

Safety Case Summary



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OWENS

Message from the Branch Manager

At Mainfreight, we have always considered ourselves to be innovators, and constantly looked for ways to improve our operations. This applies as much to the safety aspects of our operation as it does to the business and customer service aspects.

One of the key statements in our founding philosophy is that “we are here to make a positive difference, as well as a dollar”. We do not want to be a company that merely meets the minimum compliance standards to operate. Instead, we want to be synonymous with safe, responsible business practices and being a valued member of the community. To that end, we are continually striving for excellence in everything we do, including our safe management of hazardous substances. Evidence of this commitment can be seen in both of our MHF sites achieving Responsible Care NZ’s PRINCE Gold® standard for chemical safety.

This document is a summary of the safety case prepared for the Owens Warehousing site at 31 Baigent Way. The safety case is a systematic outline of all facets of the operation of our site, and the measures put in place to ensure that the site is operated to a high level of safety.

Included in the full safety case is a detailed and comprehensive safety assessment carried out to identify all potential major incidents that could occur as a result of the hazards of our site; an explanation of our safety management system for controlling and mitigating risk; and the emergency response plans in place to minimise the consequences should an incident occur. This summary is a broad explanation of the process undertaken to produce the safety case, and what this means for the local community.

We firmly believe that there is no such thing as an accident. All incidents are preventable if the right systems are in place to manage the hazards of our operation. We are continually looking to improve our safety systems – both to make sure our team goes home safe at the end of the work day, and to ensure we don’t adversely affect the wider community. Through our culture, procedures, and safety management systems we can and will achieve our goal of zero harm to people, property, and the environment from our activities.

Rebecca Hayward

Owens Warehousing Branch Manager

Glossary

Term	Definition
CIMS	<i>Coordinated Incident Management System</i> . The incident management system used by NZ emergency services.
Consequence	The outcome of an incident, expressed in terms of the harm to people, property, or the environment.
Control	A measure put in place to prevent, minimise, or mitigate a hazard.
ERP	<i>Emergency Response Plan</i> . The site action plan for responding to an incident occurring on site.
FENZ	<i>Fire and Emergency New Zealand</i> . Formerly known as the NZ Fire Service.
Flammable Liquid	A liquid which produces a vapour which can be ignited, at an ambient temperature below 60°C
GHS	The United Nations Globally Harmonised System for the Classification and Labelling of Chemicals.
Hazard	A condition which produces a risk of harm to people, property, or the environment.
Hazardous Substance	A substance which produces one or more hazards due to its inherent chemical properties.
HSWA	<i>Health and Safety at Work Act 2015</i> . The Act governing safe work practices. The MHF regulations are a subset of this Act.
IC	<i>Incident Controller</i> . The person who assumes control in the event of an emergency.
Likelihood	The probability that a hazard will lead to an incident which causes harm.
LOC	<i>Loss of Containment</i> . An incident where a hazardous substance is unintentionally released into the environment.
Mainfreight	The parent company of Owens Warehousing, specialising in supply chain management, transport and logistics.
MHF	<i>Major Hazard Facility</i> . A site which manufactures, stores, or uses large volumes of hazardous materials as defined in Schedule 2.
MOC	<i>Management of Change</i> . A systematic process for ensuring changes made at the site are carried out safely.
Organic Peroxide	A type of oxidiser which is able to burn, and is able to undergo a specific chemical reaction known as a self-accelerating decomposition reaction.
Organophosphate	A specific type of toxic insecticide. They act on an enzyme called acetylcholinesterase, which is also found in humans.
Oxidiser	A chemical which may be used to catalyse some chemical reactions. They do not usually burn, but may intensify fires as they commonly give off free oxygen.
Performance Standard	A measurement of a control's effectiveness. Controls must meet performance standards to show that they are performing their safety function.
PTW	<i>Permit to Work</i> . A system for managing potentially hazardous tasks carried out on site, and ensuring control requirements are followed.
SCE	<i>Safety Critical Element</i> . A physical element, which has the primary purpose of acting as a safety control.
Schedule 2	The list of Specified Substances which must be considered in the safety assessment of an MHF, due to their potential to cause a major incident.
SCT	<i>Safety Critical Task</i> . A task which has the potential to increase the risk of a hazard on site if it is not performed correctly.
SFAIRP	<i>So Far As Is Reasonably Practicable</i> . A standard for determining if sufficient steps have been taken to minimise a hazard.

Glossary

Term	Definition
SMS	<i>Safety Management System.</i> The management system for all safety elements of the operation of the site.
SOP	<i>Standard Operating Procedure.</i> A standardised method of performing a task, with predefined safety measures.
Specified Substance	Hazardous substances which must be considered during MHF planning, as outlined in Schedule 2 of the MHF regulations.
Toxic Substance	A poisonous substance, capable of causing fatalities below defined exposure levels as given in the GHS.
WorkSafe NZ	The NZ government agency who enforce the HSWA regulations, including MHF.

Major Hazard Facilities

Major Hazard Facilities are defined in the Health and Safety at Work (Major Hazard Facilities) Regulations 2016. They are sites which store, handle, or process large quantities of hazardous materials, as specified in Schedule 2 of the regulations. Major Hazard Facilities are required to notify WorkSafe of the hazardous substances they hold, how they are used, and the safety measures in place to manage the risks of the substances.

Owens Warehousing operates two sites which are defined as Major Hazard Facilities; at 31 Baigent Way in Christchurch, and at 3-5 Kahu Street in Auckland.

Safety Case

In order to show their ability to operate safely, a Major Hazard Facility must have submitted a safety case to WorkSafe New Zealand. The safety case is an explanation of the facility, hazardous materials held on site, and the control measures in place to manage the hazards of the site. The safety case is reviewed by WorkSafe, and accepted by Worksafe if they feel the safety case shows the operator is sufficiently able to manage the hazards of the site safely.

The development of a safety case for a site is a major undertaking, requiring hundreds of man-hours of work to ensure the safety systems meet both regulatory requirements and international best practice. Owens Warehousing began developing safety cases for the Christchurch and Auckland sites when these regulations were introduced in 2016. The safety cases were completed and submitted in April 2018. WorkSafe accepted the safety cases for these two sites in 2020.

The safety case is regularly reviewed and revised as part of Owens Warehousing's commitment to ongoing continuous improvement. In addition, the safety case must be formally revised and resubmitted to WorkSafe every five years. A revised version of the safety case was submitted to WorkSafe in Q2 of 2025.

Schedule 2 Specified Substances

Schedule 2 of the Major Hazard Facility Regulations define the hazardous substances which must be considered in the scope of the site's safety case. These are referred to as Specified Substances in the legislation and throughout this document. These are substances which are sufficiently hazardous that they could cause a major incident if not managed correctly.

The hazardous substances listed in schedule 2 which are held on site are listed below in the "Specified Substances" section of this document.

Major Incident

A major incident is an uncontrolled event involving one or more Specified Substances, which presents a serious risk to the health or safety of multiple people. Examples of a potential major incident include a loss of containment event or a hazardous material fire. The regulatory requirements for MHFs focus on preventing major incidents from occurring.

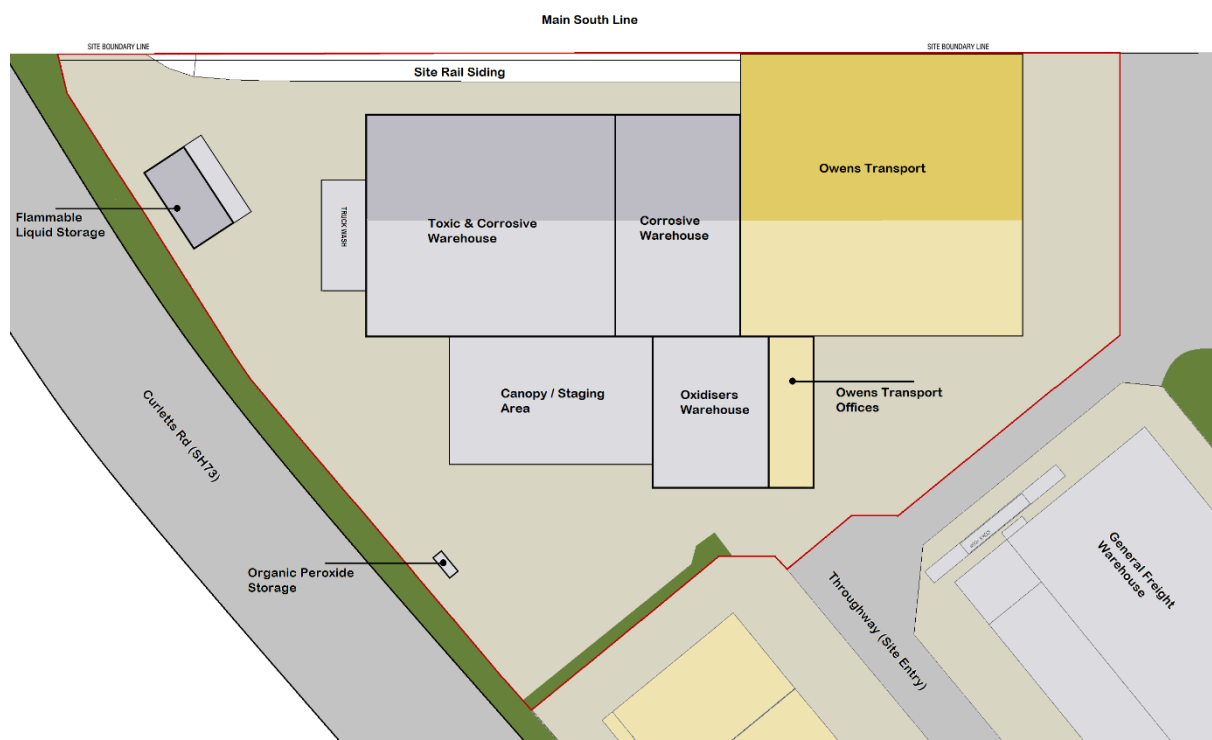
Owens Warehousing - Baigent Way Overview

Owens Warehousing Baigent Way is located in the Riccarton/Middleton Business Zone, between Annex Road, Curletts Road, and the main Christchurch rail corridor. Owens Warehousing is part of the Mainfreight Group, specialising in the hazardous substances logistics sector of the business.

The Owens site at Baigent Way has been operating since the 1990s as a transport and logistics depot. The site has three hazardous substances warehouses, two general freight warehouses, two purpose-built flammable liquids bunkers, and an adjacent transport hub.

The hazardous substances warehouses store products for numerous companies, in several different industries. All products are stored in discrete containers ranging in size from 1-1000 litres for ease of shipping, and remain at ambient temperature and pressure during storage. Products remain sealed while on site, with no pumping, decanting, or other processing occurring on site.

Owens Warehousing operates as a storage and distribution point for substances used in the agricultural, cleaning, and plastics & resins industries throughout the South Island. The majority of these substances have seasonal use patterns, particularly those used in agriculture. They are primarily manufactured overseas and shipped to New Zealand, then stored in Owens Warehousing's warehouses, before being delivered out to end users via Mainfreight's transport network.



Owens Warehousing site layout.

Specified Substances		
Material	Type	Description
Paraquat Dichloride	Toxic Substance	Paraquat is a fast-acting, non-selective herbicide. It is used primarily due to its unique mode of action, which allows it to mitigate problems with herbicide-resistant weeds. It is stored in the form of a dichloride salt in solution. It is highly toxic if ingested.
Metamitron	Toxic Substance	Metamitron is a residual herbicide used primarily for the control of weeds in beet crops. It is stored in the form of water-dispersible granules. It is moderately toxic if ingested.
Diquat Dibromide	Toxic Substance	Diquat is a non-selective desiccant, defoliant, and herbicide. It is commonly used due to its mode of action damaging only those parts of the plant to which it is applied. It is stored in the form of a dibromide salt in solution. It is moderately toxic if ingested or absorbed through the skin.
Solvent Naphtha (White Spirit)	Flammable Liquid	White spirit is a flammable mix of petroleum distillates. It is commonly used as a solvent and paint thinner. It also has a low level of acute toxicity if inhaled or ingested.
Hydrogen Peroxide	Oxidiser	Hydrogen peroxide is an unstable, corrosive liquid which naturally breaks down into oxygen and water over time. It is used for cleaning and to catalyse some chemical reactions. It has strong oxidising properties.
Calcium Hypochlorite	Oxidiser	Calcium hypochlorite is a strong oxidising agent. It is used as for sanitizing drinking water and swimming pools, due to its high level of available chlorine compared to alternatives such as sodium hypochlorite. It is stored as an anhydrous (dry) powder.
Cyclopentane Solution	Flammable Liquid	Cyclopentane is a highly flammable liquid solvent. It is the base chemical for some resin solutions stored on site, for use in the manufacture of polyurethane.
Ethyl Acetate Solution	Flammable Liquid	Ethyl acetate is a highly flammable liquid solvent. Ethyl acetate solutions are stored on site for use in manufacturing adhesives.
Peracetic Acid (PAA)	Oxidiser / Organic Peroxide	PAA is a mild acid with a strong oxidising effect. It has a strong irritant effect on the eyes and respiratory system. It is used as a cleaning agent in commercial food

		production due to its disinfectant and antibacterial properties.
Chlorothalonil	Toxic substance	Chlorothalonil is a fungicide commonly used to control fungal diseases in fruit, vegetables, and ornamental plants. It is moderately toxic if inhaled, but has low acute toxicity if ingested. It is stored in solution in a solvent carrier.
Ethanol	Flammable Liquid	Ethanol or ethyl alcohol is the most common form of alcohol, and a flammable liquid. The ethanol held on site is not in a drinkable form, but instead is in the form of sanitising liquids and gels (such as hand sanitisers).
Isopentane Solution	Flammable Liquid	Isopentane is a highly flammable liquid solvent. It is the base chemical for some resin solutions stored on site, for use in the manufacture of polyurethane.
Xylene Solution	Flammable Liquid	Xylene is a flammable liquid commonly used as an industrial solvent. It is used in the production of paints, inks, rubber, adhesives, and varnishes. It is commonly stored on site in a mixture of other solvents.
Isopropanol Solution	Flammable Liquid	Isopropanol (or rubbing alcohol) is a flammable liquid with various industrial and commercial uses. The isopropanol stored on site is primarily in the form of medical sterilising solutions.
Methyl methacrylate	Flammable Liquid	Methyl methacrylate is a flammable liquid, used in the production of plastics and resins. It is held on site in the form of various resin mixtures.
Cyclohexanone solvent	Flammable Liquid	Cyclohexanone is a flammable liquid. It is stored on site in a dilute form, as the solvent carrier for various herbicides.
Lambda-cyhalothrin	Toxic Substance	Lambda-cyhalothrin is pyrethroid insecticide (a synthetic insecticide similar to naturally-occurring pyrethrum). It is used to control insects in cereal crops, fruits, and vegetables. Lambda-cyhalothrin is highly toxic if inhaled and moderately toxic if ingested.
Styrene	Flammable Liquid	Styrene is a flammable liquid, used in the production of resins and plastics (such as polystyrene). It is also moderately toxic if ingested or inhaled.
Hydrocarbon Propellant (butane/propane)	Aerosols	Hydrocarbons (butane/propane) are flammable substances, which are used as propellants for aerosols including furniture

		polish and insecticide sprays. They are held on site in retail-size spray cans, similar to those sold in supermarkets.
Methamidophos	Toxic Substance	Methamidophos is an organophosphate insecticide. It is used for the control of insects on vegetable and cereal crops. It is stored in a liquid solvent solution. It is highly toxic if inhaled, ingested, or absorbed through the skin.
Sodium Chlorite	Toxic Substance	Sodium chlorite is the sodium salt of chlorous acid. It is mixed with an activator to form an antibacterial agent, used to sterilise commercial food preparation surfaces. Sodium chlorite by itself is moderately toxic if ingested, and highly toxic if inhaled. It can also be unstable if contaminated.
Trichloroisocyanuric Acid	Oxidiser	Trichloroisocyanuric acid is an oxidising agent and disinfectant. It is stored on site in the form of tablets, for use as an algacide and bactericide in swimming pools.
Chlorobenzene Solution	Flammable Liquid	Chlorobenzene is a flammable liquid commonly used as an industrial solvent. It is held on site in a dilute form, as the solvent carrier for some herbicides.
Glutaraldehyde	Toxic Substance	Glutaraldehyde is a medical sterilising agent, and part of the World Health Organisation's List of Essential Medicines. It is stored on site in pre-formulated solutions for sterilising surgical equipment. It is highly toxic if ingested or inhaled.
Hexane Solution	Flammable Liquid	Hexane is a highly flammable liquid solvent. It is stored on site as one of the constituents of a brake cleaner solvent solution.
Dichlorvos (DDVP)	Toxic Substance	DDVP is an organophosphate insecticide. It is used to control insects in commercial greenhouses and outdoor vegetable crops. It is moderately toxic if inhaled, and highly toxic if ingested or absorbed through the skin.
Fenamiphos	Toxic Substance	Fenamiphos is an organophosphate insecticide. It is used to control nematode pests on fruit crops such as bananas, citrus fruits, and vine fruits. It is highly toxic when ingested or absorbed through the skin.
Isobutanol Solution	Flammable Liquid	Isobutanol is a flammable liquid solvent. It is held on site as the solvent carrier for the insecticide pirimiphos-methyl. Both isobutanol and pirimiphos-methyl have a

		low level of acute toxicity when ingested or absorbed through the skin.
Sodium Dichloroisocyanurate (SDIC)	Oxidiser	SDIC is an oxidising agent and disinfectant. It is held on site in tablet form, for use in sterilising swimming and spa pools.
Sodium Persulfate	Oxidiser	Sodium persulfate is an oxidising agent and disinfectant. It is held on site in tablet form. It is preferred in some sterilising applications (such as spa pools) over other oxidising disinfectants, due to it not containing chlorine.
Bromochlorodimethylhydantoin (BMCDH)	Oxidiser	BMCDH is an oxidising agent and disinfectant. It is stored on site in the form of tablets for sterilising spa pools.
Methyl Ethyl Ketone Peroxide (MEKP)	Organic Peroxide	MEKP is an unstable, corrosive liquid with strong oxidising properties. It is stored on site in a 40/60 solution with the stabilising agent dimethyl phthalate. It is used as a hardening agent for resins and plastics.

Safety Policy

The site is operated in accordance with Owens Warehousing's Safety Policy. This policy lays out guidelines for the procedures to be used in the operation of the site, and for the development of new procedures. The Safety Policy is considered during all activities undertaken on the site, and during the planning of any development or change to the site.

Owens Warehousing have committed to:

- Provide appropriate resources to meet safety objectives
- Foster a culture that encourages safe work practices
- Encourage timely and proactive reporting
- Treat safety with the same emphasis as other business functions
- Clearly define for all team members' their safety accountabilities and responsibilities
- Perform ongoing hazard identification and risk management
- Meet legislative requirements and good practice standards
- Ensure our team members have the tools, training, and competency to follow safe work procedures and respond well in an emergency
- Communicate appropriate safety information
- Measure our safety performance against key safety performance indicators
- Work with competent contractors to ensure they meet our safety performance standards
- Continually improve our safety performance through audits, monitoring, measurement, review, and revision

As a Major Hazard Facility, we are aware that we have inherent hazards greater than those found elsewhere in the supply chain industry due to the volumes of hazardous substances that we store. We act to manage the risks of these hazards through our comprehensive and robust safety management system.

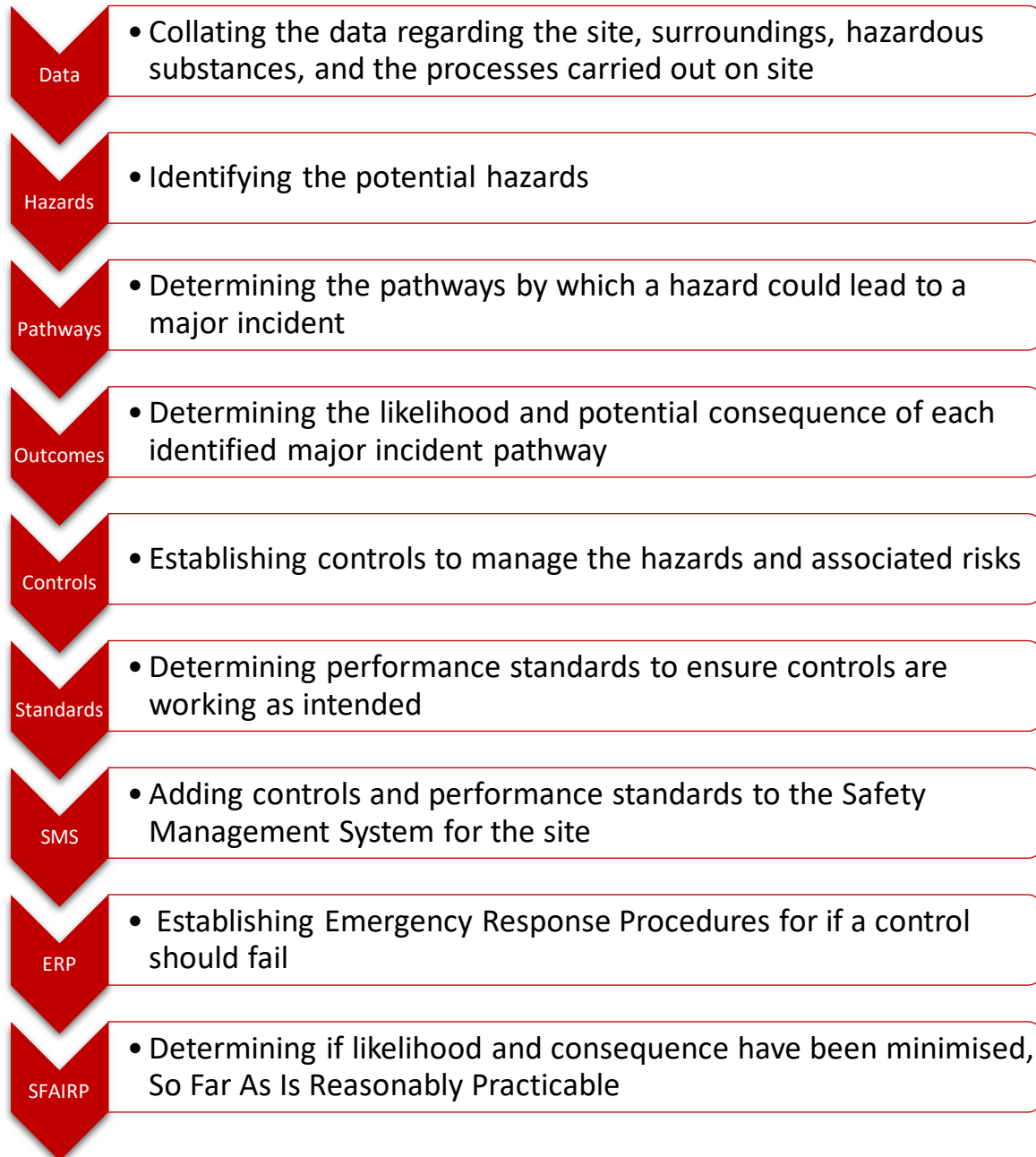
We recognise that our safety performance is important to ensure the safety of the wider community. We actively engage with stakeholders in the community to ensure clear communication of safety critical information.

Safety is a fundamental element of good business practice. Our team drive our safety culture through all aspects of our operation. Our safety policy supports this culture to elevate the performance of the business as a whole.

Safety Assessment

As a part of the development of the safety case, Owens Warehousing carried out a comprehensive safety assessment of the site. The assessment involved experienced members of the Owens Warehousing team, and external experts in specific relevant fields.

The assessment was carried out in several stages:



Potential Major Incidents

The safety assessment examined the potential for a major incident to occur on the site. All of the major incidents identified fell into one of two categories:

- A spill or loss of containment of a hazardous material
- A hazardous substance fire

Both have the potential to cause serious harm to persons on site.

Detailed assessment of the major incident pathways has shown that there are very few potential scenarios with the capacity to harm people outside the site boundaries.

A Spill or Loss of Containment event is extremely unlikely to travel offsite. Multiple layers of controls are in place to prevent a spill event from occurring; however, should one occur, passive secondary and tertiary containment are in place to prevent any substances from travelling offsite.

A hazardous substance fire could potentially cause a hazardous smoke plume to travel off site; however, modelling of the substances involved showed that the smoke would only have an irritant effect outside the site boundaries.

In the worst case scenario, if left to burn for greater than 30 minutes, heat radiated from a fire in the organic peroxide storage area could reach a harmful level at the edge of the Curletts Road motorway. Emergency response procedures for a hazardous substance fire therefore include cordoning this area off from members of the public. In other areas of the site, modelling shows that even a catastrophic fire would not radiate dangerous levels of heat outside the site boundaries.

Multiple layers of controls to prevent hazardous substance fires are in place, including control of ignition sources, intrinsically safe installations, and fire-rated bunkers for flammable substances.

Control Measures

One of the primary purposes of the safety assessment was to identify and evaluate control measures, in order to safely manage the identified hazards. These controls are targeted towards several areas:

- Eliminating the hazard, where this is possible
- Minimising the danger of the hazard
- Minimising the likelihood that the hazard will lead to an incident
- Containing and managing any incident that does occur
- Mitigating the consequences of any incident that does occur

Elements which are in place to minimise the risk of hazards include: secondary and tertiary containment systems; traffic management (speed and entry controls); control of ignition sources; a permit system for work carried out on the site; operating and maintenance procedures; management of change processes; intrinsically safe installations; regular monitoring of site operations and conditions; testing of control elements to international performance standards; and ongoing training of Owens Warehousing team members.

Safety Management System

The site operates a comprehensive Safety Management System (SMS), to effectively manage the hazards of the site. The SMS has a number of elements, each of which perform an important function in the safe operation of the site. Key elements of the SMS include:

- Defining the scope and objectives of the SMS
- The structure of Owens Warehousing, including important safety roles and responsibilities
- Training and competency assessment of team members
- Management of contractors, and the permit system for work carried out on site
- Operational controls
- Standard operating procedures
- Equipment
- Design principles
- Safety Critical Tasks and Elements
- Management of Change processes
- Incident management and investigation
- Auditing
- Review and revision of the SMS
- Document and record control

The elements of the SMS are designed to work together, providing a robust system for the management of safety onsite.

Emergency Response Plan

A comprehensive Emergency Response Plan (ERP) has been prepared for the site.

The ERP is regularly tested with both live and desktop scenarios, to ensure responses are effective and efficient. Testing of the ERP at times includes training scenarios held with emergency services such as Fire & Emergency NZ (FENZ), St Johns Ambulance Service, or the NZ Police.

Owens Warehousing use the Coordinated Incident Management System (CIMS) structure used by NZ emergency services. Team leaders and emergency response teams receive training in this system alongside NZ emergency services personnel. This allows for improved coordination between Owens emergency response teams and emergency services personnel during training exercises, and in the event of a real incident.

Owens ensures that adequate resources are available at the site for use in the event of a major incident. These resources include trained team members, emergency equipment, and materials (such as neutralising agents, and substances for treating toxic exposure). Should they be required, additional resources are available from other Mainfreight Group sites.

All emergency plans are submitted to FENZ District Command for review, and integration into FENZ tactical and response plans.

Continuous Improvement

Owens Warehousing are committed to continuous improvement of all safety management processes and procedures for the site. Through a process of iterative improvement, Owens Warehousing aim to have a consistent high level of safety performance. This process involves a constant feedback cycle:



This cycle allows procedures and equipment to be improved upon over time, and for new safety concepts and technologies to be integrated into the system as they become available.

Potential Effects on the Community

One of the most important elements of the safety assessment is determining the potential consequences for the community, if a major incident were to occur. Fortunately, the assessment for Owens Warehousing confirmed the risk to the public to be very low, with few potential events having the capacity to affect people outside the boundaries of the site.

The most significant potential event had the capacity to cause serious harm outside the site boundary in just one area, from heat radiated up to 25 metres over the site boundary on the Curletts Rd edge. This also has the capacity to disrupt traffic along the Curletts Rd motorway, however the likelihood of this event occurring is extremely low.

There was no capacity for heat from a hazardous substances fire to cause serious harm offsite in other areas.

In the event of a major hazardous substance fire, the smoke plume could extend up to 230 metres past the site boundaries (dependent on wind conditions). This smoke could have an irritant effect, especially on sensitive individuals. However, it is not credibly expected that it could cause any serious adverse health effects.

In the unlikely event of an incident that travels outside the site boundary, the NZ Police or other emergency services personnel will ensure that the appropriate information is provided to the community about any actions which need to be taken. In most cases, this will simply be to remain outside any cordons which emergency services have put in place.

Owens Warehousing does have site-wide alarms which may sound in the event of an incident occurring. These are intended to alert Owens team members on site to the incident. People in the wider community do not need to take any action in response to these alarms.

Community Engagement, Notification & Response

Our approach to good management of a major hazard facility extends beyond simply meeting regulatory requirements, and conforming to legislation and codes of practice. We are strongly aware that we also have an ethical responsibility to continue being conscientious members of the local community. A major part of that is ensuring that our operations do not adversely affect other parts of the community. We also want to ensure the local community are comfortable that their safety and other concerns have been considered during development of procedures, and continue to be so during the day-to-day operation of the site.

Being a good neighbour comes about through understanding, and we aim to achieve this through active, open dialogue with the rest of the community. Gaining critical feedback, and effectively communicating important information back to the wider community, are key parts of our focus. We have used a variety of media to pass information including leaflet drops to nearby businesses and residences; liaising with community groups and local government; and direct contact with more vulnerable neighbours such as schools, churches, and rest homes.

Should you wish to comment on the information contained in this safety case summary, or to raise any questions or concerns with our team, contact information is provided at the end of this document.

This document is a summary of the Safety Case for the Owens Warehousing site at:

31 Baigent Way
Middleton
Christchurch

It is made available to provide information to the local community and other interested parties about the safety and hazard management at this site. If you wish to contact us regarding any of the information presented here, or would like further information on our site and operations, please contact:

Rebecca Hayward – Branch Manager
Telephone: (03) 343 1896
Email: rebecca.hayward@owens.co.nz

Further information regarding the Major Hazard Facility Regulations, including a register of Major Hazard Facilities is available from WorkSafe New Zealand:

Website: www.worksafe.govt.nz
Freephone: 0800 030 040