



# Safety Case Sumary Narangba, QLD

This document outlines key information about the Accensi Narangba Facility, summarising potential major incidents, associated hazards, and the control measures in place to prevent or minimise the consequences of such incidents, should they occur.



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### Introduction and Background

This document provides the community with information about the Accensi\* Narangba Facility. It includes a summary of the potential major incidents that could occur, including the hazards that could cause those incidents and the control measures that are in place to prevent or minimise the consequences of such incidents, should they occur.

\*Accensi is a trading name under Australian Agribusiness.

#### What is a Major Hazard Facility?

Major hazard facilities (MHFs) are industrial sites which store, handle or process large quantities of hazardous chemicals and dangerous goods. The Accensi Narangba Facility develops, manufactures and distributes agricultural crop protection solutions including the provision of such, under the service of Toll manufacturing. Some of the materials used in this process are classified as hazardous chemicals and/or dangerous goods due to their physical and chemical properties and effects on human health. MHF sites are determined and licenced under the Queensland Work Health and Safety Regulation 2011 and must prepare documents such as a Safety Case that detail what the facility does and the processes and systems in place to ensure that the facility operates safely.

The Accensi Narangba Facility has been licenced as a Major Hazard Facility since 2004.

#### What is a Safety Case?

Major Hazard Facilities are required to demonstrate their operational safety through a Safety Case developed specifically for their unique operations and situation.

The Safety Case sets out the adequacy of the site's safety management system by specifying prevention measures, as well as strategies for reducing the effects of a major incident if one does occur.

The Safety Case must demonstrate:

- All potential major incidents are identified
- All hazards or threats that could result in a major incident are identified
- A comprehensive and systematic safety assessment has been conducted
- Control measures have been identified to eliminate or reduce the risk so far as is reasonably practicable (SFARP)
- An emergency plan is in place to control and minimise any potential major incident
- A robust safety management system is in place

The safety case is conducted with involvement and consultation with employees and safety representatives.

#### What is a Major Incident?

A major incident is an uncontrolled incident, including an emission, loss of containment, escape, fire, explosion, or release of energy that involves Scheduled Materials and poses a serious and immediate risk to health and safety.

#### What are Scheduled Materials?

The Queensland Work Health & Safety Regulation 2011, Schedule 15, defines what materials require the facility to operate as a Major Hazard Facility (MHF) and must be considered in the scope of the Safety Case. Whilst Accensi Narangba does not have specifically listed chemicals within this schedule, the type of chemicals meet the criteria of Dangerous Goods Class 3 Packaging Group II or III, a natural gas pipeline and Toxic Liquids and Solids.

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### Australian Agribusiness | Our History

Beginning life as A&C Chemicals in 1987, the Narangba-based company was formed for the purpose of producing chemical compounds used primarily as preservatives in the timber treatment industry.

In 1991, A&C Rural was formed, primarily to trade in fertilizers and some niche crop protection products under the Country brand. That year also saw the commencement of agrochemical toll manufacturing, with the production of glyphosate.

The year 2000 saw the opening of the 10,000m<sup>2</sup> warehouse at the Narangba site. This was a major milestone, allowing the company to offer fully integrated manufacturing solutions and to focus more on the crop protection market. Accensi Narangba operations became an MHF in 2004. The current MHF Licence is in Appendix A.

In 2004, A&C Chemicals purchased the greenfield site for the Western Australian manufacturing facility, which began operations early in 2005.

The year 2006 brought a new name and a new image: A&C Chemicals became Accensi, with A&C Rural becoming Accensi Rural.

In 2008, Accensi Pty Ltd became a subsidiary of the international biotechnology company, CK Life Sciences International Inc., a research driven organisation engaged in identifying needs and developing solutions for the improvement of human health and environmental sustainability.

In 2015 Accensi opened its Victorian manufacturing facility. Since 2019 Accensi has been consolidating business structure with its parent company Australian Agribusiness, optimising support services and back-office functions across the group.

Accensi holds accreditation to ISO 9001 Quality Management and ISO 14001 Environmental Management Accreditations. Accensi is a foundation member of the industry group Croplife Australia, and is committed to:

- The Croplife Australia code of conduct which represents high industry standards; and
- Playing a leading role in the implementation of co-regulatory & self-regulatory mechanisms to reduce risks and stewardship across the life cycle of industry products.

#### Aerial View of the Accensi Narangba site showing property boundaries.





### Narangba | Facility Description

Accensi Pty Ltd provides herbicide and pesticide toll-manufacturing services at several locations throughout Australia. Accensi manufactures crop protection chemicals, mainly for agricultural use and manufactures a

wide range of emulsifiable concentrates, suspension concentrates (flowables), powders, aqueous solutions, coated granules and amination-based reactions such as glyphosate and phenoxies.

The processes used are simple blending and mixing with a few mild acid-base reactions. In manufacturing and storing the various product types, Scheduled chemicals may be present as the concentrated active ingredients, finished product, raw materials such as surfactants and solvents, or involved in complementary activities such as laboratory testing.



Accensi employs 50 permanent staff in Narangba and 40 in other states. The Narangba site can hire up to 20 casuals in peak season.

The site is designed to target zero emissions to the environment and is fully bunded with no uncontrolled discharges to ground or storm water. All activities are carried out within buildings and operations are scrubbed to eliminate odour release beyond the site boundary.

The health and safety of the community and our workforce is our highest priority.





### **Scheduled Materials**

The Accensi Narangba Facility has several materials on-site that are classified as Scheduled Materials under the Queensland Work Health and Safety Regulation 2011. The management of these materials (storage, use and handling) forms a significant part of the Safety Case, particularly the evaluation and assessment of potential issues that could result or be affected by a major incident.

All materials, whether scheduled or otherwise hazardous, are stored, handled and used in specific and dedicated areas onsite to minimise any adverse interactions between chemicals that could result in potential incidents occurring.

Emergency shutdowns are installed throughout the facility and an emergency plan with appropriate fire protection systems are in place.

All water (stormwater and process) is contained onsite and treated to prevent contamination being released into the environment.

#### **Flammable Liquids**

The scheduled materials in the form of flammable liquids present, or likely to be present, are activating agents such as methyl iso-propyl amine (MIPA) or dimethyl amine (DMA) or solvents. MIPA and DMA have low flashpoints whilst the solvents employed, whilst still classified as flammable, have flashpoints near or above ambient temperatures experienced onsite.

The MIPA is introduced onsite by isotainer, pumped and stored in tanks, and introduced into mixing tanks by pipeline. Other flammable materials are held in dedicated flammable storage areas in quantities in-line with production needs in either drums or IBCs (intermediate bulk containers) to minimise potential risks of storage of such materials.

#### **Flammable Gases**

There is a natural gas pipeline onto the site that is used on demand to heat ovens and other production equipment. There is no storage of natural gas onsite, and the pipeline can be readily shutdown if required. Smaller quantities of flammables gases are present in cylinders to run laboratory instrumentation or for limited maintenance activities.

#### **Toxic Solids and Liquids**

The scheduled materials in the form of toxic solids and liquids present or likely to be present are active ingredients (in technical concentrates or in packaged final products) used in the production of agricultural care products. These toxic materials can include substances such as:

- actives used in insecticides
- non-selective actives used in herbicides
- actives used in fungicides



### Safety Case Summary

The Accensi Narangba Safety Case demonstrates that the facility's systems and procedures are effective and safe, maintaining reliable operations. This in turn ensures that we protect our people and assets, the environment and the community.

The Safety Case describes the potential incidents and demonstrates how they occur and how they are controlled.

A summary of the Safety Case is provided in the diagram below.



#### **Safety Assessment**

The core of the Safety Case is a systematic and comprehensive safety assessment. The safety assessment involves identifying all potential major incidents involving scheduled materials, which pose a serious and immediate risk to health and safety if not effectively controlled.

The Safety Case then seeks to analyse those incidents to provide a detailed understanding of how they could occur (hazards) and the risk to health and safety from those potential incidents in terms of likelihood and consequence.

This process also involves identifying the control measures that are already in place to eliminate or reduce the risk of each major incident occurring, as well as identify additional controls that could further reduce the risk so far as reasonably practicable (SFARP).





Accensi's goal has been to seek control in depth (multiple barriers) as well as assess and ensure the robustness of the identified controls.

This process was carried out with the involvement of operators, health and safety representatives, engineers and managers.

#### **Control Measures**

A hazard is anything in the workplace that has the potential to harm people, property or the environment. A risk arises when it is possible that a hazard will cause harm. Control measures are used to prevent the occurrence of or minimise the consequences of major incidents.

Potential threats to control measures that could potentially lead to a hazard being realised to cause an incident include corrosion, equipment failure that causes leaks, spill or other loss of containment; over-filling or over-pressurisation; failure of operating or maintenance procedures; mechanical impact and vibration and security threats. External threats such as bushfires are also considered and impacts assessed to ensure that internal procedures and processes can minimise or eliminate the potential for knock-on effects.

The type of control measures identified include equipment design specifications, equipment inspections, design of the facility to allow isolation of activities or processes, use of engineering controls such as interlocks, high level alarms and fail-safe cut-offs, operating and work permit procedures.

While the focus is on preventing the realisation of hazards, there are also control measures in place to reduce the impact and severity of any incidents. They include emergency shutdowns and isolation systems, ignition prevention, portable and fixed firefighting systems and emergency response and evacuation procedures.

#### **Potential Major Incidents**

A major incident, as defined in the Queensland Work Health and Safety Regulation 2011, is an occurrence (i.e. release, implosion, explosion, fire) that:

- Results from an uncontrolled event at the major hazard facility involving, or potentially involving, Scheduled chemicals or materials; and
- Exposes a person to serious risk to health or safety emanating from an immediate or imminent exposure to the occurrence.

The Safety Case has identified the potential for the following types of Major Incidents:

- **Pool Fires**: A fire occurring on top of a pool of flammable liquid. The primary concerns with pool fires are radiant heat, smoke and potential toxic combustion products. Other concerns include knock on effects to other plant and materials onsite.
- **Full-Surface Tank Fires:** The ignition of flammable vapour within the vapour space of a storage tank/ mixing vessel that could result in a full-surface tank fire. The concern here is the explosion potential and generation of heat, smoke and potential toxic combustion products.
- **Full-Surface Bund Fires:** Where a loss of containment has occurred, the ignition of flammable vapour in the bund area resulting in the generation of heat, smoke and potential combustion products and the knock-on effect to other areas of the facility.



- **Toxic Vapour Dispersion:** Both the potential onsite and offsite impacts that could result from toxic materials being handled, use or stored onsite being rapidly vapourised and dispersed.
- **Warehouse Fires:** Like the toxic vapour dispersion area, assessing the potential onsite and offsite impacts from fires in areas where toxic materials are storage.
- **Flash Fires:** A fire resulting from the ignition of a cloud of flammable vapour(gas). Due to limited storage amounts of materials that could be involved in such an incident, this type of scenario is unlikely to have offsite impact and can be safely contained and dealt with onsite.

The other types of Incidents have been identified as being potential for the Accensi Narangba site:

- Operator exposure to acutely toxic chemicals during manufacturing requiring emergency medical treatment.
- Natural gas release that could result in a fire.
- Gas cylinder release, fire or explosion

There have been no Major Incidents at Accensi since operation commenced at the Narangba site in 1987.

#### Safety Management System

The Australian Agribusiness Health, Safety and Environment Management System Manual describes the Safety Management System that applies to the Accensi Narangba Facility. It incorporates industry best practice and includes a suite of management standards and procedures.

The Management System addresses the elements of:

- Leadership including having a HSE policy established and communicated throughout the business, providing an appropriate organisational structure that addresses roles, responsibilities and authorities and having a process where workers are consulted and feel empowered to participate in this process.
- **Planning** including understanding our activities such as any compliance obligations that need to be met and conducting hazard identification and risk assessment. Part of this planning is actively managing change within the workplace environment.
- **Support** including assessing the resources needed to safely conduct the various activities onsite and having the systems in place to monitor and measure that the resources being provided meet these requirements including competency of our people resources.
- **Operation** including aspects such as eliminating hazards and reducing HSE risk so far as is reasonably practicable, dealing with management of change such as having work permits for non-standard operations such as maintenance, having procurement systems that support operational activities and having a well-developed emergency preparedness and response plan.
- **Performance and Evaluation** including how meeting compliance is evaluated, internal processes and procedures are audited, and that management are reviewing performance.
- **Improvement** including incorporation of identification and correction of non-conformities and establishing a governance structure that drives continuous improvement.

The Accensi Narangba site currently holds accreditation to ISO 14001 – Environmental Management System.

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#### **Emergency Response**

The hazard identification and risk assessment completed as part of the Safety Case has shown that the majority of Major Incidents pose a serious risk only to people on the Accensi site, that is, employees, contractors and visitors.

The types of incidents that have the potential for impact offsite include:

- If drums of flammable liquid are dropped and their entire contents released instantaneously, there is potential for a flammable vapour cloud to extend beyond the site boundaries in very calm weather conditions. Modelling shows that this flammable vapour cloud lasts only a few minutes before it is diluted to a safe level with the surrounding air.
- A major fire involving the storage of toxic materials can result in the release of toxic gases in the smoke plume. For a large fire, the heat of the fire causes the smoke and gases generated to rise high into the air, and any hazardous effects at ground level are negligible. However, in the early stages of a fire, the plume rise may not be as significant, and gases released may be dispersed closer to the ground. Modelling has been conducted to estimate the consequences of toxic gases released in a warehouse fire smoke plume. This modelling shows that at significant distances from the site the gases may be detectable due to odour or irritation (like the smoke odour and irritation from a large bushfire), but that exposure to serious risk is negligible.

In the unlikely event of a Major Incident at the Accensi site, the Accensi Emergency Response Plan will be activated. Accensi personnel all have a role to play in responding to an emergency, and Emergency Services will be contacted if any emergency is beyond the capabilities of Accensi personnel.

#### Alarm

An emergency alarm is installed at the Accensi Narangba Facility and is vital in ensuring on-site personnel responds quickly and safely to an incident.

The primary purpose of the emergency alarm is to notify personnel on-site of an emergency and to evacuate to safe muster points. However, the alarm is loud and may be heard for some distance outside of the facility.

#### **Community Response**

If Emergency Services determine that members of the community need to take precautionary action to protect themselves, you will receive notification to **SHELTER-IN-PLACE**. The method of notification will be determined by Emergency Services and may include:

- Emergency Alert using the National Emergency Warning System (NEWS): A short message is broadcast to landlines and mobile phones, informing people of the incident and where to seek further information on what to do.
- Media broadcasters: ABC and commercial radio stations or SKY News TV, where regular programming will be interrupted to broadcast general advice and specific information to the public. Other electronic media can also carry information during special bulletins for major events.
- Door knocking by police and other emergency services, or loud-hailers on police or council vehicles could be used to notify residents of the need to shelter-in-place.



#### **Action to Take**



#### SHELTER:

Go inside immediately. Take all family members and pets with you. Avoid using your phones as Emergency Services may need to contact you.

#### SHUT:

Close all external doors and windows. Seal gaps with blankets, towels or duct tape. Turn off heaters, air conditions and exhaust fans. Close fireplace dampers.

#### LISTEN:

Listen to a local radio station for further instructions and information. Once the "all clear" is given, open all doors and windows to ventilate the building.

This information is articulated in the brochure on the next page.

A copy of this Safety Case Summary is available from Moreton Bay Regional Council through their local library network and from the Accensi website <u>www.accensi.com.au</u> as part of meeting the community pursuant requirement to Section 572 of the Queensland Work Health & Safety Regulation 2011.



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#### WHAT TO DO

#### Shelter-in-place

- When the plume or smoke is passing over it is safer to stay indoors.
- After the plume or smoke has passed, it is safer to move outdoors.

Sheltering inside your home or a building in an emergency provides immediate protection from contaminated air outside. The fresh indoor air provides short term protection.

Over time some of the contaminated outdoor air will enter the building through small cracks, and eventually, after the plume or smoke has passed, the outdoor air may be cleaner than the indoor air. At this time it is safer to go outside.

Display this information in your home or place of work. Discuss emergency procedures with family, neighbours and colleagues.

### Three steps to take in a chemical emergency or large fire:







### **More Information**

This brochure represents a summary of the Safety Case for Accensi Pty Ltd Narangba operations.

If you would like further information, then please contact Accensi:

Site Manager **Telephone**: (07) 3897 2000 **Address**: 60 – 76 Potassium Street Narangba Qld 4504



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### **Appendix A: Licence to Operate**

Workplace Health and Safety Queensland Licence to operate a			
Major Hazard Facility Work Health and Safety Act 2011 and Work Health and Safety Regulation 2011			
Licence Number	Effective Da	te Expiry Date	
QLDMHF 10001	14/12/2021	14/12/2026	
S584 Conditions			
Accensi ACN: 079 875 184 Operating as: Accensi Narangba		<ol> <li>A Quantitative Risk Assessment (QRA) for the facility shall be conducted to determine the risks to the surrounding community. The QRA should be completed using recognised industry methods and satisfy the relevant criteria found in State Code 21. The revised QRA should be supplied to the regulator by 2 January 2023.</li> <li>Accensi shall prepare an annual status report to the regulator on safety improvements and progress.</li> </ol>	
60-76 Potassium Street, Narangba QLD 4504	thorised to Facility at		
Granted on 14/12/2021			
		QLD MHF Licence 4209 - F0000000978 / R0000022803	