UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

☑ QUARTERLY REPORT PURSUANT TO SECTION	ON 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarter	ended September 30, 2022
	or
☐ TRANSITION REPORT PURSUANT TO SECTION	ON 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
Commiss	ion File No. 1-15579
The	Safety Company
MSA SAFETY	INCORPORATED
(Exact name of regis	strant as specified in its charter)
Pennsylvania	46-4914539
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification No.)
1000 Cranberry Woods Drive	
Cranberry Township, Pennsylvania	16066-5207
(Address of principal executive offices)	(Zip Code)
Registrant's telephone numb	oer, including area code: (724) 776-8600
Former name or former add	lress, if changed since last report: N/A
Indicate by check mark whether the registrant (1) has filed Exchange Act of 1934 during the preceding 12 months and (2) has Yes \boxtimes No \square	I all reports required to be filed by Section 13 or 15(d) of the Securities as been subject to such filing requirements for the past 90 days.
,	ed electronically every Interactive Data File required to be submitted months (or for such shorter period that the registrant was required to submit
	celerated filer, an accelerated filer, a non-accelerated filer, smaller reporting of "large accelerated filer," "accelerated filer," "smaller reporting company," Act.
Large Accelerated Filer	Non-accelerated filer ☐ Smaller reporting company ☐ Emerging growth company ☐
If an emerging growth company, indicate by check mark if complying with any new or revised financial accounting standard	The registrant has elected not to use the extended transition period for ds provided pursuant to Section 13(a) of the Exchange Act. \square
Indicate by check mark whether the registrant is a shell cor	mpany (as defined in Rule 12b-2 of the Exchange Act). Yes □ No ⊠
Securities registered pursuant to Section 12(b) of the Act:	

Trading Symbol(s)

MSA

Name of each exchange on which is registered

New York Stock Exchange

As of October 21, 2022, 39,198,350 shares of common stock, of the registrant were outstanding.

Title of each class

Common Stock, no par value

PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

MSA SAFETY INCORPORATED

CONDENSED CONSOLIDATED STATEMENTS OF INCOME

Unaudited

	Three Months Ended September 30,			Ni	ne Months End	led September 30,		
(In thousands, except per share amounts)		2022		2021		2022		2021
Net sales	\$	381,694	\$	340,197	\$	1,084,699	\$	989,915
Cost of products sold		212,299		190,758		608,120		552,693
Gross profit		169,395		149,439		476,579		437,222
Selling, general and administrative		82,753		87,450		247,378		246,339
Research and development		14,416		14,946		43,017		42,149
Restructuring charges (Note 3)		899		3,853		3,146		12,239
Currency exchange losses (gains), net		2,979		100		4,788		(359)
Product liability expense (Note 18)		4,035		10,688		9,733		25,235
Operating income		64,313	_	32,402		168,517		111,619
Operating income		04,515		32,402		100,517		111,019
Interest expense		5,962		3,764		14,158		7,847
Other income, net		(2,359)		(2,266)		(15,121)		(8,773)
Total other expense (income), net		3,603		1,498		(963)		(926)
Income before income taxes		60,710		30,904		169,480		112,545
Provision for income taxes (Note 10)		15,804		9,724		41,339		29,281
Net income		44,906		21,180		128,141		83,264
Net income attributable to noncontrolling interests								(440)
Net income attributable to honcontrolling interests		<u> </u>				<u> </u>		(448)
Net income attributable to MSA Safety Incorporated	\$	44,906	\$	21,180	\$	128,141	\$	82,816
Earnings per share attributable to MSA Safety Incorporated common shareholders (Note 9):								
Basic	\$	1.15	\$	0.54	\$	3.26	\$	2.11
Diluted	\$	1.14	\$	0.54	\$	3.25	\$	2.10
Dividends per common share	\$	0.46	\$	0.44	\$	1.36	\$	1.31

^{*}Prior periods have been adjusted to reflect the change in inventory accounting method, as described in the Company's fiscal 2021 Annual Report on Form 10-K.

CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

Unaudited

	Three Months Ended September 30,			Ni	ne Months End	eptember 30,		
(In thousands)		2022		2021		2022		2021
Net income	\$	44,906	\$	21,180	\$	128,141	\$	83,264
Other comprehensive loss, net of tax:								
Foreign currency translation adjustments (Note 6)		(32,361)		(13,868)		(58,075)		(18,073)
Pension and post-retirement plan actuarial gains, net of tax (Note 6)		2,299		3,701		6,893		11,070
Unrealized gains (losses) on available-for-sale securities (Note 6)		13		(11)		(5)		(15)
Reclassifications of currency translation from accumulated other comprehensive (loss) into net income (Note 6)		2,912		_		2,912		_
Total other comprehensive loss, net of tax		(27,137)		(10,178)		(48,275)		(7,018)
Comprehensive income		17,769		11,002		79,866		76,246
Less: Comprehensive income attributable to noncontrolling interests		_		_		_		(356)
Comprehensive income attributable to MSA Safety Incorporated	\$	17,769	\$	11,002	\$	79,866	\$	75,890

^{*}Prior periods have been adjusted to reflect the change in inventory accounting method, as described in the Company's fiscal 2021 Annual Report on Form 10-K.

CONDENSED CONSOLIDATED BALANCE SHEETS

Unaudited

(In thousands)	Septe	ember 30, 2022	December 31, 2021			
Assets						
Cash and cash equivalents	\$	159,613	\$	140,895		
Trade receivables, less allowance for credit loss of \$6,460 and \$5,789		249,298		254,187		
Inventories (Note 4)		349,664		280,617		
Investments, short-term (Note 17)		24,930		48,974		
Prepaid income taxes		30,286		21,235		
Notes receivable, insurance companies (Note 18)		5,901		3,914		
Prepaid expenses and other current assets		42,408		42,982		
Total current assets		862,100		792,804		
Property, plant and equipment, net (Note 5)		199,530		207,793		
Operating lease right-of-use assets, net		43,924		50,178		
Prepaid pension cost (Note 15)		182,794		163,283		
Deferred tax assets (Note 10)		32,039		35,257		
Goodwill (Note 13)		607,161		636,858		
Intangible assets, net (Note 13)		281,461		306,948		
Notes receivable, insurance companies (Note 18)		38,428		44,626		
Insurance receivables (Note 18) and other noncurrent assets		139,852		158,649		
Total assets	\$	2,387,289	\$	2,396,396		
Liabilities						
Notes payable and current portion of long-term debt (Note 12)	\$	6,820	\$			
Accounts payable	Ψ	104,972	Ψ	106,780		
Employees' compensation		47,499		49,884		
Insurance and product liability (Note 18)		67,716		55,125		
Income taxes payable (Note 10)		22,555		5,366		
Accrued restructuring and other current liabilities		99,576		113,451		
Total current liabilities		349,138		330,606		
Long-term debt, net (Note 12)		597,844		597,651		
Pensions (Note 15) and other employee benefits		173,654		189,973		
Noncurrent operating lease liabilities		35,412		40,706		
Deferred tax liabilities (Note 10)		30,409		33,337		
Product liability (Note 18) and other noncurrent liabilities		358,417		369,735		
Total liabilities	\$	1,544,874	\$	1,562,008		
F'4.						
Equity	ф	2.562	Ф	2.562		
Preferred stock, 4.5% cumulative, \$50 par value (Note 7)	\$	3,569	\$	3,569		
Common stock, no par value (Note 7)		273,010		260,121		
Treasury shares, at cost (Note 7)		(361,657)		(330,376)		
Accumulated other comprehensive loss (Note 6)		(197,415)		(149,140)		
Retained earnings		1,124,908		1,050,214		
Total shareholders' equity	ф	842,415	Φ.	834,388		
Total liabilities and shareholders' equity	\$	2,387,289	\$	2,396,396		

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

Unaudited

	Nine Months Ended September 30,						
(In thousands)		2022	2021				
Operating Activities	ф	100 141	ф	02.264			
Net income	\$		\$	83,264			
Depreciation and amortization		41,883		36,270			
Stock-based compensation (Note 11)		11,325		13,562			
Pension (income) expense (Note 15)		(7,956)		2,079			
Deferred income tax benefit (Note 10)		(2,451)		(5,548			
Loss on asset write-down and dispositions, net		4,776		423			
Pension contributions (Note 15)		(5,743)		(5,768			
Currency exchange losses (gains), net		4,788		(359			
Product liability expense (Note 18)		9,733		25,235			
Collections on insurance receivables and notes receivable, insurance companies (Note 18)		9,510		15,437			
Product liability payments (Note 18)		(9,076)		(32,499			
Changes in:							
Trade receivables		1,958		40,167			
Inventories (Note 4)		(86,599)		(36,336			
Accounts payable		2,629		(855			
Other current assets and liabilities		270		(2,410			
Other noncurrent assets and liabilities		715		(2,519			
Cash Flow From Operating Activities		103,903		130,143			
Investing Activities							
Capital expenditures		(28,753)		(30,963			
Proceeds from maturities of short-term investments (Note 17)		94,000		135,000			
Purchase of short-term investments (Note 17)		(69,680)		(108,938			
Property disposals and other investing		38		(5,249			
Acquisitions, net of cash acquired (Note 14)		<u> </u>		(392,437			
Cash Flow Used in Investing Activities		(4,395)		(402,587			
Financing Activities							
Proceeds from long-term debt (Note 12)		798,000		1,341,734			
Payments on long-term debt (Note 12)		(771,000)		(1,032,875			
Cash dividends paid		(53,447)		(51,322			
Company stock purchases (Note 7)		(34,365)		(6,137			
Exercise of stock options (Note 7)		4,163		2,671			
Employee stock purchase plan (Note 7)		486		452			
Acquisition of noncontrolling interest in consolidated subsidiaries				(13,381			
Distributions to noncontrolling interests				(5,632			
Debt issuance costs		_		(2,080			
Cash Flow (Used In) From Financing Activities		(56,163)		233,430			
Effect of exchange rate changes on cash, cash equivalents and restricted cash		(23,498)		(4,177			
Increase (Decrease) in cash, cash equivalents and restricted cash		19,847		(43,191			
Beginning cash, cash equivalents and restricted cash		141,438		161,034			
Ending cash, cash equivalents and restricted cash	\$	161,285	\$	117,843			
Supplemental cash flow information:							
Cash and cash equivalents	\$	159,613	\$	117,302			
Restricted cash included in prepaid expenses and other current assets		1,672		541			
Total cash, cash equivalents and restricted cash	\$	161,285	\$	117,843			

^{*}Prior period has been adjusted to reflect the change in inventory accounting method, as described in the Company's fiscal 2021 Annual Report on Form 10-K.

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

Unaudited

(In thousands, except per share amounts)	Retained Earnings	Accumulated Other omprehensive (Loss)	N	oncontrolling Interests
Balances June 30, 2021	\$ 1,130,661	\$ (179,145)	\$	8,349
Net income	21,180			_
Foreign currency translation adjustments	_	(13,868)		_
Pension and post-retirement plan adjustments, net of tax of \$1,095		3,701		_
Unrealized net losses on available-for-sale securities (Note 17)	_	(11)		_
Acquisition of noncontrolling interest in consolidated subsidiaries				(8,349)
Distributions to noncontrolling interests	(5,632)	_		_
Common dividends (\$0.44 per share)	(17,245)			
Preferred dividends (\$0.5625 per share)	(10)	_		_
Balances September 30, 2021	\$ 1,128,954	\$ (189,323)	\$	
Balances June 30, 2022	\$ 1,098,048	\$ (170,278)	\$	
Net income	44,906	_		_
Foreign currency translation adjustments	<u> </u>	(32,361)		_
Pension and post-retirement plan adjustments, net of tax of \$981	_	2,299		_
Unrealized net gains on available-for-sale securities (Note 17)	_	13		
Reclassifications of currency translation from accumulated other comprehensive (loss) into net income (Note 6)	_	2,912		_
Common dividends (\$0.46 per share)	(18,036)	_		_
Preferred dividends (\$0.5625 per share)	(10)	_		_
Balances September 30, 2022	\$ 1,124,908	\$ (197,415)	\$	_
Balances December 31, 2020	\$ 1,103,092	\$ (182,397)	\$	7,993
Net income	83,264	_		_
Foreign currency translation adjustments	_	(18,073)		
Pension and post-retirement plan adjustments, net of tax of \$3,318	_	11,070		_
Unrecognized net losses on available-for-sale securities (Note 17)		(15)		
Income attributable to noncontrolling interests	(448)	92		356
Acquisition of noncontrolling interest in consolidated subsidiaries	_	_		(8,349)
Distributions to noncontrolling interests	(5,632)	<u> </u>		
Common dividends (\$1.31 per share)	(51,292)			
Preferred dividends (\$1.6875 per share)	(30)	_		_
Balances September 30, 2021	\$ 1,128,954	\$ (189,323)	\$	<u> </u>
Balances December 31, 2021	\$ 1,050,214	\$ (149,140)	\$	
Net income	128,141	_		_
Foreign currency translation adjustments		(58,075)		_ _ _ _
Pension and post-retirement plan adjustments, net of tax of \$2,947	_	6,893		_
Unrecognized net losses on available-for-sale securities (Note 17)		(5)		_
Reclassifications of currency translation from accumulated other comprehensive (loss) into net income (Note 6)	_	2,912		_
Common dividends (\$1.36 per share)	(53,417)			
Preferred dividends (\$1.6875 per share)	(30)			
Balances September 30, 2022	\$ 1,124,908	\$ (197,415)	\$	_

^{*}Prior periods have been adjusted to reflect the change in inventory accounting method, as described in the Company's fiscal 2021 Annual Report on Form 10-K.

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 unaudited 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 unaudited condensed consolidated financial statements are not necessarily indicative of the results that may be expected for the entire year. The December 31, 2021, 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, 2021, which includes all disclosures required by U.S. GAAP.

During the fourth quarter of 2021, the Company changed its method of accounting for certain inventory in the United States from the last-in, first-out ("LIFO") method to the first-in, first-out ("FIFO") method. The FIFO method of accounting for inventory is preferable because it conforms the Company's entire inventory to a single method of accounting and improves comparability with the Company's peers. The effects of the change in accounting method from LIFO to FIFO have been retrospectively applied to all periods presented in all sections of this Quarterly Report. Refer to Note 4—Inventory of the consolidated financial statements in Part II Item 8 of our 2021 Form 10-K for further information related to the change in accounting principle.

Note 2—Cash and Cash Equivalents

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

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

(In thousands)	September 30, 2022
Gross cash pool position	\$ 60,019
Less: cash pool borrowings	(58,071)
Net cash pool position	\$ 1,948

Note 3—Restructuring Charges

During the three and nine months ended September 30, 2022, we recorded restructuring charges of \$0.9 million and \$3.1 million, respectively. International segment restructuring charges of \$2.2 million during the nine months ended September 30, 2022, were primarily related to the implementation of our new European Shared Service Center in Warsaw, Poland. Americas segment restructuring charges of \$1.0 million during the nine months ended September 30, 2022, were related to various optimization activities.

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

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

(In millions)	 Americas	Ir	nternational	Corporate	Total
Reserve balances at December 31, 2020	\$ 2.8	\$	19.3	\$ 0.4	\$ 22.5
Restructuring charges	4.6		11.2	0.6	16.4
Currency translation	(0.1)		(0.2)	_	(0.3)
Cash payments / utilization	(4.0)		(12.9)	(0.7)	(17.6)
Reserve balances at December 31, 2021	\$ 3.3	\$	17.4	\$ 0.3	\$ 21.0
Restructuring charges (releases)	1.0		2.2	(0.1)	3.1
Currency translation and other adjustments	0.1		(2.2)	_	(2.1)
Cash payments	(3.2)		(6.2)	(0.2)	(9.6)
Reserve balances at September 30, 2022	\$ 1.2	\$	11.2	\$ 	\$ 12.4

Restructuring reserves are included in Accrued restructuring and other current liabilities in the accompanying unaudited Condensed Consolidated Balance Sheets.

Note 4—Inventories

The following table sets forth the components of inventory:

(In thousands)	September 30, 2022			nber 31, 2021
Finished products	\$	97,758	\$	87,657
Work in process		23,193		6,534
Raw materials and supplies		228,713		186,426
Total inventories	\$	349,664	\$	280,617

Note 5—Property, Plant and Equipment

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

(In thousands)	Septer	mber 30, 2022	Dece	ember 31, 2021
Land	\$	4,697	\$	5,131
Buildings		134,567		136,272
Machinery and equipment		443,705		435,652
Construction in progress		27,753		36,552
Total		610,722		613,607
Less: accumulated depreciation		(411,192)		(405,814)
Property, plant and equipment, net	\$	199,530	\$	207,793

Note 6—Reclassifications Out of Accumulated Other Comprehensive Loss

Changes in accumulated other comprehensive loss were as follows:

	MSA Safety Incorporated				Noncontrolling Interests				
	Three Months Ended September 30,				Three Mon Septen				
(In thousands)	2022		2021		2022		2021		
Pension and other post-retirement benefits (a)									
Balance at beginning of period	\$ (52,702)	\$	(108,183)	\$		\$	_		
Amounts reclassified from accumulated other comprehensive loss into net income:									
Amortization of prior service credit (Note 15)	(48)		(24)				_		
Recognized net actuarial losses (Note 15)	3,328		4,820				_		
Tax benefit	 (981)		(1,095)				_		
Total amount reclassified from accumulated other comprehensive loss, net of tax, into net income	2,299		3,701		_		_		
Balance at end of period	\$ (50,403)	\$	(104,482)	\$		\$			
Available-for-sale securities									
Balance at beginning of period	\$ (23)	\$	(5)	\$		\$			
Unrealized net gains (losses) on available-for-sale securities (Note 17)	 13		(11)		_		_		
Balance at end of period	\$ (10)	\$	(16)	\$		\$			
Foreign currency translation									
Balance at beginning of period	\$ (117,553)	\$	(70,957)	\$	_	\$	280		
Reclassification from accumulated other comprehensive loss into net income	2,912 ^{(t}	o)	_		_		_		
Acquisition of noncontrolling interest in consolidated subsidiaries					_		(280)		
Foreign currency translation adjustments	(32,361)		(13,868)		_				
Balance at end of period	\$ (147,002)	\$	(84,825)	\$		\$			

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

⁽b) Reclassifications out of accumulated other comprehensive loss and into net income relate primarily to the approval of our plan to close a foreign subsidiary.

		MSA Safety Incorporated				Noncontrolling Interests				
	Ni	ne Months End	led Se	ptember 30,	Ni	ne Months End	led S	eptember 30,		
(In thousands)		2022		2021		2022		2021		
Pension and other post-retirement benefits (a)										
Balance at beginning of period	\$	(57,296)	\$	(115,552)	\$	_	\$	_		
Amounts reclassified from accumulated other comprehensive loss into net income:										
Amortization of prior service credit (Note 15)		(144)		(72)		_				
Recognized net actuarial losses (Note 15)		9,984		14,460		_				
Tax benefit		(2,947)		(3,318)						
Total amount reclassified from accumulated other comprehensive loss, net of tax, into net income		6,893		11,070		_		_		
Balance at end of period	\$	(50,403)	\$	(104,482)	\$	_	\$			
Available-for-sale securities										
Balance at beginning of period	\$	(5)	\$	(1)	\$	_	\$			
Unrealized net losses on available-for-sale securities (Note 17)		(5)		(15)		_		_		
Balance at end of period	\$	(10)	\$	(16)	\$		\$			
Foreign currency translation										
Balance at beginning of period	\$	(91,839)	\$	(66,844)	\$	_	\$	372		
Reclassification from accumulated other comprehensive loss into net income		2,912 ^{(t}))	_		_		_		
Acquisition of noncontrolling interest in consolidated subsidiaries (Note 14)				_		_		(280)		
Foreign currency translation adjustments	\$	(58,075)	\$	(17,981)	\$	_	\$	(92)		
Balance at end of period	\$	(147,002)	\$	(84,825)	\$	_	\$			

MCA Safety Incompared

Noncontrolling Interests

Note 7—Capital Stock

Preferred Stock - The Company has authorized 100,000 shares of \$50 par value 4.5% cumulative preferred nonvoting stock which is callable at \$52.50. There are 71,340 shares issued and 52,998 shares held in treasury at September 30, 2022. The Treasury shares at cost line in the unaudited Condensed Consolidated Balance Sheets includes \$1.8 million related to preferred stock. There were no treasury purchases of preferred stock shares during both the nine months ended September 30, 2022 and 2021. The Company has also authorized 1,000,000 shares of \$10 par value second cumulative preferred voting stock. No shares have been issued as of September 30, 2022.

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, 2021. No new shares were issued during the nine months ended September 30, 2022 or 2021. There were 39,197,700 and 39,276,518 shares outstanding at September 30, 2022 and December 31, 2021, respectively.

Treasury Shares - The Company's share repurchase program authorizes up to \$100.0 million to repurchase MSA common stock in the open market and in private transactions. The share repurchase program has no expiration date. The maximum number of shares that may be repurchased is calculated based on the dollars remaining under the program and the respective month-end closing share price. During the nine months ended September 30, 2022, 251,408 shares were repurchased under this program. During the nine months ended September 30, 2021, no shares were repurchased under this program. There were 22,883,691 and 22,804,873 Treasury Shares at September 30, 2022 and December 31, 2021, respectively.

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

⁽b) Reclassifications out of accumulated other comprehensive loss and into net income relate primarily to the approval of our plan to close a foreign subsidiary.

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 203,619 and 37,478 Treasury Shares issued for these purposes during the nine months ended September 30, 2022 and 2021, respectively.

Common stock activity is summarized as follows:

	Three Months Ended September 30, 2022			Three Months Ended September 30, 2021				
(In thousands)		Common Stock		Treasury Cost		Common Stock		Treasury Cost
Balance at beginning of period	\$	267,645	\$	(359,314)	\$	253,773	\$	(329,439)
Stock compensation expense		2,967				2,867		_
Restricted and performance stock awards		(103)		103		(159)		159
Stock options exercised		2,501		1,364		354		155
Treasury shares purchased for stock compensation programs		_		(59)		_		(625)
Acquisition of noncontrolling interest in consolidated subsidiaries		_		_		(4,751)		
Share repurchase program		_		(2,150)		_		_
Balance at end of period	\$	273,010	\$	(360,056)	\$	252,084	\$	(329,750)

	 Nine Mon Septembe		Nine Months Ended September 30, 2021			
(In thousands)	Common Stock	Treasury Cost		Common Stock		Treasury Cost
Balance at beginning of period	\$ 260,121	\$ (328,776)	\$	242,693	\$	(326,156)
Stock compensation expense	11,325	_		13,562		_
Restricted and performance stock awards	(1,564)	1,564		(1,662)		1,662
Stock options exercised	2,704	1,459		1,833		838
Treasury shares purchased for stock compensation programs	_	(3,990)		_		(6,137)
Acquisition of noncontrolling interest in consolidated subsidiaries	_	_		(4,751)		_
Employee stock purchase program	424	62		409		43
Share repurchase program		(30,375)		_		_
Balance at end of period	\$ 273,010	\$ (360,056)	\$	252,084	\$	(329,750)

Note 8—Segment Information

We are organized into four geographical operating segments that are based on management responsibilities: Northern North America, Latin America, Europe, Middle East & Africa, and Asia Pacific. 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 Northern 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 net 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. Adjusted operating margin is defined as adjusted operating income (loss) divided by segment net sales to external customers. Adjusted EBITDA is defined as adjusted operating income (loss) plus depreciation and amortization. Adjusted EBITDA margin is defined as adjusted EBITDA divided by segment net sales to external customers.

The accounting principles applied at the operating segment level in determining operating income (loss) are generally the same as those applied at the unaudited condensed consolidated financial statements 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	I	nternational	(Corporate	C	Consolidated Totals
Three Months Ended September 30, 2022							
Net sales to external customers	\$ 276,082	\$	105,612	\$		\$	381,694
Operating income							64,313
Restructuring charges (Note 3)							899
Currency exchange losses, net							2,979
Product liability expense (Note 18)							4,035
Acquisition related costs ^(a)							2,899
Adjusted operating income (loss)	75,088		8,448		(8,411)		75,125
Adjusted operating margin %	27.2 %		8.0 %				
Depreciation and amortization ^(a)							11,518
Adjusted EBITDA	83,945		10,980		(8,282)		86,643
Adjusted EBITDA margin %	30.4 %		10.4 %				
Nine Months Ended September 30, 2022							
Net sales to external customers	\$ 754,116	\$	330,583	\$	_	\$	1,084,699
Operating income							168,517
Restructuring charges (Note 3)							3,146
Currency exchange losses, net							4,788
Product liability expense (Note 18)							9,733
Acquisition related costs ^(a)							8,398
Adjusted operating income (loss)	184,664		34,674		(24,756)		194,582
Adjusted operating margin %	24.5 %		10.5 %				
Depreciation and amortization ^(a)							34,961
Adjusted EBITDA	210,201		43,708		(24,366)		229,543
Adjusted EBITDA margin %	27.9 %		13.2 %				

^(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 unaudited Condensed Consolidated Statements of Income.

(In thousands, except percentage amounts)	Americas	I	nternational	Corporate	C	onsolidated Totals
Three Months Ended September 30, 2021						
Net sales to external customers	\$ 229,076	\$	111,121	\$ 	\$	340,197
Operating income						32,402
Restructuring charges (Note 3)						3,853
Currency exchange losses, net						100
Product liability expense (Note 18)						10,688
Acquisition related costs ^(a)						7,351
Adjusted operating income (loss)	47,624		12,780	(6,010)		54,394
Adjusted operating margin %	20.8 %		11.5 %			
Depreciation and amortization ^(a)						11,823
Adjusted EBITDA	55,774		16,323	(5,880)		66,217
Adjusted EBITDA margin %	24.3 %		14.7 %			
Nine Months Ended September 30, 2021						
Net sales to external customers	\$ 655,123	\$	334,792	\$ _	\$	989,915
Operating income						111,619
Restructuring charges (Note 3)						12,239
Currency exchange gains, net						(359)
Product liability expense (Note 18)						25,235
Acquisition related costs ^(a)						11,891
Adjusted operating income (loss)	142,160		41,982	(23,517)		160,625
Adjusted operating margin %	21.7 %		12.5 %			
Depreciation and amortization ^(a)						33,716
Adjusted EBITDA	165,243		52,283	(23,185)		194,341
Adjusted EBITDA margin %	25.2 %		15.6 %			

^{*}Prior periods have been adjusted to reflect the change in inventory accounting method, as described in the Company's fiscal 2021 Annual Report on Form 10-K. Adjustments were made to Americas and International.

⁽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 unaudited Condensed Consolidated Statements of Income.

Total sales by product group was as follows:

Three Months Ended September 30, 2022		Consolida	ated		Americ	as		Internati	onal
(In thousands, except percentages)		Dollars	Percent		Dollars	Percent		Dollars	Percent
Breathing Apparatus	\$	91,977	24%	\$	70,482	26%	\$	21,495	20%
Fixed Gas & Flame Detection (a)		87,746	23%		62,134	23%		25,612	24%
Firefighter Helmets & Protective Apparel		54,738	14%		41,958	15%		12,780	12%
Portable Gas Detection		39,481	10%		28,358	10%		11,123	11%
Industrial Head Protection		43,608	11%		34,620	13%		8,988	9%
Fall Protection		27,839	7%		17,658	6%		10,181	10%
Other (b)		36,305	11%		20,872	7%		15,433	14%
Total	\$	381,694	100%	\$	276,082	100%	\$	105,612	100%
Nine Months Ended September 30, 2022		Consolidated			Americ	as		Internati	onal
(In thousands, except percentages)		Dollars	Percent		Dollars	Percent		Dollars	Percent
Breathing Apparatus	\$	254,878	23%	\$	185,490	25%	\$	69,388	21%
Fixed Gas & Flame Detection (a)		251,321	23%		167,269	22%		84,052	25%
Firefighter Helmets & Protective Apparel		151,097	14%		110,471	15%		40,626	12%
Portable Gas Detection		121,116	11%		85,815	11%		35,301	11%
Industrial Head Protection		123,489	11%		96,808	13%		26,681	8%
Fall Protection		79,114	7%		50,940	7%		28,174	9%
Other (b)		103,684	11%		57,323	7%		46,361	14%
Total	\$	1,084,699	100%	\$	754,116	100%	\$	330,583	100%
Three Months Ended September 30, 2021		Consolida	ated		Americ	•98		Internati	onal
(In thousands, except percentages)		Dollars	Percent		Dollars	Percent		Dollars	Percent
Breathing Apparatus	\$	70,790	21%	\$	46,095	20%	\$	24,695	22%
Fixed Gas & Flame Detection (a)	Ψ	79,786	23%	Ψ	53,787	23%	Ψ	25,999	23%
Firefighter Helmets & Protective Apparel		49,366	15%						
Portable Gas Detection					24 101	15%		15.205	14%
					34,101 29 186	15% 13%		15,265 12,667	14% 11%
		41,853	12%		29,186	13%		12,667	11%
Industrial Head Protection		41,853 36,764	12% 11%		29,186 28,982	13% 13%		12,667 7,782	11% 7%
Industrial Head Protection Fall Protection		41,853 36,764 28,223	12% 11% 8%		29,186 28,982 17,743	13% 13% 8%		12,667 7,782 10,480	11% 7% 9%
Industrial Head Protection	\$	41,853 36,764	12% 11%	\$	29,186 28,982	13% 13%	\$	12,667 7,782	11% 7%
Industrial Head Protection Fall Protection Other ^(b) Total	\$	41,853 36,764 28,223 33,415 340,197	12% 11% 8% 10% 100%	\$	29,186 28,982 17,743 19,182 229,076	13% 13% 8% 8% 100%	\$	12,667 7,782 10,480 14,233 111,121	11% 7% 9% 14% 100%
Industrial Head Protection Fall Protection Other (b) Total Nine Months Ended September 30, 2021	\$	41,853 36,764 28,223 33,415 340,197	12% 11% 8% 10% 100%	\$	29,186 28,982 17,743 19,182 229,076	13% 13% 8% 8% 100%	\$	12,667 7,782 10,480 14,233 111,121 Internati	11% 7% 9% 14% 100%
Industrial Head Protection Fall Protection Other (b) Total Nine Months Ended September 30, 2021 (In thousands, except percentages)		41,853 36,764 28,223 33,415 340,197 Consolidation	12% 11% 8% 10% 100% ated		29,186 28,982 17,743 19,182 229,076 Americ	13% 13% 8% 8% 100%		12,667 7,782 10,480 14,233 111,121 Internati	11% 7% 9% 14% 100% onal
Industrial Head Protection Fall Protection Other (b) Total Nine Months Ended September 30, 2021 (In thousands, except percentages) Breathing Apparatus	\$	41,853 36,764 28,223 33,415 340,197 Consolidation Dollars 217,094	12% 11% 8% 10% 100% ated Percent 22%	\$	29,186 28,982 17,743 19,182 229,076 Americ Dollars 146,329	13% 13% 8% 8% 100% eas	\$	12,667 7,782 10,480 14,233 111,121 Internati Dollars 70,765	11% 7% 9% 14% 100% onal Percent 21%
Industrial Head Protection Fall Protection Other (b) Total Nine Months Ended September 30, 2021 (In thousands, except percentages) Breathing Apparatus Fixed Gas & Flame Detection (a)		41,853 36,764 28,223 33,415 340,197 Consolidars 217,094 204,825	12% 11% 8% 10% 100% ated Percent 22% 21%		29,186 28,982 17,743 19,182 229,076 Americ Dollars 146,329 127,014	13% 13% 8% 8% 100% ras Percent 22% 19%		12,667 7,782 10,480 14,233 111,121 Internati Dollars 70,765 77,811	11% 7% 9% 14% 100% onal Percent 21% 23%
Industrial Head Protection Fall Protection Other (b) Total Nine Months Ended September 30, 2021 (In thousands, except percentages) Breathing Apparatus Fixed Gas & Flame Detection (a) Firefighter Helmets & Protective Apparel		41,853 36,764 28,223 33,415 340,197 Consolid: Dollars 217,094 204,825 148,497	12% 11% 8% 10% 100% ated Percent 22% 21% 15%		29,186 28,982 17,743 19,182 229,076 Americ Dollars 146,329 127,014 105,513	13% 13% 8% 8% 100% Percent 22% 19% 16%		12,667 7,782 10,480 14,233 111,121 Internati Dollars 70,765 77,811 42,984	11% 7% 9% 14% 100% onal Percent 21% 23% 13%
Industrial Head Protection Fall Protection Other (b) Total Nine Months Ended September 30, 2021 (In thousands, except percentages) Breathing Apparatus Fixed Gas & Flame Detection (a) Firefighter Helmets & Protective Apparel Portable Gas Detection		41,853 36,764 28,223 33,415 340,197 Consolidate Dollars 217,094 204,825 148,497 118,102	12% 11% 8% 10% 100% ated Percent 22% 21% 15% 12%		29,186 28,982 17,743 19,182 229,076 Americ Dollars 146,329 127,014 105,513 80,281	13% 8% 8% 100% Percent 22% 19% 16% 12%		12,667 7,782 10,480 14,233 111,121 Internati Dollars 70,765 77,811 42,984 37,821	11% 7% 9% 14% 100% onal Percent 21% 23% 13% 11%
Industrial Head Protection Fall Protection Other (b) Total Nine Months Ended September 30, 2021 (In thousands, except percentages) Breathing Apparatus Fixed Gas & Flame Detection (a) Firefighter Helmets & Protective Apparel Portable Gas Detection Industrial Head Protection		41,853 36,764 28,223 33,415 340,197 Consolid: Dollars 217,094 204,825 148,497 118,102 107,615	12% 11% 8% 10% 100% ated Percent 22% 21% 15% 12% 11%		29,186 28,982 17,743 19,182 229,076 Americ Dollars 146,329 127,014 105,513 80,281 82,913	13% 13% 8% 8% 100% Percent 22% 19% 16% 12% 13%		12,667 7,782 10,480 14,233 111,121 Internati Dollars 70,765 77,811 42,984 37,821 24,702	11% 7% 9% 14% 100% onal Percent 21% 23% 13% 11% 7%
Industrial Head Protection Fall Protection Other (b) Total Nine Months Ended September 30, 2021 (In thousands, except percentages) Breathing Apparatus Fixed Gas & Flame Detection (a) Firefighter Helmets & Protective Apparel Portable Gas Detection		41,853 36,764 28,223 33,415 340,197 Consolidate Dollars 217,094 204,825 148,497 118,102	12% 11% 8% 10% 100% ated Percent 22% 21% 15% 12%		29,186 28,982 17,743 19,182 229,076 Americ Dollars 146,329 127,014 105,513 80,281	13% 8% 8% 100% Percent 22% 19% 16% 12%		12,667 7,782 10,480 14,233 111,121 Internati Dollars 70,765 77,811 42,984 37,821	11% 7% 9% 14% 100% onal Percent 21% 23% 13% 11%

^(a)Fixed Gas & Flame Detection includes sales from the Bacharach, Inc. and its affiliated companies ("Bacharach") acquisition for periods following July 1, 2021 (Americas and International).

100%

\$ 655,123

100%

\$

334,792

100%

989,915

Total

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

Note 9—Earnings per Share

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

Amounts attributable to MSA Safety Incorporated common shareholders:	Thre	ee Months En	ded	September 30,	Niı	ne Months End	ed S	eptember 30,
(In thousands, except per share amounts)		2022		2021		2022		2021
Net income	\$	44,906	\$	21,180	\$	128,141	\$	82,816
Preferred stock dividends		(10)		(10)		(30)		(30)
Net income available to common equity		44,896		21,170		128,111		82,786
Dividends and undistributed earnings allocated to participating securities		(8)		(3)		(21)		(25)
Net income available to common shareholders		44,888		21,167		128,090		82,761
Basic weighted-average shares outstanding Stock-based compensation awards		39,172 127		39,194 236		39,243 171		39,152 272
Diluted weighted-average shares outstanding		39,299		39,430		39,414		39,424
Earnings per share:								
Basic	\$	1.15	\$	0.54	\$	3.26	\$	2.11
Diluted	\$	1.14	\$	0.54	\$	3.25	\$	2.10

^{*}Prior periods have been adjusted to reflect the change in inventory accounting method, as described in the Company's fiscal 2021 Annual Report on Form 10-K.

Note 10—Income Taxes

The Company's effective tax rate for the third quarter of 2022 was 26.0%, which differs from the United States of America ("U.S.") federal statutory rate of 21% primarily due to state income taxes and nondeductible foreign exchange on entity closures. The Company's effective tax rate for the third quarter of 2021 was 31.5%, which differs from the U.S. federal statutory rate of 21% primarily due to state income taxes, U.S. tax on foreign dividends, and nondeductible transaction costs, partially offset by tax benefits on certain share-based payments.

The Company's effective tax rate for the nine months ended September 30, 2022, was 24.4% which differs from the U.S. federal statutory rate of 21% primarily due to state income taxes and nondeductible foreign exchange on entity closures. The Company's effective tax rate for the nine months ended September 30, 2021, was 26.0%, 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.

At September 30, 2022, the Company had a gross liability for unrecognized tax benefits of \$4.6 million. The Company has recognized tax benefits associated with these liabilities of \$2.2 million at September 30, 2022. The gross liability includes amounts associated with foreign tax exposure in prior periods.

The Company recognizes interest and penalties related to unrecognized tax benefits in interest expense and operating expenses, respectively. The Company's liability for accrued interest related to uncertain tax positions was \$1.0 million at September 30, 2022.

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

Note 11—Stock Plans

The 2016 Management Equity Incentive Plan provides for various forms of stock-based compensation for eligible employees through May 2026 including 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.

Stock compensation expense is as follows:

	Three Months Ended September 30,				Nine Months Ended September 30,			
(In thousands)		2022		2021		2022		2021
Stock compensation expense	\$	2,967	\$	2,867	\$	11,325	\$	13,562
Income tax benefit		727		691		2,775		3,269
Stock compensation expense, net of tax	\$	2,240	\$	2,176	\$	8,550	\$	10,293

A summary of stock option activity for the nine months ended September 30, 2022, is as follows:

	Shares	eighted Average Exercise Price
Outstanding at January 1, 2022	161,701	\$ 45.47
Exercised	(92,833)	44.84
Outstanding at September 30, 2022	68,868	46.32
Exercisable at September 30, 2022	68,861	\$ 46.32

Restricted stock awards and restricted stock units are valued at the market value of the stock on the grant date. A summary of restricted stock activity for the nine months ended September 30, 2022, is as follows:

	Shares	Weighted Average Grant Date Fair Value		
Unvested at January 1, 2022	118,343	\$	132.62	
Granted	78,023		130.77	
Vested	(49,661)		113.52	
Forfeited	(8,041)		138.63	
Unvested at September 30, 2022	138,664	\$	138.07	

Performance stock units that have a market condition modifier 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 2022 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 2022.

Fair value per unit	\$143.60
Risk-free interest rate	1.72%
Expected dividend yield	1.14%
Expected volatility	34.4%
MSA stock beta	0.890

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 three year historical volatility preceding the grant date using daily stock prices. Expected life is based on historical stock option exercise data.

A summary of performance stock unit activity for the nine months ended September 30, 2022, is as follows:

	Shares	Weighted Average Grant Date Fair Value
Unvested at January 1, 2022	193,335	\$ 129.86
Granted	81,504	142.38
Performance adjustments	(22,147)	99.84
Vested	(55,447)	101.38
Forfeited	(18,180)	147.81
Unvested at September 30, 2022	179,065	\$ 146.27

The performance adjustments above relate primarily to the final number of shares issued for the 2019 performance unit awards which vested in the first quarter of 2022 at 64.2% of the target award based on both cumulative performance against the EBITDA margin and revenue growth targets and MSA's TSR during the three-year performance period.

Note 12—Long-Term Debt

(In thousands)	Septe	mber 30, 2022	Dec	ember 31, 2021
2016 Senior Notes payable through 2031, 3.40%, net of debt issuance costs	\$	61,267	\$	74,203
2021 Senior Notes payable through 2036, 2.69%, net of debt issuance costs		99,706		99,694
2021 Senior Notes payable through 2036, 2.69%, net of debt issuance costs		99,706		99,694
Senior revolving credit facility maturing in 2026, net of debt issuance costs		343,985		324,060
Total		604,664		597,651
Amounts due within one year		6,820		_
Long-term debt, net of debt issuance costs	\$	597,844	\$	597,651

On May 24, 2021, the Company entered into a Fourth Amended and Restated Credit Agreement (the "Revolving Credit Facility" or "Facility") that extended its term through May 24, 2026 and increased the capacity to \$900.0 million. Under the amended agreement, the Company may elect either a Base rate of interest ("BASE") or an interest rate based on the London Interbank Offered Rate ("LIBOR"). The BASE is a daily fluctuating per annum rate equal to the highest of (i) 0.00%, (ii) the Prime Rate, (iii) the Federal Funds Open Rate plus one half of one percent (0.5%), (iv) the Overnight Bank Funding Rate, plus one half of one percent (0.5%), or (v) the Daily LIBOR Rate plus one percent (1.00%). The Company pays a credit spread of 0 to 175 basis points based on the Company's net EBITDA leverage ratio and elected rate (BASE or LIBOR). The Company has a weighted average revolver interest rate of 3.69% as of September 30, 2022. At September 30, 2022, \$552.8 million of the existing \$900.0 million Revolving Credit Facility was unused, including letters of credit issued under the Facility. The Facility also provides an accordion feature that allows the Company to access an additional \$400.0 million of capacity pending approval by MSA's board of directors and from the bank group.

On July 1, 2021 the Company entered into a Third Amended and Restated Multi-Currency Note Purchase and Private Shelf Agreement (the "Prudential Note Agreement") with PGIM, Inc. ("Prudential"). The Prudential Note Agreement provided for (i) the issuance of \$100.0 million of 2.69% Series C Senior Notes due July 1, 2036 and (ii) the establishment of an uncommitted note issuance facility whereby the Company may request, subject to Prudential's acceptance in its sole discretion, the issuance of up to \$335.0 million aggregate principal amount of senior unsecured notes. As of September 30, 2022, the Company had issued £54.9 million (approximately \$61.4 million at September 30, 2022) of 3.4% Series B Senior Notes due January 22, 2031. Maturities of this note are £6.1 million (approximately \$6.8 million at September 30, 2022) due January 22, 2023 with annual maturities of £6.1 million through January 2031.

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

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

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

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

As of September 30, 2022, the Company was in full compliance with the restrictive covenants under its various credit agreements.

The Company had outstanding bank guarantees and standby letters of credit with banks as of September 30, 2022, totaling \$9.2 million, of which \$1.5 million relate to the Revolving Credit Facility. The letters of credit serve to cover customer requirements in connection with certain sales orders and insurance companies. The Company is also required to provide cash collateral in connection with certain arrangements. At September 30, 2022, the Company has \$1.7 million of restricted cash in support of these arrangements.

Note 13—Goodwill and Intangible Assets, Net

Changes in goodwill during the nine months ended September 30, 2022 were as follows:

(In thousands)	 Goodwill
Balance at January 1, 2022	\$ 636,858
Measurement Period Adjustment	(1,041)
Currency translation	 (28,656)
Balance at September 30, 2022	\$ 607,161

At September 30, 2022, goodwill of \$447.6 million and \$159.6 million related to the Americas and International reportable segments, respectively.

Changes in intangible assets, net, during the nine months ended September 30, 2022, were as follows:

(In thousands)	Inta	angible Assets
Net balance at January 1, 2022	\$	306,948
Amortization expense		(14,701)
Currency translation		(10,786)
Net balance at September 30, 2022	\$	281,461

At September 30, 2022, intangible assets, net, includes a trade name related to the Globe acquisition with an indefinite life totaling \$60.0 million.

Note 14—Acquisitions

Acquisition of Bacharach

On July 1, 2021, we acquired 100% of the common stock of Bacharach. Bacharach, which is headquartered in New Kensington, PA, is a leader in gas detection technologies used in the heating, ventilation, air conditioning, and refrigeration markets. This acquisition expanded MSA's gas detection portfolio and leverages MSA's product and manufacturing expertise into new markets.

The Company finalized the purchase price allocation during the second quarter of 2022. The following table summarizes the fair values of the Bacharach assets acquired and liabilities assumed at the date of the acquisition:

(In millions)	 July 1, 2021
Current assets (including cash of \$11.7 million)	\$ 32.1
Property, plant and equipment and other noncurrent assets	4.3
Customer relationships	123.0
Developed technology	20.5
Trade name	15.0
Goodwill	 193.5
Total assets acquired	388.4
Total liabilities assumed	 (47.3)
Net assets acquired	\$ 341.1

Acquisition of Bristol Uniforms and Bell Apparel ("Bristol")

On January 25, 2021, we acquired 100% of the common stock of B T Q Limited, including Bristol. Bristol, which is headquartered in the U.K., is a leading innovator and provider of protective apparel to the fire, rescue services, and utility sectors.

The Company finalized the purchase price allocation during the first quarter of 2022. The following table summarizes the fair values of the Bristol assets acquired and liabilities assumed at the date of the acquisition:

(In millions)	Janua	ry 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		4.9
Total assets acquired		88.9
Total liabilities assumed		(12.6)
Net assets acquired	\$	76.3

Acquisition of Noncontrolling Interest

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

Note 15—Pensions and Other Post-retirement Benefits

Components of net periodic benefit (income) cost consisted of the following:

		Pension Benefits			Other Benefits			
(In thousands)		2022		2021		2022		2021
Three Months Ended September 30,								
Service cost	\$	3,099	\$	3,264	\$	82	\$	99
Interest cost		3,613		2,941		148		121
Expected return on plan assets		(12,418)		(9,532)		_		_
Amortization of prior service cost (credit)		36		66		(84)		(90)
Recognized net actuarial losses		3,018		4,421		310		399
Net periodic benefit (income) cost (a)	\$	(2,652)	\$	1,160	\$	456	\$	529
	'							
Nine Months Ended September 30,								
Service cost	\$	9,297	\$	9,748	\$	246	\$	297
Interest cost		10,839		8,575		444		353
Expected return on plan assets		(37,254)		(27,826)		_		_
Amortization of prior service cost (credit)		108		198		(252)		(270)
Recognized net actuarial losses		9,054		13,263		930		1,197
Settlements				(1,879)				_
Net periodic benefit (income) cost (a)	\$	(7,956)	\$	2,079	\$	1,368	\$	1,577

^(a) Components of net periodic benefit (income) cost other than service cost are included in the line item Other income, net, and service costs are included in the line items Cost of products sold and Selling, general and administrative in the unaudited Condensed Consolidated Statements of Income.

We made contributions of \$5.7 million and \$5.8 million to our pension plans during the nine months ended September 30, 2022 and 2021, respectively. We expect to make total contributions of \$7.7 million to our pension plans in 2022, which are primarily associated with statutorily required plans in the International reporting segment.

Note 16—Derivative Financial Instruments

As part of our currency exchange rate risk management strategy, we enter into certain derivative foreign currency forward contracts that do not meet the U.S. GAAP criteria for hedge accounting but have the impact of partially offsetting certain of our foreign currency exposures. We account for these forward contracts at fair value and report the related gains or losses in currency exchange losses (gains), net, in the unaudited Condensed Consolidated Statements of Income. The notional amount of open forward contracts was \$96.3 million and \$99.0 million at September 30, 2022, and December 31, 2021, respectively.

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

((In thousands)	Septer	mber 30, 2022	Dece	ember 31, 2021
	Derivatives not designated as hedging instruments:				
	Foreign exchange contracts: prepaid expenses and other current assets	\$	417	\$	619
	Foreign exchange contracts: accrued restructuring and other current liabilities		1,843		128

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

	Loss Recognized in Income			ıcome	
	Nine Months Ended September				
(In thousands)	2022		2021		
Derivatives not designated as hedging instruments:					
Foreign exchange contracts: currency exchange losses (gains), net	\$	13,586	\$	3,275	

Note 17—Fair Value Measurements

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

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

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

We value our investments in available-for-sale 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 \$24.9 million and \$49.0 million as of September 30, 2022 and December 31, 2021, respectively. The fair value was \$24.9 million and \$49.0 million as of September 30, 2022 and December 31, 2021, respectively, which was reported in Investments, short-term in the accompanying unaudited Condensed Consolidated Balance Sheets. 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 and to the extent that unrealized losses are present, management has not identified such losses to be other than temporary in nature. Accordingly, no impairment 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 gain position as of September 30, 2022.

The reported carrying amount of our fixed rate long-term debt was \$261.4 million and \$274.3 million at September 30, 2022, and December 31, 2021, respectively. The fair value of this debt was \$207.4 million and \$279.8 million at September 30, 2022, and December 31, 2021, 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.

Note 18—Contingencies

Product liability

The Company and its subsidiaries face an inherent business risk of exposure to legal 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. Management has established reserves for the single incident product liability claims of its various subsidiaries, including, asserted single incident product liability claims and incurred but not reported ("IBNR") single incident claims. To determine the reserves, Management makes reasonable estimates of losses for single incident claims based on the number and characteristics of asserted claims, historical experience, sales volumes, expected settlement costs, and other relevant information. The reserve for single incident product liability claims was \$1.4 million at both September 30, 2022 and December 31, 2021. Single incident product liability expense was minimal during the nine months ended September 30, 2022 and a benefit of \$0.1 million during the nine months ended September 30, 2021. 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. The reserve has not been discounted to present value and does not include future amounts which will be spent to defend the claims.

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 subsidiaries, Mine Safety Appliances Company, LLC ("MSA LLC"), was named as a defendant in 1,544 lawsuits comprised of 4,193 claims as of September 30, 2022. These lawsuits mainly involve respiratory protection products allegedly manufactured and sold by MSA LLC or its predecessors. The product models alleged were manufactured many years ago by MSA LLC and are no longer sold.

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

	Nine Months Ended September 30, 2022	Year Ended December 31, 2021
Open lawsuits, beginning of period	1,675	1,622
New lawsuits	204	432
Settled and dismissed lawsuits	(335)	(379)
Open lawsuits, end of period	1,544	1,675
	Nine Months Ended September 30, 2022	Year Ended December 31, 2021
Asserted claims, beginning of period	4,554	2,878
New claims	405	2,134
Settled and dismissed claims	(766)	(458)
Asserted claims, end of period	4,193	4,554

The increases in the number of claims in 2021 were largely driven by an increase in claims alleging injuries from exposure to coal dust, including claims brought by plaintiffs' counsel with which MSA LLC does not have substantial prior experience.

MSA LLC is also defending an action filed in 2003 by the State of West Virginia, through its Attorney General, in the Circuit Court of Lincoln County, West Virginia, against MSA LLC and two other manufacturers of respiratory protection products. The State asserts several causes of action and seeks substantial compensatory damages—primarily for reimbursement of costs the State allegedly has incurred for worker's compensation and healthcare benefits provided to individuals with occupational pneumoconiosis—as well as unspecified punitive damages. The State also asserts a claim under the West Virginia Consumer Credit and Protection Act ("CCPA"), alleging that the defendants made willful misrepresentations regarding product performance in connection with sales and advertisement of respirators in West Virginia and seeks substantial civil penalties. Although activity in the case has been minimal in the many years since inception, the CCPA claim has been severed and expedited for trial. MSA LLC contends that the November 28, 2022 trial date is premature and has sought a continuance. No reserve has been recorded for this matter because the Company believes that liability is unsupportable under West Virginia law, and therefore, has concluded that the loss is not probable. In addition, the Company is not able to estimate a reasonably possible loss or range of reasonably possible losses given significant unresolved legal and factual matters.

Management has established a reserve for MSA LLC's potential exposure to cumulative trauma product liability claims. MSA LLC's total cumulative trauma product liability reserve was \$410.3 million, including \$33.5 million for claims settled but not yet paid and related defense costs, as of September 30, 2022 and \$409.8 million, including \$2.5 million for claims settled but not yet paid and related defense costs, as of December 31, 2021. The reserve includes estimated amounts related to asserted and IBNR asbestos, silica, and coal dust claims expected to be resolved through the year 2074. The reserve has not been discounted to present value and does not include future amounts which will be spent to defend the claims. Defense costs are recognized in the unaudited Condensed Consolidated Statements of Income as incurred.

At September 30, 2022, \$58.1 million of the total reserve for cumulative trauma product liability claims is recorded in the Insurance and product liability line within other current liabilities in the unaudited Condensed Consolidated Balance Sheets and the remainder, \$352.2 million, is recorded in the Product liability and other noncurrent liabilities line. At December 31, 2021, \$46.7 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 Sheets and the remainder, \$363.1 million, is recorded in the Product liability and other noncurrent liabilities line.

During the quarter ended June 30, 2022, MSA LLC finalized a process that will result in settlements to resolve and dismiss several hundred claims for up to \$26.3 million with payments potentially spread across the fourth quarter of 2022 through the first quarter of 2023. Amounts to resolve these claims have already been accrued as part of the product liability reserve.

Total cumulative trauma liability losses were \$4.0 million and \$9.7 million for the three and nine months ended September 30, 2022 and primarily related to defense of cumulative trauma product liability claims. Total cumulative trauma liability losses were \$16.4 million and \$43.9 million for the three and nine months ended September 30, 2021 and related to an update to our asserted cumulative trauma product liability reserve as well as the defense of cumulative trauma product liability claims. Uninsured cumulative trauma product liability losses, which were included in Product liability expense on the unaudited Condensed Consolidated Statements of Income, were \$4.0 million and \$9.7 million for the three and nine months ended September 30, 2022 and \$10.7 million and \$25.2 million for the three and nine months ended September 30, 2021, respectively, and represent the total cumulative trauma liability losses net of any estimated insurance receivables as discussed below. We will complete our annual review of MSA LLC's cumulative trauma product liability reserve in the fourth quarter as described below.

MSA LLC's cumulative trauma product liability reserve is based upon a reasonable estimate of MSA LLC's current and potential future liability for cumulative trauma product liability claims, in accordance with applicable accounting principles. To develop a reasonable estimate of MSA LLC's potential exposure to cumulative trauma product liability claims, management performs an annual comprehensive 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 MSA LLC's historical claims experience, 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, and if warranted, management reviews changes with an outside valuation consultant. Numerous additional factors, data points, and developments are analyzed during the annual review process.

The estimate of MSA LLC's potential liability for cumulative trauma product liability claims, and the corresponding reserve, are based upon numerous assumptions derived from MSA LLC's historical experience. Those assumptions include the incidence of applicable diseases in the general population, the number of claims that may be asserted against MSA LLC in the future, the years in which such claims may be asserted, the counsel asserting those claims, the percentage of claims resolved through settlement, the types and severity of illnesses alleged by claimants to give rise to their claims, the venues in which the claims are asserted, and numerous other factors, which influence how many claims may be brought against MSA LLC, whether those claims ultimately are resolved for payment, and at what values.

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 the extent of loss that will be experienced on account of any particular claim, or inventories of claims. 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 and potential future trends, adjustments may be made to the cumulative trauma product liability reserve as appropriate.

As a result of such uncertainties, MSA LLC's actual claims experience may differ in one or more respects from the assumptions used in establishing the reserve, and there can be no assurance that the actuarial models or analysis employed will accurately predict future experience. MSA LLC's experience in future periods may vary from the reserve currently established, and MSA LLC may ultimately incur losses in excess of presently recorded liabilities. Any adjustments as a result of this experience could materially impact our consolidated financial statements in future periods.

Insurance Receivable and Notes Receivable, Insurance Companies

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

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

Insurance receivables at September 30, 2022 totaled \$125.9 million, of which \$10.6 million is reported in Prepaid expenses and other current assets in the unaudited Condensed Consolidated Balance Sheets and \$115.3 million is reported in Insurance receivables and other noncurrent assets. Insurance receivables at December 31, 2021 totaled \$130.2 million, of which \$8.6 million was reported in Prepaid expenses and other current assets in the unaudited Condensed Consolidated Balance Sheets and \$121.6 million was reported in Insurance receivables and other noncurrent assets. The vast majority of the \$125.9 million insurance receivables balance at September 30, 2022 is attributable to reimbursement believed to be due under the terms of signed Coverage-In-Place Agreements and a portion of this amount represents the estimated recovery of IBNR amounts not yet incurred.

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

(In millions)	Nine Months Ended September 30, 2022		Year Ended ember 31, 2021
Balance beginning of period	\$ 130.2	\$	97.0
Additions	0.1		43.5
Collections and other adjustments	 (4.4)		(10.3)
Balance end of period	\$ 125.9	\$	130.2

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

Notes receivable from insurance companies at September 30, 2022, totaled \$44.3 million, of which \$5.9 million is reported in Notes receivable, insurance companies, current in the unaudited Condensed Consolidated Balance Sheets and \$38.4 million is reported in Notes receivable, insurance companies, noncurrent. Notes receivable from insurance companies at December 31, 2021 totaled \$48.5 million of which \$3.9 million was reported in Notes receivable, insurance companies, current in the unaudited Condensed Consolidated Balance Sheets and \$44.6 million was reported in Notes receivable, insurance companies, noncurrent.

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

(In millions)	onths Ended aber 30, 2022	Year Ended December 31, 2021		
Balance beginning of period	\$ \$ 48.5		52.3	
Additions	0.9		1.3	
Collections	 (5.1)		(5.1)	
Balance end of period	\$ 44.3	\$	48.5	

The vast majority of the insurance and notes receivables balances at September 30, 2022, are attributable to reimbursement under the terms of signed agreements with insurers and are not currently subject to litigation. The collectibility of MSA LLC's insurance and notes receivables is regularly evaluated and we believe that the amounts recorded are probable of collection. The determination that the recorded insurance and notes receivables are probable of collection is based on the terms of the settlement agreements reached with the insurers, our history of collection, and the advice of MSA LLC's outside legal counsel and consultants. Various factors could affect the timing and amount of recovery of the insurance and notes receivables, including assumptions regarding various aspects of the composition and characteristics of future claims (which are relevant to calculating reimbursement under the terms of certain Coverage-In-Place Agreements) and the extent to which the issuing insurers may become insolvent in the future.

Other Litigation

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

Globe and MSA LLC believe they have valid defenses to these claims. These matters are at a very early stage with numerous factual and legal issues to be resolved. Defense costs relating to these lawsuits are recognized in the unaudited Condensed Consolidated Statements of Income as incurred. Globe and MSA LLC are also pursuing insurance coverage and indemnification related to the lawsuits.

Product Warranty

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

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

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

(In thousands)	Nine Months Ended September 30, 2022		ear Ended ember 31, 2021
Beginning warranty reserve	\$ 12,423	\$	11,428
Warranty payments	(7,429)		(8,987)
Warranty claims	10,270		10,225
Provision for product warranties and other adjustments	 (1,275)		(243)
Ending warranty reserve	\$ 13,989	\$	12,423

Warranty expense was \$9.0 million and \$6.8 million for the nine months ended September 30, 2022 and 2021, respectively, and is included in Costs of products sold on the unaudited Condensed Consolidated Statements of Income.

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

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

BUSINESS OVERVIEW

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

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 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 and the Asia Pacific region. In our largest International subsidiaries (in Germany, France, 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.

Within the International segment, during the first quarter of 2022, due to military conflict in Ukraine, we suspended product shipments into Russia and Belarus. The suspension is indefinite. Customers in Russia, Belarus and Ukraine generated approximately \$6 million of sales during the year ended December 31, 2021.

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.

During the fourth quarter of 2021, the Company changed its method of accounting for certain inventory in the U.S. from the LIFO method to the FIFO method. The FIFO method of accounting for inventory is preferable because it conforms the Company's entire inventory to a single method of accounting and improves comparability with the Company's peers. The effects of the change in accounting method from LIFO to FIFO have been retrospectively applied to all periods presented in all sections of this Quarterly Report, including Management's Discussion and Analysis. Refer to Note 4—Inventory of the consolidated financial statements in Part II Item 8 of our Annual Report on Form 10-K for the year ended December 31, 2021, for further information related to the change in accounting principle.

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 in which SCBA is the principal product, 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 90% of sales for both the nine months ended September 30, 2022 and 2021, respectively. 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, eye and face protection, ballistic helmets and gas masks.

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

A detailed listing of our significant product offerings in the aforementioned product groups above is included in MSA's Annual Report on Form 10-K for the year ended December 31, 2021.

RESULTS OF OPERATIONS

Three Months Ended September 30, 2022, Compared to Three Months Ended September 30, 2021

Net Sales. Net sales for the three months ended September 30, 2022, were \$381.7 million, an increase of \$41.5 million, or 12.2%, compared to \$340.2 million in the same period last year, driven by the pricing actions to keep pace with inflation, and volume growth. We saw healthy growth across most core products. Please refer to the Net Sales table for a reconciliation of the quarter over quarter sales change.

Net Sales	Three Months Ended September 30, 2022 2021		Dollar Increase	Percent Increase		
(In millions)			2022 2021		2022 2021	
Consolidated	\$381.7	\$340.2	\$41.5	12.2%		
Americas	276.1	229.1	47.0	20.5%		
International	105.6	111.1	(5.5)	(5.0)%		

Net Sales	Three Months Ended September 30, 2022 versus September 30, 2021					
(Percent Change)	Americas	International	Consolidated			
GAAP reported sales change	20.5%	(5.0)%	12.2%			
Currency translation effects	0.6%	11.1%	4.0%			
Constant currency sales change	21.1%	6.1%	16.2%			

Note: 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. Constant currency sales change is calculated by deducting the percentage impact from currency translation effects from the overall percentage change in net sales.

Net sales for the Americas segment were \$276.1 million in the third quarter of 2022, an increase of \$47.0 million, or 20.5%, compared to \$229.1 million in the third quarter of 2021. Constant currency sales in the Americas segment increased 21.1%. This increase was driven by breathing apparatus and firefighter protective apparel associated with strong demand and throughput improvements, partially offset by weakness in portable gas detection due to ongoing supply chain constraints, which we expect to improve over the coming quarters.

Net sales for the International segment were \$105.6 million in the third quarter of 2022, a decrease of \$5.5 million, or 5.0%, compared to \$111.1 million for the third quarter of 2021. The euro and British pound drove negative currency translation effects. Constant currency sales in the International segment increased 6.1% during the quarter. This growth was driven by strength across a number of core products, partially offset by supply chain constraints impacting both breathing apparatus and gas detection businesses.

As we entered our fourth quarter, we continued to see strong order growth in the quarter and into October. Our backlog increased to record levels across substantially all core products as a result of an uptick in order pace and ongoing supply chain and labor constraints. We expect fourth quarter revenue to increase in the low to mid single digit range compared to the fourth quarter 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 and earnings outlook. These factors include, among other things, supply chain constraints, raw material or semiconductor availability, the risk of additional COVID lockdowns, industrial employment rates, military conflict, currency exchange volatility, the pace of economic recovery, as well as geopolitical risk, particularly as it relates to energy uncertainty which could affect operations and suppliers based in Germany and broader Europe. These conditions could impact our future results and growth expectations well into 2023.

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

Gross profit. Gross profit for the third quarter of 2022 was \$169.4 million, an increase of \$20.0 million or 13.4%, compared to \$149.4 million for the third quarter of 2021. The ratio of gross profit to net sales was 44.4% in the third quarter of 2022 compared to 43.9% in the same quarter last year. Price increases and the absence of the 2021 \$1.7 million inventory step-up amortization related to the Bacharach acquisition helped to offset inflationary pressures as well as approximately \$4.5 million of period specific charges related to inventory and product warranty.

We have implemented additional price increases in both segments in October in response to the inflation we are seeing in electronic components and nearly all inputs. 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 \$82.8 million during the third quarter of 2022, a decrease of \$4.7 million or 5.4%, compared to \$87.5 million for the same period a year ago. Overall, SG&A expenses were 21.7% of net sales during the third quarter of 2022, compared to 25.7% of net sales during the same period in 2021. Constant currency SG&A decreased by approximately \$2 million or 2.0%, demonstrating strong leverage on the revenue growth. This decrease was driven by the absence of the 2021 acquisition related costs, which was partially offset by increased costs to support higher business activity. We also had approximately \$2 million of favorable non-recurring adjustments in the third quarter of 2022.

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	Three Months Ended September 30, 2022 versus September 30, 2021
(Percent Change)	Consolidated
GAAP reported change	(5.4)%
Currency translation effects	3.4%
Constant currency change	(2.0)%

Research and development expense. Research and development expense was \$14.4 million during the third quarter of 2022, a decrease of \$0.5 million, compared to \$14.9 million during the third quarter of 2021. Research and development expense was 3.8% of net sales in the third quarter of 2022 compared to 4.4% in the same period of 2021. We continue to develop new products for global safety markets, including the Altair io 4 and V-Gard C1. During the third quarter of 2022, we capitalized \$2.2 million of software development costs.

Restructuring charges. Restructuring charges during the third quarter of 2022 were \$0.9 million primarily related to various optimization activities. This compared to restructuring charges of \$3.9 million during the third quarter of 2021, primarily related to integration activities. We remain focused on executing programs to optimize our cost structure.

Currency exchange. Currency exchange losses were \$3.0 million in the third quarter of 2022 compared to losses of \$0.1 million in the third quarter of 2021. The currency exchange losses for the current period related primarily due to the recognition of non-cash cumulative translation losses as result of our plan to close a foreign subsidiary. Currency exchange losses in third quarter of 2021 related to foreign currency exposure on unsettled inter-company balances. Refer to Note 16—Derivative Financial Instruments to the unaudited condensed consolidated financial statements in Part I Item 1 of this Form 10-Q, for information regarding our currency exchange rate risk management strategy.

Product liability expense. Product liability expense for three months ended September 30, 2022 was \$4.0 million compared to \$10.7 million in the same period last year. Product liability expense for the current period related primarily to defense costs incurred for cumulative trauma product liability claims. The expense during the third quarter 2021 related to an increase in the number of asserted coal claims pending against MSA LLC and a corresponding adjustment to the reserve, as discussed further in Note 18—Contingencies to the unaudited condensed consolidated financial statements in Part I Item 1 of this Form 10-Q.

GAAP operating income. Consolidated operating income for the third quarter of 2022 was \$64.3 million compared to \$32.4 million in the same period last year. The increase in operating income was primarily driven by an increase in sales associated with volume growth, price realization, lower SG&A expenses, lower product liability expense and restructuring expense, partially offset by higher currency exchange losses.

Adjusted operating income. Americas adjusted operating income for the third quarter of 2022 was \$75.1 million, an increase of \$27.5 million or 57.7% compared to \$47.6 million from the prior year quarter. The increase in adjusted operating income is primarily attributable to higher sales volumes.

International adjusted operating income for the third quarter of 2022 was \$8.4 million, a decrease of \$4.4 million, or 33.9%, compared to \$12.8 million in the prior year quarter. The decrease in adjusted operating income is primarily attributable to lower revenue and gross margins, as a result of unfavorable currency translation, inflationary pressures, and supply chain constraints primarily associated with gas detection, partially offset by lower SG&A expenses.

Corporate segment adjusted operating loss for the third quarter of 2022 was \$8.4 million, an increase of \$2.4 million compared to an adjusted operating loss of \$6.0 million in the third quarter of 2021, due to higher compensation expense.

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

Adjusted operating income (loss)	Three Months Ended September 30, 2022						
(In thousands)		Americas	I	nternational		Corporate	Consolidated
Net sales	\$	276,082	\$	105,612	\$	— \$	381,694
GAAP operating income							64,313
Restructuring charges (Note 3)							899
Currency exchange losses, net							2,979
Product liability expense (Note 18)							4,035
Acquisition related costs ^(a)							2,899
Adjusted operating income (loss)		75,088		8,448		(8,411)	75,125
Adjusted operating margin %		27.2 %	6	8.0 %	Ó		
Depreciation and amortization ^(a)							11,518
Adjusted EBITDA		83,945		10,980		(8,282)	86,643
Adjusted EBITDA margin %		30.4 %	6	10.4 %	Ó		

Adjusted operating income (loss)	Three Months Ended September 30, 2021				41	
(In thousands)	Americ	as .	International	Cor	porate	Consolidated
Net sales	\$ 229,0	76 \$	111,121	\$	_ 9	\$ 340,197
GAAP operating income						32,402
Restructuring charges (Note 3)						3,853
Currency exchange losses, net						100
Product liability expense (Note 18)						10,688
Acquisition related costs ^(a)						7,351
Adjusted operating income (loss)	47,6	24	12,780		(6,010)	54,394
Adjusted operating margin %	20	0.8 %	11.5 %	6		
Depreciation and amortization ^(a)						11,823
Adjusted EBITDA	55,7	74	16,323		(5,880)	66,217
Adjusted EBITDA margin %	24	1.3 %	14.7 %	6		

Three Months Ended Sentember 20, 2021

Adjusted energting income (less)

Note: Adjusted operating income (loss) and adjusted EBITDA are non-GAAP financial measures. 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 expense, net. Total other expense, net, for the third quarter of 2022 was \$3.6 million, compared to other expense, net, \$1.5 million for the same period in 2021 driven primarily by higher interest expense related to a higher interest rate environment and a write-down of an equity investment, partially offset by higher pension income driven by a higher expected rate of return.

Income taxes. The reported effective tax rate for the third quarter of 2022 was 26.0% compared to 31.5% for the third quarter of 2021. This decrease from the prior year is attributable to expense recorded in the third quarter of 2021 related to U.S. tax on foreign dividends, nondeductible transaction costs, and a decrease in nondeductible executive compensation, partially offset by nondeductible foreign exchange on entity closures and a decrease in foreign tax credit.

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.

Net income attributable to MSA Safety Incorporated. Net income was \$44.9 million for the third quarter of 2022, or \$1.14 per diluted share compared to net income of \$21.2 million, or \$0.54 per diluted share, for the same period last year.

⁽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 SG&A 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 unaudited Condensed Consolidated Statements of Income.

Nine Months Ended September 30, 2022, Compared to Nine Months Ended September 30, 2021

Net Sales. Net sales for the nine months ended September 30, 2022, were \$1,084.7 million, an increase of \$94.8 million, or 9.6%, compared to \$989.9 million in the same period last year, driven by acquisitions and the combination of price realization and volume growth. We saw healthy growth across most of our core products and across both reporting segments. Please refer to the Net Sales table for a reconciliation of the period over period sales change.

Net Sales	Nine Months End	ed September 30,	Dollar	Percent
(In millions)	2022 2021		Increase	Increase
Consolidated	\$1,084.7	\$989.9	\$94.8	9.6%
Americas	754.1	655.1	99.0	15.1%
International	330.6	334.8	(4.2)	(1.3)%

Net Sales	Septembe	September 30, 2022 versus September 30, 2021						
(Percent Change)	Americas	Americas International Consolid						
GAAP reported sales change	15.1%	(1.3)%	9.6%					
Currency translation effects	0.4%	8.3%	3.1%					
Constant currency sales change	15.5%	7.0%	12.7%					
Less: Acquisitions ^(a)	(3.8)%	(2.4)%	(3.4)%					
Organic constant currency change	11.7%	4.6%	9.3%					

Nine Months Ended

(a) Includes Bacharach, Inc. and its affiliated companies ("Bacharach"), which was acquired on July 1, 2021.

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 \$754.1 million in the nine months ended September 30, 2022, an increase of \$99.0 million, or 15.1%, compared to \$655.1 million in the same period last year. Constant currency sales in the Americas segment increased 15.5% compared to the prior year period with organic constant currency growth of 11.7%. The inclusion of Bacharach drove the acquisition related sales. Organic growth was driven by growth across most core products.

Net sales for the International segment were \$330.6 million in the nine months ended September 30, 2022, a decrease of \$4.2 million, or 1.3%, compared to \$334.8 million in the same period last year. Constant currency sales in the International segment increased 7.0% during the period with organic constant currency growth of 4.6%. The inclusion of Bacharach drove acquisition related sales. Organic growth was driven across a number of core products, partially offset by weakness in fall protection and ongoing supply chain constraints with the gas detection business.

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

Gross profit. Gross profit for the nine months ended September 30, 2022, was \$476.6 million, an increase of \$39.4 million or 9.0%, compared to \$437.2 million during the same period last year. The ratio of gross profit to net sales was 43.9% during the nine months ended September 30, 2022 compared to 44.2% during the same period last year. Intangible asset amortization related to acquisitions reduced gross profit by \$4.6 million or 45 basis points in 2022 while the absence of inventory step-up amortization related to the Bacharach acquisition increased gross profit by \$1.7 million or 15 basis points. Pricing kept pace with inflationary pressures as well as offset inventory charges and product warranty charges.

Selling, general and administrative expenses. SG&A expenses were \$247.4 million during the nine months ended September 30, 2022, an increase of \$1.1 million or 0.4%, compared to \$246.3 million during the same period last year. Overall, SG&A expenses were 22.8% of net sales during the nine months ended September 30, 2022, compared to 24.9% of net sales during the same period in 2021. Organic constant currency SG&A increased \$6 million or 2.5%, demonstrating strong leverage on revenue growth. This increase was driven by annual merit increases and increased costs to support higher business activity, which was partially offset by the absence of the 2021 acquisition related costs and savings from our restructuring programs in our International segment.

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	Nine Months Ended September 30, 2022 versus September 30, 2021
(Percent Change)	Consolidated
GAAP reported change	0.4%
Currency translation effects	2.6%
Constant currency change	3.0%
Less: Acquisitions and related strategic transaction costs	(0.5)%
Organic constant currency change	2.5%

Research and development expense. Research and development expense was \$43.0 million during the nine months ended September 30, 2022, an increase of \$0.9 million, compared to \$42.1 million during the same period last year. Research and development expense was 4.0% of net sales in the first nine months ended September 30, 2022 and 4.3% in the same period of 2021. We continue to develop new products for global safety markets, including the Altair io 4 and V-Gard C1. During the nine months ended September 30, 2022, we capitalized \$6.5 million of software development costs.

Restructuring charges. Restructuring charges during the nine months ended September 30, 2022, were \$3.1 million primarily related to our ongoing initiatives to drive profitable growth and right size operations. This compared to restructuring charges of \$12.2 million during the same period in 2021, primarily related to our ongoing initiatives to drive profitable growth and right size our operations and integration activities. We remain focused on executing programs to optimize our cost structure.

Currency exchange. Currency exchange losses were \$4.8 million during the nine months ended September 30, 2022, compared to gains of \$0.4 million in the same period of 2021. The currency exchange losses for the current period related primarily due to the recognition of non-cash cumulative translation losses as result of our plan to close a foreign subsidiary and foreign currency exposure on unsettled inter-company balances. Currency exchange gains in 2021 related to foreign currency exposure on unsettled inter-company balances.

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

Product liability expense. Product liability expense for the nine months ended September 30, 2022 was \$9.7 million compared to \$25.2 million in the same period last year. Product liability expense for the current period related primarily to defense costs incurred for cumulative trauma product liability claims. The expense during 2021 related to an increase in the number of asserted claims pending against MSA LLC and a corresponding adjustment to the reserve.

GAAP operating income. Consolidated operating income for the nine months ended September 30, 2022, was \$168.5 million compared to \$111.6 million in the same period last year. The increase in operating income was primarily driven by an increase in sales associated with acquisitions and organic business activity, lower product liability expense, and lower restructuring expense.

Adjusted operating income. Americas adjusted operating income for the nine months ended September 30, 2022 was \$184.7 million, an increase of \$42.5 million, or 29.9%, compared to \$142.2 million in the prior year. The increase in adjusted operating income is primarily attributable to higher sales volumes driven by both acquisitions and organic business activity, partially offset by higher SG&A expenses to support business growth.

International adjusted operating income for the nine months ended September 30, 2022, was \$34.7 million, a decrease of \$7.3 million, or 17.4%, compared to \$42.0 million in the prior year. The decrease in adjusted operating income is primarily attributable to lower revenue and gross margins as a result of unfavorable currency translation and inflationary pressures, partially offset by lower SG&A expenses.

Corporate segment adjusted operating loss for the nine months ended September 30, 2022, was \$24.8 million, an increase of \$1.3 million compared to an adjusted operating loss of \$23.5 million in the same period of 2021 due to higher SG&A expense.

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

Adjusted operating income (loss)	Nine Months Ended September 30, 2022									
(In thousands)		Americas		Americas		Americas International Corp		Corporate (Consolidated	
Net sales	\$	754,116	\$	330,583	\$	— \$	1,084,699			
GAAP operating income							168,517			
Restructuring charges (Note 3)							3,146			
Currency exchange losses, net							4,788			
Product liability expense (Note 18)							9,733			
Acquisition related costs ^(a)							8,398			
Adjusted operating income (loss)		184,664		34,674		(24,756)	194,582			
Adjusted operating margin %		24.5 %	6	10.5 %	ó					
Depreciation and amortization ^(a)							34,961			
Adjusted EBITDA		210,201		43,708		(24,366)	229,543			
Adjusted EBITDA margin %		27.9 %	6	13.2 %	, 0					

Adjusted operating income (loss)	Nine Months Ended September 30, 2021							
(In thousands)		Americas	1	nternational		Corporate	Coı	nsolidated
Net sales	\$	655,123	\$	334,792	\$	_	\$	989,915
GAAP operating income								111,619
Restructuring charges (Note 3)								12,239
Currency exchange gains, net								(359)
Product liability expense (Note 18)								25,235
Acquisition related costs ^(a)								11,891
Adjusted operating income (loss)		142,160		41,982		(23,517)		160,625
Adjusted operating margin %		21.7 %	o	12.5 %	ó			
Depreciation and amortization ^(a)								33,716
Adjusted EBITDA		165,243		52,283		(23,185)		194,341
Adjusted EBITDA margin %		25.2 %	6	15.6 %	Ó			

⁽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 SG&A 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 unaudited Condensed Consolidated Statements of Income.

Note: Adjusted operating income (loss) and adjusted EBITDA are non-GAAP financial measures. 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, net. Total other income, net, for the nine months ended September 30, 2022 was \$1.0 million, compared to \$0.9 million for the same period in 2021 driven primarily by higher pension income driven by a higher expected rate of return, partially offset by higher interest expense related to a higher interest rate environment and a write-down of an equity investment.

Income taxes. The reported effective tax rate for the nine months ended September 30, 2022 was 24.4% compared to 26.0% for the same period in 2021. This decrease from the prior year is attributable to the impact of statutory rate increases recorded in the second quarter of 2021, decreases in nondeductible executive compensation, U.S. tax on foreign dividends, tax benefits on certain share-based payments, and nondeductible transaction costs, partially offset by nondeductible foreign exchange on entity closures.

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.

Net income attributable to MSA Safety Incorporated. Net income was \$128.1 million for the nine months ended September 30, 2022, or \$3.25 per diluted share compared to income of \$82.8 million, or \$2.10 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), 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.

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, declared dividend payments and acquisitions. At September 30, 2022, approximately 43% of our long-term debt is at fixed interest rates with repayment schedules through 2036. The remainder of our long-term debt is at variable rates on an unsecured revolving credit facility that is due in 2026. At September 30, 2022, approximately 84% of our borrowings are denominated in U.S. dollars, which limits our exposure to currency exchange rate fluctuations.

At September 30, 2022, the Company had cash and cash equivalents totaling \$159.6 million and access to sufficient capital, providing ample liquidity and flexibility to continue to maintain our balanced capital allocation strategy that prioritizes growth investments, funding our dividends and servicing debt obligations. Cash, cash equivalents and restricted cash increased \$19.8 million during the nine months ended September 30, 2022, compared to decreasing \$43.2 million during the same period in 2021. We believe MSA's healthy balance sheet and access to significant capital at September 30, 2022, positions us well to navigate through challenging business conditions and supply chain constraints or other unexpected events.

Operating activities. Operating activities provided cash of \$103.9 million during the nine months ended September 30, 2022, compared to providing \$130.1 million during the same period in 2021. The decreased operating cash flow as compared to the same period in 2021 was primarily related to working capital requirements, notably increased inventory related to increased backlog.

Collections from insurance companies exceeded payments for subsidiary MSA LLC's product liability claims by \$0.4 million in the nine months ended September 30, 2022, compared to product liability claim payments of \$17.1 million, net of collections from insurance companies, in the same period of 2021. 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 intercompany notes. MSA LLC is not party to the Company's credit facility. 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 \$4.4 million during the nine months ended September 30, 2022, compared to using \$402.6 million during the same period in 2021. The decrease in cash used in investing activities as compared to the same period in 2021 was primarily related to the absence of acquisitions. We 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 \$56.2 million during the nine months ended September 30, 2022, compared to providing cash of \$233.4 million during the same period in 2021. During the nine months ended September 30, 2022, we had net proceeds from long-term debt of \$27.0 million as compared to net proceeds from long-term debt of \$308.9 million to fund the acquisition of Bristol and Bacharach during the same period in 2021. We paid cash dividends of \$53.4 million during the nine months ended September 30, 2022, compared to \$51.3 million in the same period in 2021. We also used cash of \$34.4 million during the nine months ended September 30, 2022 to repurchase shares, of which \$30.4 million related to our share repurchase program, compared to using \$6.1 million during the same period in 2021.

CUMULATIVE TRANSLATION ADJUSTMENTS

The position of the U.S. dollar relative to international currencies at September 30, 2022, resulted in a translation loss of \$58.1 million being recorded to the cumulative translation adjustments shareholders' equity account during the nine months ended September 30, 2022, compared to a \$18.0 million translation loss being recorded to the cumulative translation adjustments shareholders' equity account during the same period in 2021.

COMMITMENTS AND CONTINGENCIES

We made contributions of \$5.7 million to our pension plans during the nine months ended September 30, 2022. We expect to make total contributions of approximately \$7.7 million to our pension plans in 2022 primarily associated with statutorily required plans in the International segment.

The Company had outstanding bank guarantees and standby letters of credit with banks as of September 30, 2022, totaling \$9.2 million, of which \$1.5 million relate to the senior revolving credit facility. These letters of credit serve to cover customer requirements in connection with certain sales orders and insurance companies. The Company is also required to provide cash collateral in connection with certain arrangements. At September 30, 2022, the Company has \$1.7 million of restricted cash in support of these arrangements.

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

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

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

We prepare our unaudited condensed consolidated financial statements in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP"). The preparation of these unaudited condensed 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 unaudited condensed 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, 2021.

RECENTLY ADOPTED AND RECENTLY ISSUED ACCOUNTING STANDARDS

None

Item 3. Quantitative and Qualitative Disclosures About Market Risk

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

Currency exchange rate sensitivity. We are subject to the effects of fluctuations in currency exchange rates on various transactions and on the translation of the reported financial position and operating results of our non-U.S. companies from local currencies to U.S. dollars. A hypothetical 10% strengthening or weakening of the U.S. dollar would decrease or increase our reported sales and net income by approximately \$14.6 million or 3.8% and \$1.2 million or 2.7%, respectively, for the three months ended September 30, 2022.

When appropriate, we may attempt to limit our transactional exposure to changes in currency exchange rates through forward contracts or other actions intended to reduce existing exposures by creating offsetting currency exposures. At September 30, 2022, we had open foreign currency forward contracts with a U.S. dollar notional value of \$96.3 million. A hypothetical 10% strengthening or weakening of the U.S. dollar would result in a \$9.6 million increase or decrease in the fair value of these contracts at September 30, 2022.

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

At September 30, 2022, we had \$261.4 million of fixed rate debt which matures at various dates through 2036. The incremental increase in the fair value of fixed rate long-term debt resulting from a hypothetical 10% decrease in interest rates would be approximately \$8.1 million. However, our sensitivity to interest rate declines and the corresponding increase in the fair value of our debt portfolio would unfavorably affect earnings and cash flows only to the extent that we elected to repurchase or retire all or a portion of our fixed rate debt portfolio at prices above carrying values.

At September 30, 2022, we had \$345.7 million of variable rate borrowings under our revolving credit facility. A 100 basis point increase or decrease in interest rates would have a \$3.8 million impact on future annual 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 or potential safety issues related to alleged product defects, or quality concerns against our various subsidiaries could have a material adverse effect on our business, operating results, financial condition and liquidity.

Our mission, reputation and business success rely on our ability to design and provide safe, high quality and reliable products that earn and maintain customer trust. Our products and solutions are often used in high-risk and unpredictable environments, and MSA and its subsidiaries face an inherent business risk of exposure to product liability or other legal claims or penalties related to the design, manufacture, marketing, or sale of our products and solutions. 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. In addition, we may be required to or may voluntarily recall or redesign certain products or components due to concern about product safety, quality, or reliability. Any significant claims, recalls or field actions that result 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 subsidiaries, including Mine Safety Appliances Company, LLC, may experience losses from product liability claims. Losses from product liability claims could have a material adverse effect on our business, operating results, financial condition and liquidity, which could introduce volatility from period-to-period in our financial results.

From time to time, product liability claims are made against our various subsidiaries. In most instances the products at issue were manufactured many years ago and are not currently offered for sale, but in some instances, product liability claims may relate to current products.

Our subsidiary, Mine Safety Appliances Company, LLC ("MSA LLC") was named as a defendant in 1,544 cumulative trauma lawsuits comprised of 4,193 claims at September 30, 2022. 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. A reserve has been established with respect to estimated amounts for cumulative trauma product liability claims currently asserted, as well as, incurred but not reported ("IBNR") cumulative trauma product liability claims. Because our cumulative trauma product liability risk is subject to inherent uncertainties, 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. Many factors affecting cumulative trauma product liability claims may change over time or as a result of sudden unfavorable events within a single reporting period. Associated losses could have a material adverse effect on our business, operating results, financial condition and liquidity, or could result in volatility from period to period.

We will adjust the reserve from time to time based on developments in MSA LLC's actual claims experience, the claims environment or other significant changes in the factors 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, 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 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 \$125.9 million and notes receivables of \$44.3 million at September 30, 2022. Since MSA LLC is now largely self-insured for cumulative trauma claims, additional amounts recorded as insurance receivables will be limited. Amounts recorded as insurance receivables are based on the amount of future losses presently recorded in the cumulative trauma product liability reserve. These projected future losses are used to calculate contingent reimbursements deemed probable of collection under negotiated Coverage-in-Place Agreements. Reimbursements are calculated based on modeled assumptions, including claims composition, claims characteristics, and timing (each of which are relevant to calculating reimbursement under the terms of Coverage-In-Place Agreements). These factors, and the potential for future insurer insolvencies, could affect the timing and amount of actual receivables collected in any given period or in total.

We have significant international operations and are subject to the risks of doing business in foreign countries and global supply chains.

We have business operations in approximately 40 foreign countries. In 2021, approximately half of our net sales were made by operations located outside the United States. We also rely on global supply chains or otherwise source critical components and raw materials from suppliers based in foreign countries, which at times are used in manufacturing operations across our global footprint. In certain cases, components could be sole sourced or otherwise not easily substituted due to the highly regulated nature of our products. Therefore, our operations and sourcing strategies are subject to supply shortages, sourcing delays, or disruption due to various geopolitical, economic, disasters, and other risks and uncertainties, which could have a material adverse effect on our business. These risks include the following:

- Scarcity of parts and components necessary to manufacture our products;
- unexpected changes in regulatory requirements;
- changes in trade policy or tariff regulations;
- changes in tax laws and regulations;
- unintended consequences due to changes to the Company's legal structure;
- additional valuation allowances on deferred tax assets due to an inability to generate sufficient profit in certain foreign jurisdictions;
- intellectual property protection difficulties or intellectual property theft;
- difficulty in collecting accounts receivable;
- complications in complying with a variety of foreign laws and regulations, some of which may conflict with U.S. laws;
- foreign privacy laws and regulations;
- trade protection measures and price controls;
- trade sanctions and embargoes;
- nationalization and expropriation;
- increased international instability, potential instability of foreign governments or impacts from geopolitical conflict such as supplier or transportation disruptions;
- effectiveness of worldwide compliance with MSA's anti-bribery policy, the U.S. Foreign Corrupt Practices Act, and similar local laws;
- difficulty in hiring and retaining qualified employees;
- the ability to effectively negotiate with labor unions in foreign countries;
- the need to take extra security precautions for our international operations;
- costs and difficulties in managing culturally and geographically diverse international operations;
- pandemics, severe weather events, or other disasters; and
- risks associated with the United Kingdom's decision to exit the European Union, including disruptions to trade and free movement of goods, services and people to and from the United Kingdom; increased foreign exchange volatility with respect to the British pound; and additional legal and economic uncertainty.

Any one or more of these risks could have a negative impact on the success of our international operations and, thereby, have a material adverse effect on our business, consolidated results of operations and financial condition.

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

(c) Issuer Purchases of Equity Securities

Period	Total Number of Shares Purchased	Av	verage Price Paid Per Share	Total Number of Shares Purchased As Part of Publicly Announced Plans or Programs	Maximum Number of Shares That May Yet Be Purchased Under the Plans or Programs
July 2022	8	\$	127.49	_	229,311
August 2022	479		121.27	_	247,600
September 2022	19,573		109.86	19,573	249,657

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 repurchase program has no expiration date. The maximum number of shares that may be purchased is calculated based on the dollars remaining under the program and the respective month-end closing share price. We repurchased 19,573 shares during the quarter ended September 30, 2022, under this program.

The above shares purchased during the quarter not related to shares purchased as part of publicly announced plans or programs are related to stock-based compensation transactions.

We do not have any other share repurchase programs.

Item 6. Exhibits

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

SIGNATURE

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

MSA SAFETY INCORPORATED

October 27, 2022

/s/ Lee B. McChesney

Lee B. McChesney

Senior Vice President and Chief Financial Officer

/s/ Jonathan D. Buck

Jonathan D. Buck

Chief Accounting Officer and Controller (Principal Accounting Officer)

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

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

October 27, 2022

/s/ Nishan J. Vartanian

Nishan J. Vartanian

President and Chief Executive Officer

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

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

October 27, 2022

/s/ Lee B. McChesney

Lee B. McChesney

Senior Vice President and Chief Financial Officer

CERTIFICATION

Pursuant to 18 U.S.C. (S) 1350, the undersigned officers of MSA Safety Incorporated (the "Company"), hereby certify, to the best of their knowledge, that the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2022 (the "Report") fully complies with the requirements of Section 13 (a) or 15 (d), as applicable, of the Securities Exchange Act of 1934 and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

October 27, 2022

/s/ Nishan J. Vartanian

Nishan J. Vartanian

President and Chief Executive Officer

/s/ Lee B. McChesney

Lee B. McChesney

Senior Vice President and Chief Financial Officer