



# MAJOR HAZARD FACILITY FACT SHEET

## SUN METALS CORPORATION ZINC REFINERY

# 1 Introduction

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This Fact Sheet contains important information for the local community about SMC's Townsville-based Zinc Refinery. Under Section 9 of the Queensland Work Health and Safety Regulations, the refinery is defined as a Major Hazard Facility (MHF). Comprehensive measures are in place to protect the community from potential hazards and it is important that you know what to do in the unlikely event of an incident with a potential for off-site impacts.

If you would like further information about the SMC Zinc Refinery, or wish to discuss any of the material contained in this fact sheet please do not hesitate to contact our Health, Safety and Training Superintendent, Melissa Need on (07) 4726 6586 or via email: [melissa.need@sunmetals.com.au](mailto:melissa.need@sunmetals.com.au)

## 2 Operations Overview

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Sun Metals Corporation (SMC) operates a Zinc Refinery located within the Townsville State Development Area (TSDA) in Stuart, approximately 11 km south of the city of Townsville in North Queensland.

Figure 1 shows the location of the zinc refinery and the SMC land boundary. There is a large buffer zone around the zinc refinery. Figure 2 shows the boundary of the zinc refinery processing area and the neighbouring land uses.

Sun Metals Corporation Pty Ltd (SMC), the Australian subsidiary of the Korea Zinc Company Limited commenced construction in 1996 and began production in late 1999. The refinery produces zinc metal and by-products (mainly sulphuric acid) from zinc concentrate purchased from mining companies within Australia and other locations around the world.

The site is divided into the following main process areas:

- Roasting and sulphuric acid production
- Leaching
- Purification
- Electrolysis
- Casting
- Administration
- Warehouse

The refinery operates 24 hours per day.

SMC makes an important contribution to the local and broader community. The site employs over 250 permanent employees and 100 contractors. Our operations play a key role in the Queensland economy.

## 3 Major Hazard Facility (MHF) Requirements

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The Sun Metals Corporation Zinc Refinery is a licensed major hazard facility (MHF). The operator of an MHF is required to demonstrate to the regulator (the Hazardous Industries and Chemicals Branch (HICB) of Workplace Health & Safety Queensland), how the facility achieves an acceptable level of risk to people.

Each MHF facility is required to develop a Safety Case which demonstrates to the regulator that;

- all potential major incident scenarios have been identified
- all hazards which could cause or contribute to a major incident occurring have been identified
- that a comprehensive safety assessment has been undertaken
- that effective risk control measures have been implemented
- that a comprehensive management system has been implemented
- that a comprehensive emergency response management plan has been implemented

## 4 SMC's Risk Management Controls

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SMC's Safety Case has demonstrated to the regulator our comprehensive approach to risk assessment, details of our integrated Health, Safety, Environment and Quality Management System (HSEQ MS) and Emergency Response Management Plan (ERMP). We have these processes in place to control the potential risk to people, property or the environment.

Our risk control measures include:

- comprehensive understanding of the major incident hazards associated with the facility and ensuring all safeguards are in place, maintained and governed to assure ongoing acceptable levels of risk;
- consideration of all practicable risk reduction measures to prevent or mitigate a loss of control of processes which could lead to a potential major incident scenario and the implementation of all reasonable measures to assure the facility is operating at acceptable levels of risk;
- established objectives and associated key performance indicators for achieving maximum risk reduction measures;
- formal management systems that monitor and control the integrity of equipment and operational practices to reliably sustain safety performance;
- adequate emergency response plans to contain, minimise and control a hazardous material emergency at the facility;
- adequate education and training provided for persons operating the facility to enable them to perform competently to the required standards;
- consultation with employees and relevant stakeholders to identify and manage unacceptable risk at the facility;
- reviews of the HSEQ MS at appropriate intervals and the development of projects to further reduce the risk where practicable; and
- implementation of effective governance processes which identifies and sets safety objectives, monitors and challenges the facility safety performance and enables achievement of safety objectives

## 5 Living Near a MHF - What You Need to Know

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### 5.1 Community Emergency Response

SMC has operated at the Townsville site for over 19 years and is committed to the safety of its employees, contractors, visitors and minimizing the impact of our activities on the community and the environment.

We have a range of comprehensive measures in place to protect the community from potential hazards and incidents and it's important to us that you know what to do in the very unlikely event of an incident with potential off-site impacts.

### 5.2 Potential Major Incidents

Although unlikely, SMC through its comprehensive hazard identification process has identified the following potential incidents at the refinery that could potentially have an off-site impact:

- Loss of containment of a hazardous gas (chlorine)
- Accidental / unintended ignition of LPG or materials which could ignite LPG

SMC has engaged external engineers to evaluate the maximum effect of a worst case incident on our surrounding community. SMC has an extensive buffer zone that would contain hazardous incidents to SMC land.

Consequence modelling shows a chlorine release would dissipate in air over the buffer zone to a level that the maximum effects of an unlikely worst case chlorine release would be an objectionable odour with no permanent health effects out to a 10km radius from our facility. Outside this radius there are no effects on our surrounding community.

Explosion modelling also shows also that in the unlikely event of a worst case LPG ignition incident hazardous effects would be contained inside our buffer zone.

### 5.3 SMC - Emergency Response Management Plan

Our Emergency Response Management Plan sets out how SMC acts in the event of an emergency. It includes how to respond in the event of local, on-site and off-site emergencies. These plans have been developed in conjunction with local emergency response agencies.

In the case of an emergency with potential for off-site impacts, SMC will call 000 for Emergency Services. Emergency Services are the designated responders to emergencies, including those which have the potential for off-site impacts.

All personnel on site are trained in what to do if the emergency is activated. The refinery is a continuous manufacturing facility, we have fully trained emergency response personnel on-site 24 hours a day, 7 days per week. The facility is well placed to deal with any situation through procedures and a trained emergency response team.

### 5.4 During an Emergency

In most circumstances if you live or work close to our facility you should not need to do anything in the event of an emergency as it will be controlled by facility personnel or Emergency Services.

If the emergency does require you to take action or evacuate you will be notified by Emergency Services, as they are the only ones who can lawfully order an evacuation and you must follow their instructions.

In the unlikely event of a gas release emergency that affects the quality of air, SMC recommends that you immediately follow the instructions outlined below.

- Go immediately indoors.
- Close internal door and windows.
- Switch off any air conditioners or exhaust fans.
- Remain indoors until you receive instructions from Emergency Services.
- Tune into the radio or television for updates.
- Telephones should be used for emergencies only.

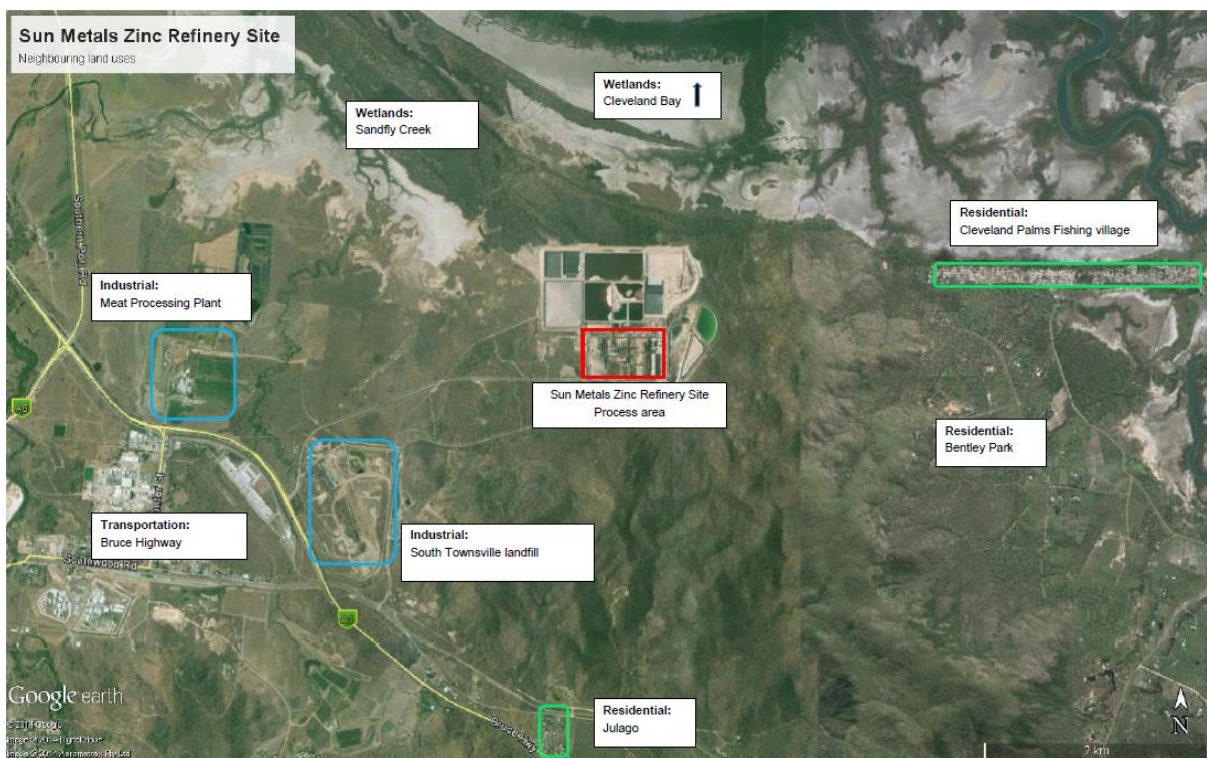


Figure I – SMC Zinc Refinery Location and Neighbouring Land Uses



Figure 2 – SMC Zinc Refinery Location and Land Holdings