

Mirvac

Hazardous Chemicals Survey

23 Furzer Street, Phillip ACT 2606

22 June 2022



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Hazardous Chemicals Survey

Prepared for
Mirvac

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Executive Summary

Tetra Tech Coffey Pty Ltd (Coffey) was commissioned by Mirvac to conduct a Hazardous Chemicals Survey at 23 Furzer Street, Phillip ACT 2606 (the site). This report is required to assist Mirvac in meeting its obligations under Works Health and Safety Act and Regulation 2011 (ACT).

The assessment was undertaken by Phoebe Quessy on the 11th April 2022.

The Hazardous Chemicals Assessment method applied is based on the requirements of the National Code of Practice *Managing risk of hazardous chemicals in the workplace* (Safe Work Australia, 2012) and from statutory requirements of the Work Health and Safety Act 2011, Part 14: Section.274; Schedule 1, and the ACT Work Health and Safety Regulation (2011), Chapter 7 Part 7.1 and the intent of the Work Health and Safety Act and Regulation 2011. The assessment drew information from consultation with stakeholders, review of records and systems and observation of work practices and the work environments at the site.

The Assessment identified the following classes of Hazardous Chemicals:

- Class 1.3 Explosive Chemicals;
- Class 3 Flammable Liquids;
- Class 5.1 Oxidising agents; and
- Class 8 Corrosive.

The assessment also established that the majority of chemicals used at the site are brought to the workplaces by sub-contractors and by cleaning contractors in the form of products for use in commercial cleaning and maintenance.

It is concluded from the survey that the aggregated risk relating to storage and handling Hazardous Chemicals for the site is considered low.

Unmanaged contractors expose the site to increased risk of non-compliance and steps should be taken to ensure chemicals generally are managed safely, including specific site requirements for storage and/or disposal of chemicals from the site.

The Cooling Tower Water Treatment Contractor and the cleaning contractors are the main user of Hazardous Chemicals. These chemicals are used for the purpose of chemical dosing of cooling towers and commercial cleaning purpose.

1. Introduction

Tetra Tech Coffey Pty Ltd (Coffey) was commissioned by Mirvac (the client) to conduct a Hazardous Chemicals Survey of the office building located 23 Furzer Street, Phillip ACT 2606 (the site).

The assessment was conducted on the basis of the type, quantity and storage method of various hazardous chemicals stored on site and previous hazardous chemicals survey reports issued by the client.

1.1. Objective

The objectives of this assessment were to:

- Assess the client's exposure to risk relating to storage and handling of hazardous chemicals;
- Identify classes and volumes of Hazardous Chemicals at the premises and review the existing management practices; and
- Prepare a Hazardous Chemicals register to assist the client to manage identified risks.

1.2. Site Description

The survey is of a multi-storey office building located at 23 Furzer Street, Phillip ACT 2606. The building was occupied at the time of the survey.

Table 1: Site Information

Site:	23 Furzer Street, Phillip ACT 2606		
Assessor:	Phoebe Quessy		
Age (Circa):	2010	Approximate area:	46,167 m ²
Levels:	11 levels		
Chemical Storage:	North Tower cooling tower area, Diesel Generator Room, Grey Water Treatment Plant and external underground storage tank		

1.3. Scope

The scope of work required Coffey to:

- Mobilise a consultant onsite;
- Liaise with personnel and collect data on the location, type, quantities, use and function of the hazardous chemicals stores onsite;
- Identify and record the presence of hazardous chemicals at major plant, building services and storage locations/tenancies onsite (as at the time of inspection);
- Assess the risk of the storage of the hazardous chemicals onsite;
- Document the hazardous chemicals identified; and
- Record, collate and report the findings in an updated format of the previous report.

2. Methodology

The survey was undertaken in the following manner:

- Review key legislative required documentation such as the current Register for Hazardous Chemicals either as a hard copy or electronic and historical Hazardous Chemicals Surveys.
- Liaise with relevant persons to obtain information in relation to the storage and handling of Hazardous Chemicals;
- An inspection of nominated Hazardous Chemicals storage locations to identify Hazardous Chemicals; and
- An assessment of key parameters of the storage of Hazardous Chemicals at the site.

3. Background Information

3.1. Definition of Risk Groups

The number of persons (describe in workers and general public terms) occupying the premises is variable. There are 3 defined groups who (may) interact with Hazardous Chemicals at the site, these are:

- Building Management and operations management workers;
- Tenants and Occupiers and their workers; and
- Sub-contractors.

The risk to these groups may vary according to their proximity and access to the identified Hazardous Chemicals and whether they are workers or visitors at the site greatly effects the frequency and duration of their exposure to risk.

3.2. Risk Management of Hazardous Chemicals

Hazardous Chemicals are substances and articles that are potentially hazardous to people and property. They may be toxic, radioactive, corrosive, flammable, explosive, oxidizing or reactive with water. Hazardous Chemicals are regulated by the Work Health and Safety Act and Regulation 2011 and the National Code of Practice *Managing risk of hazardous chemicals in the workplace*, Safe Work Australia, 2012. The different pieces of legislation are designed to provide protection for persons at workplaces, the general public and the environment from the adverse effects of Hazardous Chemicals use, handling, storage and disposal.

The Code of Practice provides general guidance for risk management of Hazardous Chemicals including:







- Controlling conditions to ensure stability
- Controls for associated plant
- Bulk container management
- Protection against impact and other damage
- Spill containment
- Ignition source protection
- Ventilation and atmosphere control











- Cleaning maintenance and inspection
- Work in/on plant, tanks and vessels
- Building controls
- Gas installations for plant





3.3. Classification of Hazardous Chemicals

Australia has adopted a system of classification and labelling for Hazardous Chemicals transport, storage and handling. This system helps people to quickly recognize Hazardous Chemicals, their properties and dangers. Hazardous Chemicals are divided into nine classes based on their hazardous properties. Except for very small packages, all packages and containers, shipping containers, unit loads, tankers, etc. which contain Hazardous Chemicals for transport must carry the correct Class Label. This label (or diamond sign) shows the nature of the hazard by the colour and symbol, and the Class of the goods by numeral. The responsibility for classification of products lies with the manufacturer or person packaging the products. The WHS Regulations implement a system of chemical hazard classification, labelling and safety data sheets (SDS) requirements based on the Globally Harmonized System.

Table 1. – Hazardous Chemicals Classification

	<p>Class 1.1 – Explosives ** is for division and compatibility group (Orange background)</p>		<p>Class 1.4 – Explosives which are not a significant mass explosion hazard e.g. flares, fireworks, safety cartridges, etc. * is for compatibility group (Orange background)</p>
	<p>Class 1.5 – Explosives with a mass explosion hazard, but are insensitive substances. (Orange background)</p>		<p>Class 1.6 – Substances which are a minor explosion hazard, very insensitive substances. (Orange background)</p>
	<p>Class 2.1 – Gases that can ignite in air on contact with a source of ignition. (Red background)</p>		<p>Class 2.2 – Gases that are non-flammable but may cause asphyxiation and/ or represent stored energy hazard. (Green background)</p>

 <p>Class 2.3 – Gases likely to cause death or serious injury to human health if exposed or by skin contact. (White background)</p>	 <p>Class 3 – Liquids, the vapours of which can ignite in air on contact with a source of ignition. (Red background)</p>
 <p>Class 4.1 – Solids easily ignited e.g. by sparks or flames, or liable to cause fire through friction. (Red and white stripe background)</p>	 <p>Class 4.2 – Substances liable to spontaneously heat up and ignite. (Red background to lower half)</p>
 <p>Class 4.3 – Substance which emits flammable or toxic gases when wet. (Blue background)</p>	 <p>Class 5.1 – Substance likely to increase the risk and intensity of fire in other materials (yellow background)</p>
 <p>Class 5.2 – Substances that are thermally unstable and likely to react dangerously with other substances. (Yellow background)</p>	 <p>Class 6.1 – Toxic substances likely to cause death or severe injury to human or animal health if swallowed, inhaled or by skin contact. (White background)</p>
 <p>Class 6.2 – Infectious substances liable to cause death or severe injury to human or animal health if swallowed, inhaled or by skin contact. (White background)</p>	 <p>Class 7 – Substances (solid or liquid) which spontaneously emit ionising radiation. Category I, determined by radiation level of transport package. (Lowest level) (White background)</p>

	<p>Class 7 - Substances (solid or liquid) which spontaneously emit ionising radiation. Category II determined by radiation level of transport package.</p> <p>(Yellow background to upper half)</p>		<p>Class 7 – Substances (solid or liquid) which spontaneously emit ionising radiation. Category III determined by radiation level of transport package.</p> <p>(Yellow background to upper half)</p>
	<p>Class 8 – Solids or liquids able to cause, to varying severity, damage to living tissue. Maybe either acidic or caustic in nature.</p> <p>(Black and white)</p>		<p>Class 9 – Substances and articles which during transport present a danger not covered by other classes.</p> <p>(White background)</p>

3.4. Segregation of Hazardous Chemicals

Segregation means keeping incompatible goods apart from one another in a room, using a barrier or intervening space. Some Hazardous Chemicals must be segregated when either stored or shipped together to ensure they do not mix in case of spillage or other event. Table 2 can be used to determine which goods should be segregated.

To use Table 2, select two of the Classes of Hazardous Chemicals to be kept in the mixed class storage area. Locate the first Class on the top line of class numbers, and the second Class in the column on the left hand side of the table. Read the code at the intersection of the line and column.

Table 2. - Indication of Compatibility Based on Class of Hazardous Chemicals

Class	2.1	2.2	3	4.1	4.2	4.3	5.1	5.2	6	8
2.1										
2.2										
3										
4.1										
4.2										
4.3										
5.1										
5.2										
6										
8										

Keys

SEPARATE	Hazardous Chemicals of these two classes should be kept apart by at least three metres or other suitable control measures. Consult Safety Data Sheet or supplier
SEGREGATE	Hazardous Chemicals of these two classes are likely to interact with each other in such a way as to significantly increase risk and should not be kept in the same area unless it can be demonstrated that the risks can be fully controlled. Consult SDS for further guidance.
ISOLATE	Dedicated stores or storage cabinets are recommended. Adequate separation from other buildings and boundaries is required. Consult SDS for further guidance.
REFERS TO SDS	Segregation of these two classes may be necessary. Refer to the SDS for further guidance. All Class 9 Hazardous Chemicals should be segregated in accordance with the SDS.
OK	Hazardous Chemicals of the same class have similar primary hazards and are usually considered compatible. Consult with the SDS or supplier about requirements for individual substances.

CLASS TYPES:

- Class 2.1—Flammable Gas
- Class 2.2—Non Flammable Non Toxic Gas
- Class 3—Flammable Liquid
- Class 4.1—Flammable Solid
- Class 4.2—Spontaneously Combustible
- Class 4.3—Dangerous When Wet
- Class 5.1—Oxidising Agent
- Class 5.2—Organic Peroxide
- Class 6—Toxic
- Class 8—Corrosive

Source: Adapted from AS/NZS 3833:2007

4. Assessment Findings

The findings of this assessment are presented in tabulated format in **Appendix B: Hazardous Chemicals Register** of this assessment report. Refer to **Appendix A: Photographs** for photographic reference for some of the chemicals identified.

The key findings are detailed in the following sections.

4.1. Results

Survey results and recommendations for each area are contained in the Hazardous Chemicals Register attached as **Appendix A**. Within the Register, each Hazardous Chemical is given a risk score of High, Medium or Low with the following meanings:

- **High Risk:** High risk Hazardous Chemicals satisfy at least one of the following criteria:
 - They may pose an immediate risk to life, property and/or the environment,
 - They are a major contravention to legislation, for example large quantities of flammable liquids not being placarded.
- **Medium Risk:** Medium risk Hazardous Chemicals satisfy at least one of the following criteria:
 - They may pose a risk to life, property and/or the environment under certain circumstances of use such as incompatible materials inadvertently being mixed together,
 - They are a minor contravention to legislation, such as small quantities of incompatible Hazardous Chemicals stored within 3 metres of each other.
- **Low Risk:** Low risk Hazardous Chemicals satisfy at least one of the following criteria:
 - They may cause ill-health effects to people or negative effects to the environment if used incorrectly, for example, if contact is made with a person's skin or the material enters a drain.
 - These represent a contravention of safe work procedures as outlined in Safety Data Sheets, for example, not wearing appropriate gloves when handling

The survey established that the office building located at 23 Furzer Street, Phillip ACT 2606 contains the following Hazardous Chemical classes:

- Class 1.3 Explosive Chemicals;
- Class 3 Flammable Liquids;
- Class 5.1 Oxidising agents; and
- Class 8 Corrosive.

Table 3 below presents the summary result regarding volume of Hazardous Chemicals by class stored at the site.

Table 3. Hazardous Chemicals Placarding Quantities requirement for the Site.

Description of Dangerous Goods	Packaging Group	Placarding Quantity	Stored at 23 Furzer Street, Phillip ACT 2606	Comments
Class 3	I	50 kg or L	50 L	Stored in North Tower, Level 1, Sprinkler Pump Room
	II	250 kg or L	N/A	-
	III	1000 kg or L	>1000 L	Stored in North Tower, level B1, Diesel Generator Room and Level 1 (exterior), adjacent loading dock entry
Class 5.1	I	50 kg or L	N/A	-
	II	250 kg or L	<250 L	Stored in North Tower, cooling tower area
	III	1000 kg or L	N/A	-
Class 8	I	50 kg or L	<50 kg or L	Stored in North Tower Level 1, Sprinkler Pump Room and Level B1, Grey Water Treatment Plant
	II	250 kg or L	<250 kg or L	Stored in North Tower, cooling tower area and Diesel Generator Room and Grey Water Treatment Plant
	III	1000 kg or L	N/A	-

The survey identified no high risk non-compliance relate issues for the storage of Hazardous Chemicals at the site.

Finally, the remainder of chemicals stored / used is either for cleaning or building maintenance purposes (such as paints, thinners, mineral turpentine, aerosols, and chlorines), products for industrial cleaning purposes (floor and window cleaners, bleaches and polishers) and cooling water treatment chemicals. Aerosol cans containing manufactured products, such as deodorants, perfume and other personal hygiene products are not classified as Hazardous Chemicals.

5. Conclusions

The Conclusions, recommendations or stability of Hazardous Chemicals contained in this report shall not abrogate a person of their responsibility to work in accordance with Statutory Requirements, Codes of Practice, Guidelines, Safety Data Sheets, Work Instructions or reasonable work practices.

While the general exposure to risk associated with Hazardous Chemicals as determined by volume is assessed to be medium at the site, the actual risk to exposed groups in certain areas of the site are assessed as low.

6. Recommendations

Based on the survey and observations, it is recommended that:

- SDS for all chemicals have been noted to be present onsite. Copies of SDS for all chemicals should continue to be kept onsite within the SDS folder;
- Mirvac require, as a condition of service contract, that all contractors engaged at the site provide to Site management a list of chemicals they intend to use and verification by citing their SDS information set;
- Develop and present a Chemical Safety Management Training Program for all management and staff at the site;
- Produce a General Chemical Safety Management Procedure and make this available to staff and tenants. Support this procedure as necessary with the creation of barrier and display of applicable signage while a confined space is being accessed;
- It is recommended that Mirvac initiate a periodic Dangerous Goods Audit of the Site to ensure the requirements are being maintained. The WHS Regulations 2011 (ACT), part 7.1, recommend that such a review is performed at least once every five years, or when significant changes are made to the hazardous chemicals used onsite; and
- A copy of this report and register should be kept at the site.

7. References

ACT Work Health and Safety Act 2011 and Regulation 2011

ACT Work Health and Safety Act 2011, Part 14: Section.274; Schedule 1

ACT Work Health and Safety Regulations 2011; Chapter 7 - Part 7.1

SafeWork Australia *Code of Practice for Managing Risks of Hazardous Chemicals in the Workplace* (July 2012)

Australian Standard 1940: 2004 'The Storage and Handling of Flammable and Combustible Liquids'

Standards Australian (2008) Australian Standard 1596:2008 "The Storage and Handling of LP Gas"

Standards Australian (2007) Australian Standard 3833:2007 'The Storage and Handling of Mixed Classes of Dangerous Goods in Packages and Intermediate Bulk Containers'.

8. Limitations

This report and the associated services performed by Tetra Tech Coffey are in accordance with the scope of services set out in the contract between Tetra Tech Coffey and the Client. The scope of services was defined by the requests of the Client, by the time and budgetary constraints imposed by the Client, and by the availability of access to the site.

Tetra Tech Coffey derived the data in this report primarily from visual inspections, examination of available records, interviews with individuals with information about the site, and if requested, limited samples collection and analysis made on the dates indicated. In preparing this report, Tetra Tech Coffey has relied upon, and presumed accurate, certain information (or absence thereof) provided by government authorities, the Client and others identified herein. Except as otherwise stated in the report, Tetra Tech Coffey has not attempted to verify the accuracy or completeness of any such information.

No warranty, undertaking, or guarantee, whether expressed or implied, is made with respect to the data reported or to the findings, observations, conclusions and recommendations expressed in this report. Furthermore, such data, findings, observations, conclusions and recommendations are based solely upon existence at the time of the investigation. The passage of time, manifestation of latent conditions or impacts of future events (e.g. changes in legislation, scientific knowledge, land uses, etc.) may require further investigation at the site with subsequent data analysis and re-evaluation of the findings, observations, conclusions and recommendations expressed in this report.

This report has been prepared on behalf of and for the exclusive use of the Client, and is subject to and issued in connection with the provisions of the agreement between Tetra Tech Coffey and the Client. Tetra Tech Coffey accepts no liability or responsibility whatsoever and expressly disclaims any responsibility for or in respect of any use of or reliance upon this report by any third party or parties. It is the responsibility of the Client to accept if the Client so chooses any recommendations contained within and implement them in an appropriate, suitable and timely manner.

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Appendix A – Photographs

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Photo 1 Chemical storage in North Tower, cooling tower area.



Photo 2 Battery storage in North Tower, level B1, Diesel Generator Room.



Photo 3 Diesel Fuel Storage (Brake Tank) in North Tower, level B1, Diesel Generator Room.



Photo 4 Diesel Fuel Storage (Day Tank) in North Tower, level B1, Diesel Generator Room.



Photo 5 Chemical Storage in North Tower, Level B1, Grey Water Treatment Plant.



Photo 6 Underground diesel fuel storage tank, North Tower, Level 1 (exterior), adjacent loading dock entry.



Photo 7 Battery storage in North Tower, Level 1, Sprinkler Pump Room.



Photo 8 Diesel fuel storage in North Tower, Level 1, Sprinkler Pump Room.

Appendix B – Hazardous Chemicals Register

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HAZARDOUS CHEMICALS REGISTER

Instructions

Complete, keep and maintain this *Hazardous Chemicals Register* for all existing and new chemicals used by staff. This register should be readily accessible by all staff who use or who may be affected or exposed to any of the hazardous chemicals listed herein.

All hazardous chemicals must have a current safety data sheet (SDS) and an accompanying risk assessment that is no more than five years old. The SDS must state whether the product is hazardous and, in case of dangerous goods, provide the proper shipping name, UN number, class label, and subsidiary risk details. Copies of the SDSs must be attached to this register.

Date of register		11 th April 2022			
Assessor	Name	Phoebe Quessy	Position title	WHS Consultant	
	Company	Tetra Tech Coffey	Client Contact Name	Alex Campbell	

Product name (chemical name and commercial name)	Location where the product is stored or used	Usual quantities held (specify unit e.g. 4 x 250g)	Is the product hazardous? (Y/N)	Dangerous good class no. (if applicable)	Safety Data Sheet (SDS)			Risk	Comments
					SDS available (Y/N)	Date of issue	Date that the new SDS is required		
Integra, BT T30, UN 3085	North Tower, cooling tower area	5 x 15kg	Y	5.1 & 8	Y	16 June 2020	16 June 2025	Low	-
Integra, CWT BT 154, UN 3265	North Tower, cooling tower area	3 x 10L	Y	8	Y	16 June 2020	16 June 2025	Low	-
Integra, CWT 7665, UN 1760	North Tower, cooling tower area	4 x 10L	Y	8	Y	16 June 2020	16 June 2025	Low	-

Product name (chemical name and commercial name)	Location where the product is stored or used	Usual quantities held (specify unit e.g. 4 x 250g)	Is the product hazardous? (Y/N)	Dangerous good class no. (if applicable)	Safety Data Sheet (SDS)			Risk	Comments
					SDS available (Y/N)	Date of issue	Date that the new SDS is required		
Integra, WT D375	North Tower, cooling tower area	2 x 20L	Y	8	Y	16 June 2020	16 June 2025	Low	-
Aeris Active, Hospital Grade Disinfectant Cleaner	North Tower, Level B1, Grey Water Treatment Plant	1 x 750mL	Y	-	Y	20 March 2020	20 March 2025	Low	-
Aeris Guard, Actisan GEL, Anti-bacterial instant hand sanitiser	North Tower, Level B1, Grey Water Treatment Plant	1 x 500mL	Y	3	Y	20 March 2020	20 March 2025	Low	-
HY CLOR, Liquid Chlorine	North Tower, level B1, Grey Water Treatment Plant	1 x 12.5L 2 x 15L	Y	8	Y	3 February 2019	3 February 2024	Low	-
Batteries (Super Charge)	North Tower, level B1, Diesel Generator Room	4 units	Y	8, 1.3	N	1 April 2019	1 April 2024	Low	-
Diesel Fuel (Brake tank)	North Tower, level B1, Diesel Generator Room	250L	Y	3	Y	23 June 2021	23 June 2021	Medium	-
Diesel Fuel (Day Tank)	North Tower, level B1, Diesel Generator Room	1500L	Y	3	Y	23 June 2021	23 June 2021	Medium	-
Batteries (MCA and Amp-Tech)*	North Tower, Level 1, Sprinkler Pump Room	3 units	Y	8, 1.3	N	1 April 2019	1 April 2024	Low	-

Product name (chemical name and commercial name)	Location where the product is stored or used	Usual quantities held (specify unit e.g. 4 x 250g)	Is the product hazardous? (Y/N)	Dangerous good class no. (if applicable)	Safety Data Sheet (SDS)			Risk	Comments
					SDS available (Y/N)	Date of issue	Date that the new SDS is required		
Diesel Fuel (storage tank)*	North Tower, Level 1, Sprinkler Pump Room	1 x 50L	Y	3	Y	1 July 2016	1 July 2021	Medium	-
Diesel Fuel (Underground Storage Tank)	North Tower, Level 1 (exterior), adjacent loading dock entry	5000L	Y	3	Y	1 July 2016	1 July 2021	Medium	-

* Not accessed during the inspection, assumed to still be present on site, based on previous inspections.