



**Chemistry
Australia**

The Business of Chemistry
Essential for Life

Health and Safety Performance Report 2022



An initiative under the Australian
Responsible Care® program



Contents

Message from the Chair and CEO	3
1 Introduction	4
2 The Australian chemistry industry	5
3 Health and safety performance	6
4 One of the safest groups in Australia	11
5 Definitions	14
6 Participating companies	15



Message from the Chair and CEO

Welcome to the 2022 Chemistry Australia Health and Safety Performance Report. Our annual Health and Safety Performance Report is an important, long-term initiative of the Australian chemistry industry. Since 2000, the report has provided members and key stakeholders with comprehensive data, insights and evidence of the sector's health and safety performance.

This year's report is the final to align with Safe Work Australia's current 10-year Australian Work Health and Safety Strategy.

During the last decade, members have achieved some outstanding results and remain one of the safest groups in Australia.

Chemistry Australia members have accomplished substantial and consistent improvements to workplace health and safety during the Strategy period of 2012-2022. Some key highlights include:

- A decade of zero fatalities
- Reduced Lost Time Injuries (LTI) 5-year rolling average by 16 per cent since 2012
- LTIs reduced by almost 60 per cent since 2004
- LTIs five times lower than Australian manufacturing sector
- LTIs three times lower than broader Australian chemical sector

Pleasingly, our industry has reduced medical treatment injuries by almost 60 per cent since we commenced the current strategy in 2012, with results now tracking at similar levels to lost time injuries.

While we would have liked to achieve our ambitious target of a 30 per cent reduction in Lost Time Injuries, we are very proud of the industry's achievement of a 16 per cent reduction in LTIs during the last 10 years based on a more stringent measurement than used by comparable industries.

We've seen the unique and complex conditions of the Coronavirus pandemic drive a moderate increase in workplace injuries during the last few years, a trend which has been consistently observed in other sectors.

Nonetheless, there remains an opportunity for members to reflect on the results of the last decade and focus on strategies to reduce the frequency of injuries, particularly in the most persistent areas for our sector; manual handling, cuts and abrasions, and falls on the same level.

Looking ahead, Chemistry Australia will soon announce the strategic targets and priorities for 2023-2033.

Given our industry's safety incidents are tracking at such low levels, our approach will be consistent with Australia's regulatory agencies in that we will target specific injuries and key areas of interest during the next decade.

In the meantime, we will continue surveying members on environmental performance indicators such as SO₂, NO₂, NO, VOC and CO₂. We thank members for supporting this initiative and we are currently looking at ways to track our collective membership performance, while recognising the inherent differences between members' environmental profiles.

At Chemistry Australia, we are extremely proud of the sector for its ongoing commitment to health and safety, and its ability to adapt to Australia's evolving workplace health and safety settings.

We urge members to continue to remain vigilant in all areas of health and safety as we move into new strategic WHS era for our industry.

Thank-you to all our members who have participated in this important industry initiative. Congratulations on the outstanding results and for your continued leadership and commitment to the health of workers, communities and the environment.

David Hawkins
Chair



Samantha Read
Chief Executive Officer



Our Health and Safety Performance Report has been tracking the performance of our members across the Australian chemistry industry since 2000. The results from 2022 continue to be sound, with encouraging results in key areas. The report also celebrates the industry's leadership and commitment to supporting others.



The safety of workers and communities, and the protection of the environment, are the highest priorities of the Australian chemistry industry.

The industry is focussed on ensuring that products are being made and used responsibly in workplaces, through value chains, and across the communities in which they operate.

The vital products and technologies created by the industry also play an important role in protecting the health and wellbeing of communities.

Targets and tracking

The Australian chemistry industry has aligned its health and safety reporting with the Australian Work Health and Safety Strategy for more than a decade.

The Strategy was developed by Safe Work Australia to support the vision of healthy, safe and productive working lives in Australia. It provides targets and practical measures to assist governments, industry and other organisations.

The Australian chemistry industry exceeded the target set out in the 2002-2012 Strategy, of a 40 per cent reduction in workplace injuries, which is an excellent achievement.

Consistent with the current Strategy (2012-2022), the Chemistry Australia Board and members have adopted three targets for improvement and monitoring:

Further 30% reduction in workplace injuries (based on LTIFR 5-year rolling average) by 2022

Continued tracking of chemical and non-chemical related LTIs and MTIs

Reporting and tracking of musculoskeletal injuries related to LTIs and MTIs

This Report presents detailed data and long-term performance trends against these targets and other indicators.

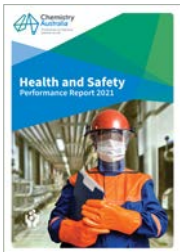
Sharing and learning

Chemistry Australia members recognise the value of sharing best practices and lessons, to support continuous improvement by their peers and the broader industry. To this end, Chemistry Australia also produces a companion Benchmark Report, which includes case studies across the relevant Action Areas described in the Australian Strategy.

Benchmarking Report

A confidential Chemistry Australia Health and Safety Benchmarking Report is provided exclusively to companies that have participated in this initiative.

This valuable tool allows them to benchmark their own results against other participants, promote internal discussion, gain new insights and generate ideas for their workplace.



The Australian chemistry industry is one of the largest manufacturing sectors in the country. More importantly, it plays a vital role in our economy and our everyday lives.

The industry creates the essential inputs that underpin a wide range of industry sectors. From essential infrastructure and life-saving medical products, such as medical gases, to new energy technologies, light-weight building materials and safe food packaging, almost every value chain is built upon the business of chemistry.



Supplies **108** of Australia's **114** industries

3rd largest manufacturing sector

Delivers **\$38 billion** to Australia's GDP



5,500 small, medium and large businesses in **every state and territory**

Employs more than **61,000** people in highly skilled jobs



The industry underpins **212,000 jobs** in related supply chains

About Chemistry Australia

Chemistry Australia is the pre-eminent national body representing the Australian chemistry industry.

Our members are positioned across the entire value chain, and range from small businesses to multi-national enterprises. They include manufacturers, importers and distributors, raw material suppliers, logistics and supply chain partners, fabricators and compounders, recyclers, research and academia, and service providers to the industry.

We are focussed on promoting conditions for growth, jobs and investment in the industry, and the many supply chains that it enables. We also work to increase awareness of the importance of chemistry in our lives.

Chemistry Australia supports members' health and safety efforts through a number of initiatives, including the Responsible Care® program, this Performance Report and accompanying Benchmark Report, and Member Forums.

This is fundamental to the industry's social licence to operate, as outlined in our Strategic Industry Roadmap.

Go to www.chemistryaustralia.org.au for more information.

Responsible Care®

Our Responsible Care® program supports the Australian chemistry industry's leadership and commitment to the safe management of chemicals throughout their life cycle.

Australia adopted this signature program in 1989, becoming the third country in the world to do so. It is now practiced in more than 65 countries.

The program has a strong focus on health and safety, environmental management, continuous improvement and responsible business practices. Product stewardship is at the core, bringing into focus the communities and environments in which the industry operates.

Responsible Care® also highlights the role of chemistry in creating a safer, more sustainable world.

The principles are fundamentally aligned with the Australian chemistry industry's excellent culture and commitment to maintain a strong social licence to operate. It also assists our members to achieve their goal of "an industry where people are safe and free from injury and disease".



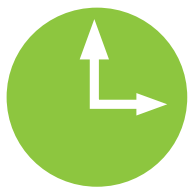
3

Health and safety performance

The following tables, figures and data provide a detailed insight into the health and safety performance of Chemistry Australia members in 2022. We have been tracking many of these performance indicators since 2004, allowing long-term trends to be shown in most charts.

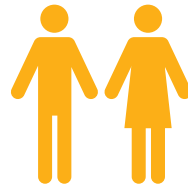
Figure 1: A snapshot

	2016	2017	2018	2019	2020	2021	2022
Total number of employees covered	18,732	15,389	13,977	17,138	16,480	22,162	23,475
Hours worked (million)	37.98	28.21	29.18	34.53	34.68	46.62	46.83
LTIFR	3.34	2.94	2.91	4.26	3.58	3.54	3.74
LTIFR 5-year rolling average	3.44	3.39	3.30	3.41	3.41	3.45	3.60
MTIFR	5.06	5.67	6.20	4.84	5.05	4.74	3.67
TRIFR	8.40	8.62	9.12	9.09	8.62	8.28	7.41
WDLPE	0.15	0.13	0.11	0.09	0.11	0.23	0.12



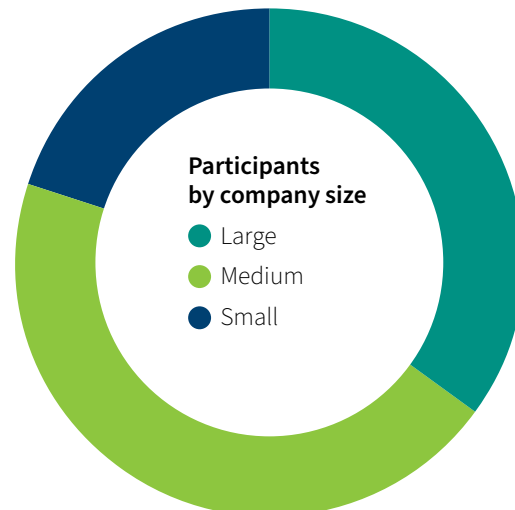
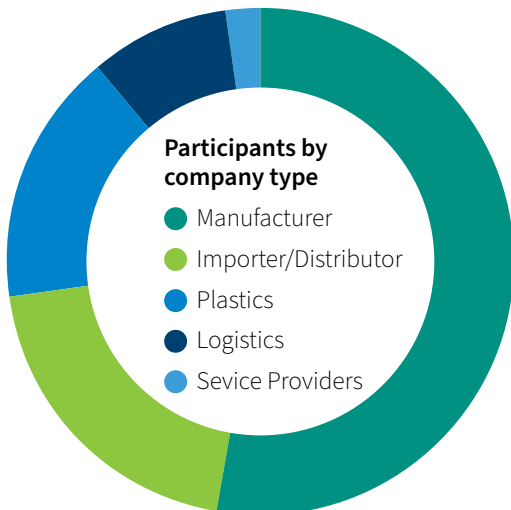
46.83

million hrs worked



23,475

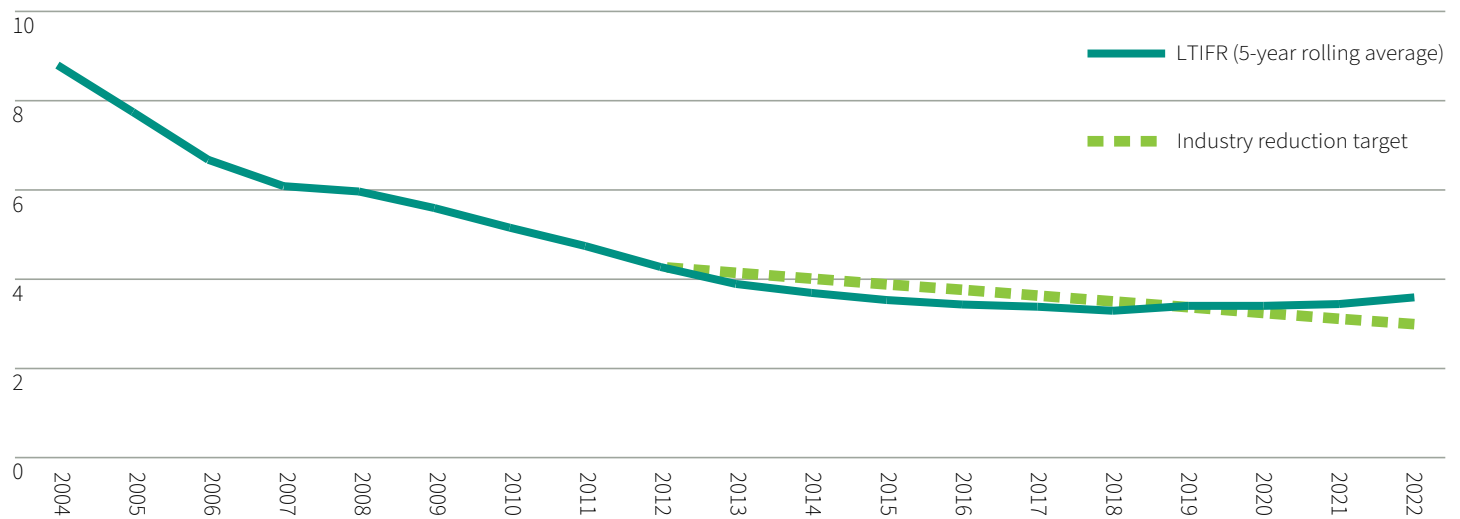
employees covered



The lost time injury frequency rate (LTIFR) 5-year rolling average is one of the key indicators we use to measure health and safety performance, consistent with the Australian Strategy. As Figure 2 shows, this trend is beginning to reverse after 16 years of steady improvements against this metric. While we would like to see further reductions, it's important to acknowledge that this rate of decline is often difficult to maintain longer-term.

The chart shows that although the industry has achieved a 16 per cent reduction in LTIs compared to the 2022 reduction target of 30 per cent, members have achieved a reduction in LTIs of almost 60 per cent since 2004, which remains an outstanding achievement. This gap remains quite small, and Chemistry Australia members continue to compare well to peers in the industry.

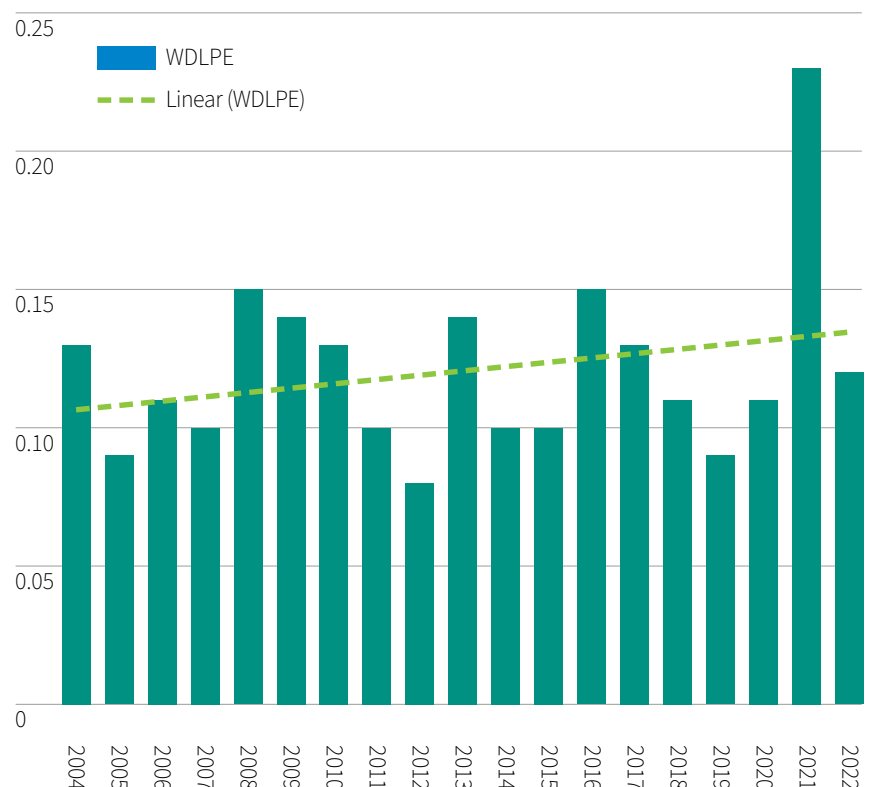
Figure 2: LTIFR 5-year rolling average versus industry reduction target 2012-2022 (see Definitions)



The metric 'work days lost per employee' (WDLPE) represents the average number of days lost through injury, per employee.

The sudden spike in 2021, which was possibly the result of COVID-19 pandemic restrictions delaying employees returning to work, has settled again in 2022 with WDLPE returning to normal levels.

Figure 3: Average number of days lost through injury per employee



LTIFR
5-year rolling average
3.60

The figures below show the frequency of medical treatment injuries (MTIs) and lost time injuries (LTIs) reported by Chemistry Australia members. The proportion attributed to musculoskeletal disorders is also shown for the past ten years.

Figure 4: Frequency of injuries requiring medical treatment

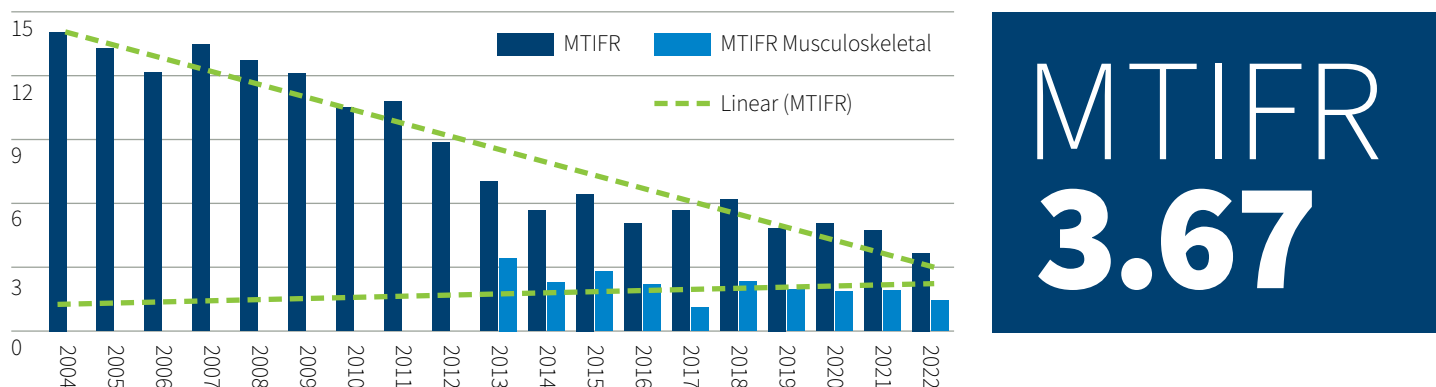
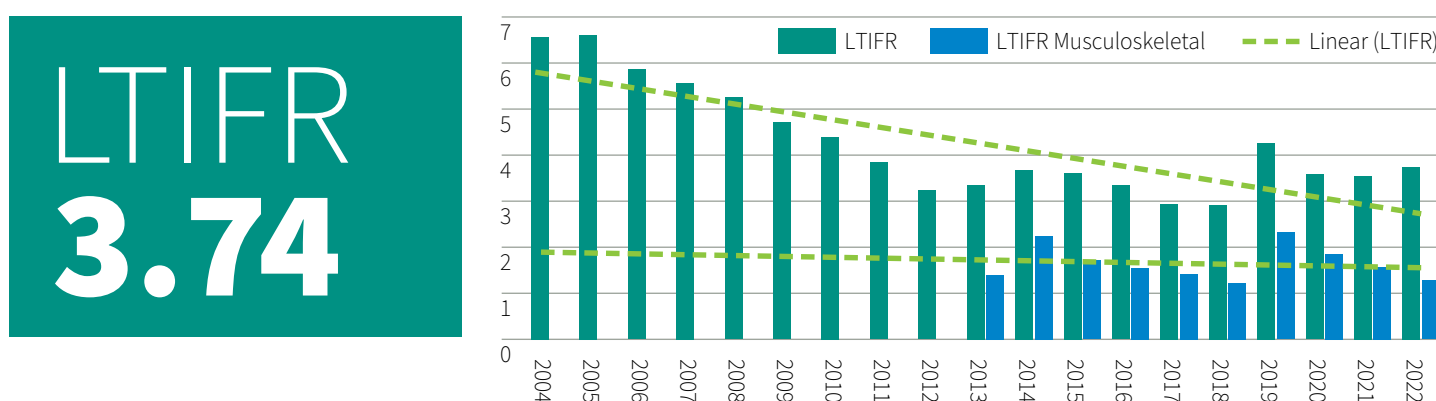


Figure 5: Frequency of injuries involving one or more lost workdays



The total recordable injury frequency rate (TRIFR) indicates the total frequency of injuries or incidents resulting in lost time or medical treatment i.e. the sum of MTIFR and LTIFR. Figure 6 also shows the proportion of the TRIFR attributed to musculoskeletal disorders, the most common work-related condition in the industry.

Figure 6: Frequency of total recordable injuries

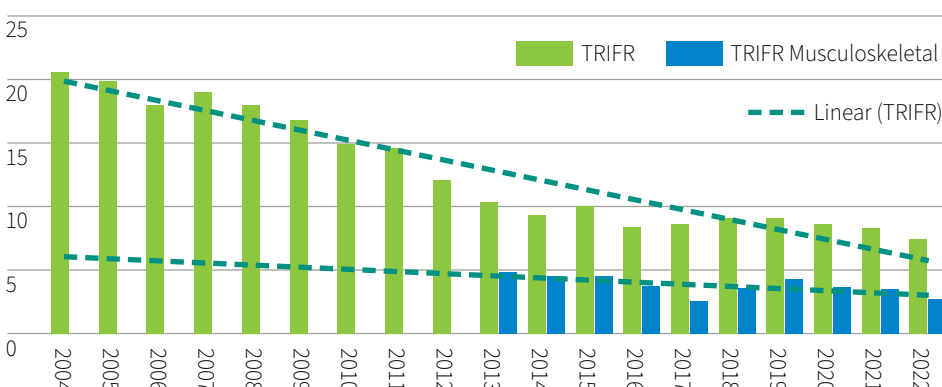












Figure 7 provides a more detailed examination of the few incidents and injuries reported by Chemistry Australia members for 2022.

The data show that manual handling continues to be the most common cause of incidents and injuries resulting in either lost time or medical treatment. This is consistent with the causes reported by members over the past five years, suggesting an ongoing trend and important area of focus. We look at this further on page 10.

As shown below, a moderate proportion of LTIs and MTIs are caused by falls on the same level and cuts and abrasions.

Of particular relevance to this industry, there have been no reported LTIs or MTIs resulting from long term contact with chemicals. The industry has reported a low percentage of LTIs or MTIs as a result of single contact with chemicals, however, these figures may require industry to strengthen its focus on prevention of these types of injuries.

Figure 7: Causes of incidents and injuries

		Lost Time Injuries	Medical Treatment Injuries
	Manual handling	33%	33%
	Falls from height	5%	2%
	Falls on the same level	19%	10%
	Cuts and abrasions	12%	24%
	Being hit by moving objects	6%	5%
	Single contact with chemical	4%	4%
	Long term contact with chemical	0%	0%
	Vehicle accident	5%	5%
	Workstation ergonomics	2%	4%
	Other	14%	13%
	Total	100%	100%

For the fifth consecutive year, the report examines the correlation between types of injuries across Lost Time Injury (LTI) and Medical Treatment Injury (MTI). The data in Figure 8 reflects the increased focus on injuries from manual handling, falls on the same level and cuts and abrasions as key areas of priority for our members.

We also note the increase in workstation related injuries, which may be linked to work from home requirements during the pandemic.

Figure 8: Correlation between types of injury between LTI and MTI



4

One of the safest groups in Australia

The data and figures in Section 3 demonstrated the excellent performance of Chemistry Australia members across a suite of health and safety metrics, as well as continued improvement over many years.

To provide some perspective, it is useful to benchmark this against peer Australian industry sectors.

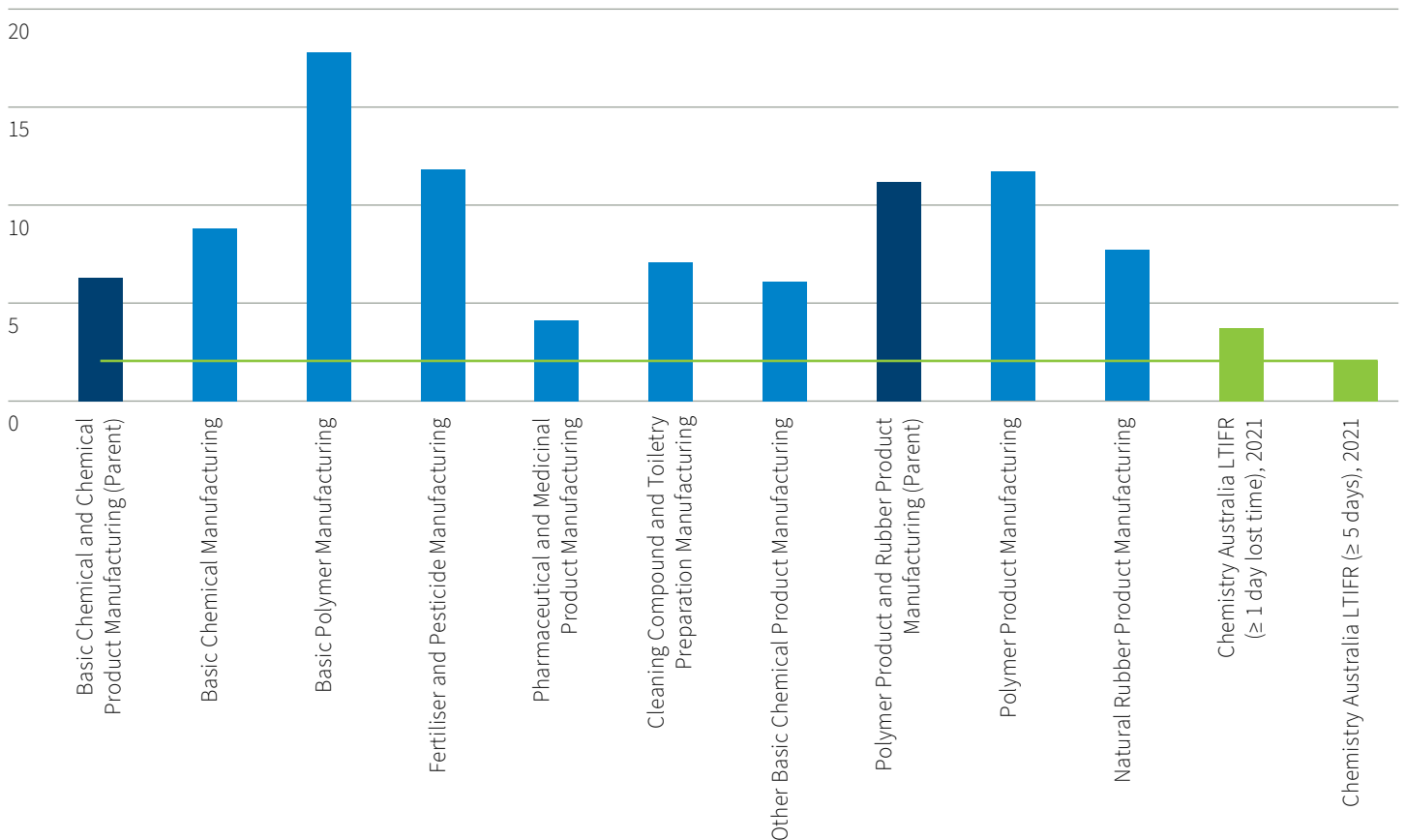
As shown in the following figures, our members are at the forefront of health and safety performance compared with other local industries and chemistry industry peers.

In Figure 9, the rate of lost time injuries reported by our members is shown against comparable sectors.

It is important to note that the metric typically used by members of Chemistry Australia (lost time of ≥ 1 day) is much more stringent than the base metric for the ANZSIC data (lost time of ≥ 1 week). However, for the last five years, our members have also reported their lost time injuries resulting in ≥ 5 days lost time, to enable direct comparison to manufacturing and chemical sector peer sector data.

As indicated by Figure 9, Chemistry Australia members outperform peer industry sectors in Australia.

Figure 9: Comparison of LTIFR across similar industry sectors in Australia

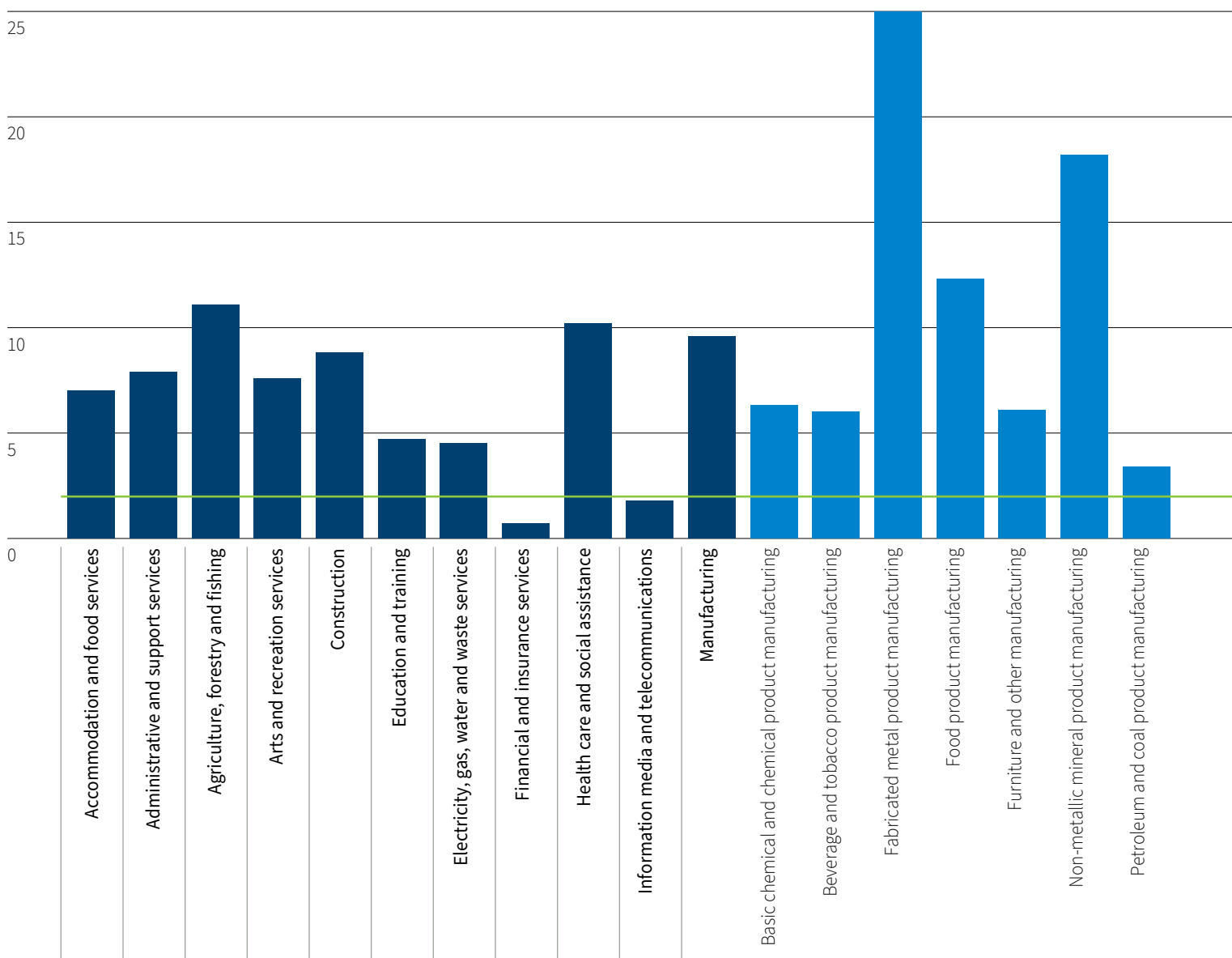


In Figure 10, the performance of Chemistry Australia members is compared with all other Australian industry sectors.

The metric generally used by other Australian industry sectors is serious claims resulting in lost time of one week or more. Chemistry Australia members take a more conservative approach, measuring all injuries that result in lost time of one day or more.

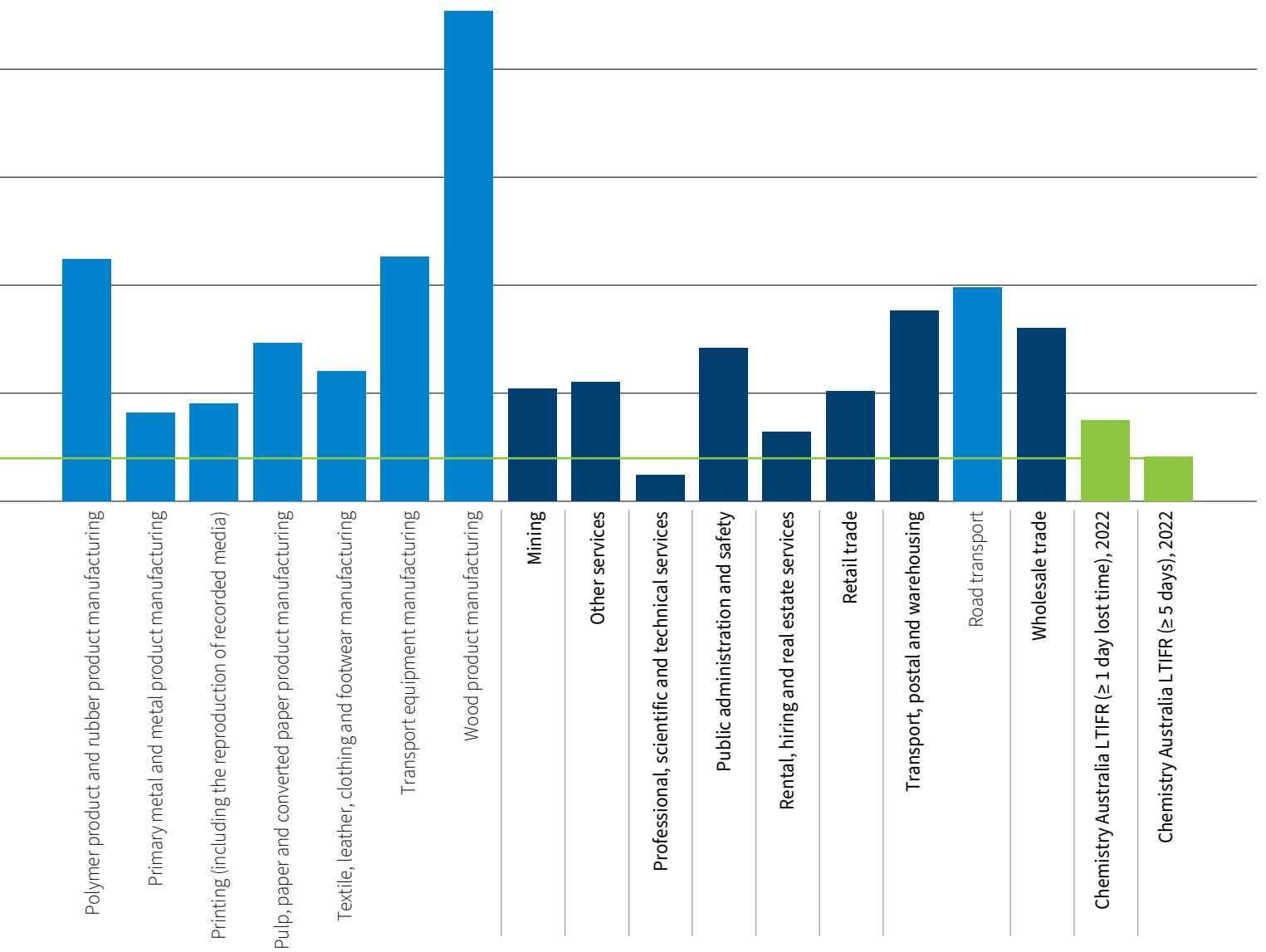
However, for the purposes of comparison our members also report claims resulting in lost time of one week or more.

Figure 10: Comparison of LTIFR across Australian industry sectors



Note: all non-Chemistry Australia members data shown is measured as lost time injuries of >1 week in 2020-21

Chemistry Australia members continue to **represent one of the safest groups in the Australian economy**, as a result of their commitment and focus on health and safety every single day.



Australian and New Zealand Standard Industrial Classification	ANZSIC	A classification jointly developed by the Australian Bureau of Statistics and Statistics New Zealand that provides a framework for organising data about businesses by grouping business units carrying out similar productive activities. It is a hierarchical classification with four levels; at the highest level there are a limited number of categories, providing a broad overall picture of the economy.
Australian chemistry industry reduction target 2012-2022		A further 30% reduction in workplace injuries (based on LTIFR 5-year rolling average) by 2022.
Australian Strategy		The Australian Work Health and Safety Strategy 2012-2022, which provides a national framework and targets to support healthy, safe and productive working lives in Australia.
Chemical related injuries		Chemical exposures, for example inhalation of fumes or burns.
Lost time injury	LTI	A work-related injury that results in time lost from work of one full day or more.
Lost time injury frequency rate	LTIFR	The frequency of injuries involving one or more lost workdays per million hours worked.
LTIFR 5-year rolling average		The average LTIFR for the last 5 years.
Medical treatment injury	MTI	A work-related injury that requires treatment by a medical practitioner, beyond the scope of first aid. When the injury has been treated, the injured person can return to work straight away or on his/her next shift due, therefore no workdays are lost.
Medical treatment injury frequency rate	MTIFR	The frequency of injuries requiring medical treatment per million hours worked.
Musculoskeletal disorder	MSD	An injury, illness or disease that arises in whole or in part from manual handling in the workplace, whether occurring suddenly or over a prolonged period of time. It does not include an injury, illness or disease that is caused by crushing, entrapment or cut resulting primarily from the mechanical operation of plant.
Non-chemical related injuries		Injuries including those related to manual handling, slips and trips, but not including chemical related injuries.
Total recordable injury frequency rate	TRIFR	The sum of LTIFR and MTIFR.
Transport incident		Any occurrence posing a danger or potential danger to life, property or the environment that results from a leakage, spillage, fire or explosion of goods during transport including loading and unloading. It is not an incident on a company site arising from the transport or storage of raw materials, products, intermediates or wastes owned by the company or prior to delivery to the customer (including at transporter's premises).
Workdays lost per employee	WDLPE	The average number of days lost through injury per employee.



Participating companies

We thank each of the following companies for their contribution to the Chemistry Australia Health and Safety Performance Report 2022 and congratulate them on their leadership.

3M Australia
Adchem Australia Pty Ltd
Air Liquide Australia
Akzo Nobel Pty Limited
Allnex (Australia)
Amcor Flexibles ANZ
Asian Pacific Colorants Pty Ltd
Axalta Coating Systems Australia
BASF Australia Limited
Brenntag Australia
Chemical Solutions Pty Ltd
Chromaflo Technologies Australia
Colormaker Industries
Coogee Chemicals
Coregas
Covestro Pty Ltd
DKSH Performance Materials
Douglas Bean (Australia)
Dow Chemical Australia
Dulux Group
Ecolab
Era Polymers
FBT Transwest
Huntsman Polyurethanes
IMCD Australia Pty Ltd
Incitec Pivot Limited
Jotun Australia Pty Ltd
Lanxess Pty Ltd
Loyal-Expanz International
Mainfreight Transport Australia
National Polystyrene Systems
NLW Group
Norfoam
Nowra Chemical Manufacturers
Nufarm Australia
Orica Australia
Pacific Urethanes
Pact Group Holdings Ltd
Plastral
PPG Industries Australia
Qenos Pty Ltd
Redox
Resene Paint (Australia) Limited
Schutz Australia
Shepherd Color International
Sherwin-Williams Automotive Finishes
SNF Australia Pty Ltd
Solvay Interox Pty Ltd
Stolthaven Australia Pty Ltd
Tri-Tech Chemical Company
Victorian Chemical Company Pty Ltd
Vivacity Engineering Pty Ltd
Viva Energy Polymers
Wacker Chemicals Australia
Wesfarmers Chemicals Energy and Fertilisers

**Chemistry Australia is
the pre-eminent national
body representing
Australia's \$38 billion
chemistry industry**

Level 11, 10 Queen Street, Melbourne, VIC 3000
PO Box 422, Flinders Lane, VIC 8009
T +61 3 9611 5400 F +61 3 9611 5499
E info@chemistryaustralia.org.au
W www.chemistryaustralia.org.au
in Chemistry Australia @AusChemistry



**Chemistry
Australia**

The Business of Chemistry
Essential for Life