

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 June 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
(State or other jurisdiction of
incorporation or organization)

46-4914539
(IRS Employer
Identification No.)

1000 Cranberry Woods Drive
Cranberry Township, Pennsylvania
(Address of principal executive offices)

16066-5207
(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 July 23, 2021, 39,189,632 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 June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Net sales	\$ 341,289	\$ 314,438	\$ 649,717	\$ 655,583
Cost of products sold	188,374	172,841	362,063	356,627
Gross profit	152,915	141,597	287,654	298,956
Selling, general and administrative	83,426	69,034	158,889	149,271
Research and development	13,970	13,760	27,204	27,872
Restructuring charges (Note 3)	7,078	8,865	8,385	10,872
Currency exchange losses (gains), net (Note 5)	1,640	793	(459)	1,063
Product liability expense (Note 17)	11,751	851	14,547	2,802
Operating income	35,050	48,294	79,088	107,076
Interest expense	2,172	2,459	4,082	5,602
Other income, net	(2,293)	(2,000)	(6,506)	(3,258)
Total other (income) expense, net	(121)	459	(2,424)	2,344
Income before income taxes	35,171	47,835	81,512	104,732
Provision for income taxes (Note 9)	9,784	11,429	19,525	24,523
Net income	25,387	36,406	61,987	80,209
Net income attributable to noncontrolling interests	(262)	(340)	(448)	(468)
Net income attributable to MSA Safety Incorporated	\$ 25,125	\$ 36,066	\$ 61,539	\$ 79,741
Earnings per share attributable to MSA Safety Incorporated common shareholders (Note 8):				
Basic	\$ 0.64	\$ 0.93	\$ 1.57	\$ 2.05
Diluted	\$ 0.64	\$ 0.92	\$ 1.56	\$ 2.03
Dividends per common share	\$ 0.44	\$ 0.43	\$ 0.87	\$ 0.85

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 June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Net income	\$ 25,387	\$ 36,406	\$ 61,987	\$ 80,209
Other comprehensive income (loss), net of tax:				
Foreign currency translation adjustments (Note 5)	6,018	4,669	(4,205)	(18,278)
Pension and post-retirement plan actuarial gains, net of tax (Note 5)	3,657	3,090	7,369	6,192
Unrealized gain (loss) on available-for-sale securities (Note 5)	1	124	(4)	62
Reclassification of currency translation from accumulated other comprehensive loss into net income (Note 5)	—	—	—	720
Total other comprehensive income (loss), net of tax	9,676	7,883	3,160	(11,304)
Comprehensive income	35,063	44,289	65,147	68,905
Less: Comprehensive income attributable to noncontrolling interests	(135)	(358)	(356)	(371)
Comprehensive income attributable to MSA Safety Incorporated	\$ 34,928	\$ 43,931	\$ 64,791	\$ 68,534

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

MSA SAFETY INCORPORATED
CONDENSED CONSOLIDATED BALANCE SHEETS

Unaudited

(In thousands)	June 30, 2021	December 31, 2020
Assets		
Cash and cash equivalents	\$ 174,078	\$ 160,672
Trade receivables, less allowance for credit loss of \$4,537 and \$5,344	226,575	252,283
Inventories (Note 2)	232,658	197,819
Investments, short-term (Note 16)	49,982	74,982
Prepaid income taxes	33,595	26,185
Notes receivable, insurance companies (Note 17)	3,855	3,796
Prepaid expenses and other current assets	49,239	38,541
Total current assets	769,982	754,278
Property, plant and equipment, net (Note 4)	201,163	189,620
Operating lease assets, net	67,383	53,451
Prepaid pension cost (Note 14)	105,078	97,545
Deferred tax assets (Note 9)	37,007	35,665
Goodwill (Note 12)	447,267	443,272
Intangible assets, net (Note 12)	161,402	161,051
Notes receivable, insurance companies, noncurrent (Note 17)	49,133	48,540
Net investment in sales-type leases, noncurrent (Note 13)	29,383	—
Insurance receivable (Note 17) and other noncurrent assets	95,435	89,062
Total assets	\$ 1,963,233	\$ 1,872,484
Liabilities		
Notes payable and current portion of long-term debt (Note 11)	\$ 20,000	\$ 20,000
Accounts payable	89,086	86,854
Employees' compensation	37,533	40,277
Insurance and product liability (Note 17)	43,857	43,706
Income taxes payable (Note 9)	19,871	3,580
Other current liabilities	107,494	116,128
Total current liabilities	317,841	310,545
Long-term debt, net (Note 11)	314,587	287,157
Pensions and other employee benefits	201,311	208,068
Noncurrent operating lease liabilities	58,877	44,639
Deferred tax liabilities (Note 9)	13,017	10,916
Product liability (Note 17) and other noncurrent liabilities	208,832	201,268
Total liabilities	\$ 1,114,465	\$ 1,062,593
Equity		
Preferred stock, 4.5% cumulative, \$50 par value (Note 6)	\$ 3,569	\$ 3,569
Common stock, no par value (Note 6)	253,773	242,693
Treasury shares, at cost (Note 6)	(331,039)	(327,756)
Accumulated other comprehensive loss (Note 5)	(179,145)	(182,397)
Retained earnings	1,093,261	1,065,789
Total MSA Safety Incorporated shareholders' equity	840,419	801,898
Noncontrolling interests	8,349	7,993
Total shareholders' equity	848,768	809,891
Total liabilities and shareholders' equity	\$ 1,963,233	\$ 1,872,484

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)	Six Months Ended June 30,	
	2021	2020
Operating Activities		
Net income	\$ 61,987	\$ 80,209
Depreciation and amortization	22,088	19,428
Stock-based compensation (Note 10)	10,695	4,352
Pension expense (Note 14)	919	4,430
Deferred income tax benefit (Note 9)	(3,448)	(711)
Loss on asset dispositions, net	48	127
Pension contributions (Note 14)	(3,845)	(3,781)
Currency exchange (gains) losses, net	(459)	1,063
Product liability expense (Note 17)	14,547	2,802
Collections on insurance receivables and notes receivable, insurance companies (Note 17)	6,069	5,736
Product liability payments (Note 17)	(22,574)	(4,672)
Changes in:		
Trade receivables	27,248	9,286
Inventories (Note 2)	(21,431)	(46,886)
Accounts payable	(1,563)	8,806
Other current assets and liabilities	(6,503)	3,423
Other noncurrent assets and liabilities	136	(581)
Cash Flow From Operating Activities	83,914	83,031
Investing Activities		
Capital expenditures	(20,288)	(19,834)
Acquisition, net of cash acquired (Note 18)	(62,992)	—
Purchase of short-term investments (Note 16)	(74,955)	(119,402)
Proceeds from maturities of short-term investments (Note 16)	100,000	110,000
Property disposals	60	83
Cash Flow Used in Investing Activities	(58,175)	(29,153)
Financing Activities		
Proceeds from long-term debt (Note 11)	605,733	581,000
Payments on long-term debt (Note 11)	(578,729)	(590,000)
Debt issuance costs	(1,494)	—
Cash dividends paid	(34,067)	(33,052)
Company stock purchases (Note 6)	(5,511)	(28,254)
Exercise of stock options (Note 6)	2,161	3,740
Employee stock purchase plan (Note 6)	452	390
Cash Flow Used in Financing Activities	(11,455)	(66,176)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(907)	(3,654)
Increase (decrease) in cash, cash equivalents and restricted cash	13,377	(15,952)
Beginning cash, cash equivalents and restricted cash	161,034	152,543
Ending cash, cash equivalents and restricted cash	\$ 174,411	\$ 136,591
Supplemental cash flow information:		
Cash and cash equivalents	\$ 174,078	\$ 136,238
Restricted cash included in prepaid expenses and other current assets	333	353
Total cash, cash equivalents and restricted cash	\$ 174,411	\$ 136,591

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 March 31, 2020	\$ 1,039,609	\$ (233,075)	\$ 6,786
Net income	36,406	—	—
Foreign currency translation adjustments	—	4,669	—
Pension and post-retirement plan adjustments, net of tax of \$1,079	—	3,090	—
Unrealized net gains on available-for-sale securities (Note 16)	—	124	—
Income attributable to noncontrolling interests	(340)	(18)	358
Common dividends	(16,710)	—	—
Preferred dividends (\$0.5625 per share)	(10)	—	—
Balances June 30, 2020	\$ 1,058,955	\$ (225,210)	\$ 7,144
Balances March 31, 2021	\$ 1,085,383	\$ (188,948)	\$ 8,214
Net income	25,387	—	—
Foreign currency translation adjustments	—	6,018	—
Pension and post-retirement plan adjustments, net of tax of \$1,139	—	3,657	—
Unrealized net gains on available-for-sale securities (Note 16)	—	1	—
Income attributable to noncontrolling interests	(262)	127	135
Common dividends	(17,237)	—	—
Preferred dividends (\$0.5625 per share)	(10)	—	—
Balances June 30, 2021	\$ 1,093,261	\$ (179,145)	\$ 8,349
Balances December 31, 2019	\$ 1,012,266	\$ (214,003)	\$ 6,773
Net income	80,209	—	—
Foreign currency translation adjustments	—	(18,278)	—
Pension and post-retirement plan adjustments, net of tax of \$2,146	—	6,192	—
Unrealized net gains on available-for-sale securities (Note 16)	—	62	—
Reclassification from accumulated other comprehensive (loss) into net income (Note 5)	—	720	—
Income attributable to noncontrolling interests	(468)	97	371
Common dividends	(33,032)	—	—
Preferred dividends (\$0.5625 per share)	(20)	—	—
Balances June 30, 2020	\$ 1,058,955	\$ (225,210)	\$ 7,144
Balances December 31, 2020	\$ 1,065,789	\$ (182,397)	\$ 7,993
Net income	61,987	—	—
Foreign currency translation adjustments	—	(4,205)	—
Pension and post-retirement plan adjustments, net of tax of \$2,223	—	7,369	—
Unrealized net losses on available-for-sale securities (Note 16)	—	(4)	—
Income attributable to noncontrolling interests	(448)	92	356
Common dividends	(34,047)	—	—
Preferred dividends (\$0.5625 per share)	(20)	—	—
Balances June 30, 2021	\$ 1,093,261	\$ (179,145)	\$ 8,349

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 Statement of Cash Flows, but do not change the overall cash flow from operating activities for the prior years as previously reported.

Note 2—Inventories

The following table sets forth the components of inventory:

(In thousands)	June 30, 2021	December 31, 2020
Finished products	\$ 100,181	\$ 81,048
Work in process	5,619	2,618
Raw materials and supplies	174,135	161,300
Inventories at current cost	279,935	244,966
Less: LIFO valuation	(47,277)	(47,147)
Total inventories	\$ 232,658	\$ 197,819

Note 3—Restructuring Charges

During the three and six months ended June 30, 2021, we recorded restructuring charges of \$7.1 million and \$8.4 million, respectively. International segment restructuring charges of \$7.6 million during the six months ended June 30, 2021, were primarily related to our ongoing initiatives to drive profitable growth and right size our operations. Americas segment restructuring charges of \$0.8 million during the six months ended June 30, 2021, 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.

During the three and six months ended June 30, 2020, we recorded restructuring charges of \$8.9 million and \$10.9 million, respectively. International segment restructuring charges of \$8.5 million during the six months ended June 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 \$2.2 million during the six months ended June 30, 2020, were primarily related to costs associated with our global Fixed Gas & Flame Detection manufacturing footprint optimization.

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	0.8	7.6	—	8.4
Currency translation and other adjustments	(0.1)	(0.7)	—	(0.8)
Cash payments	(0.8)	(6.5)	(0.1)	(7.4)
Reserve balances at June 30, 2021	\$ 2.7	\$ 19.7	\$ 0.3	\$ 22.7

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

Note 4—Property, Plant and Equipment

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

(In thousands)	June 30, 2021	December 31, 2020
Land	\$ 5,215	\$ 4,275
Buildings	129,838	128,887
Machinery and equipment	443,025	422,333
Construction in progress	35,910	38,753
Total	613,988	594,249
Less: accumulated depreciation	(412,825)	(404,629)
Property, plant and equipment, net	\$ 201,163	\$ 189,620

Note 5—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 June 30,		Three Months Ended June 30,	
	2021	2020	2021	2020
Pension and other post-retirement benefits ^(a)				
Balance at beginning of period	\$ (111,840)	\$ (121,746)	\$ —	\$ —
Amounts reclassified from accumulated other comprehensive loss into net income:				
Amortization of prior service credit (Note 14)	(24)	(52)	—	—
Recognized net actuarial losses (Note 14)	4,820	4,221	—	—
Tax benefit	(1,139)	(1,079)	—	—
Total amount reclassified from accumulated other comprehensive loss, net of tax, into net income	3,657	3,090	—	—
Balance at end of period	\$ (108,183)	\$ (118,656)	\$ —	\$ —
Available-for-sale securities				
Balance at beginning of period	\$ (6)	\$ (56)	\$ —	\$ —
16) Unrealized gain on available-for-sale securities (Note 16)	1	124	—	—
Balance at end of period	\$ (5)	\$ 68	\$ —	\$ —
Foreign currency translation				
Balance at beginning of period	\$ (77,102)	\$ (111,273)	\$ 617	\$ 617
Foreign currency translation adjustments	6,145	4,651	(127)	(127)
Balance at end of period	\$ (70,957)	\$ (106,622)	\$ 490	\$ 490

^(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 14—Pensions and Other Post-retirement Benefits).

(In thousands)	MSA Safety Incorporated		Noncontrolling Interests	
	Six Months Ended June 30,		Six Months Ended June 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 14)	(48)	(104)	—	—
Recognized net actuarial losses (Note 14)	9,640	8,442	—	—
Tax benefit	(2,223)	(2,146)	—	—
Total amount reclassified from accumulated other comprehensive loss, net of tax, into net income	7,369	6,192	—	—
Balance at end of period	\$ (108,183)	\$ (118,656)	\$ —	\$ —
Available-for-sale securities				
Balance at beginning of period	\$ (1)	\$ 6	\$ —	\$ —
Unrealized (loss) gain on available-for-sale securities (Note 16)	(4)	62	—	—
Balance at end of period	\$ (5)	\$ 68	\$ —	\$ —
Foreign currency translation				
Balance at beginning of period	\$ (66,844)	\$ (89,161)	\$ 582	\$ 423
Reclassification from accumulated other comprehensive loss into net income	—	720 ^(b)	—	—
Foreign currency translation adjustments	(4,113)	(18,181)	(92)	(97)
Balance at end of period	\$ (70,957)	\$ (106,622)	\$ 490	\$ 326

^(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 14—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 6—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 June 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 six months ended June 30, 2021. There were treasury purchases of 120 preferred stock shares during the six months ended June 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 June 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 six months ended June 30, 2021, or 2020. There were 39,189,632 and 39,067,902 shares outstanding at June 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 six months ended June 30, 2021, no shares were repurchased under this program. During the six months ended June 30, 2020, 175,000 shares were repurchased under the program. There were 22,891,759 and 23,013,489 Treasury Shares at June 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 33,625 and 63,405 Treasury Shares issued for these purposes during the six months ended June 30, 2021 and 2020, respectively.

Common stock activity is summarized as follows:

(In thousands)	Three Months Ended June 30, 2021		Three Months Ended June 30, 2020	
	Common Stock	Treasury Cost	Common Stock	Treasury Cost
Balance at beginning of period	\$ 245,887	\$ (329,615)	\$ 232,167	\$ (328,000)
Stock compensation expense	7,403	—	830	—
Restricted and performance stock awards	(170)	170	(226)	226
Stock options exercised	244	126	677	338
Treasury shares purchased	—	(163)	—	(5,141)
Employee stock purchase program	409	43	338	—
Balance at end of period	\$ 253,773	\$ (329,439)	\$ 233,786	\$ (327,997)

(In thousands)	Six Months Ended June 30, 2021		Six Months Ended June 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	10,695	—	4,352	—
Restricted and performance stock awards	(1,502)	1,502	(2,464)	2,464
Stock options exercised	1,478	683	2,433	1,307
Treasury shares purchased	—	(5,511)	—	(8,141)
Employee stock purchase program	409	43	338	52
Share repurchase program	—	—	—	(20,113)
Balance at end of period	\$ 253,773	\$ (329,439)	\$ 233,786	\$ (327,997)

Note 7—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 June 30, 2021				
Sales to external customers	\$ 217,707	\$ 123,582	\$ —	\$ 341,289
Operating income				35,050
Restructuring charges (Note 3)				7,078
Currency exchange losses, net (Note 5)				1,640
Product liability expense (Note 17)				11,751
Acquisition related costs ^(a) (Note 18)				3,168
Adjusted operating income (loss)	49,238	20,440	(10,991)	58,687
Adjusted operating margin %	22.6 %	16.5 %		
Depreciation and amortization				11,584
Adjusted EBITDA	57,137	24,020	(10,886)	70,271
Adjusted EBITDA margin %	26.2 %	19.4 %		
Six Months Ended June 30, 2021				
Sales to external customers	\$ 426,046	\$ 223,671	\$ —	\$ 649,717
Operating income				79,088
Restructuring charges (Note 3)				8,385
Currency exchange gains, net (Note 5)				(459)
Product liability expense (Note 17)				14,547
Acquisition related costs ^(a) (Note 18)				4,541
Adjusted operating income (loss)	94,390	29,194	(17,482)	106,102
Adjusted operating margin %	22.2 %	13.1 %		
Depreciation and amortization				22,088
Adjusted EBITDA	109,322	36,147	(17,279)	128,190
Adjusted EBITDA margin %	25.7 %	16.2 %		

(In thousands, except percentage amounts)	Americas	International	Corporate	Consolidated Totals
Three Months Ended June 30, 2020				
Sales to external customers	\$ 204,231	\$ 110,207	\$ —	\$ 314,438
Operating income				48,294
Restructuring charges (Note 3)				8,865
Currency exchange losses, net (Note 5)				793
Product liability expense (Note 17)				851
Acquisition related costs ^(a) (Note 18)				64
Adjusted operating income (loss)	49,003	17,402	(7,538)	58,867
Adjusted operating margin %	24.0 %	15.8 %		
Depreciation and amortization				9,786
Adjusted EBITDA	55,620	20,474	(7,441)	68,653
Adjusted EBITDA margin %	27.2 %	18.6 %		
Six Months Ended June 30, 2020				
Sales to external customers	\$ 435,484	\$ 220,099	\$ —	\$ 655,583
Operating income				107,076
Restructuring charges (Note 4)				10,872
Currency exchange losses, net (Note 6)				1,063
Product liability expense (Note 17)				2,802
Acquisition related costs ^(a) (Note 18)				161
COVID-19 related costs				757
Adjusted operating income (loss)	108,811	30,073	(16,153)	122,731
Adjusted operating margin %	25.0 %	13.7 %		
Depreciation and amortization				19,428
Adjusted EBITDA	121,878	36,239	(15,958)	142,159
Adjusted EBITDA margin %	28.0 %	16.5 %		

^(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 June 30, 2021 (In thousands, except percentages)	Consolidated		Americas		International	
	Dollars	Percent	Dollars	Percent	Dollars	Percent
	Breathing Apparatus	\$ 76,659	22%	\$ 51,436	24%	\$ 25,223
Fixed Gas & Flame Detection	64,920	19%	36,950	17%	27,970	23%
Firefighter Helmets & Protective Apparel	53,121	16%	36,424	17%	16,697	14%
Portable Gas Detection	38,820	11%	25,393	12%	13,427	11%
Industrial Head Protection	38,155	11%	28,820	13%	9,335	8%
Fall Protection	30,809	9%	17,677	8%	13,132	11%
Other ^(b)	38,805	12%	21,007	9%	17,798	13%
Total	\$ 341,289	100%	\$ 217,707	100%	\$ 123,582	100%

Six Months Ended June 30, 2021 (In thousands, except percentages)	Consolidated		Americas		International	
	Dollars	Percent	Dollars	Percent	Dollars	Percent
	Breathing Apparatus	\$ 146,304	23%	\$ 100,234	24%	\$ 46,069
Fixed Gas & Flame Detection	125,039	19%	73,227	17%	51,811	23%
Firefighter Helmets & Protective Apparel	99,131	15%	71,413	17%	27,719	12%
Portable Gas Detection	76,249	12%	51,095	12%	25,154	11%
Industrial Head Protection	70,851	11%	53,931	13%	16,920	8%
Fall Protection	56,876	9%	33,349	8%	23,526	11%
Other ^(b)	75,267	11%	42,797	9%	32,472	14%
Total	\$ 649,717	100%	\$ 426,046	100%	\$ 223,671	100%

Three Months Ended June 30, 2020 (In thousands, except percentages)	Consolidated		Americas		International	
	Dollars	Percent	Dollars	Percent	Dollars	Percent
	Breathing Apparatus	\$ 75,864	24%	\$ 50,269	25%	\$ 25,595
Fixed Gas & Flame Detection	65,385	21%	36,742	18%	28,643	26%
Firefighter Helmets & Protective Apparel	40,337	13%	33,744	16%	6,593	6%
Portable Gas Detection	28,385	9%	17,201	8%	11,184	10%
Industrial Head Protection	30,601	10%	20,506	10%	10,095	9%
Fall Protection	21,660	7%	11,381	6%	10,279	9%
Other ^(b)	52,206	16%	34,388	17%	17,818	17%
Total	\$ 314,438	100%	\$ 204,231	100%	\$ 110,207	100%

Six Months Ended June 30, 2020 (In thousands, except percentages)	Consolidated		Americas		International	
	Dollars	Percent	Dollars	Percent	Dollars	Percent
	Breathing Apparatus	\$ 151,708	23%	\$ 102,962	24%	\$ 48,746
Fixed Gas & Flame Detection	135,296	21%	77,989	18%	57,307	26%
Firefighter Helmets & Protective Apparel	82,884	13%	68,857	16%	14,027	7%
Portable Gas Detection	69,437	11%	44,850	10%	24,587	11%
Industrial Head Protection	65,933	10%	48,061	11%	17,872	8%
Fall Protection	49,087	7%	29,076	7%	20,011	9%
Other ^(b)	101,238	15%	63,689	14%	37,549	17%
Total	\$ 655,583	100%	\$ 435,484	100%	\$ 220,099	100%

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

Note 8—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 June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Net income	\$ 25,125	\$ 36,066	\$ 61,539	\$ 79,741
Preferred stock dividends	(10)	(10)	(20)	(20)
Net income available to common equity	25,115	36,056	61,519	79,721
Dividends and undistributed earnings allocated to participating securities	(8)	(34)	(21)	(67)
Net income available to common shareholders	25,107	36,022	61,498	79,654
Basic weighted-average shares outstanding	39,167	38,830	39,131	38,826
Stock-based compensation awards	253	365	290	447
Diluted weighted-average shares outstanding	39,420	39,195	39,421	39,273
Antidilutive stock options	—	—	—	—
Earnings per share:				
Basic	\$ 0.64	\$ 0.93	\$ 1.57	\$ 2.05
Diluted	\$ 0.64	\$ 0.92	\$ 1.56	\$ 2.03

Note 9—Income Taxes

The Company's effective tax rate for the second quarter of 2021 was 27.8% which differs from the U.S. federal statutory rate of 21% primarily due to statutory rate increases in foreign jurisdictions and nondeductible executive compensation, partially offset by tax benefits on certain share-based payments. The Company's effective tax rate for the second quarter of 2020 was 23.9%, which differs from the U.S. statutory rate of 21% primarily due to state income taxes, increased profitability in less favorable tax jurisdictions, non-deductible executive compensation and higher foreign entity losses in jurisdictions where we cannot take tax benefits, partially offset by tax benefits on certain share-based payments and benefits related to research and development tax credits.

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 six months ended June 30, 2021 was 24.0% which differs from the U.S. federal statutory rate of 21% primarily due to statutory rate increases in foreign jurisdictions and nondeductible executive compensation, partially offset by tax benefits on certain share-based payments. The Company's effective tax rate for the six months ended June 30, 2020 was 23.4% 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, partially offset by tax benefits on certain share-based payments.

At June 30, 2021, the Company had a gross liability for unrecognized tax benefits of \$9.1 million. The Company has recognized tax benefits associated with these liabilities of \$2.8 million at June 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 \$1.2 million at June 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 10—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 6—Capital Stock for further information regarding stock compensation share issuance.

Stock compensation expense is as follows:

(In thousands)	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Stock compensation expense	\$ 7,403	\$ 830	\$ 10,695	\$ 4,352
Income tax expense	1,784	202	2,577	1,062
Stock compensation expense, net of tax	\$ 5,619	\$ 628	\$ 8,118	\$ 3,290

A summary of stock option activity for the six months ended June 30, 2021, follows:

	Shares	Weighted Average Exercise Price
Outstanding at January 1, 2021	283,998	\$ 46.23
Exercised	(47,538)	45.42
Forfeited	(81)	49.66
Outstanding at June 30, 2021	236,379	46.40
Exercisable at June 30, 2021	235,399	\$ 46.39

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 six months ended June 30, 2021, follows:

	Shares	Weighted Average Grant Date Fair Value
Unvested at January 1, 2021	146,191	\$ 105.83
Granted	35,686	169.54
Vested	(51,753)	92.84
Forfeited	(1,035)	139.08
Unvested at June 30, 2021	129,089	\$ 128.39

Performance stock units that 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 six months ended June 30, 2021, follows:

	Shares	Weighted Average Grant Date Fair Value
Unvested at January 1, 2021	200,212	\$ 104.69
Granted	46,070	177.32
Performance adjustments	4,941	88.86
Vested	(63,286)	84.97
Unvested at June 30, 2021	187,937	\$ 128.72

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 11—Long-Term Debt

(In thousands)	June 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	75,865	74,926
Senior revolving credit facility maturing in 2026, net of debt issuance costs	238,722	212,231
Total	334,587	307,157
Amounts due within one year	20,000	20,000
Long-term debt, net of debt issuance costs	\$ 314,587	\$ 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 (0.50%), 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 1.10% as of June 30, 2021. At June 30, 2021, \$657.5 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 June 30, 2021, the Company issued £54.9 million (approximately \$76.0 million at June 30, 2021) of 3.4% Series B Senior Notes due January 22, 2031. The Company also issued \$100.0 million of 4.00% Series A Senior Notes, of which the final \$20.0 million is due 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. As of June 30, 2021 no notes were issued under the NYL Note Facility.

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 June 30, 2021.

The Company had outstanding bank guarantees and standby letters of credit with banks as of June 30, 2021, totaling \$11.3 million, of which \$1.7 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 June 30, 2021, the Company has \$0.3 million of restricted cash in support of these arrangements.

On July 1, 2021, the Company acquired Bacharach, Inc. for \$337.0 million. 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 as further discussed in Note 19, Subsequent Events.

Note 12—Goodwill and Intangible Assets

Changes in goodwill during the six months ended June 30, 2021 are as follows:

(In thousands)	Goodwill
Balance at January 1, 2021	\$ 443,272
Additions (Note 18)	4,056
Currency translation	(61)
Balance at June 30, 2021	\$ 447,267

At June 30, 2021, the Company had goodwill of \$293.2 million and \$154.1 million related to the Americas and International reportable segments, respectively.

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

(In thousands)	Intangible Assets
Net balance at January 1, 2021	\$ 161,051
Additions (Note 18)	5,940
Amortization expense	(6,168)
Currency translation	579
Net balance at June 30, 2021	\$ 161,402

At June 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 13—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.

Revenue from sales-type leases recognized by the Company, included in Net sales in the unaudited Condensed Consolidated Statements of Income, was \$2.1 million and \$3.2 million during the three and six months ended June 30, 2021, respectively. Gross profit recognized at commencement from our various leasing arrangements was \$0.6 million and \$1.3 million during the three and six months ended June 30, 2021, respectively. There were no new sales-type lease transactions commencing and no lease revenue recognized during the three and six months ended June 30, 2020, respectively.

Note 14—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 June 30,				
Service cost	\$ 3,242	\$ 3,011	\$ 99	\$ 99
Interest cost	2,817	3,726	116	179
Expected return on plan assets	(9,147)	(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)	\$ 1,399	\$ 2,215	\$ 524	\$ 466
Six Months Ended June 30,				
Service cost	\$ 6,484	\$ 6,022	\$ 198	\$ 198
Interest cost	5,634	7,452	232	358
Expected return on plan assets	(18,294)	(17,006)	—	—
Amortization of prior service cost (credit)	132	92	(180)	(196)
Recognized net actuarial losses	8,842	7,870	798	572
Settlements	(1,879)	—	—	—
Net periodic benefit cost ^(a)	\$ 919	\$ 4,430	\$ 1,048	\$ 932

^(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 \$3.8 million to our pension plans during both the six months ended June 30, 2021 and 2020. 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 15—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 \$99.2 million and \$96.0 million at June 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)	June 30, 2021	December 31, 2020
Derivatives not designated as hedging instruments:		
Foreign exchange contracts: Other current liabilities	\$ 541	\$ 157
Foreign exchange contracts: Prepaid expenses and other current assets	293	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	
		Six Months Ended June 30, 2021	2020
Derivatives not designated as hedging instruments:			
Foreign exchange contracts	Currency exchange losses (gains), net	\$ 1,474	\$ (864)

Note 16—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 15—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 \$50.0 million and \$74.9 million as of June 30, 2021 and December 31, 2020, respectively. The fair value was \$50.0 million and \$75.0 million as of June 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 June 30, 2021.

The reported carrying amount of our fixed rate long-term debt (including the current portion) was \$96 million and \$95 million at June 30, 2021, and December 31, 2020, respectively. The fair value of this debt was \$113 million and \$113 million at June 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 18— Acquisitions for a description of the methodologies and fair value measurements utilized in the business combination.

Note 17—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 \$1.5 million and \$1.4 million at June 30, 2021 and December 31, 2020, respectively. Single incident product liability expense was \$0.1 million during the six months ended June 30, 2021 and \$0.3 million during the six months ended June 30, 2020. 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 1,610 lawsuits comprised of 3,942 claims as of June 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:

	Six Months Ended June 30, 2021	Year Ended December 31, 2020
Open lawsuits, beginning of period	1,622	1,605
New lawsuits	169	402
Settled and dismissed lawsuits	(181)	(385)
Open lawsuits, end of period	1,610	1,622
	Six Months Ended June 30, 2021	Year Ended December 31, 2020
Asserted claims, beginning of period	2,878	2,456
New claims	1,268	917
Settled and dismissed claims	(204)	(495)
Asserted claims, end of period	3,942	2,878

The increases in the number of claims in 2020 and in 2021, are largely attributable to an increase in claims alleging injuries from exposure to coal mine dust including plaintiffs' counsels with which MSA LLC does not have substantial prior experience, alleging 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 June 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 \$226.1 million at June 30, 2021, including \$11.0 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 second quarter of 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 June 30, 2021, \$35.0 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, \$191.1 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 \$24.5 million and \$27.5 million for the three and six months ended June 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 \$1.2 million and \$3.3 million for the three and six months ended June 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 \$11.8 million and \$14.5 million for the three and six months ended June 30, 2021 and \$0.9 million and \$2.8 million for the three and six months ended June 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 June 30, 2021 totaled \$104.1 million of which, \$12.9 million is reported in Prepaid expenses and other current assets in the unaudited Condensed Consolidated Balance Sheet and \$91.2 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 \$104.1 million insurance receivables balance at June 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)	Six Months Ended June 30, 2021		Year Ended Decemb 31, 2020	
Balance beginning of period	\$	97.0	\$	63.1
Additions		13.2		39.1
Collections and other adjustments		(6.1)		(5.1)
Balance end of period	\$	104.1	\$	97.1

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 June 30, 2021, totaled \$53.0 million, of which \$3.9 million is reported in Notes receivable, insurance companies, current on the unaudited Condensed Consolidated Balance Sheet and \$49.1 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)	Six Months Ended June 30, 2021		Year Ended Decemb 31, 2020	
Balance beginning of period	\$	52.3	\$	52.3
Additions		0.7		1.0
Collections		—		(0.1)
Balance end of period	\$	53.0	\$	53.2

The vast majority of the insurance receivables balance at June 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.

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)	Six Months Ended June 30, 2021	Year Ended December 31, 2020
Beginning warranty reserve	\$ 11,428	\$ 12,715
Warranty payments	(4,566)	(10,861)
Warranty claims	4,298	10,233
Provision for product warranties and other adjustments	(167)	(659)
Ending warranty reserve	\$ 10,993	\$ 11,428

Warranty expense was \$4.1 million and \$4.5 million for the six months ended June 30, 2021 and 2020, respectively, and is included in Costs of products sold on the unaudited Condensed Consolidated Statements of Income.

Note 18—Acquisitions

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 sales volume 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 \$0.2 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 ending with 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 six months ended June 30, 2021, include acquisition related costs of approximately \$3.2 million and \$4.5 million, respectively, including costs related to the acquisition of Bristol. Our results for the three and six months ended June 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 the Bristol acquisition have been included in our unaudited condensed consolidated financial statements from the acquisition date through June 30, 2021. Our results for the six months ended June 30, 2021, include Bristol sales and net loss of \$12.5 million and \$2.2 million, respectively.

The following unaudited pro forma information presents our combined results as if the Bristol acquisition 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 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 June 30, 2020		Six Months Ended June 30, 2021		2020
	Net sales	\$	330.5	\$	651.7
Net income	\$	38.9	\$	61.8	\$ 85.6
Basic earnings per share	\$	1.00	\$	1.58	\$ 2.20
Diluted earnings per share	\$	0.99	\$	1.57	\$ 2.18

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.

Note 19—Subsequent Events

Acquisition of Bacharach, Inc.

On July 1, 2021, we acquired Bacharach, Inc. and its affiliated companies (Bacharach) in an all cash transaction valued at \$337 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.

Our results for the three months ended June 30, 2021 include transaction costs of \$1.9 million related to the acquisition. These costs are reporting in selling, general and administrative expenses.

Bacharach operating results will be included in our financial statements from the acquisition date with results impacting both the Americas and International segments. The acquisition qualifies as a business combination and will be accounted for using the acquisition method of accounting.

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. China has been a key market in our International segment and is an important part of our strategic plan going forward. We have seen good growth in China and continue to make additional investments in this region.

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.")

Subsequent Events

On July 1, 2021, we acquired Bacharach, Inc. and its affiliated companies (Bacharach) in an all cash transaction valued at \$337 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. MSA is planning for Bacharach to add \$30-\$35 million of net sales and adjusted earnings accretion of \$0.10 - \$0.15 per share in the second half of 2021.

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. China has been a key market in our International segment and is an important part of our strategic plan going forward. We have seen good growth in China and continue to make additional investments in this region.

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 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. Refer to Note - 18 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 intends to bring 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 six months ended June 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 6% and 9% of our consolidated sales for the six months ended June 30, 2021 and 2020, with over 74% 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 between 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 June 30, 2021, Compared to Three Months Ended June 30, 2020

Net Sales. Net sales for the three months ended June 30, 2021, were \$341.3 million, an increase of \$26.9 million, or 8.6%, driven by increased sales across most of the core product groups compared to \$314.4 million for the three months ended June 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 June 30,		Dollar Increase	Percent Increase
	2021	2020		
Consolidated	\$341.3	\$314.4	\$26.9	8.6%
Americas	217.7	204.2	13.5	6.6%
International	123.6	110.2	13.4	12.1%

Net Sales (Percent Change)	Three Months Ended June 30, 2021		
	Americas	International	Consolidated
GAAP reported sales change	6.6%	12.1%	8.6%
Currency translation effects	(0.8)%	(9.2)%	(3.8)%
Constant currency sales change	5.8%	2.9%	4.8%
Less: Acquisitions	—%	(6.6)%	(2.4)%
Organic constant currency change	5.8%	(3.7)%	2.4%

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 \$217.7 million in the second quarter of 2021, an increase of \$13.5 million, or 6.6%, compared to \$204.2 million in the second quarter of 2020. During the quarter, constant currency sales in the Americas segment increased 5.8% compared to the prior year period. All 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 business returned to pre-pandemic levels. Americas segment business conditions and order activity continued to improve throughout the quarter and that provides a sense of optimism to start the second half of 2021. Our ability to deliver orders will be dependent upon the extent in which supply chain challenges persist in the second half of 2021.

Net sales for the International segment were \$123.6 million in the second quarter of 2021, an increase of \$13.4 million, or 12.1%, compared to \$110.2 million for the second quarter of 2020. Constant currency sales in the International segment increased 2.9% during the quarter due to sales of Bristol turnout gear, which was partially offset by weaker volumes in EMEA operating segment driven by slower economic recovery due to the pandemic in Europe and lower project business in the Middle East Fixed Gas & Flame Detection ("FGFD") market. However, we are seeing increased incoming orders for gas detection products. Our ability to deliver orders will be dependent upon the extent in which supply chain challenges persist in the second half of 2021.

Our backlog increased significantly during the past quarter as a result of an uptick in order pace and ongoing supply chain constraints in certain product lines. Our incoming orders during the quarter were strong across our product portfolio and above 2019 levels. The recently announced acquisition of Bacharach is expected to add \$30-\$35 million of net sales during the second half of 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.

Refer to Note 7—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 second quarter of 2021 was \$152.9 million, an increase of \$11.3 million or 8.0%, compared to \$141.6 million for the second quarter of 2020. The ratio of gross profit to net sales was 44.8% in the second quarter of 2021 compared to 45.0% in the same quarter last year. Strategic pricing and stronger throughput in our factories offset higher material costs. Despite a number of headwinds in margin associated with input costs, a less favorable product mix, and inventory charges associated with lower demand for APR products, gross margins were roughly in line with prior year levels. 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 how long these challenges may persist, we could see these impact our business for the foreseeable future with more meaningful impact in the second half of 2021. 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 \$83.4 million during the second quarter of 2021, an increase of \$14.4 million or 20.8%, \$12.1 million on a constant currency basis, compared to \$69.0 million in the second quarter of 2020. Overall, selling, general and administrative expenses were 24.4% of net sales during the second quarter of 2021, compared to 22.0% of net sales during the same period in 2020. We expect SG&A to approximate 23.5% of net sales in the second half of 2021. Improved business conditions drove \$3 million of additional variable compensation during the quarter. Acquisition costs related to the acquisitions of Bacharach and Bristol totaling \$8 million also increased SG&A costs during the quarter. These costs include \$4.3 million of incremental stock compensation expense driven by the acquisition of Bacharach and its expected revenue and profitability contributions in the coming years, \$2 million of transaction costs related to the acquisition of Bacharach, and \$1.8 million of Bristol base SG&A which was not in the comparable period. Costs savings from restructuring programs offset discretionary cost increases during the quarter.

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 June 30, 2021 versus June 30, 2020
	Consolidated
GAAP reported change	20.8%
Currency translation effects	(3.3)%
Constant currency change	17.5%
Less: Acquisitions and related strategic transaction costs	(5.3)%
Organic constant currency change	12.2%

Research and development expense. Research and development expense was \$14.0 million during the second quarter of 2021, an increase of \$0.2 million, compared to \$13.8 million during the second quarter of 2020. Research and development expense was 4.1% of net sales in the second quarter of 2021 compared to 4.4% in the same period of 2020. We continue to develop new products for global safety markets. During the second quarter of 2021, we capitalized \$2.1 million of software development costs.

Restructuring charges. Restructuring charges during the second quarter of 2021, were \$7.1 million primarily related to our ongoing initiatives to drive profitable growth and right size our operations. Together with cost reduction programs executed throughout 2020, we expect these programs to collectively deliver \$15 million of savings throughout the income statement in 2021, and annual savings of \$25 million thereafter. This compared to restructuring charges of \$8.9 million during the second quarter of 2020, primarily related to footprint rationalization and 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 continue to evaluate additional programs to execute in the second half of 2021 in response to changing business conditions.

Currency exchange. Currency exchange losses were \$1.6 million in the second quarter of 2021 compared to losses of \$0.8 million in the second quarter of 2020. Currency exchange in both periods were related to foreign currency exposure on unsettled inter-company balances.

Refer to Note 15—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 June 30, 2021 was \$11.8 million compared to \$0.9 million in the same period last year. Product liability expense increased during the quarter to reflect an increase in the number of asserted claims pending against MSA LLC and a corresponding adjustment to the reserve, as discussed further in Note 17. The expense in the second quarter of 2020 related primarily to defense costs incurred for cumulative trauma product liability claims.

GAAP operating income. Consolidated operating income for the second quarter of 2021 was \$35.1 million compared to \$48.3 million in the same period last year. The decrease in operating results was driven by higher product liability expense and SG&A expenses, and acquisition related costs as described above, partially offset by sales volume.

Adjusted operating income. Americas adjusted operating income for the second quarter of 2021 was \$49.2 million, and comparable to \$49.0 million from the prior year quarter.

International adjusted operating income for the second quarter of 2021 was \$20.4 million, an increase of \$3.0 million, or 17%, compared to \$17.4 million in the prior year quarter. The increase in adjusted operating income is primarily attributable to higher sales volumes and gross profit expansion, partially offset by higher SG&A, which was driven by the Bristol acquisition.

Corporate segment adjusted operating loss for the second quarter of 2021 was \$11.0 million, an increase of \$3.5 million compared to an adjusted operating loss of \$7.5 million in the second quarter of 2020 due to variable compensation resets, including \$4.3 million of incremental stock compensation expense related to the July 1, 2021 acquisition of Bacharach.

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 June 30, 2021			
	Americas	International	Corporate	Consolidated
Net sales	\$ 217,707	\$ 123,582	\$ —	\$ 341,289
GAAP operating income				35,050
Restructuring charges (Note 3)				7,078
Currency exchange losses, net (Note 5)				1,640
Product liability expense (Note 17)				11,751
Acquisition related costs (Note 18) ^(a)				3,168
Adjusted operating income (loss)	49,238	20,440	(10,991)	58,687
Adjusted operating margin %	22.6 %	16.5 %		
Depreciation and amortization				11,584
Adjusted EBITDA	57,137	24,020	(10,886)	70,271
Adjusted EBITDA %	26.2 %	19.4 %		

Adjusted operating income (In thousands)	Three Months Ended June 30, 2020			
	Americas	International	Corporate	Consolidated
Net sales	\$ 204,231	\$ 110,207	\$ —	\$ 314,438
GAAP operating income				48,294
Restructuring charges (Note 3)				8,865
Currency exchange losses, net (Note 5)				793
Product liability expense (Note 17)				851
Acquisition related costs (Note 18)				64
Adjusted operating income (loss)	49,003	17,402	(7,538)	58,867
Adjusted operating margin %	24.0 %	15.8 %		
Depreciation and amortization				9,786
Adjusted EBITDA	55,620	20,474	(7,441)	68,653
Adjusted EBITDA %	27.2 %	18.6 %		

^(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 income, net, for the second quarter of 2021 was \$0.1 million, compared to other expense, net, of \$0.5 million for the same period in 2020 driven primarily by lower interest expense and higher pension income driven by a higher expected rate of return.

Income taxes. The reported effective tax rate for the second quarter of 2021 was 27.8% compared to 23.9% for the second quarter of 2020. This increase from the prior year is attributable to statutory rate increases in the U.K., which required a quarter specific reevaluation of our deferred taxes in the U.K., which will not recur in future periods; and nondeductible executive compensation.

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 \$25.1 million for the second quarter of 2021, or \$0.64 per diluted share compared to income of \$36.1 million, or \$0.92 per diluted share, for the same period last year.

Six Months Ended June 30, 2021, Compared to Six Months Ended June 30, 2020

Net Sales. Net sales for the six months ended June 30, 2021, were \$649.7 million, a decrease of \$5.9 million, or 0.9%, driven by decreased first quarter sales across most of the core product groups compared to \$655.6 million for the six months ended June 30, 2020. Please refer to the Net Sales table for a reconciliation of the period over period sales change.

Net Sales (In millions)	Six Months Ended June 30,		Dollar Decrease	Percent Decrease
	2021	2020		
Consolidated	\$649.7	\$655.6	\$(5.9)	(0.9)%
Americas	426.0	435.5	(9.5)	(2.2)%
International	223.7	220.1	3.6	1.6%

Net Sales (Percent Change)	Six Months Ended June 30, 2021		
	Americas	International	Consolidated
GAAP reported sales change	(2.2)%	1.6%	(0.9)%
Currency translation effects	—%	(7.9)%	(2.7)%
Constant currency sales change	(2.2)%	(6.3)%	(3.6)%
Less: Acquisitions	—%	(5.0)%	(1.7)%
Organic constant currency change	(2.2)%	(11.3)%	(5.3)%

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 \$426.0 million in the six months ended June 30, 2021, a decrease of \$9.5 million, or 2.2%, compared to \$435.5 million in the same period last year. During the six months ended June 30, 2021, constant currency sales in the Americas segment decreased 2.2% compared to the prior year period, driven by APR sales moderating to pre-pandemic levels, which was partially offset by a general improvement in business conditions during the second quarter of 2021. Our ability to deliver orders will be dependent upon the extent in which supply chain challenges persist in the second half of 2021.

Net sales for the International segment were \$223.7 million in the six months ended June 30, 2021, an increase of \$3.6 million, or 1.6%, compared to \$220.1 million for the same period last year. Constant currency sales in the International segment decreased 6.3% during the period on weaker revenues across the segment, with more significant declines in the EMEA operating segment due to COVID-19 lockdowns in Europe and lower project business in the Middle East FGD market. This weakness was partially offset by sales of Bristol turnout gear. Our ability to deliver orders will be dependent upon the extent in which supply chain challenges persist in the second half of 2021.

Refer to Note 7—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 six months ended June 30, 2021, was \$287.7 million, a decrease of \$11.3 million or 3.8%, compared to \$299.0 million during the same period last year. The ratio of gross profit to net sales was 44.3% during the six months ended June 30, 2021 compared to 45.6% during the same period last year. Strategic pricing and stronger throughput in our factories helped to offset higher material costs, despite a number of headwinds in margin associated with input costs, a less favorable product mix, 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 how long these challenges may persist, we could see these impact our business for the foreseeable future with more meaningful impact in the second half of 2021. 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 \$158.9 million during the six months ended June 30, 2021, an increase of \$9.6 million or 6.4%, compared to \$149.3 million during the same period last year. Overall, selling, general and administrative expenses were 24.5% of net sales during the six months ended June 30, 2021, compared to 22.8% of net sales during the same period in 2020. We expect SG&A to approximate 23.5% of second half 2021 net sales. Improved business conditions drove \$3 million of additional variable compensation during the period. Acquisition costs related to the acquisitions of Bacharach and Bristol totaling \$11 million also increased SG&A costs during the period. These costs include \$4.3 million of incremental stock compensation expense driven by the acquisition of Bacharach and its expected revenue and profitability contributions in the coming years, \$3 million of transaction costs related to the acquisition of Bacharach and Bristol, and \$3.7 million of Bristol base SG&A which was not in the comparable period. Costs savings from restructuring programs offset discretionary cost increases during the year and we expect to bring costs back into the business at a slower pace than the revenue improvements.

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)	Six Months Ended June 30, 2021 versus June 30, 2020
	Consolidated
GAAP reported change	6.4%
Currency translation effects	(2.4)%
Constant currency change	4.0%
Less: Acquisitions and related strategic transaction costs	(3.7)%
Organic constant currency change	0.3%

Research and development expense. Research and development expense was \$27.2 million during the six months ended June 30, 2021, a decrease of \$0.7 million, compared to \$27.9 million during the same period last year. Research and development expense was 4.2% of net sales in the six months ended June 30, 2021, compared to 4.3% in the same period of 2020. We continue to develop new products for global safety markets. During the six months ended June 30, 2021, we capitalized \$4.1 million of software development costs.

Restructuring charges. Restructuring charges during the six months ended June 30, 2021, were \$8.4 million primarily related to our ongoing initiatives to drive profitable growth and right size our operations. Together with cost reduction programs executed throughout 2020, we expect these programs to collectively deliver \$15 million of savings throughout the income statement in 2021, and annual savings of \$25 million thereafter. This compared to restructuring charges of \$10.9 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 continue to evaluate additional programs to execute in the second half of 2021 in response to changing business conditions.

Currency exchange. Currency exchange gains were \$0.5 million during the six months ended June 30, 2021, compared to losses of \$1.1 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 15—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 six months ended June 30, 2021 was \$14.5 million compared to \$2.8 million in the same period last year. Product liability expense increased during the period to reflect an increase in the number of asserted claims pending against MSA LLC and a corresponding adjustment to the reserve, as discussed further in Note 17. Product liability expense for 2020 related primarily to defense costs incurred for cumulative trauma product liability claims.

GAAP operating income. Consolidated operating income for the six months ended June 30, 2021, was \$79.1 million compared to \$107.1 million in the same period last year. The decrease in operating results was driven by lower sales volumes, lower gross profit and higher product liability expense and SG&A expenses for the reasons noted above. Costs savings from restructuring programs offset discretionary cost increases during the quarter.

Adjusted operating income. Americas adjusted operating income for the six months ended June 30, 2021 was \$94.4 million, a decrease of \$14.4 million, or 13.3%, compared to \$108.8 million in the prior year. The decrease was related to the lower level of sales, variable compensation resets and lower gross profit, for reasons noted above.

International adjusted operating income for the six months ended June 30, 2021, was \$29.2 million, a decrease of \$0.9 million, or 2.9%, compared to \$30.1 million in the prior year. The decrease in adjusted operating income is primarily attributable to SG&A expenses due to the Bristol acquisition and increased post-pandemic activities. Costs savings from restructuring programs offset discretionary cost increases during the first half of 2021.

Corporate segment adjusted operating loss for the six months ended June 30, 2021, was \$17.5 million, an increase of \$1.3 million compared to an adjusted operating loss of \$16.2 million in the same period of 2020 as higher variable compensation expenses, including Bacharach acquisition-related costs, were mostly offset by lower discretionary costs.

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)	Six Months Ended June 30, 2021			
	Americas	International	Corporate	Consolidated
Net sales	\$ 426,046	\$ 223,671	\$ —	\$ 649,717
GAAP operating income				79,088
Restructuring charges (Note 3)				8,385
Currency exchange gains, net (Note 5)				(459)
Product liability expense (Note 17)				14,547
Acquisition related costs (Note 18) ^(a)				4,541
Adjusted operating income (loss)	94,390	29,194	(17,482)	106,102
Adjusted operating margin %	22.2 %	13.1 %		
Depreciation and amortization				\$ 22,088
Adjusted EBITDA	\$ 109,322	\$ 36,147	\$ (17,279)	\$ 128,190
Adjusted EBITDA %	25.7 %	16.2 %		

Adjusted operating income (In thousands)	Six Months Ended June 30, 2020			
	Americas	International	Corporate	Consolidated
Net sales	\$ 435,484	\$ 220,099	\$ —	\$ 655,583
GAAP operating income				107,076
Restructuring charges (Note 3)				10,872
Currency exchange losses, net (Note 5)				1,063
Product liability expense (Note 17)				2,802
Acquisition related costs (Note 18) ^(a)				161
COVID-19 related costs				757
Adjusted operating income (loss)	108,811	30,073	(16,153)	122,731
Adjusted operating margin %	25.0 %	13.7 %		
Depreciation and amortization				19,428
Adjusted EBITDA	121,878	36,239	(15,958)	142,159
Adjusted EBITDA %	28.0 %	16.5 %		

^(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 six months ended June 30, 2021 was \$2.4 million, compared to other expense, net, of \$2.3 million for the same period in 2020 driven primarily by lower interest expense and 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 six months ended June 30, 2021, was 24.0% compared to 23.4% for the same period in 2020. This increase from the prior year is attributable to statutory rate increases in foreign jurisdictions and nondeductible executive compensation, partially offset by tax benefits related to certain share-based payments.

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 \$61.5 million for the six months ended June 30, 2021, or \$1.56 per diluted share compared to income of \$79.7 million, or \$2.03 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 7—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. 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 June 30, 2021, approximately 28% of our long-term debt is at fixed interest rates with repayment schedules through 2031. The remainder of our long-term debt is at variable rates on an unsecured revolving credit facility that is due in 2023. At June 30, 2021, approximately 62% of our borrowings are denominated in U.S. dollars, which limits our exposure to currency exchange rate fluctuations.

At June 30, 2021, the Company had cash, cash equivalents and restricted cash totaling \$174.4 million, including \$156.0 million held by our foreign subsidiaries, 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 June 30, 2021, positions us well to navigate through challenging business conditions.

Cash, cash equivalents and restricted cash increased \$13.4 million during the six months ended June 30, 2021, compared to decreasing \$16.0 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 \$83.9 million during the six months ended June 30, 2021, compared to providing \$83.0 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 in receivables.

Payments for subsidiary MSA LLC's product liability claims exceeded collections from insurance companies by \$16.5 million in the six months ended June 30, 2021, compared to collections from insurance companies of \$1.1 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 \$58.2 million during the six months ended June 30, 2021, compared to using \$29.2 million during the same period in 2020. The acquisition of Bristol and capital expenditures, partially offset by maturities of short-term investments, net of purchases, drove cash outflows from investing activities during the six months ended June 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 six months ended June 30, 2021, we incurred capital expenditures of \$20.3 million, including \$4.1 million associated with software development and other growth programs, compared to capital expenditures of \$19.8 million, including \$4 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 used cash of \$11.5 million during the six months ended June 30, 2021, compared to using \$66.2 million during the same period in 2020. During the six months ended June 30, 2021, we had net proceeds on long-term debt of \$27.0 million to fund the acquisition of Bristol as compared to net payments on long-term debt of \$9.0 million during the same period in 2020. We paid cash dividends of \$34.1 million during the six months ended June 30, 2021, compared to \$33.1 million in the same period in 2020. We also used cash of \$5.5 million during the six months ended June 30, 2021 to repurchase shares, compared to using \$28.3 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.

On July 1, 2021, the Company acquired Bacharach, Inc. for \$337.0 million. 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 July we completed a buy-out of our minority partner in our China business for about \$19 million, inclusive of a \$6 million dividend. We funded the investment with local cash balances; and as part of this deal, we expect to repatriate between \$10-15 million of cash back to the U.S. in the third quarter 2021. The transaction provides enhanced capital allocation flexibility and helps us optimize foreign cash balances.

CUMULATIVE TRANSLATION ADJUSTMENTS

The position of the U.S. dollar relative to international currencies at June 30, 2021, resulted in a translation loss of \$4.1 million being recorded to the cumulative translation adjustments shareholders' equity account during the six months ended June 30, 2021, compared to an \$18.2 million translation loss being recorded to the cumulative translation adjustments account during the same period in 2020.

COMMITMENTS AND CONTINGENCIES

We made contributions of \$3.8 million to our pension plans during the six months ended June 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 June 30, 2021, totaling \$11.3 million, of which \$1.7 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 June 30, 2021, the Company has \$0.3 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 17—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 \$15.6 million or 4.6% and \$1.2 million or 3.5%, respectively, for the three months ended June 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 June 30, 2021, we had open foreign currency forward contracts with a U.S. dollar notional value of \$99.2 million. A hypothetical 10% strengthening or weakening of the U.S. dollar would result in a \$9.9 million increase or decrease in the fair value of these contracts at June 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 June 30, 2021, we had \$96.0 million of fixed rate debt which matures at various dates through 2031. 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 \$7.3 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 June 30, 2021, we had \$241.0 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

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 1,610 cumulative trauma lawsuits comprised of 3,942 claims at June 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 \$104.1 million and notes receivables of \$53.0 million at June 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
April 2021	—	\$ —	—	359,589
May 2021	950	167.46	—	343,061
June 2021	25	160.99	—	348,199

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

July 29, 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.

July 29, 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.

July 29, 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 June 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.

July 29, 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