214,162	22%	\$ 141,850	23%	\$ 72,312	22%
Fixed Gas & Flame Detection	205,334	21%	117,399	19%	87,935	27%
Firefighter Helmets & Protective Apparel	121,669	13%	101,857	16%	19,812	6%
Portable Gas Detection	102,138	11%	65,822	10%	36,316	11%
Industrial Head Protection	95,260	10%	69,549	11%	25,711	8%
Fall Protection	73,707	8%	42,185	7%	31,522	9%
Other ^(c)	147,705	15%	91,125	14%	56,580	17%
Total	\$ 959,975	100%	\$ 629,787	100%	\$ 330,188	100%

^(a)Fixed Gas & Flame Detection include sales from the Bacharach acquisition from July 1, 2021 onward (Americas and International).

^(b)Firefighter Helmets & Protective Apparel include sales from the Bristol Uniforms acquisition from January 25, 2021 onward (International).

^(c)Other products include sales of Air Purifying Respirators ("APR").

Note 9—Earnings per Share

Basic earnings per share attributable to MSA Safety Incorporated common shareholders is computed by dividing net income, after the deduction of preferred stock dividends and undistributed earnings allocated to participating securities, by the weighted average number of common shares outstanding during the period. Diluted earnings per share attributable to MSA Safety Incorporated common shareholders assumes the issuance of common stock for all potentially dilutive share equivalents outstanding not classified as participating securities. Participating securities are defined as unvested stock-based compensation awards that contain nonforfeitable rights to dividends.

Amounts attributable to MSA Safety Incorporated common shareholders: (In thousands, except per share amounts)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Net income	\$ 18,823	\$ 28,034	\$ 80,362	\$ 107,763
Preferred stock dividends	(10)	(10)	(30)	(30)
Net income available to common equity	18,813	28,024	80,332	107,733
Dividends and undistributed earnings allocated to participating securities	(3)	(12)	(25)	(79)
Net income available to common shareholders	18,810	28,012	80,307	107,654
Basic weighted-average shares outstanding	39,194	38,906	39,152	38,853
Stock-based compensation awards	236	354	272	416
Diluted weighted-average shares outstanding	39,430	39,260	39,424	39,269
Antidilutive stock options	—	—	—	—
Earnings per share:				
Basic	\$ 0.48	\$ 0.72	\$ 2.05	\$ 2.77
Diluted	\$ 0.48	\$ 0.71	\$ 2.04	\$ 2.74

Note 10—Income Taxes

The Company's effective tax rate for the third quarter of 2021 was 31.5% which differs from the U.S. federal statutory rate of 21% primarily due to state income taxes, U.S. tax on foreign dividends, nondeductible transaction costs associated with the Bacharach acquisition and nondeductible executive compensation, partially offset by tax benefits on certain share-based payments. The Company's effective tax rate for the third quarter of 2020 was 29.3%, which differs from the U.S. statutory rate of 21% primarily due to state income taxes, increased profitability in less favorable tax jurisdictions, higher foreign entity losses in jurisdictions where we cannot take tax benefits, increased statutory rates in foreign jurisdictions, nondeductible executive compensation, and U.S. tax on foreign dividends.

On June 10, 2021 the United Kingdom Parliament announced royal assent for Bill No. 12, on the Finance Act of 2021. This bill will increase the statutory rate from 19% to 25% in April 2023. The Company recorded this impact on its deferred tax balances in the second quarter of 2021.

The Company's effective tax rate for the nine months ended September 30, 2021 was 25.8% which differs from the U.S. federal statutory rate of 21% primarily due to state income taxes, statutory rate increases in foreign jurisdictions, U.S. tax on foreign dividends and nondeductible executive compensation, partially offset by tax benefits on certain share-based payments. The Company's effective tax rate for the nine months ended September 30, 2020 was 25.1% which differs from the U.S. statutory rate of 21% due to state income taxes, increased profitability in less favorable tax jurisdictions and higher foreign entity losses in jurisdictions where we cannot take tax benefits, increased statutory rates in foreign jurisdictions, partially offset by tax benefits on certain share-based payments.

At September 30, 2021, the Company had a gross liability for unrecognized tax benefits of \$8.8 million. The Company has recognized tax benefits associated with these liabilities of \$2.7 million at September 30, 2021. The gross liability includes amounts associated with foreign tax exposure in prior periods.

The Company recognizes interest related to unrecognized tax benefits in interest expense and penalties in operating expenses. The Company's liability for accrued interest related to uncertain tax positions was \$1.3 million at September 30, 2021.

We are subject to regular review and audit by both foreign and domestic tax authorities. While we believe our tax positions will be sustained, the final outcome of tax audits and related litigation may differ materially from the tax amounts recorded in our unaudited condensed consolidated financial statements.

Note 11—Stock Plans

The 2016 Management Equity Incentive Plan provides for various forms of stock-based compensation for eligible key employees through May 2026. Management stock-based compensation includes stock options, restricted stock awards, restricted stock units and performance stock units. The 2017 Non-Employee Directors' Equity Incentive Plan provides for grants of stock options and restricted stock to non-employee directors through May 2027. We issue treasury shares for stock option exercises and grants of restricted stock and performance stock. Please refer to Note 7—Capital Stock for further information regarding stock compensation share issuance.

Stock compensation expense is as follows:

(In thousands)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Stock compensation expense (benefit)	\$ 2,867	\$ (1,309) ^(a)	\$ 13,562	\$ 3,042
Income tax expense (benefit)	691	(319)	3,269	742
Stock compensation expense (benefit), net of tax	\$ 2,176	\$ (990)	\$ 10,293	\$ 2,300

(a) The Company adjusted cumulative stock compensation expense for changes in expected performance against target metrics for unvested performance stock units. This resulted in a benefit during the three months ended September 30, 2020.

A summary of stock option activity for the nine months ended September 30, 2021, follows:

	Shares	Weighted Average Exercise Price
Outstanding at January 1, 2021	283,998	\$ 46.23
Exercised	(58,234)	45.84
Forfeited	(210)	43.75
Outstanding at September 30, 2021	225,554	46.34
Exercisable at September 30, 2021	224,980	\$ 46.33

Restricted stock awards and restricted stock units are valued at the market value of the stock on the grant date. A summary of restricted stock activity for the nine months ended September 30, 2021, follows:

	Shares	Weighted Average Grant Date Fair Value
Unvested at January 1, 2021	146,191	\$ 105.83
Granted	40,066	152.91
Vested	(62,155)	94.88
Forfeited	(3,502)	133.92
Unvested at September 30, 2021	120,600	\$ 126.30

Performance stock units have a market condition modifier and are valued at an estimated fair value using a Monte Carlo model. The final number of shares to be issued for performance stock units granted in the first quarter of 2021 may range from 0% to 200% of the target award based on achieving the specified performance targets over the performance period plus an additional modifier based on total shareholder return (TSR) over the performance period. The following weighted average assumptions were used in estimating the fair value of the performance stock units granted in the first quarter of 2021.

Fair value per unit	\$177.50
Risk-free interest rate	0.2%
Expected dividend yield	1.33%
Expected volatility	35.6%
MSA stock beta	0.932

The risk-free interest rate is based on the U.S. Treasury Constant Maturity rates as of the grant date converted into an implied spot rate yield curve. Expected dividend yield is based on the most recent annualized dividend divided by the one year average closing share price. Expected volatility is based on the ten year historical volatility using daily stock prices. Expected life is based on historical stock option exercise data.

A summary of performance stock unit activity for the nine months ended September 30, 2021, follows:

	Shares	Weighted Average Grant Date Fair Value
Unvested at January 1, 2021	200,212	\$ 104.69
Granted	52,309	175.59
Performance adjustments	5,357	88.45
Vested	(64,543)	85.41
Unvested at September 30, 2021	193,335	\$ 129.86

The performance adjustments above relate primarily to the final number of shares issued for the 2018 performance unit awards which vested in the first quarter of 2021 at 105.4% of the target award based on both cumulative performance against the operating margin and revenue growth targets and MSA's TSR during the three-year performance period.

Note 12—Long-Term Debt

(In thousands)	September 30, 2021	December 31, 2020
2010 Senior Notes payable through 2021, 4.00%	\$ 20,000	\$ 20,000
2016 Senior Notes payable through 2031, 3.40%, net of debt issuance costs	73,906	74,926
2021 Senior Notes payable through 2036, 2.69%, net of debt issuance costs	99,706	—
2021 Senior Notes payable through 2036, 2.69%, net of debt issuance costs	99,706	—
Senior revolving credit facility maturing in 2026, net of debt issuance costs	319,424	212,231
Total	612,742	307,157
Amounts due within one year	20,000	20,000
Long-term debt, net of debt issuance costs	\$ 592,742	\$ 287,157

On May 24, 2021, the Company entered into a Fourth Amended and Restated Credit Agreement (the "Revolving Credit Facility" or "Facility") that extended its term through May 24, 2026 and increased the capacity to \$900.0 million. Under the amended agreement, the Company may elect either a Base rate of interest ("BASE") or an interest rate based on the London Interbank Offered Rate ("LIBOR"). The BASE is a daily fluctuating per annum rate equal to the highest of (i) 0.00%, (ii) the Prime Rate, (iii) the Federal Funds Open Rate plus one half of one percent (0.5%), (iv) the Overnight Bank Funding Rate, plus one half of one percent (0.5%), or (v) the Daily LIBOR Rate plus one percent (1.00%). The Company pays a credit spread of 0 to 175 basis points based on the Company's net EBITDA leverage ratio and elected rate (BASE or LIBOR). The Company has a weighted average revolver interest rate of 0.96% as of September 30, 2021. At September 30, 2021, \$576.9 million of the existing \$900.0 million senior revolving credit facility was unused, including letters of credit issued under the facility. The facility also provides an accordion feature that allows the Company to access an additional \$400.0 million of capacity pending approval by MSA's board of directors and from the bank group.

On July 1, 2021 the Company entered into a Third Amended and Restated Multi-Currency Note Purchase and Private Shelf Agreement (the “Prudential Note Agreement”) with PGIM, Inc. (“Prudential”). The Prudential Note Agreement provided for (i) the issuance of \$100.0 million of 2.69% Series C Senior Notes due July 1, 2036 and (ii) the establishment of an uncommitted note issuance facility whereby the Company may request, subject to Prudential’s acceptance in its sole discretion, the issuance of up to \$335.0 million aggregate principal amount of senior unsecured notes. As of September 30, 2021, the Company had issued £54.9 million (approximately \$74.0 million at September 30, 2021) of 3.4% Series B Senior Notes due January 22, 2031. The Company also had issued \$100.0 million of 4.00% Series A Senior Notes, of which the final \$20.0 million was repaid on October 13, 2021.

On July 1, 2021, the Company entered into a Second Amended and Restated Master Note Facility (the “NYL Note Facility”) with NYL Investors. The NYL Note Facility provided for (i) the issuance of \$100.0 million of 2.69% Series A Senior Notes due July 1, 2036 and (ii) the establishment of an uncommitted note issuance facility whereby the Company may request, subject to NYL Investors’ acceptance in its sole discretion, the issuance of up to \$200.0 million aggregate principal amount of senior unsecured notes.

The Revolving Credit Facility, Prudential Note Agreement and NYL Note Facility require the Company to comply with specified financial covenants, including a requirement to maintain a minimum fixed charges coverage ratio of not less than 1.50 to 1.00 and a consolidated leverage ratio not to exceed 3.50 to 1.00; except during an acquisition period, defined as four consecutive fiscal quarters beginning with the quarter of acquisition, in which case the consolidated net leverage ratio shall not exceed 4.00 to 1.00; in each case calculated on the basis of the trailing four fiscal quarters. In addition, the agreements contain negative covenants limiting the ability of the Company and its subsidiaries to incur additional indebtedness or issue guarantees, create or incur liens, make loans and investments, make acquisitions, transfer or sell assets, enter into transactions with affiliated parties, make changes in its organizational documents that are materially adverse to lenders or modify the nature of the Company's or its subsidiaries' business.

The Company was in compliance with all debt covenants at September 30, 2021.

The Company had outstanding bank guarantees and standby letters of credit with banks as of September 30, 2021, totaling \$10.5 million, of which \$1.5 million relate to the Revolving Credit Facility. The letters of credit serve to cover customer requirements in connection with certain sales orders and insurance. The Company is also required to provide cash collateral in connection with certain arrangements. At September 30, 2021, the Company has \$0.5 million of restricted cash in support of these arrangements.

On July 1, 2021, the Company acquired Bacharach, Inc. for \$329.4 million, net of cash acquired. The acquisition was partially financed by \$200.0 million of 2.69% Senior Notes from the Prudential Note Agreement and NYL Note Facility. The remaining purchase price was financed under the Revolving Credit Facility.

During August 2021, the Company amended its Revolving Credit Facility to transition from Sterling LIBOR reference rates to Sterling Overnight Interbank Average Rate ("SONIA") reference rates. The Company will apply the optional expedients in ASC 848, Reference Rate Reform, to this modification and potential future modifications driven by reference rate reform, accounting for the modifications as a continuation of the existing contracts. Therefore, these modifications will not require remeasurement at the modification date or a reassessment of previous accounting determinations. As such, the Company does not anticipate the change in reference rates will have an impact on the Company’s condensed consolidated financial statements. Management continues to evaluate the Company’s other outstanding US LIBOR based contracts to determine whether reference rate modifications are necessary.

Note 13—Goodwill and Intangible Assets

Changes in goodwill during the nine months ended September 30, 2021 are as follows:

(In thousands)	Goodwill
Balance at January 1, 2021	\$ 443,272
Additions (Note 19)	197,446
Currency translation	(4,605)
Balance at September 30, 2021	\$ 636,113

At September 30, 2021, the Company had goodwill of \$447.8 million and \$188.3 million related to the Americas and International reportable segments, respectively.

Changes in intangible assets, net during the nine months ended September 30, 2021, are as follows:

(In thousands)	Intangible Assets
Net balance at January 1, 2021	\$ 161,051
Additions (Note 19)	164,440
Amortization expense	(11,507)
Currency translation	(1,378)
Net balance at September 30, 2021	<u>\$ 312,606</u>

At September 30, 2021, the above intangible assets balance includes a trade name related to the Globe acquisition with an indefinite life totaling \$60.0 million.

Note 14—Leases

Lessor Arrangements

The Company derives a portion of its revenue from various leasing arrangements. Such arrangements provide for monthly payments covering the equipment provided and interest. These arrangements meet the criteria to be accounted for as sales-type leases under ASC Topic 842, *Leases*. Accordingly, revenue from the provision of the equipment is recognized upon lease commencement. Upon the recognition of such revenue, an asset is established for the investment in sales-type leases. Interest income is recognized monthly over the lease term.

There were no new sales-type lease transactions commencing and no lease revenue or gross profit recognized during the three months ended September 30, 2021.

Revenue from sales-type leases recognized by the Company, included in Net sales in the unaudited Condensed Consolidated Statements of Income, was \$3.2 million during the nine months ended September 30, 2021. Gross profit recognized at commencement from our various leasing arrangements was \$1.3 million during the nine months ended September 30, 2021.

There were no new sales-type lease transactions commencing and no lease revenue or gross profit recognized during the three and nine months ended September 30, 2020.

Note 15—Pensions and Other Post-retirement Benefits

Components of net periodic benefit cost consisted of the following:

(In thousands)	Pension Benefits		Other Benefits	
	2021	2020	2021	2020
Three Months Ended September 30,				
Service cost	\$ 3,264	\$ 3,012	\$ 99	\$ 99
Interest cost	2,941	3,726	121	179
Expected return on plan assets	(9,532)	(8,503)	—	—
Amortization of prior service cost (credit)	66	46	(90)	(98)
Recognized net actuarial losses	4,421	3,935	399	286
Net periodic benefit cost ^(a)	<u>\$ 1,160</u>	<u>\$ 2,216</u>	<u>\$ 529</u>	<u>\$ 466</u>
Nine Months Ended September 30,				
Service cost	\$ 9,748	\$ 9,035	\$ 297	\$ 297
Interest cost	8,575	11,178	353	537
Expected return on plan assets	(27,826)	(25,509)	—	—
Amortization of prior service cost (credit)	198	138	(270)	(294)
Recognized net actuarial losses	13,263	11,805	1,197	858
Settlements	(1,879)	—	—	—
Net periodic benefit cost ^(a)	<u>\$ 2,079</u>	<u>\$ 6,647</u>	<u>\$ 1,577</u>	<u>\$ 1,398</u>

^(a) Components of net periodic benefit cost other than service cost are included in the line item Other income, net in the unaudited Condensed Consolidated Statements of Income.

We made contributions of \$5.8 million and \$5.7 million to our pension plans during the nine months ended September 30, 2021 and 2020, respectively. We expect to make total contributions of approximately \$7.7 million to our pension plans in 2021 primarily associated with statutorily required plans in the International segment.

Note 16—Derivative Financial Instruments

As part of our currency exchange rate risk management strategy, we may enter into certain derivative foreign currency forward contracts that do not meet the U.S. GAAP criteria for hedge accounting, but which have the impact of partially offsetting certain foreign currency exposures. We account for these forward contracts at fair value and report the related gains or losses in currency exchange (gains) losses, net, in the unaudited Condensed Consolidated Statement of Income. The notional amount of open forward contracts was \$96.4 million and \$96.0 million at September 30, 2021, and December 31, 2020, respectively.

The following table presents the unaudited Condensed Consolidated Balance Sheet location and fair value of assets and liabilities associated with derivative financial instruments:

(In thousands)	September 30, 2021	December 31, 2020
Derivatives not designated as hedging instruments:		
Foreign exchange contracts: Other current liabilities	\$ 1,758	\$ 157
Foreign exchange contracts: Prepaid expenses and other current assets	—	160

The following table presents the unaudited Condensed Consolidated Statement of Income location and impact of derivative financial instruments:

(In thousands)	Statement of Income Location	Loss (Gain) Recognized in Income	
		Nine Months Ended September 30,	
		2021	2020
Derivatives not designated as hedging instruments:			
Foreign exchange contracts	Currency exchange losses (gains), net	\$ 3,275	\$ (4,226)

Note 17—Fair Value Measurements

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value hierarchy consists of three broad levels, which gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). The three levels of the fair value hierarchy are:

- Level 1—Observable inputs that reflect unadjusted quoted prices for identical assets or liabilities in active markets.
- Level 2—Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.
- Level 3—Unobservable inputs for the asset or liability.

The valuation methodologies we used to measure financial assets and liabilities include the derivative financial instruments described in Note 16—Derivative Financial Instruments. We estimate the fair value of the derivative financial instruments, consisting of foreign currency forward contracts, based upon valuation models with inputs that generally can be verified by observable market conditions and do not involve significant management judgment. Accordingly, the fair values of the derivative financial instruments are classified within Level 2 of the fair value hierarchy. With the exception of our investments in marketable securities and fixed rate long-term debt, we believe that the reported carrying amounts of our financial assets and liabilities approximate their fair values.

We value our investments in marketable securities, primarily fixed income, at fair value using quoted market prices for similar securities or pricing models. Accordingly, the fair values of the investments are classified within Level 2 of the fair value hierarchy. The amortized cost basis of our investments was \$49.0 million and \$74.9 million as of September 30, 2021 and December 31, 2020, respectively. The fair value was \$49.0 million and \$75.0 million as of September 30, 2021 and December 31, 2020, respectively, which was reported in Investments, short-term in the accompanying unaudited Condensed Consolidated Balance Sheet. The change in fair value is recorded in Other comprehensive income, net of tax. The Company does not intend to sell, nor is it more likely than not that we will be required to sell, these securities prior to recovery of their cost, as such, management believes that any unrealized gains or losses are temporary; therefore, no impairment gains or losses relating to these securities have been recognized. All investments in marketable securities have maturities of one year or less and are currently in an unrealized loss position as of September 30, 2021.

The reported carrying amount of our fixed rate long-term debt (including the current portion) was \$294 million and \$95 million at September 30, 2021, and December 31, 2020, respectively. The fair value of this debt was \$302 million and \$113 million at September 30, 2021, and December 31, 2020, respectively. The fair value of this debt was determined using Level 2 inputs by evaluating similarly rated companies with publicly traded bonds where available or current borrowing rates available for financings with similar terms and maturities.

Acquisitions are measured at fair value, refer to Note 19—Acquisitions for a description of the methodologies and fair value measurements utilized in the business combination.

Note 18—Contingencies

Product liability

We face an inherent business risk of exposure to product liability claims arising from the alleged failure of our products to prevent the types of personal injury or death against which they are designed to protect. Product liability claims are categorized as either single incident or cumulative trauma.

Single incident product liability claims. Single incident product liability claims involve incidents of short duration that are typically known when they occur and involve observable injuries, which provide an objective basis for quantifying damages. The Company estimates its liability for asserted single incident product liability claims based on expected settlement costs for asserted single incident product liability claims. The estimate for incurred but not reported ("IBNR") single incident product liability claims is based on experience, sales volumes, and other relevant information. The reserve for single incident product liability claims, which includes asserted single incident product liability claims and IBNR single incident product liability claims, was \$1.3 million and \$1.4 million at September 30, 2021 and December 31, 2020, respectively. Single incident product liability expense was a benefit of \$0.1 million and \$1.7 million during the nine months ended September 30, 2021 and September 30, 2020, respectively. Single incident product liability exposures are evaluated on an annual basis, or more frequently if changing circumstances warrant. Adjustments are made to the reserve as appropriate.

Cumulative trauma product liability claims. Cumulative trauma product liability claims involve alleged exposures to harmful substances (e.g., silica, asbestos and coal dust) that occurred years ago and may have developed over long periods of time into diseases such as silicosis, asbestosis, mesothelioma, or coal worker's pneumoconiosis. One of the Company's affiliates, Mine Safety Appliances Company, LLC ("MSA LLC"), was named as a defendant in 1,672 lawsuits comprised of 4,145 claims as of September 30, 2021. These lawsuits mainly involve respiratory protection products allegedly manufactured and sold by MSA LLC or its predecessors. The product models alleged were manufactured many years ago by MSA LLC and are no longer sold.

A summary of cumulative trauma product liability lawsuits and asserted cumulative trauma product liability claims activity is as follows:

	Nine Months Ended September 30, 2021	Year Ended December 31, 2020
Open lawsuits, beginning of period	1,622	1,605
New lawsuits	317	402
Settled and dismissed lawsuits	(267)	(385)
Open lawsuits, end of period	1,672	1,622
	Nine Months Ended September 30, 2021	Year Ended December 31, 2020
Asserted claims, beginning of period	2,878	2,456
New claims	1,579	917
Settled and dismissed claims	(312)	(495)
Asserted claims, end of period	4,145	2,878

The increases in the number of claims in 2020 and in 2021 are largely driven by an increase in claims alleging injuries from exposure to coal mine dust, including claims brought by plaintiffs' counsel with which MSA LLC does not have substantial prior experience. The claims allege use of product models that were manufactured many years ago by MSA LLC and are no longer sold.

More than half of the total open lawsuits at September 30, 2021, have had a de minimis level of activity over the last 5 years. It is possible that these cases could become active again at any time due to changes in circumstances.

Total cumulative trauma product liability reserve was \$232.6 million at September 30, 2021, including \$6.9 million for claims settled but not yet paid and related defense costs, and \$221.5 million at December 31, 2020, including \$7.8 million for claims settled but not yet paid and related defense costs. This reserve includes estimated amounts for asserted claims and IBNR claims. Those estimated amounts reflect asbestos, silica and coal dust claims expected to be resolved through the year 2069 and are not discounted to present value. The Company revised its estimates of MSA LLC's potential liability for cumulative trauma product liability claims for the year ended December 31, 2020 as a result of its annual review process described below. The reserve was also increased during the nine months ended September 30, 2021 to reflect an increase in the number of asserted claims pending against MSA LLC. The Company is monitoring developments in filing rates to determine the potential for impact on long-term filing trends. The reserve does not include amounts which will be spent to defend the claims covered by the reserve. Defense costs are recognized in the unaudited Condensed Consolidated Statement of Income as incurred.

At September 30, 2021, \$31.1 million of the total reserve for cumulative trauma product liability claims is recorded in the Insurance and product liability line within other current liabilities in the unaudited Condensed Consolidated Balance Sheet and the remainder, \$201.5 million, is recorded in the Product liability and other noncurrent liabilities line. At December 31, 2020, \$35.3 million of the total reserve for cumulative trauma product liability claims is recorded in the Insurance and product liability line within other current liabilities in the unaudited Condensed Consolidated Balance Sheet and the remainder, \$186.2 million, is recorded in the Product liability and other noncurrent liabilities line.

Total cumulative trauma liability losses were \$16.4 million and \$43.9 million for the three and nine months ended September 30, 2021 and related to an update to our asserted cumulative trauma product liability reserve as well as the defense of cumulative trauma product liability claims. Total cumulative trauma liability losses were \$2.4 million and \$5.7 million for the three and nine months ended September 30, 2020 primarily related to the defense of cumulative trauma product liability claims. Uninsured cumulative trauma product liability losses, which were included in Product liability expense on the unaudited Condensed Consolidated Statements of Income, were \$10.7 million and \$25.2 million for the three and nine months ended September 30, 2021 and \$2.1 million and \$4.9 million for the three and nine months ended September 30, 2020, respectively, and represent the total cumulative trauma liability losses net of any estimated insurance receivables as discussed below.

To develop a reasonable estimate of MSA LLC's potential exposure to cumulative trauma product liability claims, Management performs an annual review of MSA LLC's cumulative trauma product liability claims in consultation with an outside valuation consultant and outside legal counsel. The review process takes into account developments in MSA LLC's claims experience over the past year, developments in the tort system generally, and any other relevant information. Quarterly, management and outside legal counsel review whether significant new developments have occurred which could materially impact recorded amounts for asserted claims, and if warranted management reviews changes with an outside valuation consultant.

Certain significant assumptions underlying the material components of the reserve for cumulative trauma product liability claims have been made based on MSA LLC's experience related to the following:

- The types and severity of illnesses alleged by claimants to give rise to their claims;
- The venues in which claims are asserted;
- The number of claims that may be asserted in the future against MSA LLC and the counsel asserting those claims; and
- The percentage of claims resolved through settlement and the values of settlements paid to claimants.

Additional assumptions include the following:

- MSA LLC will continue to evaluate and handle cumulative trauma product liability claims in accordance with its existing defense strategy;
- The number and effect of co-defendant bankruptcies will not materially change in the future;
- No material changes in medical science occur with respect to cumulative trauma product liability claims; and
- No material changes in law occur with respect to cumulative trauma product liability claims including no material state or federal tort reform actions.

Cumulative trauma product liability litigation is inherently unpredictable and MSA LLC's expense with respect to cumulative trauma product liability claims could vary significantly in future periods. It is difficult to reasonably estimate how many claims will be newly asserted against MSA LLC in any given period or over the lifetime of MSA LLC's claims experience. Case solicitation and filing activity, in our experience, is unique to each plaintiffs' counsel and also influenced by external factors. Once asserted it is unclear at the time of filing whether a claim will be actively litigated, or the extent of ultimate loss, if any, in the absence of discovery at initial case stages. Even when a case is actively litigated, it is often difficult to determine if the lawsuit will be dismissed without payment or settled, because of sufficiency of product identification, statute of limitations challenges, or other defenses. This difficulty is increased when claims are asserted by plaintiffs' counsel with which MSA LLC does not have substantial prior experience, as claims experience can vary significantly among different plaintiffs' counsel. As a result of all of these factors, it is typically unclear until late into litigation whether any particular claim, or inventories of claims, will result in losses and, if so, to what extent. Actual loss amounts for settled claims are highly variable and turn on a case-by-case analysis of the relevant facts. As more information is learned about asserted claims, adjustments may be made to the cumulative trauma product liability reserve as appropriate.

With respect to asserted or IBNR claims, MSA LLC's expense in future periods may vary from the reserve currently established for several reasons. In particular, MSA LLC's actual claims experience may differ in one or more respects from the significant assumptions listed above that were used by in establishing the reserve. Factors that make MSA LLC's asserted and IBNR claims difficult to reasonably estimate include uncertainty as to the number of claims that may be asserted in the future (and over what time periods), the wide variability in the alleged severity of claims asserted, changes in the severity of claims over time, and the number of claims that ultimately will be resolved with payment. This difficulty is increased when claims are asserted by plaintiffs' counsel, with which MSA LLC does not have substantial prior experience (as claims experience can vary significantly among different plaintiffs' counsel), the historically low volume of claims asserted and resolved, and numerous other factors. Numerous uncertainties also exist with respect to factors not specific to MSA LLC, including potential legislative or judicial changes at the federal level or in key states concerning claims adjudication, future bankruptcy proceedings involving key co-defendants, payments from trusts established to compensate claimants, and/or changes in medical science relating to the diagnosis and treatment of claims.

Because cumulative trauma product liability litigation is subject to the significant modeling assumptions and inherent uncertainties described above, and unfavorable developments or rulings could occur, there can be no certainty that MSA LLC may not ultimately incur charges in excess of presently recorded liabilities. The reserve for cumulative trauma product liability claims may be adjusted from time to time based on changes to the factors and assumptions described above. If future estimates of cumulative trauma product liability claims are materially different than the accrued liability, we will record an appropriate adjustment to the unaudited Condensed Consolidated Statement of Income. These adjustments could materially impact our consolidated financial statements in future periods.

Insurance Receivable and Notes Receivable, Insurance Companies

Many years ago, MSA LLC purchased insurance policies from various insurance carriers that, subject to common contract exclusions, provided coverage for cumulative trauma product liability losses (the "Occurrence-Based Policies"). While we continue to pursue reimbursement under certain remaining Occurrence-Based Policies, the vast majority of these policies have been exhausted, settled or converted into either (1) negotiated settlement agreements with scheduled payment streams (recorded as notes receivables), or (2) negotiated Coverage-in-Place Agreements (recorded as insurance receivables). As a result, MSA LLC is largely self-insured for cumulative trauma product liability claims, and additional amounts recorded as insurance receivables or notes receivables will be limited.

When adjustments are made to amounts recorded in the cumulative trauma product liability reserve, we calculate amounts due to be reimbursed pursuant to the terms of the negotiated Coverage-In-Place Agreements, including cumulative trauma product liability losses and related defense costs, and we record the amounts probable of reimbursement as insurance receivables. These amounts are not subject to current coverage litigation.

Insurance receivables at September 30, 2021 totaled \$105.9 million of which, \$10.9 million is reported in Prepaid expenses and other current assets in the unaudited Condensed Consolidated Balance Sheet and \$95.0 million is reported in Insurance receivable and other noncurrent assets. Insurance receivables at December 31, 2020 totaled \$97.0 million, of which \$12.0 million was reported in Prepaid expenses and other current assets in the unaudited Condensed Consolidated Balance Sheet and \$85.0 million was reported in Insurance receivable and other noncurrent assets. The vast majority of the \$105.9 million insurance receivables balance at September 30, 2021 is attributable to reimbursement believed to be due under the terms of signed Coverage-In-Place Agreements and a portion of this amount represents the estimated recovery of IBNR amounts not yet incurred.

A summary of insurance receivables balance and activity related to cumulative trauma product liability losses is as follows:

(In millions)	Nine Months Ended September 30, 2021	Year Ended December 31, 2020
Balance beginning of period	\$ 97.0	\$ 63.8
Additions	19.2	39.0
Collections and other adjustments	(10.3)	(5.8)
Balance end of period	\$ 105.9	\$ 97.0

We record formal notes receivable due from scheduled payment streams according to negotiated settlement agreements with insurers. These amounts are not subject to current coverage litigation.

Notes receivable from insurance companies at September 30, 2021, totaled \$48.2 million, of which \$3.9 million is reported in Notes receivable, insurance companies, current on the unaudited Condensed Consolidated Balance Sheet and \$44.3 million is reported in Notes receivable, insurance companies, noncurrent. Notes receivable from insurance companies at December 31, 2020 totaled \$52.3 million of which \$3.8 million was reported in Notes receivable, insurance companies, current on the unaudited Condensed Consolidated Balance Sheet and \$48.5 million was reported in Notes receivable, insurance companies, noncurrent.

A summary of notes receivables from insurance companies balance is as follows:

(In millions)	Nine Months Ended September 30, 2021	Year Ended December 31, 2020
Balance beginning of period	\$ 52.3	\$ 56.0
Additions	1.0	1.4
Collections	(5.1)	(5.1)
Balance end of period	\$ 48.2	\$ 52.3

The vast majority of the insurance receivables balance at September 30, 2021, is attributable to reimbursement under the terms of signed agreements with insurers and is not currently subject to litigation. The collectibility of MSA LLC's insurance receivables and notes receivables is regularly evaluated and we believe that the amounts recorded are probable of collection. The determination that the recorded insurance receivables are probable of collection is based on the terms of the settlement agreements reached with the insurers, our history of collection, and the advice of MSA LLC's outside legal counsel and consultants. Various factors could affect the timing and amount of recovery of the insurance and notes receivables, including assumptions regarding various aspects of the composition and characteristics of future claims (which are relevant to calculating reimbursement under the terms of certain Coverage-In-Place Agreements) and the extent to which the issuing insurers may become insolvent in the future.

Other Litigation

Two subsidiaries of the Company, Globe Manufacturing Company, LLC and Mine Safety Appliances Company, LLC, are defending a small number of lawsuits in which plaintiffs assert that certain of those entities' products allegedly containing per- and polyfluoroalkyl substances ("PFAS") have caused injury, health issues, or environmental issues. PFAS are a large class of substances that are widely used in everyday products. Specifically, Globe builds turnout gear from technical fabrics sourced from a small pool of specialty textile manufacturers. These protective fabrics have been tested and certified to meet industry standards, and some of them contain PFAS to achieve water, oil, or chemical resistance. No manufacturer of firefighter protective clothing is able to meet current National Fire Protection Association safety standards while offering coats or pants that are completely PFAS free.

Globe and MSA LLC believe they have valid defenses to these lawsuits. These matters are at a very early stage with numerous factual and legal issues to be resolved. Accordingly, no loss on account of such claims is probable. Defense costs relating to these lawsuits are recognized in the unaudited Condensed Consolidated Statement of Income as incurred. Globe and MSA LLC are also pursuing insurance coverage and indemnification related to the lawsuits.

Product Warranty

The Company provides warranties on certain product sales. Product warranty reserves are established in the same period that revenue from the sale of the related products is recognized, or in the period that a specific issue arises as to the functionality of the Company's product. The determination of such reserves requires the Company to make estimates of product return rates and expected costs to repair or to replace the products under warranty.

The amounts of the reserves are based on established terms and the Company's best estimate of the amounts necessary to settle future and existing claims on products sold as of the balance sheet date. If actual return rates and/or repair and replacement costs differ significantly from estimates, adjustments to recognize additional cost of sales may be required in future periods.

The following table reconciles the changes in the Company's accrued warranty reserve:

(In thousands)	Nine Months Ended September 30, 2021	Year Ended December 31, 2020
Beginning warranty reserve	\$ 11,428	\$ 12,715
Warranty payments	(6,650)	(10,861)
Warranty claims	6,573	10,233
Provision for product warranties and other adjustments	77	(659)
Ending warranty reserve	\$ 11,428	\$ 11,428

Warranty expense was \$6.7 million and \$6.8 million for the nine months ended September 30, 2021 and 2020, respectively, and is included in Costs of products sold on the unaudited Condensed Consolidated Statements of Income.

Note 19—Acquisitions

Acquisition of Bacharach

On July 1, 2021, we acquired Bacharach, Inc. and its affiliated companies (Bacharach) in an all cash transaction valued at \$329.4 million, net of cash acquired.

Headquartered near Pittsburgh in New Kensington, PA, Bacharach is a leader in gas detection technologies used in the heating, ventilation, air conditioning, and refrigeration (HVAC-R) markets.

Bacharach's operating results are included in our unaudited condensed consolidated financial statements from the acquisition date within the Americas, International and Corporate reportable segments. The acquisition qualifies as a business combination and has been accounted for using the acquisition method of accounting.

The following table summarizes the preliminary fair values of the Bacharach assets acquired and liabilities assumed at the date of the acquisition:

(In millions)	July 1, 2021
Current assets (including cash of \$11.7 million)	\$ 32.1
Property, plant and equipment and other noncurrent assets	4.7
Customer relationships	123.0
Developed technology	20.5
Trade name	15.0
Goodwill	193.4
Total assets acquired	388.7
Total liabilities assumed	(47.6)
Net assets acquired	\$ 341.1

The amounts in the table above are subject to change upon completion of the valuation of the assets acquired and liabilities assumed. This valuation is expected to be completed by the second quarter of 2022.

Assets acquired and liabilities assumed in connection with the acquisition have been recorded at their preliminary fair values. Fair values were determined by management, based in part on an independent valuation performed by a third party valuation specialist. The valuation methods used to determine the fair value of intangible assets included the excess earnings approach for customer relationships using customer inputs and contributory charges; the relief from royalty method for trade name and developed technologies; and the cost method for assembled workforce which is included in goodwill. A number of significant assumptions and estimates were involved in the application of these valuation methods, including forecasted sales volumes and prices, royalty rates, costs to produce, tax rates, capital spending, discount rates, attrition rates and working capital changes. Cash flow forecasts were generally based on Bacharach pre-acquisition forecasts, coupled with estimated MSA sales synergies. Identifiable intangible assets with finite lives are subject to amortization over their estimated useful lives. The customer relationships and trade name acquired in the Bacharach transaction will be amortized over a period of 21 years. Estimated future amortization expense related to the identifiable intangible assets is approximately \$2.2 million for the remainder of 2021, \$9.0 million for 2022 through 2025, and \$118.0 million thereafter. The step up to fair value of acquired inventory as part of the purchase price allocation totaled \$2.3 million which will be amortized over four months ending in October 2021. The amortization of the inventory step up was included in Cost of products sold in the unaudited condensed consolidated statement of income.

Goodwill is calculated as the excess of the purchase price over the fair value of net assets acquired and represents the future economic benefits arising from other assets acquired that could not be individually identified and separately recognized. Among the factors that contributed to a purchase price in excess of the fair value of the net tangible and intangible assets acquired were the acquisition of an assembled workforce, the expected synergies and other benefits that we believe will result from combining the operations of Bacharach with our operations. Goodwill of \$193.4 million related to the Bacharach acquisition has been recorded, with \$154.7 million and \$38.7 million allocated to the Americas reportable segment and International reportable segment, respectively. This Goodwill is non-deductible for tax purposes.

Acquisition of Bristol Uniforms and Bell Apparel

On January 25, 2021, we acquired 100% of the common stock of B T Q Limited, including Bristol Uniforms and Bell Apparel ("Bristol") in an all-cash transaction valued at \$63.0 million, net of cash acquired.

Bristol, which is headquartered in the United Kingdom (U.K.), is a leading innovator and provider of protective apparel to the fire, rescue services, and utility sectors. The acquisition strengthens MSA's position as a global market leader in fire service personal protective equipment (PPE) products, which include breathing apparatus, firefighter helmets, thermal imaging cameras, and firefighter protective apparel, while providing an avenue to expand its business in the U.K. and key European markets. The fire service equipment brands of MSA, which include Gallet Firefighter Helmets, the M1 and G1 Self-Contained Breathing Apparatus range, Cairns Helmets, Globe Manufacturing, and now Bristol Uniforms, represent more than 460 combined years of innovation in the fire service industry, with a common mission: protecting the health and safety of firefighters. Bristol is also a leading manufacturer of flame-retardant, waterproof, and other protective work wear for the utility industry. Marketed under the Bell Apparel brand, this line complements MSA's existing and broad range of offerings for the global utilities market.

Bristol's operating results are included in our unaudited condensed consolidated financial statements from the acquisition date as part of the International reportable segment. The acquisition qualifies as a business combination and will be accounted for using the acquisition method of accounting.

The following table summarizes the preliminary fair values of the Bristol assets acquired and liabilities assumed at the date of the acquisition:

(In millions)	January 25, 2021
Current assets (including cash of \$13.3 million)	\$ 37.1
Net investment in sales-type leases, noncurrent	29.0
Property, plant and equipment and other noncurrent assets	12.0
Customer relationships	4.5
Trade name and other intangible assets	1.4
Goodwill	4.1
Total assets acquired	88.1
Total liabilities assumed	(11.8)
Net assets acquired	\$ 76.3

The amounts in the table above are subject to change upon completion of the valuation of the assets acquired and liabilities assumed. This valuation is expected to be completed by first quarter of 2022.

Assets acquired and liabilities assumed in connection with the acquisition have been recorded at their preliminary fair values. Fair values were determined by management, based in part on an independent valuation performed by a third party valuation specialist. The valuation methods used to determine the fair value of intangible assets included the excess earnings approach for customer relationships using customer inputs and contributory charges; the relief from royalty method for trade name; and the cost method for assembled workforce which is included in goodwill. A number of significant assumptions and estimates were involved in the application of these valuation methods, including forecasted sales volumes and prices, royalty rates, costs to produce, tax rates, capital spending, discount rates, attrition rates and working capital changes. Cash flow forecasts were generally based on Bristol pre-acquisition forecasts, coupled with estimated MSA sales synergies. Identifiable intangible assets with finite lives are subject to amortization over their estimated useful lives. The customer relationships and trade name acquired in the Bristol transaction will be amortized over a period of 15 years. Estimated future amortization expense related to the identifiable intangible assets is approximately \$0.1 million for the remainder of 2021, \$0.5 million in 2022 and 2023, \$0.4 million in 2024 and 2025, and \$3.8 million thereafter. The step up to fair value of acquired inventory as part of the purchase price allocation totaled \$1.5 million which was amortized over four months that ended in May 2021. The amortization of the inventory step up was included in Cost of products sold in the unaudited condensed consolidated statement of income.

Goodwill is calculated as the excess of the purchase price over the fair value of net assets acquired and represents the future economic benefits arising from other assets acquired that could not be individually identified and separately recognized. Among the factors that contributed to a purchase price in excess of the fair value of the net tangible and intangible assets acquired were the acquisition of an assembled workforce, the expected synergies and other benefits that we believe will result from combining the operations of Bristol with our operations. Goodwill of \$4.1 million related to the Bristol acquisition has been recorded in the International reportable segment and is non-deductible for tax purposes.

Our results for the three and nine months ended September 30, 2021, include acquisition related costs of approximately \$7.4 million and \$11.9 million, respectively, including costs related to the acquisition of Bristol and Bacharach. Our results for the three and nine months ended September 30, 2020, include an immaterial amount of acquisition related costs. These costs are reported in selling, general, and administrative expenses and costs of products sold.

The operating results of these acquisitions have been included in our unaudited condensed consolidated financial statements from the acquisition dates through September 30, 2021. Our results for the nine months ended September 30, 2021, include sales and net loss of \$36.7 million and \$6.8 million, respectively attributable to these acquisitions.

The following unaudited pro forma information presents our combined results as if the Bristol and Bacharach acquisitions had occurred on January 1, 2020. The unaudited pro forma financial information was prepared to give effect to events that are (1) directly attributable to the acquisition; (2) factually supportable; and (3) expected to have a continuing impact on the combined company's results. There were no material transactions between MSA and Bristol or Bacharach during the periods presented that are required to be eliminated in the unaudited pro forma condensed combined financial information. The unaudited pro forma condensed combined financial information does not reflect any cost savings, operating synergies, or revenue enhancements that the combined companies may achieve as a result of the acquisition or the costs to integrate the operations or the costs necessary to achieve cost savings, operating synergies, or revenue enhancements.

Pro forma condensed combined financial information (Unaudited)

(In millions, except per share amounts)	Three Months Ended September 30,		Nine Months Ended September 30,			
	2020		2021	2020		
Net sales	\$	328.9	\$	1,027.6	\$	1,056.9
Net income	\$	24.8	\$	69.2	\$	102.9
Basic earnings per share	\$	0.64	\$	1.77	\$	2.65
Diluted earnings per share	\$	0.63	\$	1.75	\$	2.62

The unaudited pro forma condensed combined financial information is presented for information purposes only and is not intended to represent or be indicative of the combined results of operations or financial position that we would have reported had the acquisition been completed as of the date and for the periods presented, and should not be taken as representative of our condensed consolidated results of operations or financial condition following the acquisition. In addition, the unaudited pro forma condensed combined financial information is not intended to project the future financial position or result of operations of the combined company.

The unaudited pro forma condensed combined financial information was prepared using the acquisition method of accounting under existing U.S. GAAP. MSA has been treated as the acquirer.

Acquisition of Noncontrolling Interest

During July 2021, we purchased the remaining 10% noncontrolling interest in MSA (China) Safety Equipment Co., Ltd. from our China partner for \$19 million, inclusive of a \$6 million dividend.

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

The following discussion and analysis should be read in conjunction with the historical financial statements and other financial information included elsewhere in this quarterly report on Form 10-Q. This discussion may contain forward-looking statements that involve risks and uncertainties. The forward-looking statements are not historical facts, but rather are based on current expectations, estimates, assumptions and projections about our industry, business and future financial results. Our actual results could differ materially from the results contemplated by these forward-looking statements due to a number of factors, including those discussed in the sections of our annual report entitled "Forward-Looking Statements" and "Risk Factors," and those discussed in our Form 10-Q quarterly reports filed after such annual report (such as in Part II, Item 1A, "Risk Factors.")

BUSINESS OVERVIEW

MSA is a global leader in the development, manufacture and supply of safety products that protect people and facility infrastructures. Recognized for their market leading innovation, many MSA products integrate a combination of electronics, mechanical systems and advanced materials to protect users against hazardous or life-threatening situations. The Company's comprehensive product line, which is governed by rigorous safety standards across highly regulated industries, is used by workers around the world in a broad range of markets, including fire service, oil, gas and petrochemical industry, construction, industrial manufacturing applications, utilities, mining and the military. MSA's core products include breathing apparatus, fixed gas and flame detection systems, portable gas detection instruments, industrial head protection products, firefighter helmets and protective apparel, and fall protection devices. We are committed to providing our customers with service unmatched in the safety industry and, in the process, enhancing our ability to provide a growing line of safety solutions for customers in key global markets.

On July 1, 2021, we acquired Bacharach, Inc. and its affiliated companies (Bacharach) in a transaction valued at \$329.4 million, net of cash acquired. Headquartered near Pittsburgh in New Kensington, Pa., Bacharach is a leader in gas detection technologies used in the heating, ventilation, air conditioning and refrigeration (HVAC-R) markets. Founded in 1909, Bacharach's advanced instrumentation technologies help protect lives and the environment, while also increasing operational efficiency for its diversified customer base. Bacharach's portfolio of gas detection and analysis products are used to detect, measure and analyze leaks of various gases that are commonly found in both commercial and industrial settings. Bacharach has strong expertise in the refrigerant leak detection market with customers in the HVAC-R, food retail, automotive, commercial and industrial refrigeration, and military markets. Refer to Note 19—Acquisitions to the unaudited condensed consolidated financial statements in Part I Item 1 of this Form 10-Q for further information.

During July 2021, we purchased the remaining 10% noncontrolling interest in MSA (China) Safety Equipment Co., Ltd. from our China partner for \$19 million, inclusive of a \$6 million dividend.

On January 25, 2021, we acquired 100% of the common stock of B T Q Limited, including Bristol Uniforms and Bell Apparel ("Bristol") in an all-cash transaction valued at \$63 million, net of cash acquired. Bristol, which is headquartered in the United Kingdom (U.K.), is a leading innovator and provider of protective apparel to the fire, rescue services, and utility sectors. The acquisition strengthens MSA's position as a global market leader in fire service personal protective equipment (PPE) products, which include breathing apparatus, firefighter helmets, thermal imaging cameras, and firefighter protective apparel, while providing an avenue to expand its business in the U.K. and key European markets. The fire service equipment brands of MSA, which include Gallet Firefighter Helmets, the M1 and G1 Self-Contained Breathing Apparatus range, Cairns Helmets, Globe Manufacturing, and now Bristol Uniforms, represent more than 460 combined years of innovation in the fire service industry, with a common mission: protecting the health and safety of firefighters. Bristol is also a leading manufacturer of flame-retardant, waterproof, and other protective work wear for the utility industry. Marketed under the Bell Apparel brand, this line complements MSA's existing and broad range of offerings for the global utilities market. Refer to Note 19—Acquisitions to the unaudited condensed consolidated financial statements in Part I Item 1 of this Form 10-Q for further information.

MSA provides safety equipment to a broad range of customers who must continue to work in times of global pandemic as is now the case with COVID-19. Our customers include first responders, who are tasked with keeping citizens safe, and include industrial and utility workers tasked with maintaining critical infrastructure. For this reason, in order to successfully fulfill our mission as The Safety Company, MSA is an essential business and has continued operating its manufacturing facilities during these times, to the extent practicable, while protecting the health and safety of our workforce, and complying with all applicable laws. In January 2020, the Company established a special advisory committee to evaluate ongoing concerns, risks and challenges with respect to COVID-19 across its operations and corporate headquarters. The Company's pandemic response plan includes four key priorities: protecting the health and safety of MSA associates, enabling business continuity, expanding manufacturing capacity of MSA's existing air-purifying respirator portfolio, and managing its operating expenses and capital structure.

The Company has developed a thoughtful, phased approach to begin reconnecting segments of our workforce that had converted to remote working conditions due to COVID-19. This process includes returning elements of our salesforce to in-person customer interactions on a limited basis, with additional employees scheduled to begin returning to the office, once deemed appropriate under the circumstances for each business location. A phased approach to reconnect employees while adjusting the characteristics of their physical working environments, providing training and executing enhanced safety and cleaning protocols, will promote workspace safety in a manner consistent with the mission and values of MSA. The Company brought the majority of the U.S. workforce back during the third quarter 2021. The Company expects to modify plans as necessary to respond to such changes.

We tailor our product offerings and distribution strategy to satisfy distinct customer preferences that vary across geographic regions. To best serve these customer preferences, we have organized our business into four geographical operating segments that are aggregated into three reportable geographic segments: Americas, International and Corporate.

Americas. Our largest manufacturing and research and development facilities are located in the United States (U.S.). We serve our markets across the Americas with manufacturing facilities in the U.S., Mexico and Brazil. Operations in the other countries within the Americas segment focus primarily on sales and distribution in their respective home country markets.

International. Our International segment includes companies in Europe, the Middle East and Africa ("EMEA") and the Asia Pacific region. In our largest International subsidiaries (in Germany, France, United Kingdom (U.K.), Ireland and China), we develop, manufacture and sell a wide variety of products. In China, the products manufactured are sold primarily in China as well as in regional markets. Operations in other International segment countries focus primarily on sales and distribution in their respective home country markets. Although some of these companies may perform limited production, most of their sales are of products manufactured in our plants in Germany, France, the U.S., U.K., Ireland and China or are purchased from third-party vendors.

Corporate. The Corporate segment primarily consists of general and administrative expenses incurred in our corporate headquarters, costs associated with corporate development initiatives, legal expense, interest expense, foreign exchange gains or losses and other centrally-managed costs. Corporate general and administrative costs comprise the majority of the expense in the Corporate segment.

PRINCIPAL PRODUCTS

The following is a brief description of each of our principal product categories:

MSA's corporate strategy includes a focus on driving sales of core products where we have leading market positions and a distinct competitive advantage. Core products, as mentioned above, include breathing apparatus, fixed gas and flame detection systems, portable gas detection instruments, industrial head protection products, firefighter helmets and protective apparel, and fall protection devices. Core products comprised approximately 89% and 85% of sales for the nine months ended September 30, 2021 and 2020. MSA also maintains a portfolio of non-core products. Non-core products reinforce and extend the core offerings, drawing upon our customer relationships, distribution channels, geographical presence and technical experience. These products are complementary to the core offerings and often reflect more episodic or contract-driven growth patterns. Key non-core products include air-purifying respirators ("APR"), eye and face protection, ballistic helmets and gas masks.

MSA does not produce disposable respirators of any type; however, Mine Safety Appliances Company, LLC ("MSA LLC"), one of the Company's subsidiaries, does produce advanced elastomeric APR, including half-mask respirators, full-facepiece respirators and powered air purifying respirators, each with replaceable filters providing a minimum of N-95 filtration capability. These products have historically been used in many industrial and first responder applications. APR products represented 5% and 9% of our consolidated sales for the nine months ended September 30, 2021 and 2020, with over 73% and 75% of this business being in our Americas segment. During 2020, Emergency Use Authorizations ("EUA") were issued by the FDA to expand the types of respiratory protection available to the medical community in response to COVID-19. Those include an EUA that continues to temporarily permit the use of NIOSH-approved respirators in healthcare settings, including elastomeric APR that are part of MSA's existing portfolio.

MSA maintains a diversified portfolio of safety products that protect workers and facility infrastructure across a broad array of end markets. While the company sells its products through distribution, which can limit end-user visibility, the Company provides estimated ranges of end market exposure to facilitate understanding of its growth drivers. The Company estimates that approximately 35%-40% of its overall revenue is derived from the fire service market and 25%-30% of its revenue is derived from the energy market. The remaining 30%-40% is split among construction, utilities, general industrial applications, military and mining.

A detailed listing of our significant product offerings in the aforementioned product groups above is included in MSA's Annual Report on Form 10-K for the year ended December 31, 2020.

RESULTS OF OPERATIONS

Three Months Ended September 30, 2021, Compared to Three Months Ended September 30, 2020

Net Sales. Net sales for the three months ended September 30, 2021, were \$340.2 million, an increase of \$35.8 million, or 11.8%, driven by acquisitions and increased sales across all core product groups compared to \$304.4 million for the three months ended September 30, 2020. Please refer to the Net Sales table for a reconciliation of the quarter over quarter sales change.

Net Sales (In millions)	Three Months Ended September 30,		Dollar Increase	Percent Increase
	2021	2020		
Consolidated	\$340.2	\$304.4	\$35.8	11.8%
Americas	229.1	194.3	34.8	17.9%
International	111.1	110.1	1.0	0.9%

Net Sales (Percent Change)	Three Months Ended September 30, 2021		
	Americas	International	Consolidated
GAAP reported sales change	17.9%	0.9%	11.8%
Currency translation effects	(0.6)%	(2.5)%	(1.1)%
Constant currency sales change	17.3%	(1.6)%	10.7%
Less: Acquisitions	(7.2)%	(8.6)%	(7.8)%
Organic constant currency change	10.1%	(10.2)%	2.9%

Note: Organic constant currency sales change is a non-GAAP financial measure provided by the Company to give a better understanding of the Company's underlying business performance. Organic constant currency sales change is calculated by deducting the percentage impact from acquisitions and currency translation effects from the overall percentage change in net sales.

Net sales for the Americas segment were \$229.1 million in the third quarter of 2021, an increase of \$34.8 million, or 17.9%, compared to \$194.3 million in the third quarter of 2020. During the quarter, constant currency sales in the Americas segment increased 17.3% compared to the prior year period. Most core products improved versus the prior year with notable improvements in our industrial business that responded quickly to the improving business environment, partially offset by lower demand for APR products as the respirator business returned to pre-pandemic levels. The Americas segment Fixed Gas & Flame Detection ("FGFD") sales were driven in part by \$14.1 million of Bacharach sales. Americas segment business conditions and order activity continue to be healthy. Our ability to timely deliver orders will be dependent upon the extent to which supply chain challenges and to a lesser extent labor shortages persist.

Net sales for the International segment were \$111.1 million in the third quarter of 2021, an increase of \$1.0 million, or 0.9%, compared to \$110.1 million for the third quarter of 2020. Constant currency sales in the International segment decreased 1.6% during the quarter due to weaker organic sales volumes across the segment with more significant weakness in emerging markets due to an uneven economic recovery due to the ongoing prevalence of COVID-19 throughout the region and supply chain challenges, which were partially offset by \$9.0 million of sales from Bristol and \$1.1 million of Bacharach sales. Recovery in this segment is dependent on the stabilization of the pandemic.

Our backlog remains at an elevated level, as a result of an uptick in order pace and ongoing supply chain constraints in certain product lines. Order activity was healthy as we finished the third quarter. We saw improvements as we went through the quarter with September being our strongest incoming order month of the quarter. Historically, we see a strengthening in the fourth quarter compared with the the third quarter and at this point we expect to experience a 10% increase in sales from the third quarter to the fourth quarter due to seasonality in 2021.

Looking ahead, we continue to operate in a very dynamic environment. There are a number of other evolving factors that will continue to influence our revenue outlook. These factors include, among other things, the effectiveness/pace of the vaccine rollout globally, risk of additional COVID lockdowns, industrial employment rates, supply chain constraints, raw material availability and the pace of economic recovery. These conditions could impact our future results and growth expectations well into 2022.

Refer to Note 8—Segment Information to the unaudited condensed consolidated financial statements in Part I Item 1 of this Form 10-Q, for information regarding sales by product group.

Gross profit. Gross profit for the third quarter of 2021 was \$146.0 million, an increase of \$13.8 million or 10.4%, compared to \$132.2 million for the third quarter of 2020. The ratio of gross profit to net sales was 42.9% in the third quarter of 2021 compared to 43.4% in the same quarter last year. Strategic pricing and stronger throughput in our factories helped to mitigate the \$2.4 million of intangible asset amortization related to our 2021 acquisitions, \$1.7 million of inventory step-up amortization related to the Bacharach acquisition and higher material costs. These acquisition related costs negatively impacted gross profit by 120 basis points.

We have implemented an off-cycle price increase in response to the inflation we are seeing in the U.S. across electronic components, resins and other inputs. While there could be a number of scenarios on the length of time that these challenges may persist, we could see these impact our business for the foreseeable future with more meaningful impact well into 2022. We will continue to evaluate additional pricing opportunities as we continue to navigate inflationary pressures.

Selling, general and administrative expenses. Selling, general and administrative ("SG&A") expenses were \$87.5 million during the third quarter of 2021, an increase of \$22.7 million or 35.0%, compared to \$64.8 million in the third quarter of 2020. Overall, selling, general and administrative expenses were 25.7% of net sales during the third quarter of 2021, compared to 21.3% of net sales during the same period in 2020. Improved business conditions drove \$6.7 million of additional variable compensation and \$3.3 million of higher discretionary expense during the quarter. SG&A includes \$9.1 million of expenses associated with Bacharach and Bristol operations and deal costs related to these acquisitions. We continue to expect SG&A to be 23.5% of sales for the second half of 2021.

Please refer to the Selling, general and administrative expenses table for a reconciliation of the quarter over quarter expense change.

Selling, general, and administrative expenses (Percent Change)	Three Months Ended September 30, 2021 versus September 30, 2020
	Consolidated
GAAP reported change	35.0%
Currency translation effects	—%
Constant currency change	35.0%
Less: Acquisitions and related strategic transaction costs	(14.5)%
Organic constant currency change	20.5%

Research and development expense. Research and development expense was \$14.9 million during the third quarter of 2021, an increase of \$1.0 million, compared to \$13.9 million during the third quarter of 2020. Research and development expense was 4.4% of net sales in the third quarter of 2021 compared to 4.6% in the same period of 2020. We continue to develop new products for global safety markets, including the recently announced launch of the Altair io4, the future of connected work. During the third quarter of 2021, we capitalized \$2.0 million of software development costs.

Restructuring charges. Restructuring charges during the third quarter of 2021, were \$3.9 million primarily related to integration activities. Together with cost reduction programs executed throughout 2020, we expect these programs to collectively deliver approximately \$15 million of savings throughout the income statement in 2021, and annual savings of \$25-\$30 million thereafter. This compared to restructuring charges of \$7.6 million during the third quarter of 2020, primarily due to severance costs related to a plan to reduce global cost structure. We remain focused on executing programs to optimize our cost structure.

Currency exchange. Currency exchange losses were \$0.1 million in the third quarter of 2021 compared to losses of \$2.8 million in the third quarter of 2020. Currency exchange in both periods were related to foreign currency exposure on unsettled inter-company balances.

Refer to Note 16—Derivative Financial Instruments to the unaudited condensed consolidated financial statements in Part I Item 1 of this Form 10-Q, for information regarding our currency exchange rate risk management strategy.

Product liability expense. Product liability expense for the three months ended September 30, 2021 was \$10.7 million compared to \$2.1 million in the same period last year. Product liability expense increased during the period to reflect an increase in the number of asserted Coal claims pending against MSA LLC and a corresponding adjustment to the reserve, as discussed further in Note 18—Contingencies. Product liability expense for 2020 related primarily to defense costs incurred for cumulative trauma product liability claims. Management performs an annual review during the fourth quarter of MSA LLC's cumulative trauma product liability claims in consultation with an outside valuation consultant and outside legal counsel.

GAAP operating income. Consolidated operating income for the third quarter of 2021 was \$29.0 million compared to \$41.1 million in the same period last year. The decrease in operating income was primarily driven by higher product liability expense and higher SG&A expenses, as described above, partially offset by increased sales volume.

Adjusted operating income. Americas adjusted operating income for the third quarter of 2021 was \$44.4 million, an increase of \$3.5 million or 8% compared to \$40.9 million from the prior year quarter. The increase in adjusted operating income is primarily attributable to higher sales volumes, partially offset by higher SG&A, which was driven by compensation resets, and an increase in discretionary costs as described above.

International adjusted operating income for the third quarter of 2021 was \$12.6 million, a decrease of \$3.1 million, or 20%, compared to \$15.7 million in the prior year quarter. The decrease in adjusted operating income is primarily attributable to lower organic revenue and higher SG&A, as described above.

Corporate segment adjusted operating loss for the third quarter of 2021 was \$6.0 million, an increase of \$3.1 million compared to an adjusted operating loss of \$2.9 million in the third quarter of 2020 due to higher SG&A expense.

The following tables represent a reconciliation from GAAP operating income to adjusted operating income (loss) and adjusted EBITDA. Adjusted operating margin % is calculated as adjusted operating income (loss) divided by net sales and adjusted EBITDA margin % is calculated as adjusted EBITDA divided by net sales.

Adjusted operating income (In thousands)	Three Months Ended September 30, 2021			
	Americas	International	Corporate	Consolidated
Net sales	\$ 229,076	\$ 111,121	\$ —	\$ 340,197
GAAP operating income				28,961
Restructuring charges (Note 4)				3,853
Currency exchange losses, net (Note 6)				100
Product liability expense (Note 18)				10,688
Acquisition related costs (Note 19) ^(a)				7,351
Adjusted operating income (loss)	44,364	12,599	(6,010)	50,953
Adjusted operating margin %	19.4 %	11.3 %		
Depreciation and amortization ^(a)				11,823
Adjusted EBITDA	52,514	16,142	(5,880)	62,776
Adjusted EBITDA %	22.9 %	14.5 %		

Adjusted operating income (In thousands)	Three Months Ended September 30, 2020			
	Americas	International	Corporate	Consolidated
Net sales	\$ 194,303	\$ 110,089	\$ —	\$ 304,392
GAAP operating income				41,149
Restructuring charges (Note 4)				7,603
Currency exchange losses, net (Note 6)				2,759
Product liability expense (Note 18)				2,077
Acquisition related costs (Note 19) ^(a)				41
Adjusted operating income (loss)	40,898	15,658	(2,927)	53,629
Adjusted operating margin %	21.0 %	14.2 %		
Depreciation and amortization ^(a)				9,856
Adjusted EBITDA	47,465	18,848	(2,828)	63,485
Adjusted EBITDA %	24.4 %	17.1 %		

^(a) Acquisition related costs include advisory, legal, accounting, valuation, and other professional or consulting fees incurred during due diligence and integration. These costs are included in Selling, general and administrative expense in the unaudited Condensed Consolidated Statements of Income. Acquisition-related costs also include the acquisition related amortization, which is included in Cost of products sold in the Condensed Consolidated Statements of Income.

Note: Adjusted operating income (loss) and adjusted EBITDA are a non-GAAP financial measures used by the chief operating decision maker to evaluate segment performance and allocate resources. Adjusted operating income (loss) is reconciled above to the nearest GAAP financial measure, Operating income (loss), and excludes restructuring, currency exchange, product liability expense, and acquisition related costs. Adjusted EBITDA is reconciled above to the nearest GAAP financial measure, Operating income (loss) and excludes depreciation and amortization expense.

Total other (income) expense, net. Total other expense, net, for the third quarter of 2021 was \$1.5 million, compared to other expense, net, of \$1.2 million for the same period in 2020 driven primarily by higher interest expense related to the Bacharach acquisition, partially offset by higher pension income driven by a higher expected rate of return.

Income taxes. The reported effective tax rate for the third quarter of 2021 was 31.5% compared to 29.3% for the third quarter of 2020. This increase from the prior year is attributable to state income taxes and nondeductible transaction costs, partially offset by the impact of statutory rate increases in foreign jurisdictions recorded in the third quarter of 2020.

We are subject to regular review and audit by both foreign and domestic tax authorities. While we believe our tax positions will be sustained, the final outcome of tax audits and related litigation may differ materially from the tax amounts recorded in our consolidated financial statements.

Net income attributable to MSA Safety Incorporated. Net income was \$18.8 million for the third quarter of 2021, or \$0.48 per diluted share compared to income of \$28.0 million, or \$0.71 per diluted share, for the same period last year.

Nine Months Ended September 30, 2021, Compared to Nine Months Ended September 30, 2020

Net Sales. Net sales for the nine months ended September 30, 2021, were \$989.9 million, an increase of \$29.9 million, or 3.1%, driven by acquisitions and increased sales across most of the core product groups compared to \$960.0 million for the nine months ended September 30, 2020. Please refer to the Net Sales table for a reconciliation of the period over period sales change.

Net Sales (In millions)	Nine Months Ended September 30,		Dollar Increase	Percent Increase
	2021	2020		
Consolidated	\$989.9	\$960.0	\$29.9	3.1%
Americas	655.1	629.8	25.3	4.0%
International	334.8	330.2	4.6	1.4%

Net Sales (Percent Change)	Nine Months Ended September 30, 2021		
	Americas	International	Consolidated
GAAP reported sales change	4.0%	1.4%	3.1%
Currency translation effects	(0.1)%	(6.2)%	(2.2)%
Constant currency sales change	3.9%	(4.8)%	0.9%
Less: Acquisitions	(2.3)%	(6.2)%	(3.6)%
Organic constant currency change	1.6%	(11.0)%	(2.7)%

Note: Organic constant currency sales change is a non-GAAP financial measure provided by the Company to give a better understanding of the Company's underlying business performance. Organic constant currency sales change is calculated by deducting the percentage impact from acquisitions and currency translation effects from the overall percentage change in net sales.

Net sales for the Americas segment were \$655.1 million in the nine months ended September 30, 2021, an increase of \$25.3 million, or 4.0%, compared to \$629.8 million in the same period last year. During the nine months ended September 30, 2021, constant currency sales in the Americas segment increased 3.9% compared to the prior year period, driven by a general improvement in business conditions that began during the second quarter of 2021 and \$14.1 million of Bacharach sales, partially offset by APR sales moderating to pre-pandemic levels. Our ability to timely deliver orders will be dependent upon the extent to which supply chain challenges and to a lesser extent labor shortages persist.

Net sales for the International segment were \$334.8 million in the nine months ended September 30, 2021, an increase of \$4.6 million, or 1.4%, compared to \$330.2 million for the same period last year. Constant currency sales in the International segment decreased 4.8% during the period on weaker organic sales volumes across the segment, with more significant weakness in emerging markets due to an uneven economic recovery due to COVID-19 and lower project business in the Middle East FGD market. This weakness was partially offset by \$21.5 million of Bristol turnout gear sales and \$1.1 million of Bacharach sales.

Refer to Note 8—Segment Information to the unaudited condensed consolidated financial statements in Part I Item 1 of this Form 10-Q, for information regarding sales by product group.

Gross profit. Gross profit for the nine months ended September 30, 2021, was \$433.7 million, an increase of \$2.5 million or 0.6%, compared to \$431.2 million during the same period last year. The ratio of gross profit to net sales was 43.8% during the nine months ended September 30, 2021 compared to 44.9% during the same period last year. Strategic pricing and stronger throughput in our factories partially mitigated \$3.3 million of inventory step-up amortization related to acquisitions and \$2.6 million of intangible asset amortization related to our 2021 acquisitions, higher material costs, and inventory charges associated with lower demand for APR products. We have implemented an off-cycle price increase to respond to the inflation we are seeing in the U.S. across electronic components, resins and other inputs. While there could be a number of scenarios on the length of time that these challenges may persist, we could see these impact our business for the foreseeable future with more meaningful impact well into 2022. We will continue to evaluate additional pricing opportunities as we continue to navigate inflationary pressures.

Selling, general and administrative expenses. Selling, general and administrative ("SG&A") expenses were \$246.3 million during the nine months ended September 30, 2021, an increase of \$32.2 million or 15.1%, compared to \$214.1 million during the same period last year. Overall, selling, general and administrative expenses were 24.9% of net sales during the nine months ended September 30, 2021, compared to 22.3% of net sales during the same period in 2020. Improved business conditions drove \$14.7 million of additional variable compensation and \$1.6 million of higher discretionary expense during the period as the business exited the peak pandemic state. SG&A includes \$15.3 million of expenses associated with Bacharach and Bristol operations as well as deal costs related to these acquisitions.

Please refer to the Selling, general and administrative expenses table for a reconciliation of the period over period expense change.

Selling, general, and administrative expenses (Percent Change)	Nine Months Ended September 30, 2021 versus September 30, 2020
	Consolidated
GAAP reported change	15.1%
Currency translation effects	(1.8)%
Constant currency change	13.3%
Less: Acquisitions and related strategic transaction costs	(6.9)%
Organic constant currency change	6.4%

Research and development expense. Research and development expense was \$42.1 million during the nine months ended September 30, 2021, an increase of \$0.4 million, compared to \$41.7 million during the same period last year. Research and development expense was 4.3% of net sales in both periods. We continue to develop new products for global safety markets, including the recently announced launch of the Altair i04, the future of connected work. During the nine months ended September 30, 2021, we capitalized \$6.1 million of software development costs.

Restructuring charges. Restructuring charges during the nine months ended September 30, 2021, were \$12.2 million primarily related to our ongoing initiatives to drive profitable growth and right size our operations and integration activities. Together with cost reduction programs executed throughout 2020, we expect these programs to collectively deliver approximately \$15 million of savings throughout the income statement in 2021, and annual savings of \$25-\$30 million thereafter. This compared to restructuring charges of \$18.5 million during the same period in 2020, primarily related to footprint rationalization projects including the Company's FGFD manufacturing footprint optimization and the acceleration of cost reduction programs associated with our ongoing initiatives to drive profitable growth in our International segment. We remain focused on executing programs to optimize our cost structure.

Currency exchange. Currency exchange gains were \$0.4 million during the nine months ended September 30, 2021, compared to losses of \$3.8 million in the same period of 2020. Currency exchange in both periods were related to foreign currency exposure on unsettled inter-company balances.

Refer to Note 16—Derivative Financial Instruments to the unaudited condensed consolidated financial statements in Part I Item 1 of this Form 10-Q, for information regarding our currency exchange rate risk management strategy.

Product liability expense. Product liability expense for the nine months ended September 30, 2021 was \$25.2 million compared to \$4.9 million in the same period last year. Product liability expense increased during the period to reflect an increase in the number of asserted coal claims pending against MSA LLC and a corresponding adjustment to the reserve, as discussed further in Note 18—Contingencies. Product liability expense for 2020 related primarily to defense costs incurred for cumulative trauma product liability claims. Management performs an annual review during the fourth quarter of MSA LLC's cumulative trauma product liability claims in consultation with an outside valuation consultant and outside legal counsel.

GAAP operating income. Consolidated operating income for the nine months ended September 30, 2021, was \$108.0 million compared to \$148.2 million in the same period last year. The decrease in operating results was driven by gross profit headwinds, including acquisition amortization, higher product liability expense and SG&A expenses for the reasons noted above.

Adjusted operating income. Americas adjusted operating income for the nine months ended September 30, 2021 was \$138.8 million, a decrease of \$10.9 million, or 7.3%, compared to \$149.7 million in the prior year. The decrease was related to variable compensation resets and higher SG&A due to the Bacharach acquisition.

International adjusted operating income for the nine months ended September 30, 2021, was \$41.8 million, a decrease of \$3.9 million, or 8.6%, compared to \$45.7 million in the prior year. The decrease in adjusted operating income is primarily attributable to lower organic revenue, higher SG&A expense as described above.

Corporate segment adjusted operating loss for the nine months ended September 30, 2021, was \$23.5 million, an increase of \$4.4 million compared to an adjusted operating loss of \$19.1 million in the same period of 2020 due to higher variable compensation expenses related to improved business conditions and the impact of the Bacharach acquisition.

The following tables represent a reconciliation from GAAP operating income to adjusted operating income (loss) and adjusted EBITDA. Adjusted operating margin % is calculated as adjusted operating income (loss) divided by net sales and adjusted EBITDA margin % is calculated as adjusted EBITDA divided by net sales.

Adjusted operating income (In thousands)	Nine Months Ended September 30, 2021			
	Americas	International	Corporate	Consolidated
Net sales	\$ 655,123	\$ 334,792	\$ —	\$ 989,915
GAAP operating income				108,049
Restructuring charges (Note 4)				12,239
Currency exchange gains, net (Note 6)				(359)
Product liability expense (Note 18)				25,235
Acquisition related costs (Note 19) ^(a)				11,891
Adjusted operating income (loss)	138,778	41,794	(23,517)	157,055
Adjusted operating margin %	21.2 %	12.5 %		
Depreciation and amortization ^(a)				\$ 33,716
Adjusted EBITDA	\$ 161,861	\$ 52,095	\$ (23,185)	\$ 190,771
Adjusted EBITDA %	24.7 %	15.6 %		

Adjusted operating income (In thousands)	Nine Months Ended September 30, 2020			
	Americas	International	Corporate	Consolidated
Net sales	\$ 629,787	\$ 330,188	\$ —	\$ 959,975
GAAP operating income				148,213
Restructuring charges (Note 4)				18,475
Currency exchange losses, net (Note 6)				3,821
Product liability expense (Note 18)				4,878
Acquisition related costs (Note 19) ^(a)				202
COVID-19 related costs				757
Adjusted operating income (loss)	149,708	45,719	(19,081)	176,346
Adjusted operating margin %	23.8 %	13.8 %		
Depreciation and amortization ^(a)				29,284
Adjusted EBITDA	169,343	55,075	(18,788)	205,630
Adjusted EBITDA %	26.9 %	16.7 %		

^(a) Acquisition related costs include advisory, legal, accounting, valuation, and other professional or consulting fees incurred during due diligence and integration. These costs are included in Selling, general and administrative expense in the unaudited condensed consolidated statement of income. Acquisition-related costs also include the acquisition related amortization, which is included in Cost of products sold in the Condensed Consolidated Statements of Income.

Note: Adjusted operating income (loss) and adjusted EBITDA are a non-GAAP financial measures used by the chief operating decision maker to evaluate segment performance and allocate resources. Adjusted operating income (loss) is reconciled above to the nearest GAAP financial measure, Operating income (loss), and excludes restructuring, currency exchange, product liability expense, and acquisition related costs. Adjusted EBITDA is reconciled above to the nearest GAAP financial measure, Operating income (loss) and excludes depreciation and amortization expense.

Total other (income) expense, net. Total other income, net, for the nine months ended September 30, 2021 was \$0.9 million, compared to other expense, net, of \$3.5 million for the same period in 2020 due primarily to higher pension income driven by a one-time pension settlement and a higher expected rate of return.

Income taxes. The reported effective tax rate for the nine months ended September 30, 2021, was 25.8% compared to 25.1% for the same period in 2020. This increase from the prior year is attributable to nondeductible executive compensation and transaction costs.

We are subject to regular review and audit by both foreign and domestic tax authorities. While we believe our tax positions will be sustained, the final outcome of tax audits and related litigation may differ materially from the tax amounts recorded in our consolidated financial statements.

Net income attributable to MSA Safety Incorporated. Net income was \$80.4 million for the nine months ended September 30, 2021, or \$2.04 per diluted share compared to income of \$107.8 million, or \$2.74 per diluted share, for the same period last year.

Non-GAAP Financial Information

We may provide information regarding financial measures such as organic constant currency changes, financial measures excluding the impact of acquisitions and related acquisition related costs, including acquisition related amortization and COVID-19 related costs, consisting of a one-time bonus for essential manufacturing employees and adjusted operating income, adjusted operating margin percentage, adjusted EBITDA and adjusted EBITDA margin percentage, which are not recognized terms under U.S. GAAP and do not purport to be alternatives to net sales, selling, general and administrative expense, operating income or net income as a measure of operating performance. We believe that the use of these non-GAAP financial measures provide investors with additional useful information and provide a more complete understanding of the underlying results. Because not all companies use identical calculations, these presentations may not be comparable to similarly titled measures from other companies. For more information about these non-GAAP measures and a reconciliation to the nearest U.S. GAAP measure, please refer to the reconciliations referenced above in Management's Discussion & Analysis section and in Note 8—Segment Information to the unaudited condensed consolidated financial statements in Part I Item 1 of this Form 10-Q.

We may also provide financial information on a constant currency basis, which is a non-GAAP financial measure. These references to a constant currency basis do not include operational impacts that could result from fluctuations in foreign currency rates, which are outside of management's control. To provide information on a constant currency basis, the applicable financial results are adjusted by translating current and prior period results in local currency to a fixed foreign exchange rate. This approach is used for countries where the functional currency is the local country currency. This information is provided so that certain financial results can be viewed without the impact of fluctuations in foreign currency rates, thereby facilitating period-to-period comparisons of business performance. Organic constant currency information is not recognized under U.S. GAAP and it is not intended as an alternative to U.S. GAAP measures.

LIQUIDITY AND CAPITAL RESOURCES

Our main source of liquidity is operating cash flows, supplemented by borrowings. Our principal liquidity requirements are for working capital, capital expenditures, principal and interest payments on debt, dividend payments and acquisitions. At September 30, 2021, approximately 48% of our long-term debt is at fixed interest rates with repayment schedules through 2036. The remainder of our long-term debt is at variable rates on an unsecured revolving credit facility that is due in 2026. At September 30, 2021, approximately 80% of our borrowings are denominated in U.S. dollars, which limits our exposure to currency exchange rate fluctuations.

At September 30, 2021, the Company had cash and cash equivalents totaling \$117.3 million and access to sufficient capital, providing ample liquidity and flexibility to continue to maintain our balanced capital allocation strategy. We believe MSA's healthy balance sheet and access to significant capital at September 30, 2021, positions us well to navigate through challenging business conditions.

Cash, cash equivalents and restricted cash decreased \$43.2 million during the nine months ended September 30, 2021, compared to decreasing \$19.4 million during the same period in 2020. We continue to employ a balanced capital allocation strategy that prioritizes growth investments, funding our dividend and servicing debt obligations.

Operating activities. Operating activities provided cash of \$130.1 million during the nine months ended September 30, 2021, compared to providing \$110.2 million during the same period in 2020. The improved operating cash flow as compared to the same period in 2020 was primarily related to working capital improvements.

Payments for subsidiary MSA LLC's product liability claims exceeded collections from insurance companies by \$17.1 million in the nine months ended September 30, 2021, compared to collections from insurance companies of \$4.2 million, net of product liability claim payments, in the same period of 2020. MSA LLC funds its operating expenses and legal liabilities from its own operating cash flow and other investments, as well as limited amounts of insurance reimbursements, and not from borrowings under the Company's credit facility, to which it is not a party. Now that MSA LLC is largely self-insured for its historical cumulative trauma product liability claims, associated insurance reimbursements received in any given period are limited, and generally do not fully offset cash outlay in that same period. In recent years, MSA LLC's contingent liabilities have been funded without a material impact on the Company's consolidated capital allocation priorities.

Investing activities. Investing activities used cash of \$402.6 million during the nine months ended September 30, 2021, compared to using \$51.7 million during the same period in 2020. The acquisitions of Bacharach and Bristol and capital expenditures, partially offset by maturities of short-term investments, net of purchases, drove cash outflows from investing activities during the nine months ended September 30, 2021, while capital expenditures and the purchase of short-term investments, net of proceeds from maturities, drove cash outflows from investing activities during the same period in 2020. During the nine months ended September 30, 2021, we incurred capital expenditures of \$31.0 million, including \$6.1 million associated with software development and other growth programs, compared to capital expenditures of \$32.7 million, including \$6 million associated with software development and other growth programs, in the same period in 2020. We also remain active in evaluating additional acquisition opportunities that will allow us to continue to grow in key end markets and geographies.

Financing activities. Financing activities provided cash of \$233.4 million during the nine months ended September 30, 2021, compared to using cash of \$76.1 million during the same period in 2020. During the nine months ended September 30, 2021, we had net proceeds on long-term debt of \$308.9 million to fund the acquisitions of Bacharach and Bristol and buy-out our minority partner in our China business as compared to net payments on long-term debt of \$5.0 million during the same period in 2020. We paid cash dividends of \$51.3 million during the nine months ended September 30, 2021, compared to \$49.8 million in the same period in 2020. We also used cash of \$6.1 million during the nine months ended September 30, 2021 to repurchase shares, compared to using \$28.7 million during the same period in 2020. In 2020, \$20.1 million of our repurchase activity was related to purchases under our 2015 stock repurchase program.

CUMULATIVE TRANSLATION ADJUSTMENTS

The position of the U.S. dollar relative to international currencies at September 30, 2021, resulted in a translation loss of \$18.0 million being recorded to the cumulative translation adjustments shareholders' equity account during the nine months ended September 30, 2021, compared to a \$3.0 million translation loss being recorded to the cumulative translation adjustments account during the same period in 2020.

COMMITMENTS AND CONTINGENCIES

We made contributions of \$5.8 million to our pension plans during the nine months ended September 30, 2021. We expect to make total contributions of approximately \$7.7 million to our pension plans in 2021 primarily associated with statutorily required plans in the International segment.

The Company had outstanding bank guarantees and standby letters of credit with banks as of September 30, 2021, totaling \$10.5 million, of which \$1.5 million related to the senior revolving credit facility. These letters of credit serve to cover customer requirements in connection with certain sales orders and insurance companies. The Company is also required to provide cash collateral in connection with certain arrangements. At September 30, 2021, the Company has \$0.5 million of restricted cash in support of these arrangements.

We have purchase commitments for materials, supplies, services, and property, plant and equipment as part of our ordinary conduct of business.

Please refer to Note 18—Contingencies to the unaudited condensed consolidated financial statements in Part I Item 1 of this Form 10-Q for further discussion on the Company's single incident and cumulative trauma product liabilities.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

We prepare our consolidated financial statements in accordance with accounting principles generally accepted in the United States of America (U.S. GAAP). The preparation of these consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and the related disclosures. We evaluate these estimates and judgments on an on-going basis based on historical experience and various assumptions that we believe to be reasonable under the circumstances. However, different amounts could be reported if we had used different assumptions and in light of different facts and circumstances. Actual amounts could differ from the estimates and judgments reflected in our unaudited condensed consolidated financial statements.

The more critical judgments and estimates used in the preparation of our consolidated financial statements are discussed in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations in our Annual Report on Form 10-K for the year ended December 31, 2020. During the first quarter of 2021 we made an acquisition that raised business combinations to a critical accounting policy and estimate.

Business Combinations

In accordance with the accounting guidance for business combinations, the Company uses the acquisition method of accounting to allocate costs of acquired businesses to the assets acquired and liabilities assumed based on their estimated fair values at the dates of acquisition. The excess costs of acquired businesses over the fair values of the assets acquired and liabilities assumed will be recognized as goodwill. The valuations of the acquired assets and liabilities will impact the determination of future operating results. In addition to using management estimates and negotiated amounts, the Company uses a variety of information sources to determine the estimated fair values of acquired assets and liabilities including: third-party appraisals for the estimated value and lives of identifiable intangible assets and property, plant and equipment; third-party actuaries for the estimated obligations of defined benefit pension plans and similar benefit obligations; and legal counsel or other experts to assess the obligations associated with legal, environmental and other contingent liabilities.

The business and technical judgment of management was used in determining which intangible assets have indefinite lives and in determining the useful lives of finite-lived intangible assets in accordance with the accounting guidance for goodwill and other intangible assets.

RECENTLY ADOPTED AND RECENTLY ISSUED ACCOUNTING STANDARDS

None

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Market risk represents the risk of adverse changes in the value of a financial instrument caused by changes in currency exchange rates, interest rates and equity prices. We are exposed to market risks related to currency exchange rates and interest rates.

Currency exchange rate sensitivity. We are subject to the effects of fluctuations in currency exchange rates on various transactions and on the translation of the reported financial position and operating results of our non-U.S. companies from local currencies to U.S. dollars. A hypothetical 10% strengthening or weakening of the U.S. dollar would decrease or increase our reported sales and net income by approximately \$14.7 million or 4.3% and \$1.0 million or 3.9%, respectively, for the three months ended September 30, 2021.

When appropriate, we may attempt to limit our transactional exposure to changes in currency exchange rates through forward contracts or other actions intended to reduce existing exposures by creating offsetting currency exposures. At September 30, 2021, we had open foreign currency forward contracts with a U.S. dollar notional value of \$96.4 million. A hypothetical 10% strengthening or weakening of the U.S. dollar would result in a \$9.6 million increase or decrease in the fair value of these contracts at September 30, 2021.

Interest rates. We are exposed to changes in interest rates primarily as a result of borrowing and investing activities used to maintain liquidity and fund business operations.

At September 30, 2021, we had \$294.0 million of fixed rate debt which matures at various dates through 2036. The incremental increase in the fair value of fixed rate long-term debt resulting from a hypothetical 10% decrease in interest rates would be approximately \$11.0 million. However, our sensitivity to interest rate declines and the corresponding increase in the fair value of our debt portfolio would unfavorably affect earnings and cash flows only to the extent that we elected to repurchase or retire all or a portion of our fixed rate debt portfolio at prices above carrying values.

At September 30, 2021, we had \$321.6 million of variable rate borrowings under our revolving credit facility. A 100 basis point increase or decrease in interest rates could impact our future earnings under our current capital structure.

Item 4. Controls and Procedures

- (a) *Evaluation of disclosure controls and procedures.* Based on their evaluation as of the end of the period covered by this Form 10-Q, the Company's principal executive officer and principal financial officer have concluded that the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934 (the "Exchange Act")) are effective to ensure that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms and (ii) accumulated and communicated to our management, including the principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.
- (b) *Changes in internal control.* There were no changes in the Company's internal control over financial reporting that occurred during the most recent fiscal quarter that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1A. Risk Factors

Pandemics or disease outbreaks, such as COVID-19, may cause unfavorable economic or market conditions which could impact demand patterns and/or disrupt global supply chains and manufacturing operations. Collectively, these outcomes could materially and adversely affect our business, results of operations and financial condition.

Pandemics or disease outbreaks such as the novel coronavirus (COVID-19) could result in a widespread health crisis that could adversely affect the economies of developed and emerging markets, potentially resulting in an economic downturn that could affect customers' demand for our products in certain industrial-based end-markets. The spread of pandemics or disease outbreaks may also disrupt the Company's manufacturing operations, supply chain, or logistics necessary to import, export and deliver products to our customers. During a pandemic or crisis, applicable laws and response directives, such as U.S. federal vaccine mandates for federal contractors or OSHA requirements, could, in some circumstances, result in skilled labor impacts including voluntary attrition or difficulty finding labor, or otherwise adversely affect our ability to operate our plants, obtain inputs from suppliers, or to deliver our products in a timely manner. Additional vaccine mandates may be announced in other countries in which we operate or source inputs. Some laws and directives may also hinder our ability to move certain products across borders. Economic conditions can also influence order patterns. These factors could negatively impact our consolidated results of operations and cash flow.

Claims of injuries from our products, product defects or recalls of our products could have a material adverse effect on our business, operating results, financial condition and liquidity.

MSA and its subsidiaries face an inherent business risk of exposure to product liability claims arising from the alleged failure of our products to prevent the types of personal injury or death against which they are designed to protect. In the event the parties using our products are injured or any of our products prove to be defective, we could be subject to claims with respect to such injuries. In addition, we may be required to or may voluntarily recall or redesign certain products that could potentially be harmful to end users. Any claim or product recall that results in significant expense or negative publicity against us could have a material adverse effect on our business, operating results, financial condition and liquidity, including any successful claim brought against us in excess or outside of available insurance coverage.

Our subsidiary, Mine Safety Appliances Company, LLC, may experience losses from cumulative trauma product liability claims. The inability to collect insurance receivables and the transition to becoming largely self-insured for cumulative trauma product liability claims could have a material adverse effect on our business, operating results, financial condition and liquidity.

Our subsidiary, Mine Safety Appliances Company, LLC ("MSA LLC") was named as a defendant in 1,672 cumulative trauma lawsuits comprised of 4,145 claims at September 30, 2021. Cumulative trauma product liability claims involve exposures to harmful substances (e.g., silica, asbestos and coal dust) that occurred years ago and may have developed over long periods of time into diseases such as silicosis, asbestosis, mesothelioma or coal worker's pneumoconiosis. The products at issue were manufactured many years ago and are not currently offered by MSA LLC. A reserve has been established with respect to estimated amounts for cumulative trauma product liability claims currently asserted and incurred but not reported ("IBNR") cumulative trauma product liability claims. Because our cumulative trauma product liability risk is subject to inherent uncertainties, including unfavorable trial rulings or developments, an increase in newly filed claims, or more aggressive settlement demands, and since MSA LLC is largely self-insured, there can be no certainty that MSA LLC may not ultimately incur losses in excess of presently recorded liabilities. These losses could have a material adverse effect on our business, operating results, financial condition and liquidity.

We will adjust the reserve from time to time based on whether the actual numbers, types and settlement values of claims asserted differ from current projections and estimates or there are significant changes in the facts underlying the assumptions used in establishing the reserve. Each of these factors may increase or decrease significantly within an individual period depending on, among other things, the timing of claims filings or settlements, or litigation outcomes during a particular period that are especially favorable or unfavorable to MSA LLC. We accordingly consider MSA LLC's claims experience over multiple periods and/or whether there are changes in MSA LLC's claims experience and trends that are likely to continue for a significant time into the future in determining whether to make an adjustment to the reserve, rather than evaluating such factors solely in the short term. Any future adjustments to the reserve may be material and could materially impact future periods in which the reserve is adjusted.

In the normal course of business, MSA LLC makes payments to settle these types of cumulative trauma product liability claims and for related defense costs, and records receivables for the amounts believed to be recoverable under insurance. MSA LLC has recorded insurance receivables totaling \$105.9 million and notes receivables of \$48.2 million at September 30, 2021.

Since MSA LLC is now largely self-insured for cumulative trauma claims, additional amounts recorded as insurance receivables will be limited and based on calculating the amounts to be reimbursed pursuant to negotiated Coverage-in-Place Agreements. Various factors could affect the timing and amount of recovery of the insurance receivables, including assumptions regarding claims composition (which are relevant to calculating reimbursement under the terms of certain Coverage-In-Place Agreements) and the extent to which the issuing insurers may become insolvent in the future.

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

(c) Issuer Purchases of Equity Securities

Period	Total Number of Shares Purchased	Average Price Paid Per Share	Total Number of Shares Purchased As Part of Publicly Announced Plans or Programs	Maximum Number of Shares That May Yet Be Purchased Under the Plans or Programs
July 2021	—	\$ —	—	351,489
August 2021	2,830	162.79	—	354,058
September 2021	1,023	161.33	—	395,709

The share repurchase program authorizes up to \$100.0 million in repurchases of MSA common stock in the open market and in private transactions. The share purchase program has no expiration date. The maximum shares that may be purchased is calculated based on the dollars remaining under the program and the respective month-end closing share price.

Shares purchased during the quarter relate to stock compensation transactions.

We do not have any other share repurchase programs.

Item 6. Exhibits

(a) Exhibits

31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a)
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a)
32	Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. (S)1350
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

SIGNATURE

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

MSA SAFETY INCORPORATED

October 28, 2021

/s/ Kenneth D. Krause

Kenneth D. Krause

Sr. Vice President, Chief Financial Officer and Treasurer

/s/ Jonathan D. Buck

Jonathan D. Buck

Chief Accounting Officer and Controller (Principal Accounting Officer)

CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO RULE 13a-14(a)

I, Nishan J. Vartanian, certify that:

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

October 28, 2021

/s/ Nishan J. Vartanian

Nishan J. Vartanian

President and Chief Executive Officer

CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO RULE 13a-14(a)

I, Kenneth D. Krause certify that:

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

October 28, 2021

/s/ Kenneth D. Krause

Kenneth D. Krause

Sr. Vice President, Chief Financial Officer and Treasurer

CERTIFICATION

Pursuant to 18 U.S.C. (S) 1350, the undersigned officers of MSA Safety Incorporated (the “Company”), hereby certify, to the best of their knowledge, that the Company’s Quarterly Report on Form 10-Q for the quarter ended September 30, 2021 (the “Report”) fully complies with the requirements of Section 13 (a) or 15 (d), as applicable, of the Securities Exchange Act of 1934 and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

October 28, 2021

/s/ Nishan J. Vartanian

Nishan J. Vartanian

President and Chief Executive Officer

/s/ Kenneth D. Krause

Kenneth D. Krause

Sr. Vice President, Chief Financial Officer and Treasurer