CAST METALS FEDERATION

SHIFT

Safety & Health Foundry Targets Initiative

SHIFT Accident Statistics

2015 Reporting Year

Headline News 2015

SHIFT Member data reported to CMF	**2015**	2014	2013	2012	2011	2010
Number of companies reporting (total) so far is	**78**	**76**	**72**	**64**	**33**	**36**
Giving a total number of employees covered as	**11222**	**9947**	**9595**	**8776**	**4387**	**4117**
Total Number of Accidents Reported to SHIFT is	**2318**	**2376**	**2238**	**2270**	**1367**	**1323**
Of which are RIDDOR reportable being	**124**	**128**	**171**	**169**	**85**	**94**
Giving an accident rate per 100 employees of	**21**	**24**	**23**	**26**	**31**	**32**
and a RIDDOR rate per 100,000 employees of	**1105**	**1287**	**1782**	**1926**	**1938**	**2283**
Number of ferrous companies reporting so far is	**41**	40	42	38		
Number of non ferrous companies reporting so far is	**37**	36	30	26		
Number of small companies reporting data is	**23**	27	24	21		
Number of medium companies reporting data is	**34**	28	28	25		
Number of large companies reporting data is	**21**	21	20	18		
Number of sand casting foundries reporting data is	**53**	52	51	47		
Number of die casting foundries reporting data is	**18**	18	15	13		
Number of investment casting foundries reporting data is	**7**	6	6	4		
Number of near-misses reported so far is	**822**	744	293	490		
Number of members reporting near-misses is	**30**	29	24	18		
Number of lost days due to work related injury reported so far is	**3094.75**	3487	4342	2894		
Number of members reporting work related injury lost days is	**69**	60	52	33		
Number of lost days due to work related ill-health reported so far is	**55**	42	518.8	219.5		
Number of members reporting work related ill-health lost days is	**7**	6	6	3		
Number of lost days due to non-work work related injury or ill-health reported so far is	**15974.75**	15124	14593	13272		
Number of members reporting lost days is	**38**	41	30	23		
Number of new reportees to SHIFT is	**3**	10	11	23		
Number of returning reportees to SHIFT is		2	4	10		

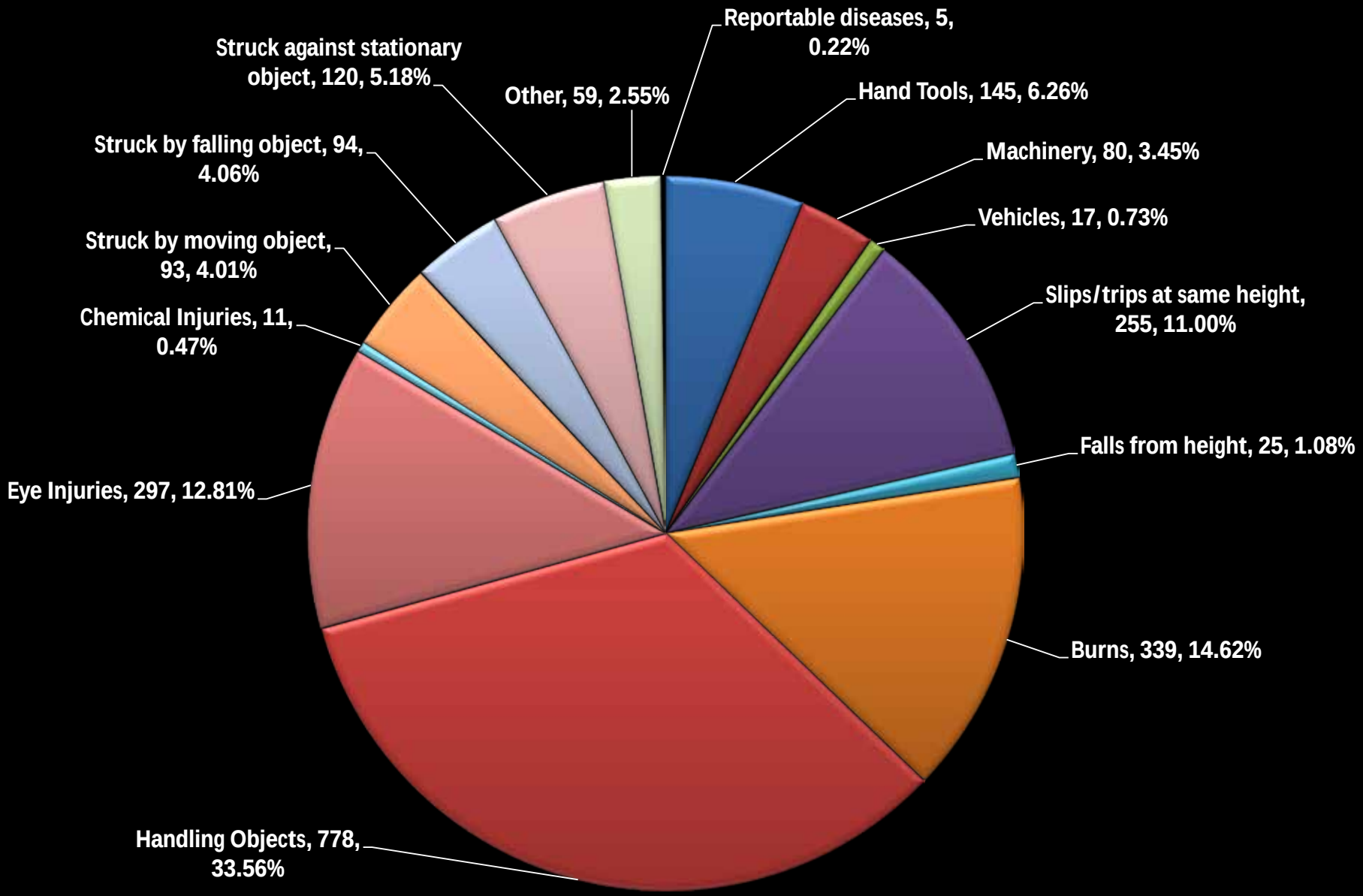
Reporting History (Last 4 years)

Date	Reporting Year	Number of Companies	Employees Covered
Oct 2013	2012	64 (includes 23 new and 10 returning entrants)	8776
April 2014 (reporting window reset to close end of March each following year)	2013	72 (includes 11 new and 4 returning entrants)	9595
April 2015	2014	76 (includes 10 new and 2 returning entrants)	9947
April 2016	2015	78 (includes 3 new entrants)	11222

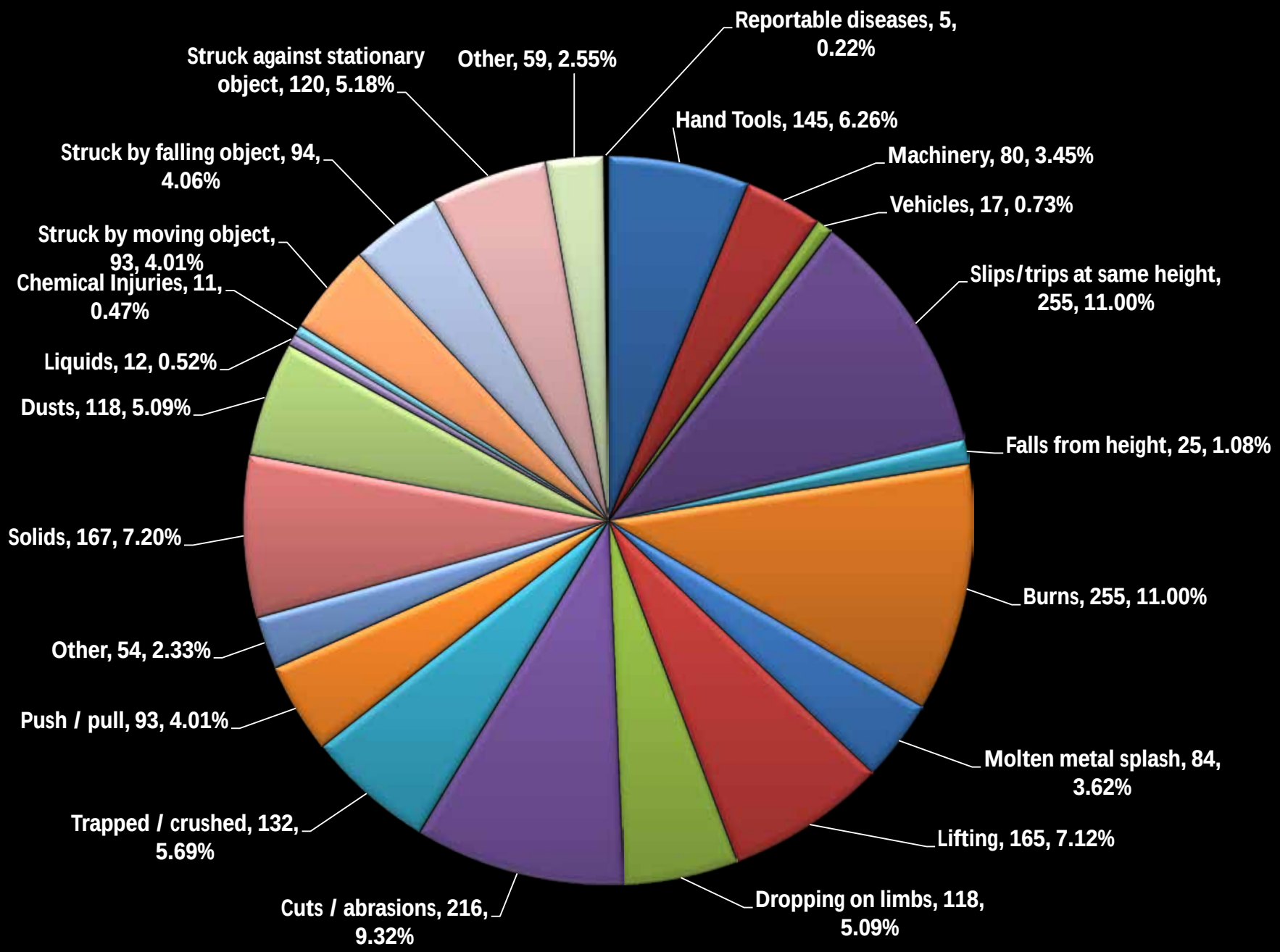
Phase II Reporting History (2012 on)

Key Headline Data	2015	Change against 2014	2014	2013	2012
Companies reporting	**78**	**+ 2**	76	72	64
Employees covered	**11222**	**+ 1275**	9947	9595	8776
Fatal Injuries	0	0	0	0	0
Major Injuries	**13**	**- 5**	18	17	30
Over 7 Day injuries	**111**	**+ 1**	110	116	
Other accidents	**2014**	**- 234**	2248	2067	2101
Total	**2138**	**- 238**	2376	2238	2270
Accident rate / 100 employees	**19**	**- 5**	24	23	26
RIDDOR rate / 100K employees	**1105**	**- 182**	1287	1386 (adjusted to remove >3 day injuries)	1926

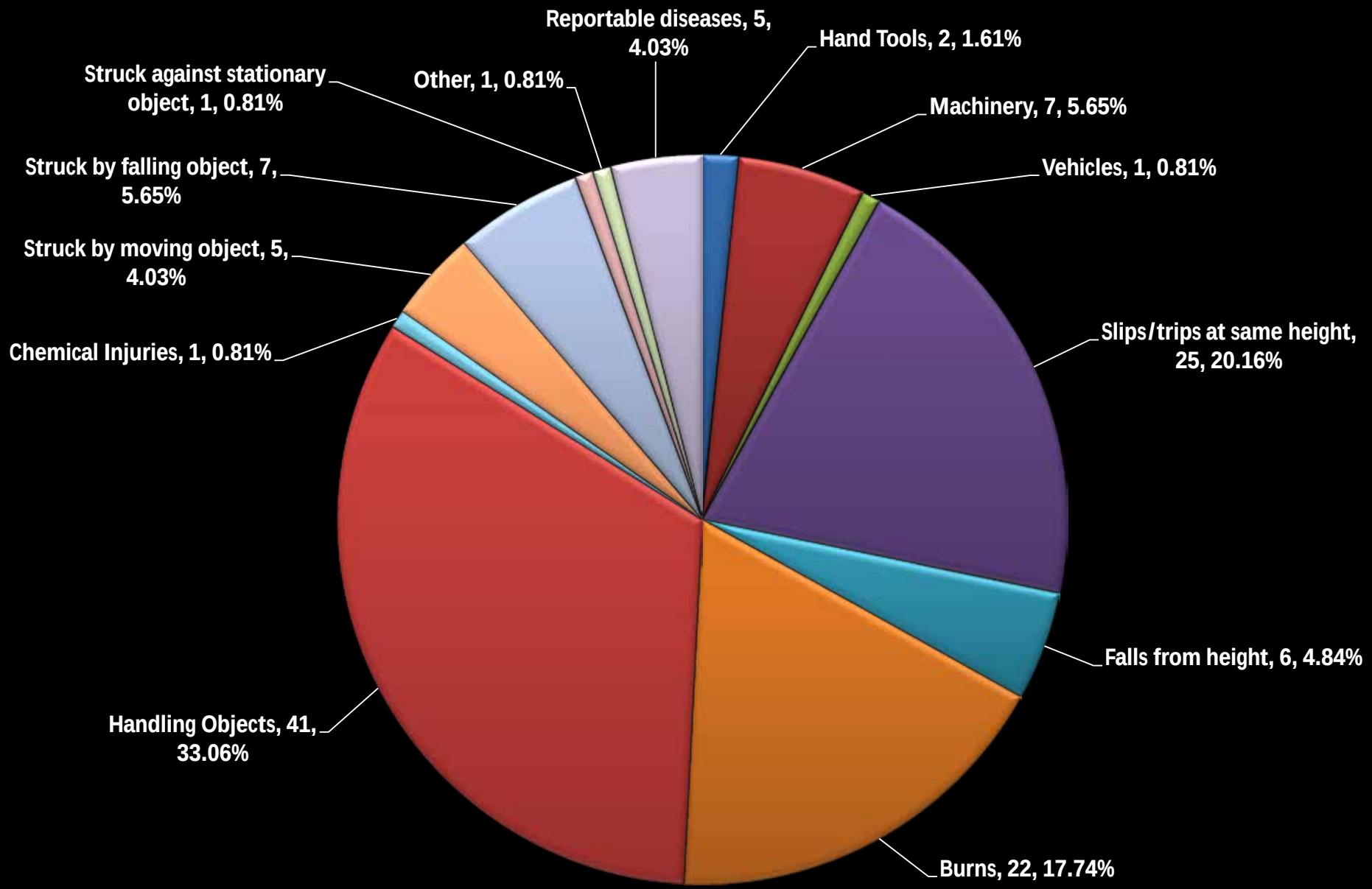
2015 Total Accident Breakdown - Macro Level



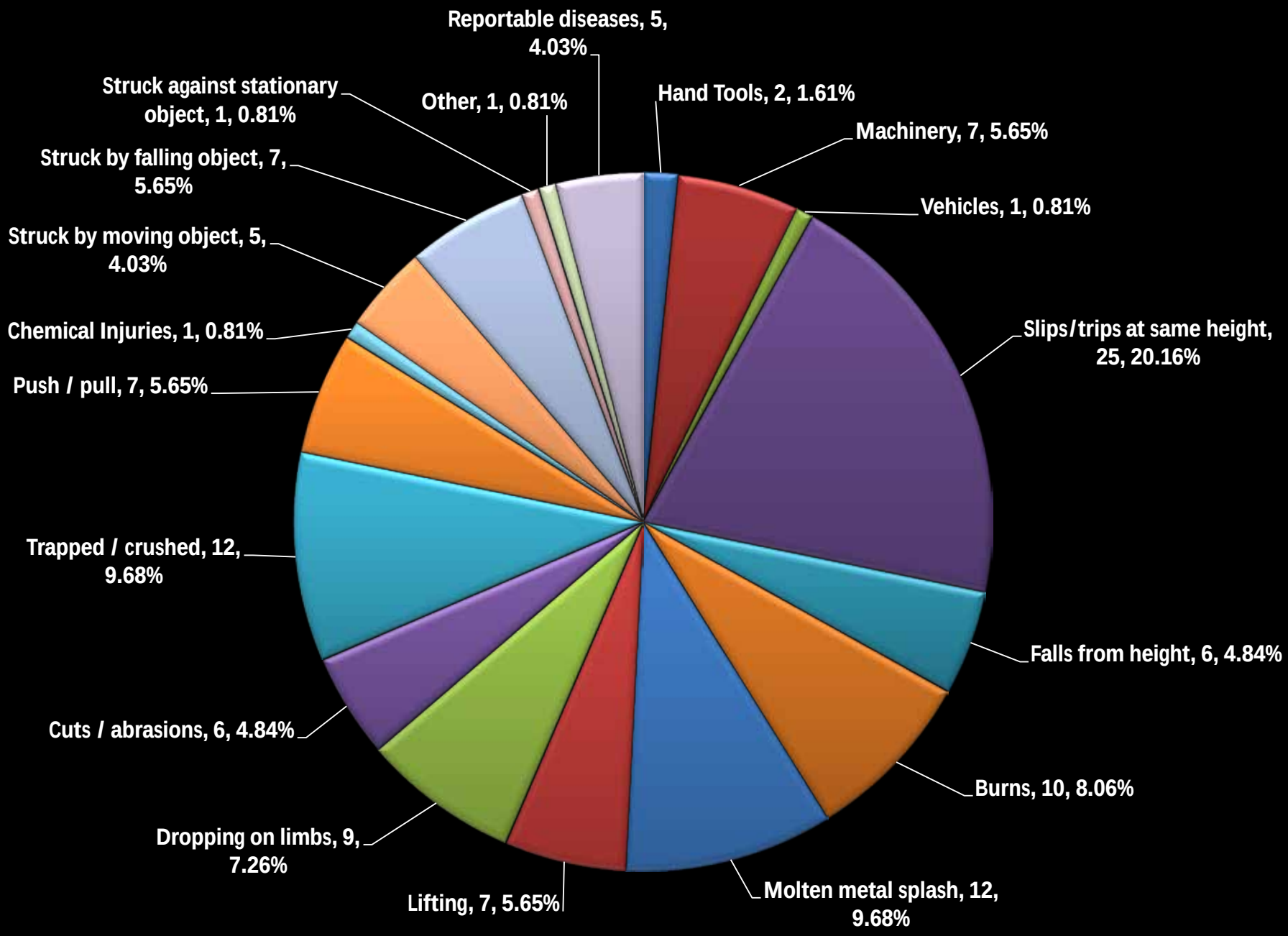
2015 Total Accident Breakdown - Micro Level



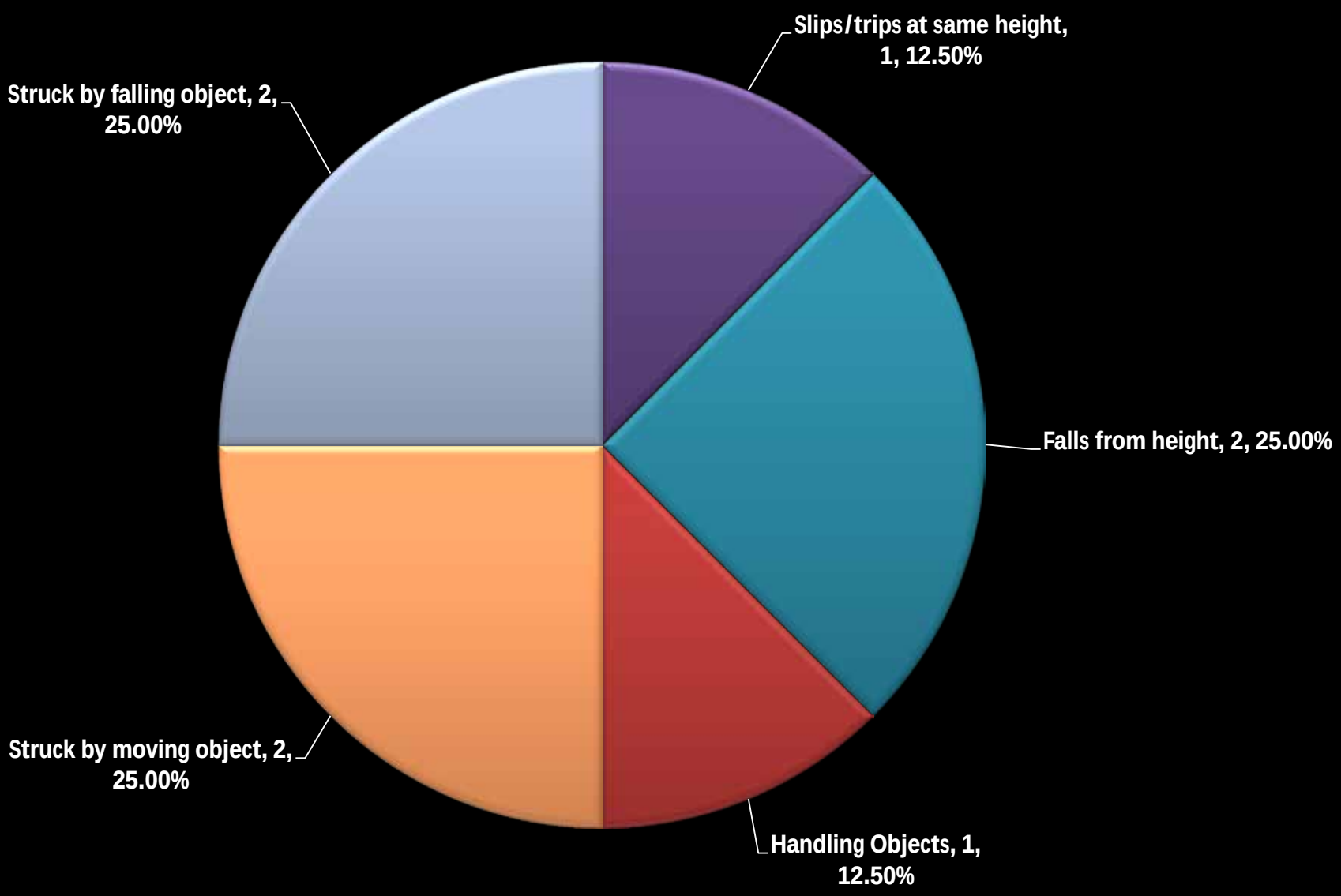
2015 Total RIDDOR Reportable Accidents - Macro Level



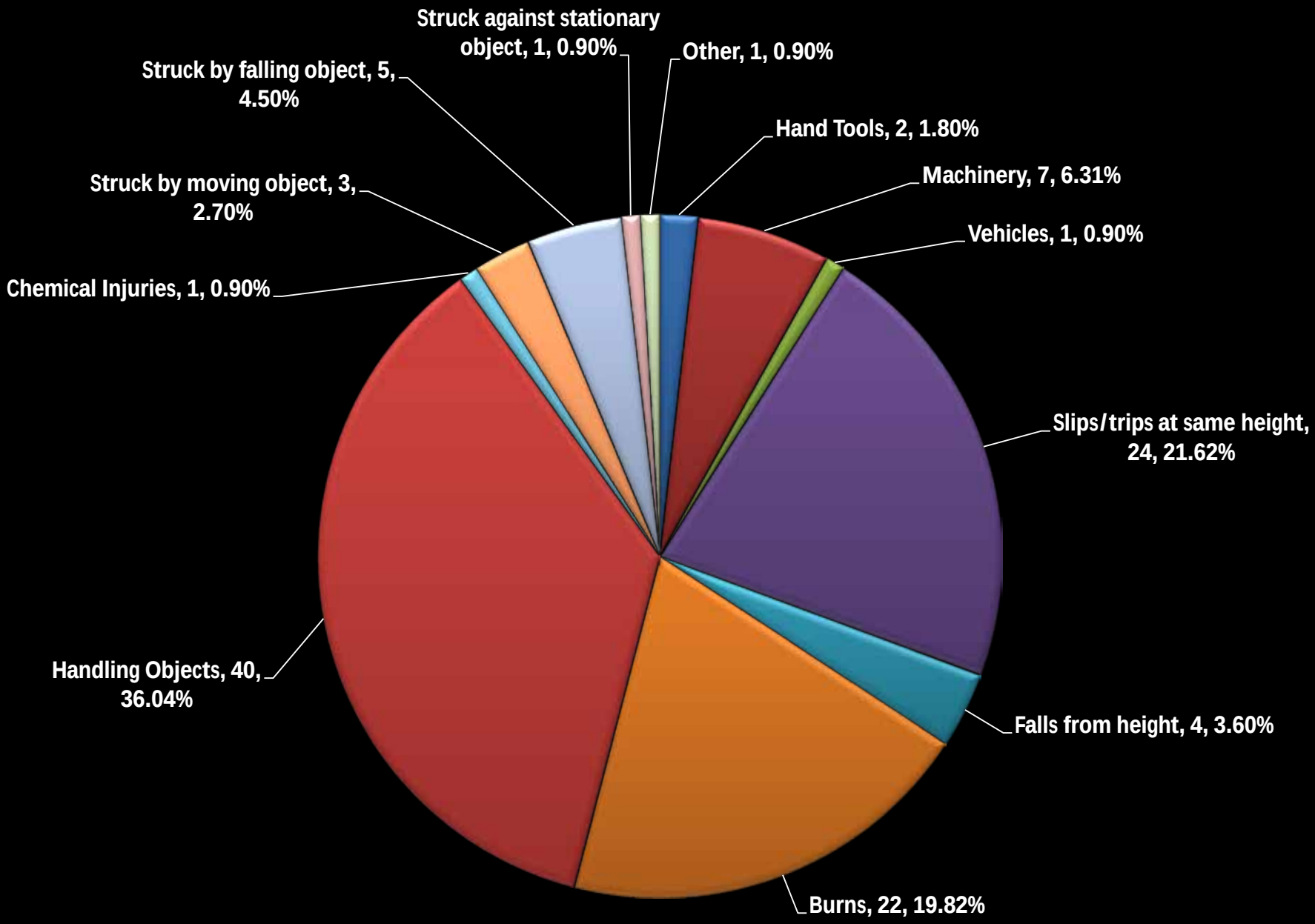
2015 Total RIDDOR Reportable Accidents - Micro Level



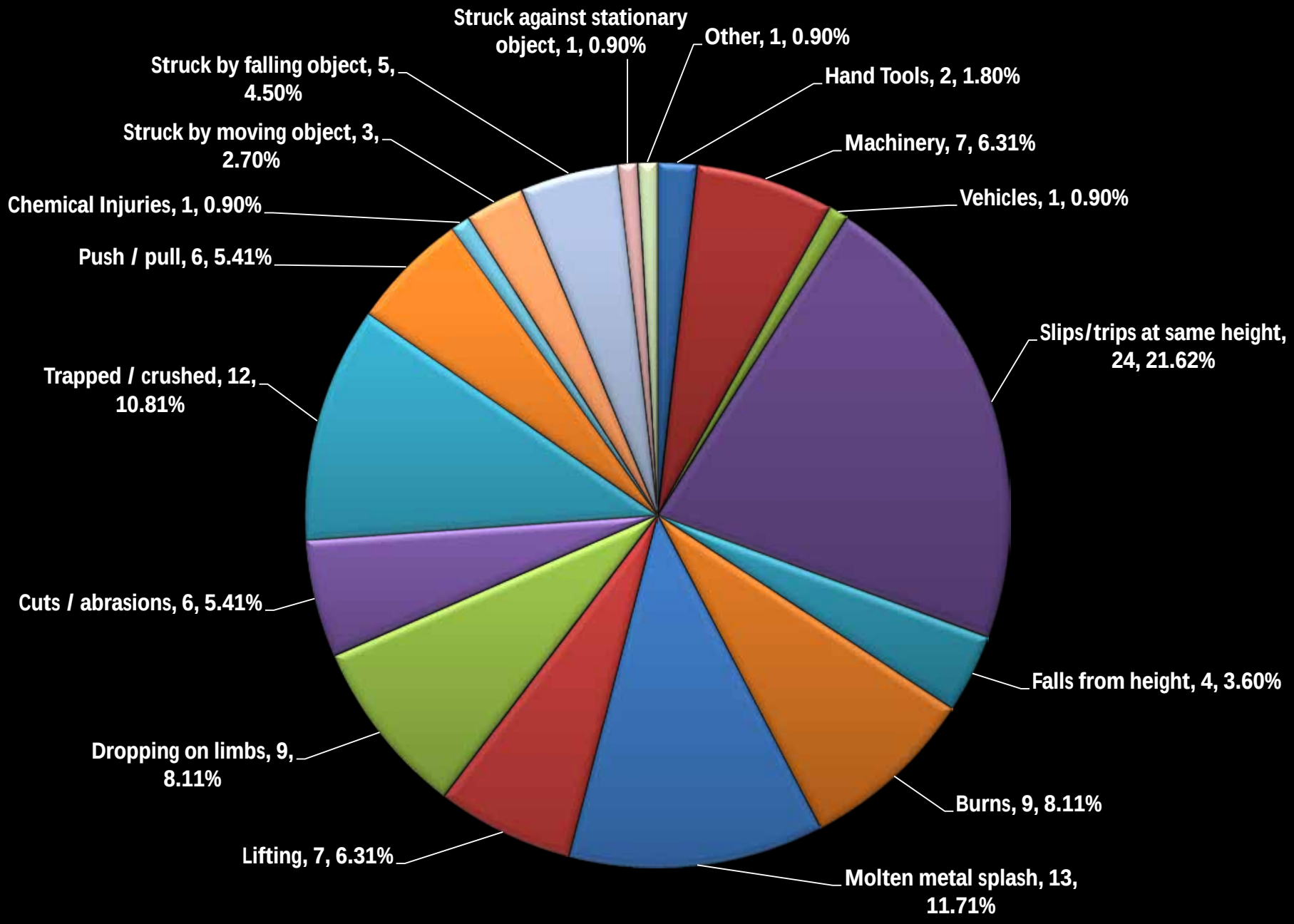
2015 Major Reportable Accidents - Macro Level



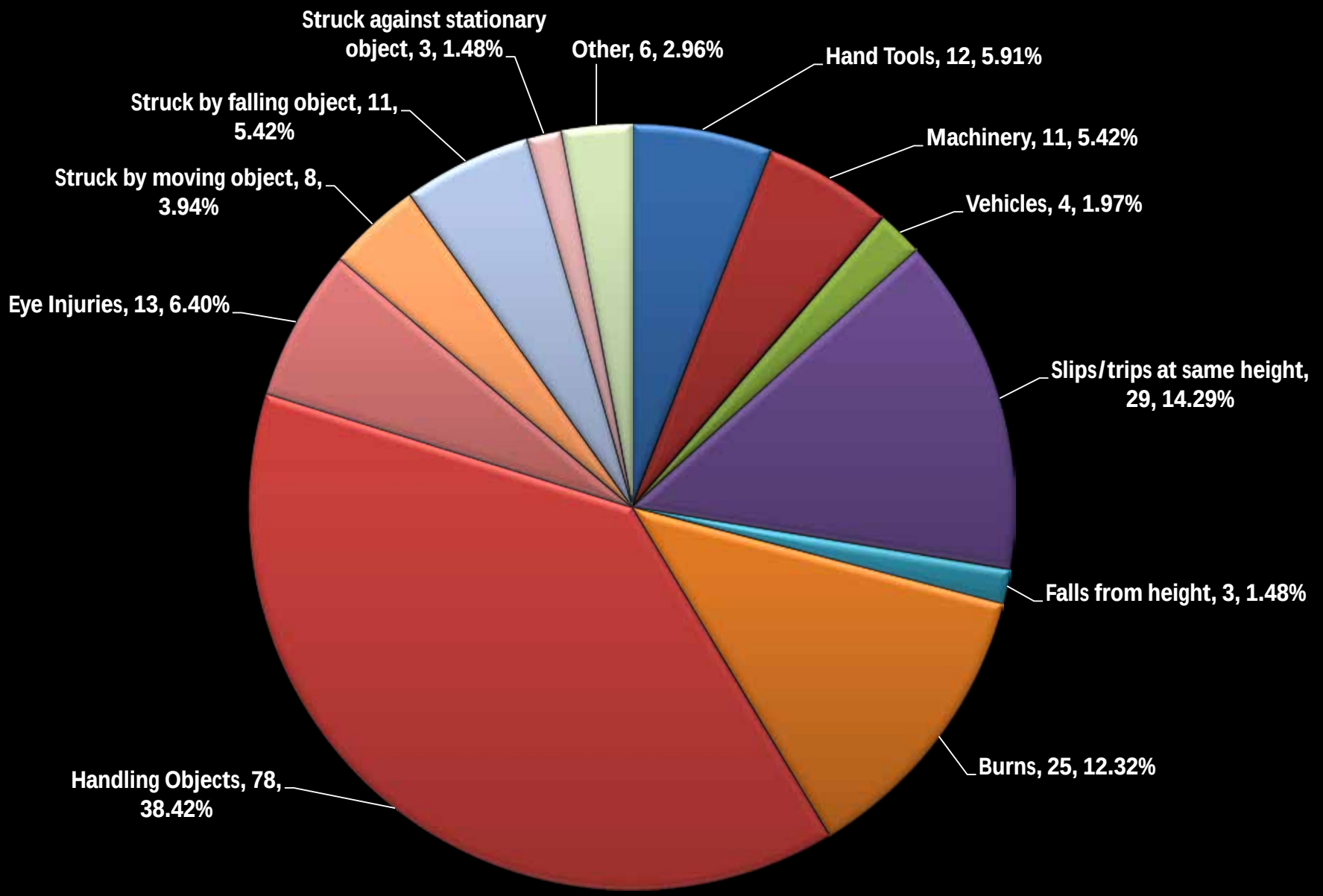
2015 Over 7 Day Reportable Accidents - Macro Level



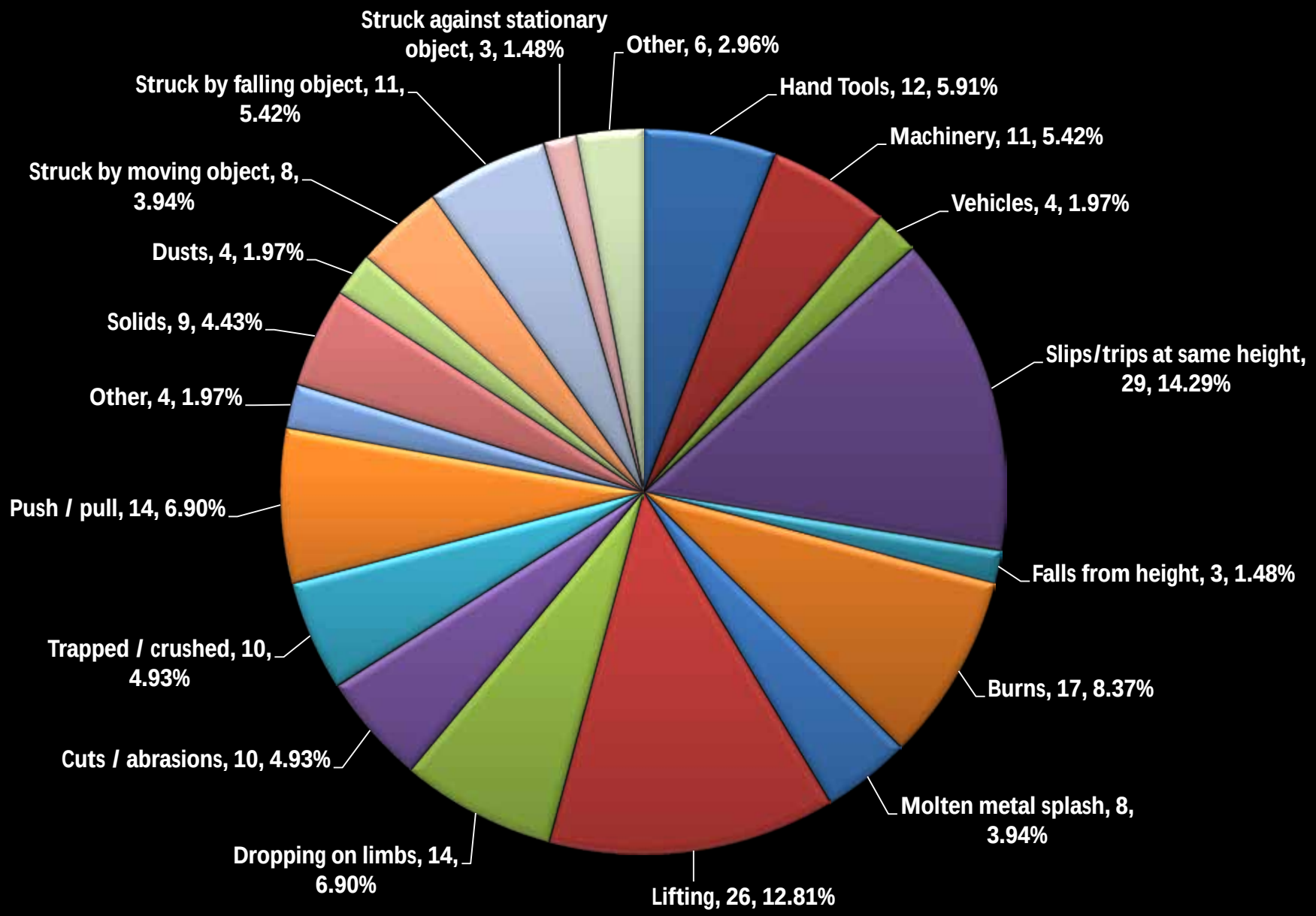
2015 Over 7 Day Reportable Accidents - Micro Level



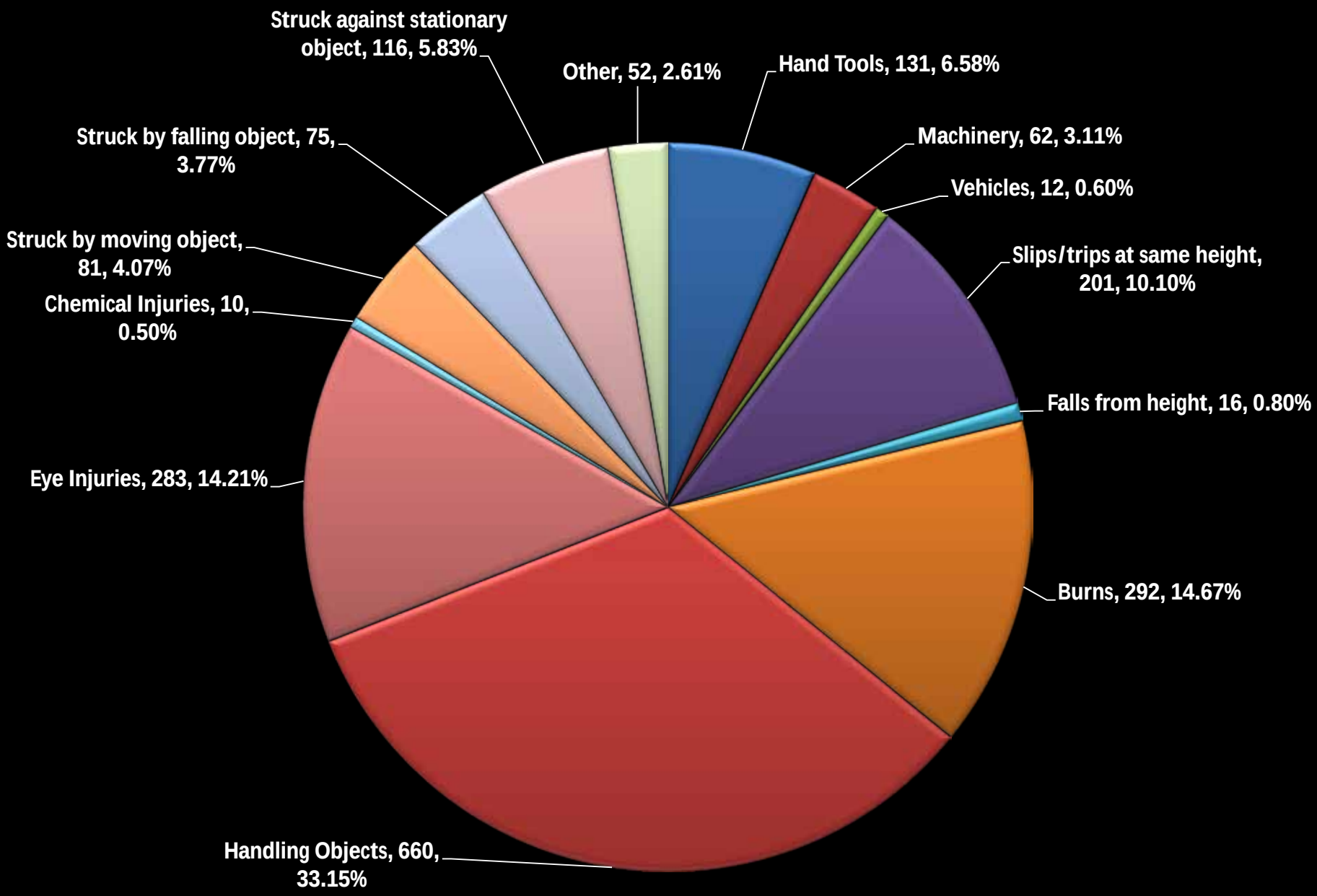
2015 Lost Time Accidents - Macro Level



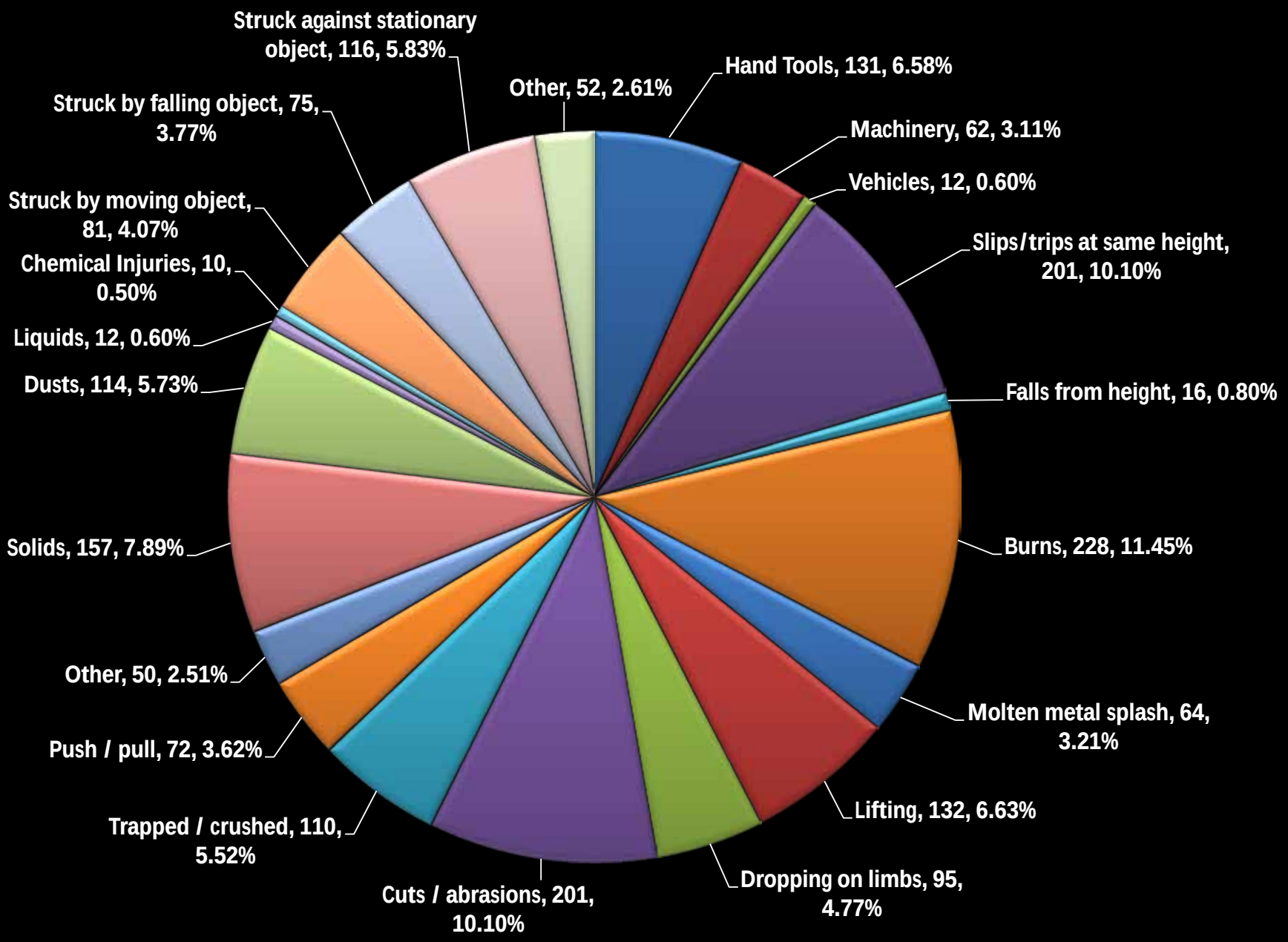
2015 Lost Time Accidents - Micro Level



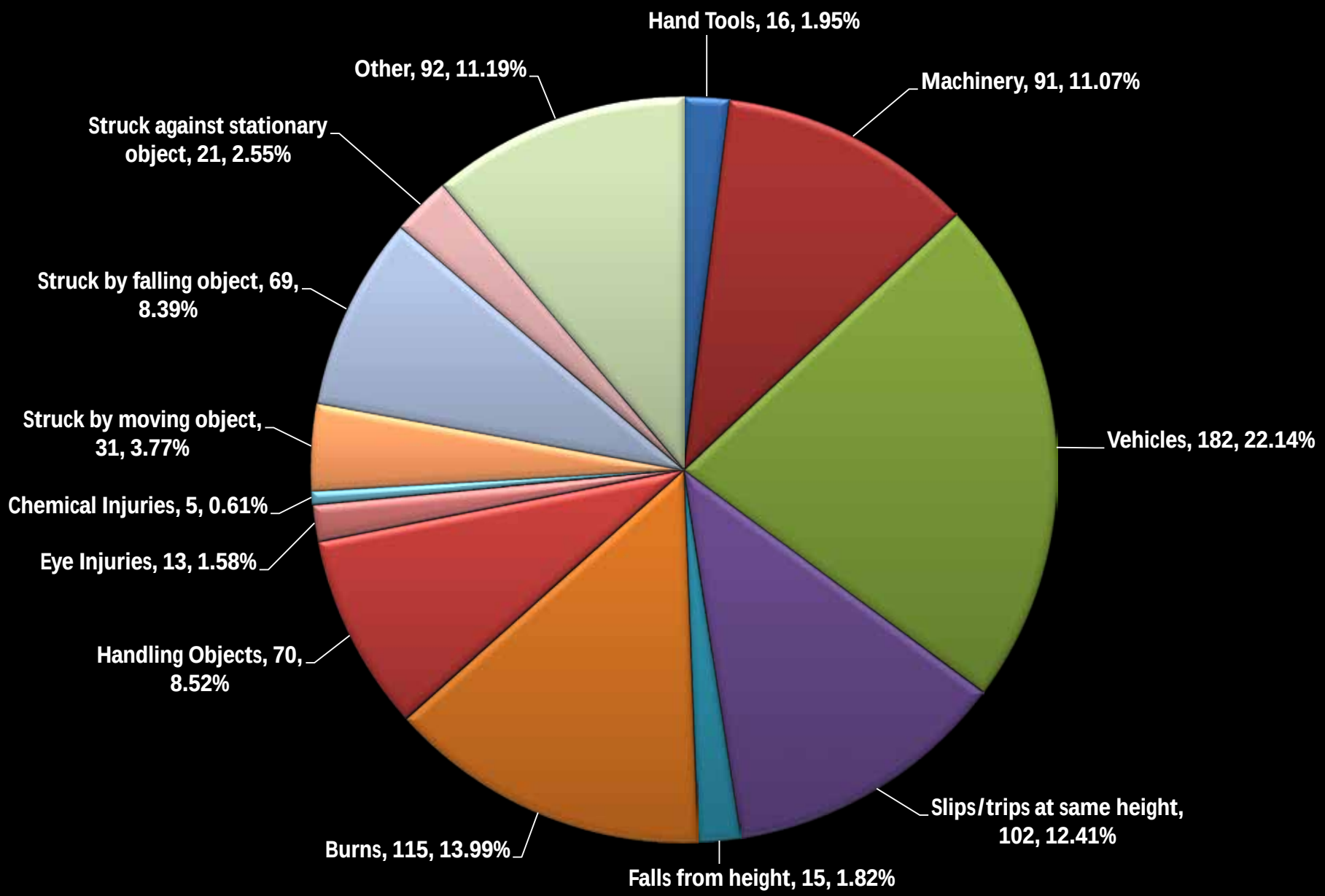
2015 First Aid Only Accidents - Macro Level



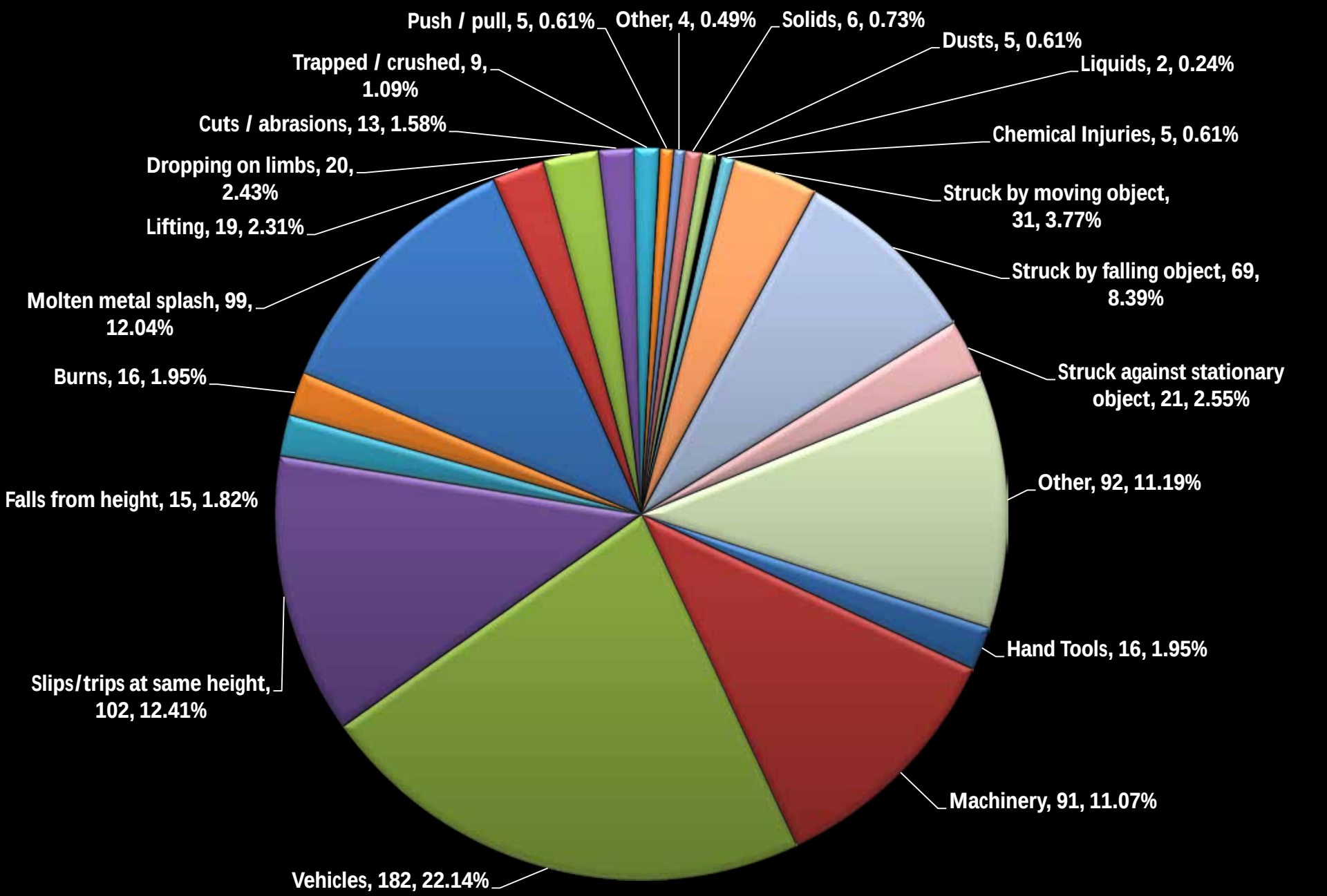
2015 First Aid Only Accidents - Micro Level



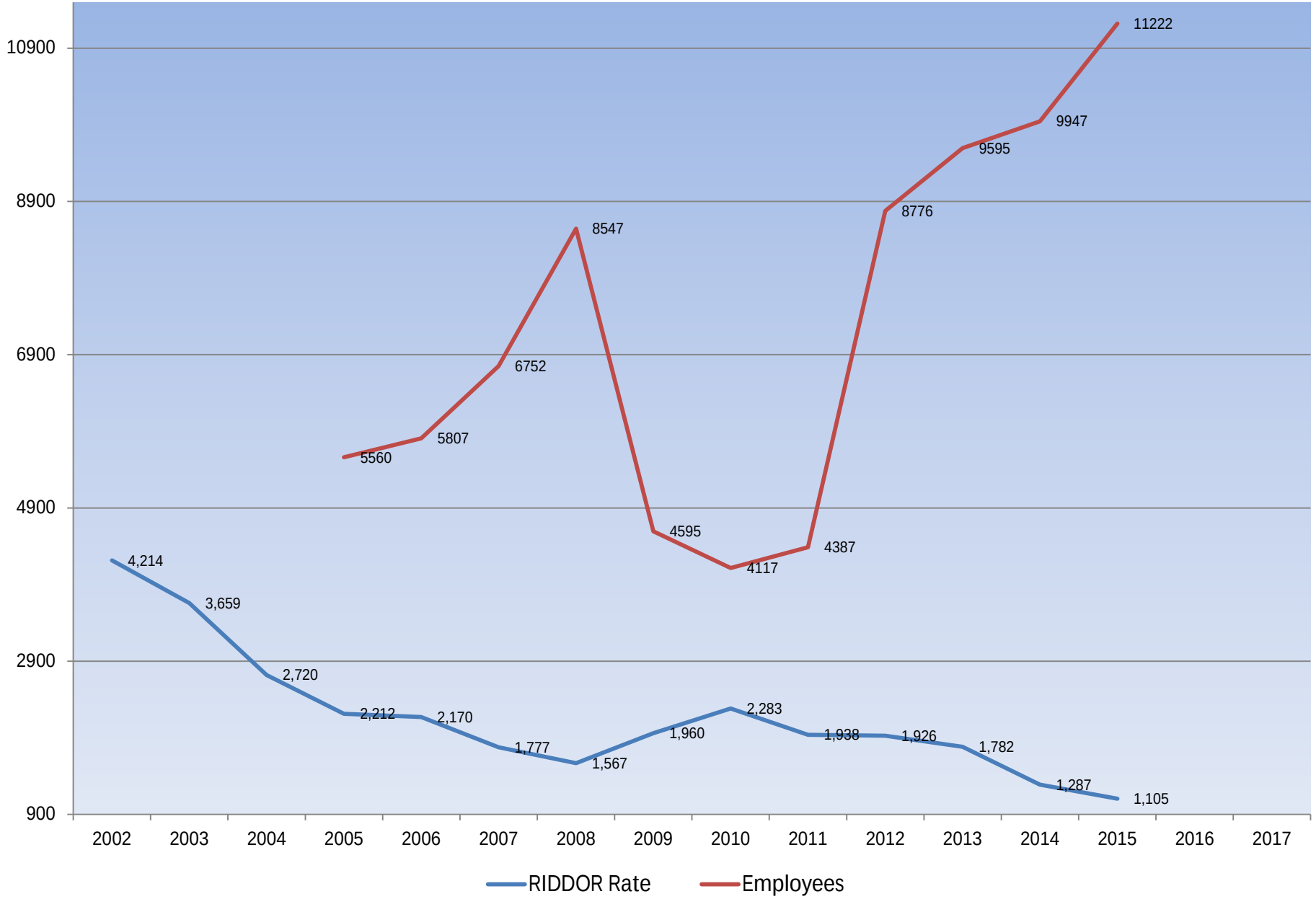
2015 Near Misses Reported - Macro Level



2015 Near Misses Reported - Micro Level



SHIFT RIDDOR Rates 2002 - date

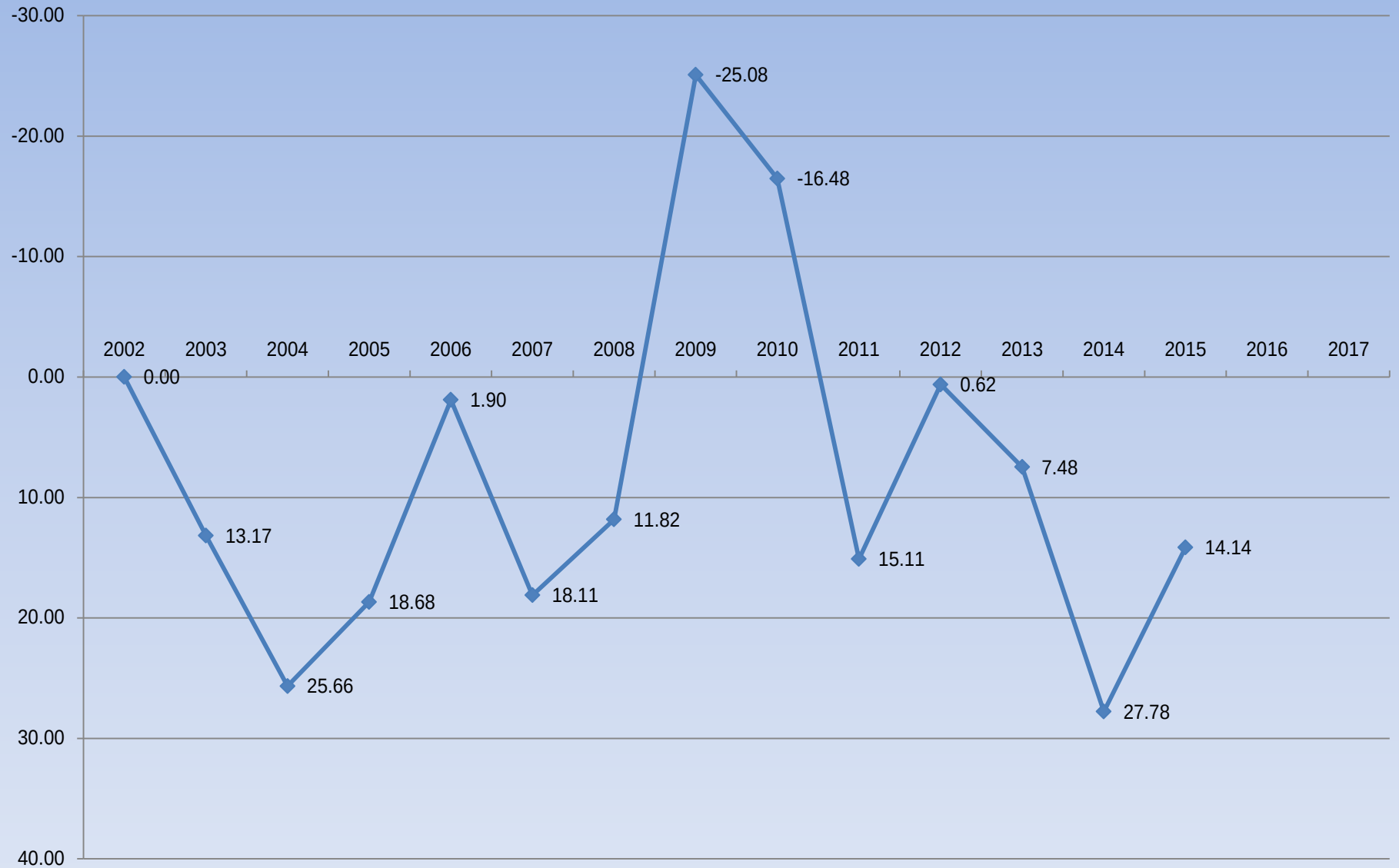


RIDDOR - Target Rates vs Actual Acheivement

(Dec 2013 RIDDOR Change Compensated)

% Reduction in Rate to 2002 Year

Year on Year Percentage Change



New / Returning Reports 2015

Category	Number	Employees	Material	Process	Size of Company
New	3	1346	1 Ferrous 2 Non-ferrous	2 Sand 1 Die-cast	2 Large 1 Medium
Returnees	-				
Restructured	-				

Category	Number	Employees				
			Accidents	Rate/100 emp	RIDDOR	Rate/100K emp
New	3	1346	133	9.88	3	222.88
Returning	-					
Restructured	-					

Process Comparisons – Ferrous vs Non-Ferrous

	Ferrous (41)		Non-Ferrous (37)	
Employees	5978		5244	
	Total Accidents	RIDDOR	Total Accidents	RIDDOR
Hand Tools	82	2	63	-
Machinery	46	1	34	6
Vehicles	7	1	10	-
Slips / Trips	139	18	116	7
Falls from Height	13	4	12	2
Burns	180	14	159	8
Manual Handling	384	28	394	13
Eye Injuries	215	-	82	-
Chemical Injuries	8	1	3	-
Struck by Moving Object	54	3	39	2
Struck by Falling Object	55	6	39	1
Struck against Stationary Object	68	1	52	-
Other	46	-	13	1
Reportable Diseases	4	4	1	1
TOTAL	1301	83	1017	41
Rate	21.76 / 100 emp's	1388.42 / 100K emp's	19.39 / 100 emp's	781.85 / 100K emp's

Location & number of **total** accidents - Ferrous vs Non-ferrous

Locale	No. of acc's	% of total	Foundries with accidents in this area	No. of acc's	% of total	Foundries with accidents in this area
	Ferrous foundries			Non-ferrous foundries		
Melting, moulding, casting	425	32.67	38	462	45.43	32
Knockout, fettling, basic finishing	544	41.81	38	204	20.06	29
Machine shop	109	8.38	19	99	9.73	22
Tool room or maintenance areas	47	3.61	21	59	5.80	19
Finished stores, despatch & yard areas	54	4.15	27	61	6.00	21
Other Areas / Dept.'s	122	9.38	28	132	12.98	19

Location & number of **RIDDOR** accidents - Ferrous vs Non-ferrous

Locale	No. of acc's	% of total	Foundries with accidents in this area	No. of acc's	% of total	Foundries with accidents in this area
	Ferrous foundries			Non-ferrous foundries		
Melting, moulding, casting	36	43.37	15	21	51.22	14
Knockout, fettling, basic finishing	32	38.55	18	7	17.07	7
Machine shop	7	8.43	2	6	14.63	5
Tool room or maintenance areas	1	1.20	1	4	9.76	4
Finished stores, despatch & yard areas	1	1.20	1	1	2.44	1
Other Areas / Dept.'s	6	7.23	4	2	4.88	2

Process Comparisons – Sand vs Die-cast vs Investment

	Sand (53)		Die-cast (18)		Investment (7)	
Employees	7514		2541		1167	
	Total Accidents	RIDDOR	Total Accidents	RIDDOR	Total Accidents	RIDDOR
Hand Tools	100	2	36	-	9	-
Machinery	58	4	15	3	7	-
Vehicles	7	1	7	-	3	-
Slips / Trips	176	23	66	2	13	-
Falls from Height	14	5	10	1	1	-
Burns	211	15	111	6	17	1
Manual Handling	488	31	227	8	63	2
Eye Injuries	247	-	41	-	9	-
Chemical Injuries	10	1	1	-	-	-
Struck by Moving Object	71	3	20	2	2	-
Struck by Falling Object	74	7	16	-	4	-
Struck against Stationary Object	93	1	21	-	6	-
Other	50	-	8	1	1	-
Reportable Disease	5	5	-	-	-	-
TOTAL	1604	98	579	23	135	3
Rate	21.35 / 100	1304.23 / 100K	22.29 / 100	905.15 / 100K	11.57 / 100	257.06 / 100K

Location & number of **total** accidents – Sand vs Die vs Investment

Locale	No. of acc's	% of total	Foundries with accidents in area	No. of acc's	% of total	Foundries with accidents in area	No. of acc's	% of total	Foundries with accidents in area
	Sand Foundries			Die-cast Foundries			Investment Foundries		
Melting, moulding, casting	548	34.16	49	302	52.16	16	37	27.41	5
Knockout, fettling, basic finishing	630	39.28	48	86	14.85	13	32	23.70	6
Machine shop	139	8.67	27	62	10.71	12	7	5.19	2
Tool room or maint. areas	60	3.74	26	40	6.91	11	6	4.44	3
Finished stores, despatch & yard areas	75	4.68	34	35	6.04	10	5	3.70	4
Other Areas / Dept.'s	152	9.48	35	54	9.33	8	48	35.56	4

Location & number of RIDDOR accidents – Sand vs Die vs Investment

Locale	No. of acc's	% of total	Foundries with accidents in area	No. of acc's	% of total	Foundries with accidents in area	No. of acc's	% of total	Foundries with accidents in area
	Sand Foundries			Die-cast Foundries			Investment Foundries		
Melting, moulding, casting	44	44.90	18	11	47.83	9	2	66.67	2
Knockout, fettling, basic finishing	35	35.71	21	3	13.04	3	1	33.33	1
Machine shop	7	7.14	2	6	26.09	5	-	-	-
Tool room or maint. areas	2	2.04	2	3	13.04	3	-	-	-
Finished stores, despatch & yard areas	2	2.04	2	-	-	-	-	-	-
Other Areas / Dept.'s	8	8.16	6	-	-	-	-	-	-

Process Comparisons – Company Size

	Large (21)		Medium (34)		Small (23)	
Employees	7264		3195		763	
	Total Accidents	RIDDOR	Total Accidents	RIDDOR	Total Accidents	RIDDOR
Hand Tools	94	1	32	1	19	-
Machinery	45	2	28	5	7	-
Vehicles	10	1	7	-	-	-
Slips / Trips	176	21	57	3	22	1
Falls from Height	17	5	7	1	1	-
Burns	190	10	101	2	48	9
Manual Handling	416	20	238	15	124	6
Eye Injuries	187	-	88	-	22	-
Chemical Injuries	6	1	1	-	4	-
Struck by Moving Object	69	3	18	2	6	-
Struck by Falling Object	67	5	18	2	9	-
Struck against Stationary Object	85	1	26	-	9	-
Other	48	-	8	-	3	1
Reportable Disease	2	2	2	2	1	1
TOTAL	1412	72	631	34	275	18
Rate	19.44 / 100	991.19 / 100K	19.75 / 100	1064.16 / 100K	36.04 / 100	2359.11 / 100K

Location & number of **total** accidents – By Company Size

Locale	No. of acc's	% of total	Foundries with accidents in area	No. of acc's	% of total	Foundries with accidents in area	No. of acc's	% of total	Foundries with accidents in area
	Large Foundries			Medium Foundries			Small Foundries		
Melting, moulding, casting	504	35.69	20	242	38.35	31	141	51.27	19
Knockout, fettling, basic finishing	463	32.79	20	219	34.71	30	66	24.00	17
Machine shop	142	10.06	17	49	7.77	13	17	6.18	11
Tool room or maint. areas	62	4.39	15	32	5.07	17	12	4.36	8
Finished stores, despatch & yard areas	51	3.61	13	40	6.34	21	24	8.73	14
Other Areas / Dept.'s	190	13.46	19	49	7.77	21	15	5.45	7

Location & number of RIDDOR accidents – By Company Size

Locale	No. of acc's	% of total	Foundries with accidents in area	No. of acc's	% of total	Foundries with accidents in area	No. of acc's	% of total	Foundries with accidents in area
	Large Foundries			Medium Foundries			Small Foundries		
Melting, moulding, casting	38	52.78	14	9	26.47	9	10	55.56	6
Knockout, fettling, basic finishing	16	22.22	9	19	55.88	12	4	22.22	4
Machine shop	9	12.50	3	1	2.94	1	3	16.67	3
Tool room or maint. areas	2	2.78	2	3	8.82	3	-	-	-
Finished stores, despatch & yard areas	1	1.39	1	-	-	-	1	5.56	1
Other Areas / Dept.'s	6	8.33	4	2	5.88	2	-	-	-

Results Comparisons – 2013 to 2015 (56 Foundries)

	2015 (7854 emp)		2014 (7723 emp)		2013 (7259 emp)	
	Total	RIDDOR	Total	RIDDOR	Total	RIDDOR
Hand Tools	117	2	103	6	114	7
Machinery	73	7	63	10	52	8
Vehicles	14	1	27	5	22	8
Slips / Trips	202	22	193	17	175	27
Falls from Height	21	5	21	1	30	6
Burns	252	17	251	6	235	18
Manual Handling	582	36	702	37	605	35
Eye Injuries	252	-	260	2	263	-
Chemical Injuries	7	-	7	-	6	1
Struck by Moving Object	83	5	154	15	177	15
Struck by Falling Object	83	-	NA	NA	NA	NA
Struck against Stationary Object	101	1	142	-	126	-
Other	44	1	63	-	60	4
Reportable Diseases	5	5	3	3	2	2
TOTAL	1836	102	1989	102	1867	131
Rate	23.38 /100	1298.70 /100K	25.75 /100	1320.73 /100K	25.72 /100	1804.66 /100K

SHIFT Case Study 1 (Large foundry)

RIDDOR Analysis

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
RIDDOR	9	7	5	3	7	5	1	6	6	5	2
RIDDOR Rate / 100K	4348	3590	2551	1515	3889	2688	546	3125	3509	2941	1220
Total	138	98	79	62	37	40	28	26	41	50	46
Overall Rate / 100	66.67	53.85	40.31	31.31	20.56	21.51	15.301	13.54	23.98	29.41	28.05

SHIFT Case Study 1 (Large foundry)
Total Accident Breakdown

	Hand Tools	M/C	Veh	F /S/T	FFH	Burns	Handle Object	Eyes	Chem	Struck by MO	Struck by FO	Struck SO	Other	Rep Dis	Total
2006	1	4	0	10	0	7	15	46	0	0		14	1		98
2007	2	0	2	6	1	5	19	32	0	5		4	3		79
2008	1	3	0	8	0	5	13	22	0	3		5	2		62
2009	0	1	0	6	0	3	12	10	0	1		4	0		37
2010	0	0	2	2	0	3	9	11	0	8		5	0		40
2011	1	2	1	1	0	1	8	7	0	5		2	0		28
2012	1	0	2	4	0	2	4	7	0	2		2	0		26
2013	3	1	1	5	1	3	4	10	0	11		1	0	1	41
2014	2	0	1	4	1	4	7	12	0	13		5	1	0	50
2015	3	8	0	6	0	4	10	5	0	3	3	2	0	2	46

SHIFT Case Study 2 (Small foundry)

	2009	2010	2011	2012	2013	2014	2015
RIDDOR	0	0	1	0	3	1	0
RIDDOR Rate / 100K	0	0	2174	0	8571.42	2083	0
Total	66	40	32	24	26	29	19
Overall Rate / 100	153.49	93.02	69.57	53	74.29	60	54.29

	Hand Tools	M/C	Veh	F /S/T	FFH	Burns	Handle Object	Eyes	Chem	Struck by MO	Struck by FO	Struck SO	Other	Rep Dis	Total
2009	3	3	0	7	0	6	19	21	0	2		4	1		66
2010	0	0	0	3	0	3	10	11	0	7		6	0		40
2011	2	1	0	2	0	2	4	12	0	7		2	0		32
2012	0	0	0	0	0	1	17	2	0	2		1	1		24
2013	1	0	0	1	0	2	15	6	0	0		1	0	0	26
2014	4	0	0	0	0	2	17	6	0	0		0	0	0	29
2015	0	0	0	2	0	0	13	2	2	0	0	0	0	0	19

Case Study Progress Reports

Large Member

- Over 10 year reporting period the business has 26.2% less employees in 2015 than 2005[1]
- There is a defined increase in active safety management as time has progressed[2]
- There is an increased level in value-added activities beyond the casting process

Small Member

- Since 2009 until 2015 there is a 22.9% reduction in the number of employees[1, 2]
- There is a defined increase in active safety management as time has progressed

[1] By default a decrease in employee numbers will increase reported values for both RIDDOR and overall accident rates on a like for like number of accidents.

[2] An increase in reported accident numbers cannot be taken by themselves to be indicative of a decrease in safety performance. As active safety increases employees become more aware of the need to report accidents. This, taken with a decrease in overall employee numbers, will produce an increase in reported rates and does not mean that the foundry is a less safe place to be working or that due care for the health, safety and welfare of employees is not taking place.

Where accident rates decrease with smaller numbers of employees, it may mean safer working by employees in general or that management of safety continues to strengthen.

By default, an increase in the size of the workforce will result in decreased reported values for both RIDDOR and overall accident rates on a like for like number of accidents.

2017 Targets

Based on the information received from SHIFT members during the phase 2 base year of 2012, the target values to achieve the 25% reduction in accidents for the initiative by the end of 2017 were:

- 127 or less RIDDOR reportable accidents
- A RIDDOR rate of less than 1444
- A total number of accidents per 100 employees of 19 or less

However..... due to the change in RIDDOR reporting requirements that occurred in December 2013, the targets were revised in line with the changes and therefore the new targets to achieve are:

- **100 or less RIDDOR reportable accidents**
- **A RIDDOR rate of less than 1109**
- **A total number of accidents per 100 employees of 17 or less**

Summary

- A 2.63% increase in numbers of members reporting data over 2014 equates to a 12.82% increase in employees included within the initiative. Some individual members show a significant uplift in numbers employed compared with 2014, while others remain stable and some show a reduction of more than a fifth of the workforce.

- There is a significant change in the number of members who have reported for the last 3 rolling years from 48 (2012 to 2014 period) to 56 (2013 to 2015 period). This has enabled a better study of the underlying performance compared with any previous 3 year rolling period. The reduction in RIDDOR accidents is 38.96% in real terms between 2013 & 2015. However, it must be noted that the reduction between years 2014 & 2015 in isolation is only 1.7%.

- The number of investment casting sector companies has remained stable although there is some variation in the reporting members between 2013 and 2015, so any performance variation cannot be assumed to be naturalised.

- The primary four categories for accidents in 2015 have remained the same main categories throughout the full history of the SHIFT initiative. Despite efforts made to date, more work remains to be undertaken to yield improvements in these areas.

Summary ….cont'd

- There is a non-significant reduction in the number of RIDDOR accidents reported for 2015 compared with 2014. However, given the significant increase in the number of employees included in the initiative, the reduction in the overall RIDDOR rate over the past year equates to 16.47%.

- The number of members reporting lost time due to injuries sustained in the workplace has more than doubled since phase 2 was launched in 2012. The downward trend of days lost as a result of workplace injuries has continued into 2015, which coupled with the increase in reporting members is a positive step for the industry.

- There has been a non-significant reduction in overall accidents reported by members (2.5%) compared with the previous year. However, with the significant increase in the number of employees included, the overall accident rate per 100 employees compared with 2014 is 14.29% lower. Given that there is an increase in the number and size of first time reporting members, coupled with a variation in employee numbers of others reporting, this is not completely unexpected.

- Near miss reporting has significantly improved across the membership since phase 2 was launched in 2012, although reporting is still undertaken in less than 40% of the members.

Conclusion

As with the previous report in 2014, the SHIFT Initiative has again increased the number of reporting members for the reporting year 2015, although, the mix of companies reporting has changed, with some members who have good track records for reporting previously, not submitting information this time. This has been partially offset by the number of companies reporting for the first time. However, there remains a hard core of the membership to be persuaded to share their information. Greater emphasis needs to be made to understand what is preventing the sharing of information with the initiative by those that currently do not, taking into account full anonymity is guaranteed as individual reports are aggregated into the final published report.

Some members have been very active in addressing both safety and occupational health, which has resulted in improved performance for themselves as individual companies. While the overall accident rate per 100 employees for SHIFT has decreased, it is possible that this is due to the mix of companies that have reported data, combined with the improving individual performance by some members.

There is a 16.67% increase in the number of members who have consistently reported data for the past 3 years. While this is not as large as the increase in 2014, it is significant in that it takes the number of consistently reporting members above 50% of the total membership. This level of continued reporting serves to give a more realistic underlying performance of the initiative towards its goals. This dataset does show a significant reduction in the amount of reportable accidents over the past 3 years but when taken in isolation, there has been no reduction in the past twelve months. The decrease in RIDDOR rates is therefore, due to the small overall increase in the workforce of these members.

Conclusion…..cont'd

Despite the continued improvement to the initiative's RIDDOR rate as presented in this report, the entire UK reportable accident rates also continues to improve at the same time. As a result, the SHIFT RIDDOR rate remains 3.77 times that of the overall UK average.

Due to the HSE taking a 3yr average for the overall RIDDOR rate for Manufacturing, it is not possible to take an effective comparison when analysing our information.

However, the HSE does publish accurate information for major or specified injuries for the UK overall and our rate is comparable. For over 7 day injuries, the SHIFT rate is 4.43 times that of the UK as a whole. This difference for over 7 day injuries is not entirely unexpected due to the nature and variety of the physical and chemical hazards with which foundries work on a daily basis, but does provide a challenge that, as an industry, we need to rise to.

Again, the HSE produces accurate figures for the major or specified injury rate and over 7 day rate for manufacturing specifically. Against these figures, SHIFT is on par / 2.60 times greater respectively. As with the figures for comparing SHIFT to the UK overall this will partially be due to the hazards with which we work.

Therefore, there is still much work to be done with regards to achieving a level of accident rates in the foundry workplace similar to that of the UK overall. Importantly, the report for 2015 does illustrate the initiative remains on target to achieve its goal of a 25% reduction in reported workplace accidents and cases of ill-health by 2017 from our reported 2012 levels.

Conclusion…..cont'd

The initiative is currently undertaking new work targeting behavioural change in the workplace, which has been developed for the benefit of Team Leaders and Supervisors. We also continue to train/educate Directors & Senior Management in their roles and responsibilities with an external partner.

With the report for the Long Latency Health Risk Project due to be published in the middle of this year, this will assist in determining the efforts to be made over the next 18 months and areas to be targeted. Foundries are also likely to be subject to visitation from HSE inspectors as part of their planned work activities for their operating year 2016/17.

The initiative and its members continue to remain focussed on making improvements in order to help maintain the health of its member's employees and to reduce the number of physical accidents sustained within the UK foundry industry, therefore helping with the current GB Strategy as launched by the HSE at the end of February this year.