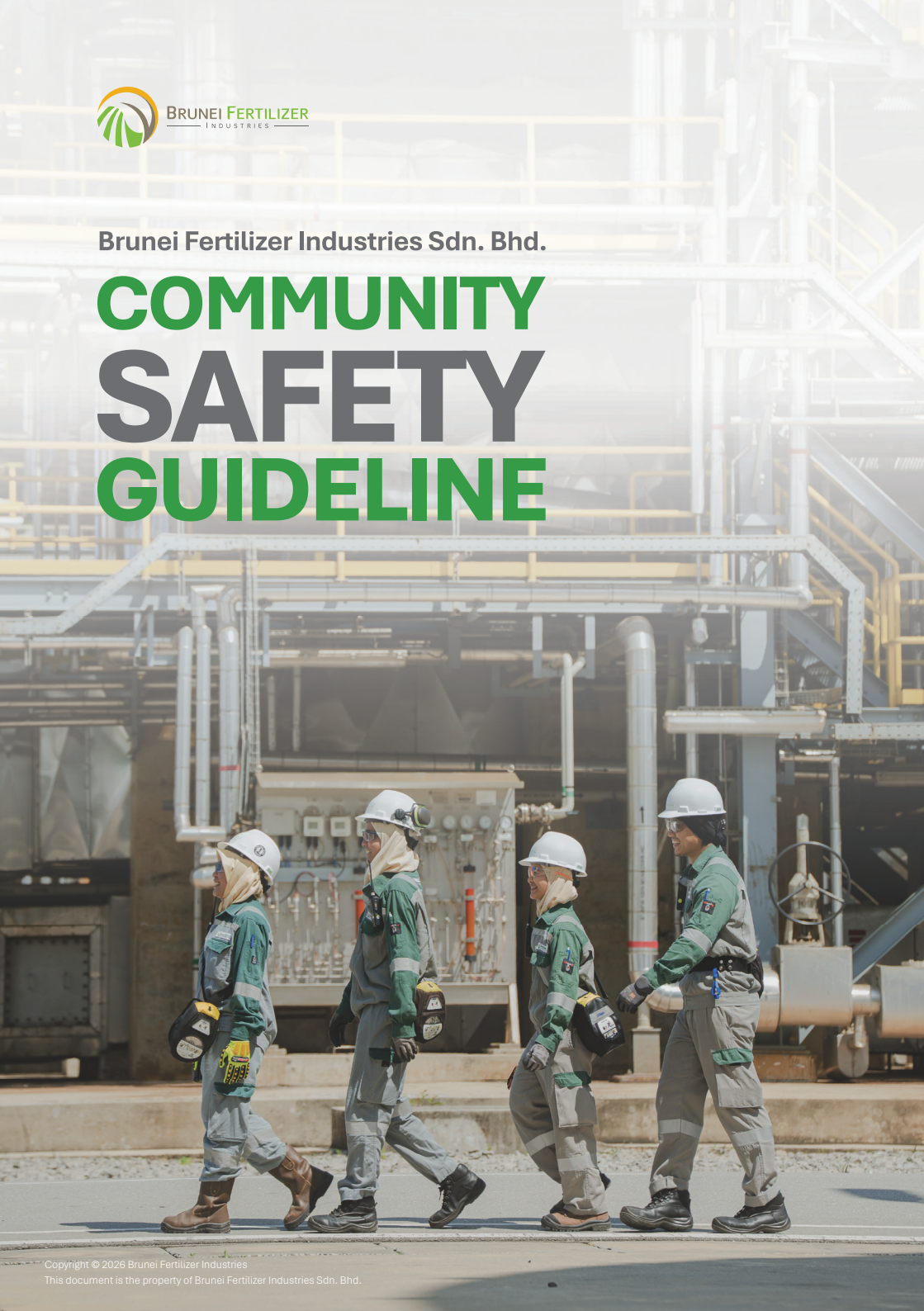
BRUNEI FERTILIZER INDUSTRIES

Brunei Fertilizer Industries Sdn. Bhd.

# COMMUNITY SAFETY GUIDELINE



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# About BFI

**Brunei Fertilizer Industries Sdn. Bhd. (BFI)** was established on the 28th of October 2013 and is owned by the Government of Brunei Darussalam. It is the country's premier Ammonia and Urea Plant and also one of the largest single train fertilizer plants in Southeast Asia.

BFI's state-of-the-art plant sits on a 55-hectare site in Sungai Liang Industrial Park in the Belait District.

The project consists of an Ammonia Plant, Urea Synthesis and Granulation Plants, Offsite & Utilities Plant and a dedicated export jetty, the BFI Terminal.

BFI is primarily focused on the sourcing, production, distribution, sales and marketing of nitrogen fertilizers and industrial chemicals. With a main feedstock of natural gas and raw water both sourced domestically, the BFI Plant has a production nameplate capacity of 2,200 metric tonnes per day of ammonia which is fully converted to produce 3,900 metric tonnes per day of granular urea.

Demonstrating its commitment to excellence in safety, quality, and environmental stewardship, BFI achieved **ISO 45001: Occupational Health and Safety Management System** accreditation in December 2024, complementing its **ISO 9001: Quality Management System, ISO 14001: Environmental Management System** certifications, and the **IFA Protect & Sustain** certification in November 2025. BFI was also awarded the IFA Industry Stewardship Champion in April 2025.

# Safety First!

At BFI, safety is our first priority in everything we do.

BFI stands fully compliant with the Workplace Safety & Health Act, Chapter 277 and adheres strictly to the Control of Major Accident Hazard Regulations (COMAH) Regulation 2017.

In 2020, BFI was awarded the Safety Case by SHENA Brunei (Safety, Health and Environment National Authority), a report detailing the safety-related aspects of the Plant and the procedures set in place to combat any potential risks or hazards that may occur.

BFI has also been granted a License to Operate (LTO) for Plant operations by Petroleum Authority of Brunei Darussalam and its jetty, the BFI Terminal (BFIT) by Muara Port Authority Brunei Darussalam to carry out operational activities. Additionally, the company also holds other licenses in effect such as the International Ship and Port Facility Security (ISPS) Code by the Maritime and Port Authority of Brunei Darussalam and Poison License authorised by the Ministry of Health, Brunei Darussalam.

# Emergency Readiness

Plans for emergencies outlining the specific teams and emergency flow of command in detail are prepared and on-standby, because such incidents cannot be ruled out completely.

BFI has established an Incident Command Team and its emergency plans are constantly updated and reviewed, in cooperation with various relevant government agencies, authorities and its stakeholder community. Notices are also issued out to the Liang-Lumut community members on an ad-hoc but timely basis in the event of any planned/unplanned operational activity, with BFI's emergency contact numbers and representatives listed for ease of contact. The nearest Fire Brigade station, SPARK Bomba Station, is situated within the SPARK area. In addition, BFI maintains its own Fire Station equipped with fire truck, as well as a Clinic and Ambulance on standby within the plant facility.

The BFI Plant facility is also fenced in, where the entire area is patrolled 24 hours a day and with video surveillance. The employees, visitors and vehicle traffic access is made through monitored gates with controlled access.

# Feedstock

## *Natural Gas*

BFI exclusively uses **natural gas** (mainly Methane) as its raw feedstock, supplied to the Plant via a pipeline originating from the Brunei Shell Petroleum (BSP).

The delivery process is facilitated via the Fiscal Metering Station 2 (FMS2), along with a pressure control station. Both of these components are under the supervision of BSP and are operated by the same entity.

# Intermediate & Final Products

With a feedstock of natural gas and raw water both sourced domestically, there are a two additional raw materials required to be produced in order to complete the production of BFI's final product, Granular Urea, which are:

- Hydrogen Gas
- Ammonia

The table below provides a brief description, purpose and hazardous properties of each material and product:

| Material/Product | Description & Purpose | Hazardous Properties |
|---|---|---|
| **Hydrogen** | Hydrogen gas is generated as a product within our processing operations through steam reforming of natural gas.<br><br>It holds the status of a raw material with obtaining Nitrogen gas from the air, pivotal in the production of Ammonia. | Colourless, non-toxic gas with no colour or odour.<br><br>Highly flammable.<br><br>Irritating to the skin and the respiratory system. High concentrations can be fatal.<br><br>Non-carcinogenic. |
| **Ammonia** | Ammonia is an essential component in fertilizer production. It can exist in gas or liquid form.<br><br>Ammonia stays within our pipeline and processing unit. | Colourless gas with pungent odour.<br><br>Toxic by inhalation.<br><br>Flamable. |
| **Urea** | With a 46% nitrogen content, granular urea is an important fertilizer facilitating the better growth of plants and crops. | Solid odourless white pellets.<br><br>Non-toxic.<br><br>Non-flammable.<br><br>Melts when in contact with water. |

# Intermediate & Final Products

## *Ammonia*

**Ammonia ($NH_3$)** is a chemical with an important role in both traditional industry and the emerging clean energy transition. It is produced on a large scale, primarily for use in fertilizer production and as raw materials for other chemical production.

It is also one of BFI's products for sale, where small quantities are transported monthly within Brunei.

Ammonia is also being eyed as a low-carbon energy carrier and can be transported more easily than hydrogen gas. With its growing role, ensuring process safety in ammonia production, storage, and transport is more important than ever.

However, ammonia is a hazardous substance. It is toxic and corrosive.

The transportation of ammonia involves high level of safety standards for protecting people, assets, and the environment as we increase our use of this chemical in a sustainable way.

Ammonia is a colorless toxic and corrosive gas at room temperature with a sharp, pungent odor. It is lighter than air in its gaseous form (around 0.6 of air). it is typically stored in tanks as liquid under atmospheric pressure or under moderate pressure. A sudden leak can form a cold, dense two-phase cloud. Upon release, liquid ammonia rapidly evaporates and expands as gas, potentially forming a large cloud. The result is an aerosol fog that spreads near the ground, posing a danger to workers and communities nearby. Water curtains are used to scrub ammonia vapour and make the atmosphere safe.

Ammonia is highly toxic to humans. and can be detected by smell at concentrations as low as 5 ppm. At a few hundred ppm, it causes eye, throat, and lung irritation; prolonged exposure above 150 ppm can cause irreversible harm. In high concentrations (around 1,500 ppm and above), ammonia can quickly be fatal to breathe.

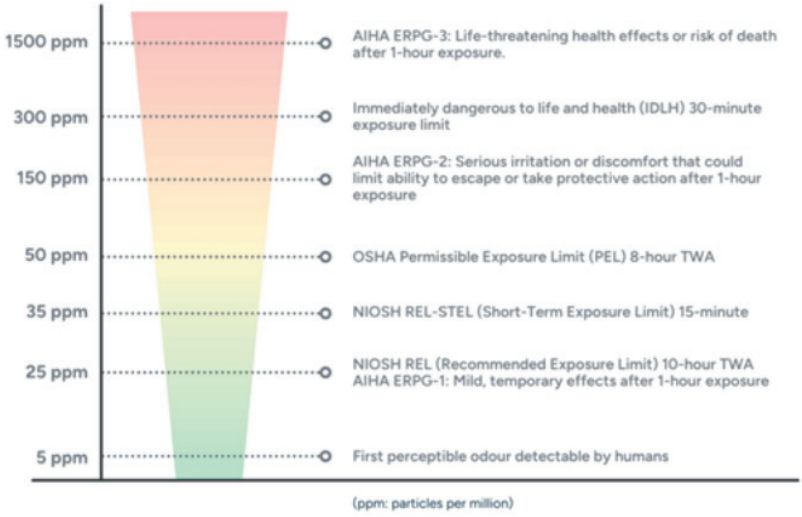
# Intermediate & Final Products

## *Ammonia* *(continued)*

Additionally, contact with liquid ammonia can cause severe cold burns, or frostbite. It's also caustic and can burn the skin on contact. These properties make ammonia releases extremely dangerous.

Ammonia is generally hard to ignite and is not highly flammable under normal conditions. Its flammability range is narrow, requiring relatively high concentrations–around 15–28% in air, for ignition to occur.

Figure below shows key exposure limits for ammonia based on well-known occupational safety guidelines. These values are a helpful reference for professionals involved in ammonia handling, leak prevention, detection system design, or emergency planning.




Overall, ammonia is both a valuable resource and a hazardous chemical. Safe handling requires understanding that as a liquid that boils at –33°C, a leak can instantly create a freezing, choking cloud, and that emergency measures must be in place to protect anyone in the vicinity.

# Safety Measures

## Mandatory Personal Protective Equipment (PPE)

BFI has a mandatory and strict Personal Protective Equipment (PPE) requirement for all its employees, contractors and visitors in order to be granted entry into the Plant area.

## MANDATORY PPE

- Full fire retardant coverall set with reflectors
- Fire retardant headscarf
- Safety helmet with chinstrap
- Safety shoes
- Protective eyewear
- Escape hood
- Suitable type of hand protection
- Life jacket (Jetty only)
- Hearing protection

# In Case of Emergencies

Based on the possible emergency scenarios identified, BFI has developed an external emergency plan, with intervention procedures in the event of a possible emergency situation.

Every individual who is present at the affected area must follow these instructions:

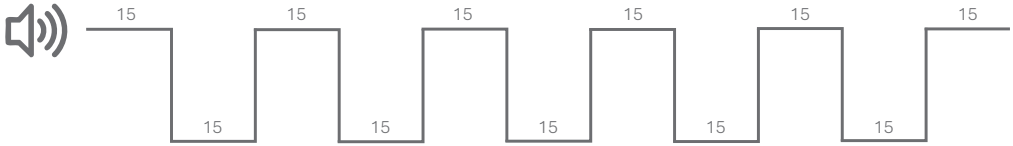
*Cover your mouth and nose while seeking shelter using wet material such as a towel or handkerchief.*

*Everyone in the Plant is provided and protected by an escape hood & all necessary protection equipment.*

# Types of Alarm Sounds

## 1. Fire Alarm

A possible fire emergency situation can be identified by the fire alarm sound emitting a consistent ringing of every 15 seconds. Assemble at the designated assembly point upon hearing this alarm.




## 2. Evacuation Alarm

All personnel present at the BFI Plant shall move to the secondary assembly point. At this stage, the Plant is no longer safe. The Plant will be taken over by the District Disaster Management Committee. The alarm is a whaling sound.

## 3. All Clear Alarm

Indicates that the Plant is safe and everyone can return back to their normal activities. Alarm is continuous for 1 minute.

# In-Land Transportation of BFI's Product

## BFI's Granular Urea Product

BFI's product is urea in solid and granular form, which is transported daily in the patented designed Green Rotainer. Urea is a white, crystalline compound which is non-flammable substance. When urea granules are exposed to fire, it melts and the urea molecules will eventually decompose and break down into simpler, non-flammable substances mainly consisting of carbon dioxide, nitrogen and others. It is considered as a non-dangerous goods according to international regulations of IMDG (International code for the Maritime Transport of Dangerous Goods) and Directive 67/548/EEC (European Union Regulations).

## Environmental Impact

BFI's urea product is a nitrogen based fertilizer which can be handled manually by farmers with no pollution impact to the environment.

## Product Transportation

BFI has implemented various controls on the transportation of its urea product via third-party contractors using BFI's Rotainers, starting from continuous risk assessments to identify potential hazards on the road to the implementation of strict safety controls (e.g. installation of a Fatigue Management System which can also monitor the journey of the truck, speed and driver). In the event of violations by its trailer transport drivers, strict disciplinary measures are taken, up to and including termination of the driver's contract.

Driver requirements begin with at least 5 years of experience behind the wheel of a trailer, mandatory defensive driving certification, and a mentoring program for all drivers with less than 5 years of experience behind the wheel of a trailer.

In terms of fatigue management, BFI monitors the health of drivers by requiring all drivers to submit an up-to-date medical report. On a daily basis, BFI has also set a limit of 2 trips per day for each driver.

# What To Do In The Event of An Emergency

## *Community & General Public*

BFI is committed to the safety of our neighbours and surrounding community members. In any emergency, please follow the steps below:

### 1. Focal Contact Persons and Emergency Services

Please report:

- Your name and location
- What you see, hear, or smell
- Any injuries or immediate risks

| For Immediate Danger – Call National Emergency Services | |
|---|---|
| Ambulance | 991 |
| Police | 993 |
| Fire & Rescue | 995 |

| BFI Community Hotline | |
|---|---|
| Community Liason Officer | +673 7171122 |

### 2. Trust Only Credible Information

- Follow **updates only from official BFI channels and representatives,** local authorities, or emergency services.
- Do **not** rely on rumors, forwarded messages, or unofficial social media posts.
- **Avoid sharing unverified information** that may cause unnecessary panic.

**Official updates will be shared through:**

- BFI Community Hotline
- Official BFI social media and website
- Announcements from local authorities

### 3. If Evacuation Is Required

- Follow directions from BFI or authorities immediately.
- Return only after an official “all clear.”

# Contact

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Brunei Fertilizer Industries

Scan this QR code
for a quick save:

**General Contact**

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