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ICMC RECERTIFICATION – SUMMARY REPORT

INTERNATIONAL CYANIDE MANAGEMENT INSTITUTE

International Cyanide Management Code Production Recertification Audit Report

SUPERFORM CHEMISTRIES LIMITED DAHEJ, BHARUCH, GUJARAT, INDIA

Date of Audit: 23rd to 26th February 2026

For the

International Cyanide Management Institute
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1.0 INTRODUCTION

1.1 Operational information.

Name of Company	:	Superform Chemistries Limited
Name of Transport owner	:	Superform Chemistries Limited
Name of facility operator.	:	Superform Chemistries Limited
Name of responsible manager	:	Dhiru Dangodra
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Acronyms and Abbreviations

ERP…… Emergency Response Plan

ICMC.....International Cyanide Management Code

ICMI……International Cyanide Management Institute

SCBA .....Self-Contained Breathing Apparatus

HSE .....Health, Safety & Environment

SOP…… Standard Operating Procedure

IMDG .....International Maritime Dangerous Goods

SAP .....Systems, Application and Products

IBC……Intermediate Bulk Container

SDS…… Safety Data Sheet

GIDC…… Gujarat Industrial Development Corporation

This report has been prepared by Benjamin Amoo-Mensah (Lead & Technical Auditor) with all reasonable skill, care, and diligence within the terms of the Contract with the client.

I disclaim any responsibility to the client and others in respect of any matters outside the scope of this report.

This report is confidential to the client, and I accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk

1.2 OPERATION LOCATION DETAIL AND DESCRIPTION

Superform Chemistries Limited, formerly UPL Specialty Chemicals Ltd is an Indian next-generation specialty chemical company incorporated in May 2020 and headquartered in Mumbai. Focused on sustainable manufacturing, it produces fine chemicals, agrochemicals, pharma intermediates, and cosmetic ingredients, with a major production facility in Dahej, Gujarat. Superform Chemistries operates a cyanide production facility at Dahej in the state of Gujarat in India.

The company is located within about 70sqm industrial complex in the Gujarat petroleum, chemical, and petrochemical investment region (Dahej industrial area) in the Dahej, Gujarat. The company manufactures Hydrogen cyanide to produce solid sodium cyanide tablets for gold mining for export and chemical companies who produce derivatives of Sodium cyanide.

The company has obtained ISO 9001, 14001 and 45001 and the certification was by Bureau Veritas. The operation produces about 17,000mt of solid sodium cyanide per annum. Hydrogen cyanide (HCN) is manufactured using the Andrussow process. The process involves the use of natural gas, Ammonia and air over a platinum-rhodium gauze catalyst and heated at a temperature of 1000°C. The HCN gas is reacted with caustic soda solution to form solution sodium cyanide. The sodium cyanide solution is subsequently evaporated in an evaporator to form a dry powder. The powder is then compressed into briquettes and loaded into sealed plastic lined steel/HDPE and drums the drums palletized for storage in the company's warehouse and from there distributed to its clients. Some of the solid sodium cyanide is packaged in polypropylene bags encased in plywood box.

The company was first ICMC certified on 2nd May 2023.

Audit Scope

This International Cyanide Management Code (ICMC) production audit covers all activities, facilities, and management systems involved in the manufacture and handling of cyanide at Superform Chemistries, Dahej, India production facility**,** assessed against the Code's Production Principles and Standards of Practice**.**

Audit Schedule

This recertification Audit was conducted from 23rd to 26th February 2026.

Auditor's Finding.

This operation is

X in full compliance

in substantial compliance

not in compliance

with the International Cyanide Management Code.

Compliance Statement

This operation has not experienced any compliance issues or significant cyanide incidents during the previous three-year audit cycle.

Auditor Information.

Audit Company: **BAM Consultancy Services Limited**

Lead Auditor & Technical Expert Auditor: **Benjamin Amoo-Mensah**

Lead Auditor E-mail: **csbpghana@ghana.com**

Names and signatures of other Auditors: **None.**

Auditor 1: _____ _____

Name (Print / Type Signature

Auditor 2: _____ _____

Name (Print / Type Signature

Auditor 3: _____ _____

Name (Print / Type Signature

Dates of Audit: This audit was conducted in the period of 23rd to 26th February 2026.

Auditor Attestation

I attest that I meet the criteria for knowledge, experience and conflict of interest for a Cyanide Code Certification Audit Lead Auditor, established by the International Cyanide Management Institute and that all members of the audit team meet the applicable criteria established by the International Cyanide Management Institute for Cyanide Code Auditors.

I attest that this Summary Audit Report accurately describes the findings of the certification audit. I further attest that the certification audit was conducted in a professional manner in accordance with the International Cyanide Management Code Cyanide Production Verification Protocol and using standard and accepted practices for health, safety and environmental audits.

Date: 30th April 2026

Principle 1 | OPERATIONS

Design, construct and operate cyanide production facilities to prevent release of cyanide.

Production Practice 1.1:

Design and construct cyanide production facilities consistent with sound, accepted engineering practices and quality control/quality assurance procedures.

The operation is ✓ **in full compliance** / o **in substantial compliance** / o **not in compliance** **with Production Practice 1.1**

Summarize the basis for this Finding

The plant was constructed in full accordance with approved architectural designs, and all construction and design documentation has been retained at the facility. The plant design has remained unchanged since its commissioning in 2020.

Key design records reviewed include the HCN reactor (DN2000), pressure vessel (GB15014-2011), three De-Ammonia Reactors (01-R-201, 01-R-202, 01-R-203), anhydrous ammonia storage vessel (#KEW/2019/769), gas-liquid separation vessel (1500-VF-01-V-101), cyanide crystallizing tank (1500-VF02-104A), and multiple plant and civil layout drawings for the HCN, NaCN, and ammonia storage systems. These were designed by recognized engineering companies from China and India.

Evidence confirms that the project followed proper stages of basic and detailed engineering design, risk assessments, and regulatory approvals, and the plant was built exactly according to the approved designs with no modifications.

Records confirm that the plant's design and construction were completed in accordance with established standards, with signed-off documentation from design engineers and evidence of quality assurance and control processes during construction.

The facility has been inspected and certified by recognized bodies, including TUV Pvt. Ltd. and Bureau Veritas, confirming that operations are within safe limits to prevent cyanide exposure and releases. Key certifications and inspections include:

- Certification of the waste heat recovery boiler flash vessel (01-V-125) by TUV
- Certification of ammonia storage vessels by Bureau Veritas
- Periodic hydrostatic testing of compressed gas and mobile vessels
- Inspection of excess flow control valves
- Pressure relief valve testing by Flotec Technology

- Ammonia storage thickness testing by Met-Heat Engineers

Additionally, construction materials are suitable for cyanide handling: civil structures are made of cement concrete, while cyanide storage, production systems, piping, and HCN lines use 304-grade stainless steel. Documentation confirms that materials and equipment were selected and designed in accordance with relevant standards and are compatible with cyanide processes.

The HCN and NaCN plants are equipped with interlocks and alarms to ensure safe operations and prevent process deviations, overfilling, and cyanide releases. Critical shutdown interlocks automatically stop the plant under unsafe conditions, including: temperature above 120°C, reactor pressure above 0.9 bar, reactor cooling below 50 m^3/hr, and abnormal ammonia flow (below 658 kg/hr or above 2100 kg/hr). Alarms are triggered during these events, and the plant also shuts down automatically during power outages or equipment failures. A diesel generator provides backup power, with plans to install a gas engine for additional reliability.

Cyanide handling areas are designed to prevent environmental contamination. Liquid sodium cyanide vessels are located within concrete bunded areas, while solid cyanide production buildings are self-bunded with concrete floors, walls, and doorway bunds. Upper plant floors are constructed with stainless steel, ensuring compatibility and containment.

The facility employs comprehensive inspection, testing, and maintenance systems to prevent overfilling and equipment failure. These include level indicators, high-level alarms, radar level meters, and automatic shutdown at 90% tank capacity. A Cause and Effect Matrix and alarm list define system responses to deviations. Routine inspections (covering vessels, pipes, bunds, valves, and pumps), calibration of instruments, and maintenance activities are managed through the SAP system, with documented procedures and records in place.

Additionally, automated systems control cyanide briquette filling to prevent overfilling. Safety Integrated Level (SIL2) safety system ensures that significant process deviations are detected and trigger automatic shutdowns, safeguarding against cyanide releases.

The facility has robust secondary containment and spill prevention systems for cyanide handling. Process tanks, storage tanks, and wastewater collection tanks are surrounded by cement concrete bunds designed to hold 110% of the largest tank volume (2 × 60 m^3) and are connected to pipelines that direct collected liquids, including stormwater, to the Cyanide Treatment Plant. Monthly inspections of tanks, pipelines, pumps, flanges, and bund walls confirm their integrity and ability to withstand leaks, tank collapse, and storm events. Inspection records from 2024–2026 were reviewed and found satisfactory.

All cyanide pipelines drain into containment systems to prevent accidental releases, and the NaCN plant has roof and side cladding to prevent water ingress during heavy rain. Any leaks are captured and reprocessed, with the control room able to detect pipe leaks.

The warehouse is fully enclosed, elevated, and constructed with concrete floors to prevent contact of cyanide with water. Vents ensures airflow without moisture ingress. Sodium cyanide briquettes are

stored on metal racks, and IBCs are also rack-stored. The warehouse is dry, clean, secure, and monitored 24/7 via CCTV and a central security room. Access is restricted to authorized personnel through a permit system, and a warehouse entry register is maintained. Cyanide solution tanks and vessels are located in a separate location within the plant where there is adequate ventilation to prevent build-up of hydrogen cyanide gas. Additionally, the cyanide solution tanks and vessels are located in a well fenced and secured area under lock and key.

Only sodium cyanide briquettes in 50 kg drums and 1 mt IBCs are stored, with no incompatible chemicals present in the warehouse as well as the area where cyanide solution tanks and vessels are located.

Overall, the facility's containment, spill prevention, and storage measures effectively protect against cyanide exposure, leaks, and environmental contamination.

Production Practice 1.2:

Develop and implement plans and procedures to operate cyanide production facilities in a manner that prevents accidental releases

The operation is ✓ **in full compliance** / o **in substantial compliance** / o **not in compliance** **with Production Practice 1.2**

Summarize the basis for this Finding

The facility has comprehensive plans and standard operating procedures (SOPs) to ensure safe, environmentally sound, and efficient operation of the HCN plant, NaCN plant, cyanide storage, and effluent treatment systems. Key SOPs include start-up, shutdown, emergency shutdown, troubleshooting, and operation of specific equipment such as centrifuges, screen flash driers, and briquetting machines. All procedures are documented, with dates from 2025, and the operations manual is readily available for plant use. Maintenance is managed via the SAP system, generating work orders for specific equipment tasks. Audited staff are knowledgeable and familiar with these procedures.

The facility has detailed emergency shutdown procedures for abnormal situations:

- Safety Interlock System (SIS) triggers automatic shutdowns.
- Operators can manually initiate shutdown via SIS buttons.

The HCN and NaCN emergency SOPs provide step-by-step guidance to prevent cyanide release and exposure, including contingencies for utility stoppages, exhaust system shutdown, and cleaning operations. The facility also maintains a well-equipped emergency response team, including an on-site fire brigade with fire tenders, to respond rapidly to any incident.

Overall, the operation demonstrates robust procedural, operational, and emergency preparedness measures to ensure safe cyanide management.

The facility has robust systems and procedures to manage change, maintenance, process monitoring, waste management, and cyanide packaging, ensuring safety, environmental compliance, and operational reliability:

A formal Change Management Procedure governs modifications to chemical processes, equipment, and instrumentation. Changes are initiated by the process team, reviewed and signed off by HSE, Maintenance, and Production personnel, and assessed through hazard analysis. Evidence show the installation of a Spin Flash Drier damper valve on 19/07/2021, documented on Change Management Form P12—NaC-21-1219.

The facility uses the SAP system to schedule and track maintenance for all equipment, including pumps, tanks, piping, lifting devices, and filling equipment. Maintenance is performed annually or as needed, with completed records and checklists documented. The Maintenance Engineer oversees all activities.

Process parameters such as pressure, temperature, level, flow rate, vacuum, and control openings are monitored every two hours by the production team and the control room. Instruments associated with moderate to high safety levels are calibrated every six months under procedure SCLI/QMS/PL92/ENGG-INST/W1-002. Calibration and monitoring records from 2024–2026 were verified.

Procedures are in place to prevent unauthorized discharge of cyanide solutions or contaminated water. Secondary containment collects such solutions, which are then treated in the Cyanide Treatment Plant to 0.18 mg/L using calcium hypochlorite, below the Gujarat Pollution Control Board limit of 0.2 mg/L, before discharge to the Effluent Treatment Plant. Solid cyanide waste is collected in spill pits and recycled or sent to approved external waste treatment facilities. Effluent is only discharged to the GIDC common disposal system, with no direct discharge to surface water.

Cyanide briquettes are packaged and labelled in compliance with IMDG regulations. Bulk 1 mt briquettes are in polyethylene-covered sacks within plywood boxes on pallets; 50 kg briquettes are packed in poly-covered metal drums. All packages bear toxic 6 labels, marine pollutant labels, and UN number 1689, ensuring safe transport and regulatory compliance.

Overall, the facility demonstrates strong operational control, environmental protection, and safety practices across all cyanide management, maintenance, and packaging activities.

Production Practice 1.3:

Develop and implement plans and procedures to operate cyanide production facilities in a manner that prevents accidental releases

The operation is ✓ **in full compliance** / o **in substantial compliance** / o **not in compliance** **with Production Practice 1.3**

Summarize the basis for this Finding

The facility maintains a comprehensive and documented inspection program covering all critical cyanide equipment and areas, ensuring operational safety and equipment integrity.

Routine Inspections are conducted as follows:

- **Cyanide Holding Tanks:** Inspected every six months for corrosion, leaks, and structural integrity. Hydrostatic and thickness tests are conducted in line with Gujarat Factory Rules 1963, Rule 61.
- **Secondary Containments:** Inspected weekly for structural damage, cracks, spalling, leakages, floor slope, valve security, spill pit functionality, access, lightning protection, and spill kit availability.
- **Pipelines, Pumps, and Valves:** Inspected weekly, including hydrotests and thickness measurements, with attention to corrosion and leakage.
- **Shipping Containers:** Inspected prior to loading for corrosion, holes, and dents according to a document Standard Operation Procedure.

Six-monthly tank inspections, weekly pipeline/pump/valve inspections, and pre-loading container inspections are sufficient to confirm equipment functions within design parameters. All inspections are documented with observations, inspector name, date, and signature. Identified deficiencies are recorded, communicated to the Maintenance Manager, and corrective actions are tracked and executed through the SAP system. Hard and soft copies of inspection records are retained for verification. Sampled inspection records from were scrutinized by the auditor.

Principle 2 | WORKER SAFETY

Protect workers health and safety from exposure to cyanide.

Production Practice 2.1:

Develop and implement procedures to protect facility personnel from exposure to cyanide.

The operation is ✓ **in full compliance** / o **in substantial compliance** / o **not in compliance** **with Production Practice 2.1**

Summarize the basis for this Finding

The operation has established and implemented procedures to minimize worker exposure, supported by a comprehensive Safety Management System certified to ISO 45001. Standard Operating Procedures (SOPs) are in place for all major plant areas, including HCN, NaCN, Warehouse, and Effluent Treatment units.

For normal operations, detailed procedures cover activities such as ammonia and caustic soda unloading, and NaCN packing. The operational manuals for NaCN, HCN, and effluent treatment plants comprehensively address all job activities—such as equipment start-up, loading/unloading, hazardous waste handling, detox operations, spill management, and material movement. These procedures clearly define required safety practices and PPE usage. PPE requirements are specified in matrices and include chemical splash suits, full-face respirators, PVC gloves, and appropriate safety boots. All documents were reviewed by the auditor and found adequate.

For non-routine and maintenance tasks, a Permit-to-Work system is enforced alongside mandatory Job Safety Analysis (JSA) to identify hazards and define control measures and PPE requirements. Maintenance activities require prior equipment decontamination, and sampled JSA records confirm implementation. PPE use is mandatory for all personnel.

The facility actively involves workers in health and safety management. A formal safety committee—comprising management, workers, and contractor representatives—meets monthly in accordance with established guidelines. The committee facilitates discussion, hazard identification, and continuous improvement in safety practices. Additional daily safety meetings led by Unit Heads provide further opportunities for worker input. Records of these meetings were reviewed and verified by the auditor.

The facility has identified the HCN and NaCN plants as high-risk areas due to potential exposure to hydrogen cyanide gas and cyanide dust. Quantitative Risk Assessment (QRA) modeling has been conducted to identify exposure zones. Engineering controls include a dust extraction system that captures cyanide particles and neutralizes them in a scrubber using caustic solution. Stationary HCN

gas monitors are installed with alarm set points at 4 ppm, supported by automatic and panic alarm systems. Workers are required to use full PPE in line with defined exposure limits (10 ppm instantaneous or 4.7 ppm over 8 hours). PPE, along with emergency eyewash stations and showers, is strategically located throughout the plant.

A total of 57 gas detectors (including HCN, ammonia, and hydrocarbon detectors) are installed, along with portable detectors worn by workers, all set to alarm at 4.7 ppm and 10 ppm. Independent monthly monitoring by Bharuch Enviro Infrastructure Limited (BEIL) confirms compliance, with recorded HCN levels below 0.1 ppm.

All gas detectors are calibrated every six months by Uniphos Envirotronic Pvt Ltd, with calibration certificates verified. Calibration records of the hydrogen cyanide gas detectors for the past 3 years have been retained. A buddy system is enforced in high-risk areas to ensure continuous monitoring and rapid emergency response.

Employees undergo pre-employment and mandatory six-monthly medical examinations in line with regulatory requirements. The test includes Electrocardiogram (ECG) which determines the electrical activity of the heart. Additionally, employees breathing, hearing and vision are checked. Employees working in plant a thoroughly checked to ensure that they can use full face respirators. Workers having a history of Asthma are not permitted to work the cyanide areas where the use of full-face respirator is required Sampled records were reviewed by auditor. A clothing change and decontamination procedure is in place, with contaminated wash water treated before discharge. Employees as well contractors leave their clothes at the washing facility for washing by dedicated staff who wash them in the company's washing machine. Visitors are not permitted to enter areas with the potential for cyanide contamination.

Safety measures are reinforced through visible PPE requirements, hazard warning signs (including toxic and marine pollutant labels), SDS availability, and clear "No eating, drinking, or smoking" signage displayed in both English and Hindi.

Production Practice 2.2:

Develop and implement plans and procedures for rapid and effective response to cyanide exposure.

The operation is ✓ **in full compliance** / o **in substantial compliance** / o **not in compliance** **with Production Practice 2.2**

Summarize the basis for this Finding

The facility has a comprehensive onsite Emergency Response Procedure (ERP) (doc # Gexcon-20-F-700087-RA-01) developed in accordance with local regulations and shared with the Bharuch District Authority. The ERP incorporates 3D consequence analysis modeling covering scenarios such as anhydrous gas release, natural gas pipeline leaks, NaCN reactor gas releases, and start-up failures. Response actions are clearly defined for each scenario, with modeling indicating no significant ground-level HCN impact. In case of exposure through inhalation and ingestion, affected persons will be immediately moved to safety, given 100% oxygen, and transported by a well-equipped ambulance (with nurse) to the onsite clinic, located about 3 minutes' drive from the plant. The plan also outlines how to respond to cyanide exposure through the skin or eyes. It requires that affected individuals be immediately taken to the nearest emergency shower or eyewash station for thorough rinsing with plenty of water, and then transported immediately to the site clinic for medical evaluation by a doctor. Emergency Procedure Guides are displayed across the plant, while offsite emergency response is managed by the District Collector.

Emergency facilities—including eye wash stations, safety showers, alarms, and dry powder fire extinguishers—are strategically located, documented, and regularly inspected and tested, with records confirming functionality.

The plant is equipped with 58 SCBA units, 30 airline breathing apparatus sets, first aid kits, oxygen resuscitators, and cyanide antidote kits. Communication systems include walkie-talkies and mobile phones. The onsite clinic operates 24/7 with two doctors and seven nurses, equipped with oxygen and cyanide antidotes (Amyl nitrite, Sodium nitrite, and Sodium thiosulphate), all stored correctly and within valid expiry dates.

First aid and emergency equipment are routinely inspected and maintained. Safety Data Sheets (SDS) are available in English at strategic locations. Process tanks and pipelines are clearly labeled with contents and flow directions, and bund capacities are indicated.

A formal decontamination procedure is implemented, requiring all personnel to wash, shower, and properly handle PPE after potential cyanide exposure. Contaminated clothing is washed in dedicated machines, with wastewater treated in the effluent treatment plant.

The facility maintains two fully equipped ambulances on standby and has Memoranda of Understanding (MOUs) with multiple hospitals (including BAPS, Zydus, Joyaben, Sardar Patel, and Harmony Medicare) that have ICU and specialist capability to manage cyanide exposure cases.

The facility has an Incident Investigation Management Standard (doc.# OHS-II-2022-23). The procedure is developed and implemented to investigate and evaluate cyanide exposure incidents to determine if the facility's programs and procedures to protect worker health and safety and to respond to cyanide exposures are adequate. Section 8.0 of the Investigation Management Standard mentions that, in case of an incident and after a person has been properly handled or in worst case scenario a person dies, an investigation team will be formed. The team will consist of the Production manager (Unit Manager), Maintenance Manager, Safety personnel and two (2) workers who have been trained in investigation process. The team follows the procedure specified in the Incident Investigation

Management Standard. Over the ICMC recertification period, the investigation procedure has been applied to non-cyanide incidents. Injury-related accidents were investigated jointly by the Safety and Production departments to identify root causes. Comprehensive records have been maintained, including details of the incidents, treatments provided, analysis of causes, and both preventive and corrective actions with specified implementation dates.

Since the last recertification (past 3 years), there have not been any significant incidents related to cyanide requiring the application of the Investigation Management Procedure.

Principle 3 | MONITORING

Ensure that process controls are protective of the environment.

Production Practice 3.1

Conduct environmental monitoring to confirm that planned or unplanned releases of cyanide do not result in adverse impacts.

The operation is ✓ **in full compliance** / o **in substantial compliance** / o **not in compliance** **with Production Practice 3.1**

Summarize the basis for this Finding

The facility operates a zero direct discharge system to surface or groundwater. All process effluents are treated onsite to meet Gujarat Pollution Control Board (GPCB) standards before being discharged into a dedicated GPCB drain leading to the sea. Discharge is only permitted when total cyanide levels are below 0.02 mg/L, with daily internal monitoring and verification by third-party laboratories and GPCB approval. Authorization certificate issued to the facility to discharge their treated effluent into their drains is valid for five years. The certificate was sighted by auditor.

All contaminated liquids including process waste, bund water, and potentially contaminated rainwater are collected, treated (using calcium hypochlorite and ozonation), and routed to the Cyanide Treatment Plant before discharge. Continuous monitoring ensures compliance, with sampled records (2024–2026) confirming cyanide levels below 0.02 mg/L. There is no indirect discharge, and an Environmental Impact Assessment (2021) established baseline environmental conditions.

Groundwater use is prohibited in the region by the Central Groundwater Authority (CGWA), and both the facility and surrounding communities rely on piped water from GIDC. Despite this, groundwater monitoring is conducted, with results consistently below 0.01 mg/L and no recorded leakage or contamination since operations began.

The operation does not envisage any seepage into the ground since it does not discharge into surface water. The effluent from the facility passes through pipeline into the sea. GIDC monitors 24/7 the pipes and the discharges of the effluent into the sea. Since the commencement of operation, the has not been any leakage or impact on groundwater.

The facility continuously monitors atmospheric emissions of hydrogen cyanide (HCN) gas and cyanide dust to protect workers and nearby communities, with the nearest community located 2 km away. Independent monthly process stack analyses are conducted by Bharuch Environ Infrastructure Limited (BEIL), with samples taken from key units including the tail gas incinerator, heat recovery units, cyanide stripper, and ammonia stripper of the Effluent Treatment Plant.

Reviewed test reports (dated November 2024 to January 2026) confirm that HCN concentrations in all stack discharges were consistently below the detection limit (less than 0.1 ppm), including emissions from the cyanide stripper. These levels are significantly lower than the regulatory limit of 10 mg/Nm³ for HCN emissions in India, indicating effective emission control and compliance with environmental standards.

Air emissions are strictly controlled and monitored. The monthly stack testing shows HCN levels below detection limits (<0.1 ppm). Emissions from key units are treated (e.g., with caustic soda), and alarms are triggered if limits are exceeded. The monitoring ensures protection of both workers and the public. Monitoring is conducted at frequencies adequate to characterise the medium being monitored and to identify changes in a timely manner. Auditor found monitoring frequencies adequate.

Principle 4 | TRAINING

Train workers and emergency response personnel to manage cyanide in a safe and environmentally protective manner.

Production Practice 4.1

Train employees to operate the facility in a manner that minimizes the potential for cyanide exposures and releases.

The operation is ✓ **in full compliance** / o **in substantial compliance** / o **not in compliance** **with Production Practice 4.1**

Summarize the basis for this Finding

The facility has a comprehensive and mandatory training program for employees, contractors, and visitors, beginning with general induction and a 12-minute cyanide awareness video. Training is governed by a formal procedure (doc # UPL-PSM-CR-01, dated 1st October 2022), which categorizes training into Level 0, Level 1, and Level 2.

- Level 0 & Level 1: Delivered as a combined three-day course for all personnel, covering key topics such as cyanide properties including addressing cyanide hazards, toxicity, poisoning mechanisms which details health effects and symptoms of cyanide exposure, spill handling, first aid, emergency response, and proper use of PPE.
- Level 2: Job-specific training focused on cyanide plant operations, including process chemistry, SOPs, safety interlocks, plant start-up/shutdown, emergency response, PPE use, and mock drills.

Training includes annual refresher courses, with PPE training conducted annually and mock drills quarterly. New employees must complete mandatory training and supervised "on-the-job" training before starting work, with emphasis on competency in SOPs. Refresher training for Level 0 and Level 1 are organized annually.

Participants are assessed through written tests (pass mark: 25/35), with retraining required if unsuccessful, and supplemented by verbal evaluations. Training records, attendance, and assessment results (2024–2026) were verified, and interviewed selected personnel demonstrated strong knowledge of cyanide safety.

Training is delivered by qualified department heads, and daily safety meetings reinforce awareness. Overall, the program ensures that all personnel are properly trained, competent, and prepared to work safely with cyanide.

Production Practice 4.2

Train employees to respond to cyanide exposures and releases.

The operation is ✓ **in full compliance** / o **in substantial compliance** / o **not in compliance** **with Production Practice 4.2**

Summarize the basis for this Finding

The facility has implemented structured emergency response training on cyanide exposure issues for all personnel working in and around cyanide operations, as required by the facility's Annual Training Calendar. Training is aligned with emergency response SOPs and includes cyanide awareness videos during induction, as well as specialized emergency response training conducted by Fire Protection India. Training Attendance records were verified by auditor.

Workers are specifically trained to respond to cyanide exposure scenarios, including inhalation, unconsciousness, skin contact, eye contact, and ingestion. Training is supported by company doctors,

who provide instruction on cyanide poisoning management and administration of antidotes such as amyl nitrite, sodium nitrite, and sodium thiosulfate to the nurses at the facility's clinic. Practical simulated emergency drills (2024–2026), including HCN exposure scenarios, are conducted, with response actions such as oxygen administration demonstrated.

Training effectiveness is verified through documented attendance records, written assessments, and employee interviews, all confirming a good understanding of emergency response procedures. Overall, the program ensures personnel are well-prepared to respond effectively to cyanide exposure and release incidents. Training records of employees are retained throughout an individual's employment.

Principle 5 | EMERGENCY RESPONSE

Protect communities and the environment through the development of emergency response strategies and capabilities.

Production Practice 5.1

Prepare detailed emergency response plans for potential cyanide releases.

The operation is ✓ **in full compliance** / o **in substantial compliance** / o **not in compliance** **with Production Practice 5.1**

Summarize the basis for this Finding

The facility has an established Onsite Emergency Response Procedure (ERP, doc # SCLI/QMS/PL92/PROD/NaCN/SOP-008 Rev. 02) that categorizes incidents into three levels:

- **Level 1:** Minor spills or contained release
- **Level 2:** Significant spill or gas release
- **Level 3:** Major release or uncontrolled event

The ERP incorporates a Quantitative Risk Assessment covering potential cyanide incidents, environmental pollution, fire, and explosions. It defines immediate actions, including control room operations, Emergency Response Team (ERT) actions, spill containment, medical response (oxygen and cyanide antidotes administration), environmental response, communication, evacuation, decontamination, drills, and documentation. Spill containment procedures include containment, recovery, and safe disposal of leaked cyanide. The ERP is updated annually.

The Offsite Emergency Plan is coordinated by the District Collector of Bharuch, reporting to the Gujarat State Government, and is based on regional petrochemical facility plans.

The ERP comprehensively addresses various cyanide-related emergency scenarios, including catastrophic hydrogen cyanide (HCN) releases, spills, fires, explosions, equipment failures, and environmental risks. The procedure, mentions that, in case of a **c**atastrophic HCN release the affected persons will be evacuated upwind, given 100% oxygen immediately, and transported by ambulance to a nearby clinic (within 3 minutes). Cyanide antidotes (Amyl nitrite, Sodium nitrite, and Sodium thiosulphate) will be administered by company doctors. Environmental releases will be controlled by isolating the source (closing valves, shutting pumps, stopping operations) and monitoring gas levels until safe. Solid cyanide spills will be collected and recycled into production, while liquid spills will be contained using sand or absorbents and transferred into dedicated waste vessels.

In case of **f**ire and explosion the facility will be shut down, personnel evacuated, and the emergency response activated. External support will be provided by the Dahej Industrial Association (DIA), including firefighting and ambulance services.

When there is equipment failure & power outage, procedures exist for ruptured pipes, valves, and tanks. Backup power systems ensure continued operation of critical equipment during outages. Tanks and waste facilities are bunded to 110% capacity. Overflow scenarios are managed through specific SOPs, including stopping inflow and pumping excess back into the process.

Anticipated emergency scenarios covered include personnel exposure, HCN gas release (on-site and off-site), fire/explosion near storage, uncontrolled gas release, and environmental pollution. Evacuation procedures for workers to designated assembly points were verified by auditor.

Nearby communities (~2 km away) are included in emergency planning. Authorities and the company coordinate communication and possible evacuation. Community awareness materials on toxic gas response have been distributed to the communities.

First aid includes oxygen administration by trained personnel, followed by transport to the clinic using the company's ambulance. Antidotes namely Amyl nitrite, Sodium thiosulphate and Sodium nitrite are administered by the doctors, with continuous oxygen support during transit. The facility's nurses who are trained may also administer the cyanide antidotes when necessary.

The ERP includes procedures to stop releases at the source, assess incidents, investigate root causes, and implement corrective actions to prevent recurrence. The ERP describe processes to control release at their source. In case a possible HCN gas the source will be cut by stopping the plant to prevent the release of HCN gas or liquid spill. Auditor scrutinized the processes and found to appropriate and comprehensive. The procedure stipulates that the incident will be assessed, investigated to thoroughly identify the cause(s) and corrective actions put in place to prevent a reoccurrence of the incident. Overall, the ERP is detailed, covering prevention, response, medical treatment, environmental protection, and community safety.

Production Practice 5.2

Involve site personnel and stakeholders in the planning process.

The operation is ✓ **in full compliance** / o **in substantial compliance** / o **not in compliance** **with Production Practice 5.2**

Summarize the basis for this Finding

Employees are trained in the Emergency Response Plan (ERP), and their input is used to update it through a quarterly Central Safety Committee (50% worker representation, including contractors). Emergency Response Coordinators include the Unit Head and Duty Officers. Mock drills are conducted with the Dahej Industrial Association (DIA). Government authorities (District Collector, Police, Fire Service) are provided with the ERP and can contribute to it. Cyanide awareness booklets in Hindi containing information about cyanide have been distributed to the communities. 3D modelling indicates no off-site community impact from accidental HCN releases. Auditor verified committee meeting records.

The company maintains continuous engagement with nearby communities (~2 km away) through its Industrial Relations Department in addition to the government authorities' engagements. Emergency response booklets covering cyanide hazards, safety, and response actions have been distributed and verified by the auditor.

The ERP includes a list of external agencies to be contacted during emergencies, including the District Collector, Bharuch Enviro Infrastructure Limited (BEIL), Superintendent of Police, Fire Service Department, hospitals, and DIA (Dahej Industrial Association).

The ERP clearly outlines the roles and responsibilities of all key participants, including external responders.

- The District Collector leads off-site emergency response, coordinates police and fire services, and manages public warnings, evacuation, and media communication.

- The Police Superintendent controls traffic, supports evacuation of nearby villages, and maintains law and order.
- The Fire Service Department handles firefighting and rescue operations.
- Bharuch Enviro Infrastructure Limited (BEIL) mobilizes resources for emergency mitigation at the plant and also assist in monitoring air and water pollution.
- Hospitals provide medical care and support the site clinic in treating cyanide exposure cases.
- Dahej Industrial Association (DIA): provides firefighting and ambulance support

All stakeholders have been formally notified, with signed MOUs in place between the facility and external agencies (hospitals, BEIL, police, and fire service). Regular coordination is maintained through monthly meetings, where risks, potential cyanide releases, and response actions are discussed. Auditor verified attendance records for meetings held on 6 March 2024, 12 June 2025, and 6 January 2026.

Production Practice 5.3

Involve site personnel and stakeholders in the planning process.

The operation is ✓ **in full compliance** / o **in substantial compliance** / o **not in compliance** **with Production Practice 5.3**

Summarize the basis for this Finding

The ERP designates Emergency Response Coordinators with full authority to commit resources. The Site Men Controller (SMC – Unit Head) and Duty Officers are explicitly empowered to implement the plan. The Emergency Response Team (ERT) includes the SMC (Unit Head), Plant Head, Safety Manager, Fire Team, Security, Industrial Relations Head, and Quality Control Head. The ERT undergoes regular training and mock drills to maintain readiness. Training is conducted by Fire Protection India. Training attendance records were verified by auditor.

Call-out procedures and contact details are defined in Clause 8.2. A Visual Management System (VMS) tracks team availability. In emergencies, an alarm system will be activated, prompting immediate team mobilization. Emergency contact details are listed in Annexure 17 of the ERP.

Duties of coordinators and team members are clearly defined in the ERP. The SMC leads overall incident coordination onsite and is responsible for calling external assistance.

The ERP lists essential emergency equipment, including HCN detectors, fire extinguishers, SCBA sets, respirators (ABEK), PPE (PVC suits, gloves, boots, goggles), Fire suits, masks, and support tools such as shovels, bins, and caution tape.

As per Annexure 21, all emergency equipment is inspected monthly, securely stored, and managed by the Emergency Response Team. Faulty or obsolete items are promptly replaced. Auditor verified sampled inspection records.

The roles of external responders are aforementioned. The community has no direct response role; their safety and any evacuation are managed by the District Director in coordination with the company.

External emergency responders have been formally notified of their roles, with Memoranda of Understanding (MOUs) established between the facility and key agencies, including medical facilities, Dahej Industrial Association (DIA), Bharuch Environ Infrastructure Limited (BEIL), the police, and the fire service.

Auditor verification confirmed the existence of these MOUs, and these external entities actively participated in mock drills demonstrating coordinated emergency preparedness.

Production Practice 5.4

Develop procedures for internal and external emergency notification and reporting.

The operation is ✓ **in full compliance** / o **in substantial compliance** / o **not in compliance** **with Production Practice 5.4**

Summarize the basis for this Finding

The facility has a detailed Emergency Notification System**.** The ERP provides detailed contact information (names and phone numbers) and procedures for notifying management, regulators, external responders, and medical facilities. The Site Men Controller (SMC) is responsible for initiating all external communications, following the communication chart in the ERP.

Community notification is handled by the District Director (government authority) in consultation with the company's Industrial Relations Department, as outlined in the ERP. The District Director is solely responsible for communicating with communities and the media during off-site incidents. The community will not directly participate in emergency response actions.

As per SOP (SOP-047 Rev 02), significant incidents (e.g., human exposure, off-site releases, transport incidents, wildlife fatalities, theft) must be reported to the International Cyanide Management Institute (ICMI) within 24 hours by the SMC. Initial reports will include incident type and actions taken, followed by a detailed investigation report after the situation is controlled.

Production Practice 5.5

Incorporate remediation measures and monitoring elements into response plans and account for the additional hazards of using cyanide treatment chemicals.

The operation is

- ✓ **in full compliance**
- o **in substantial compliance**
- o **not in compliance**

with Production Practice 5.5

Summarize the basis for this Finding

The ERP includes regulator-approved remediation measures consistent with government requirements. It details recovery, decontamination, and neutralization processes. Cyanide-contaminated solutions are pumped to the treatment plant and detoxified using calcium hypochlorite or hydrogen peroxide. Contaminated equipment is decontaminated with 5% calcium hypochlorite, while solid cyanide residues and debris are collected, neutralized, and processed through the cyanide and effluent treatment plants.

Contaminated soil will be treated with ferrous sulphate, excavated, and transferred to the effluent treatment plant. The site will be tested in the facility laboratory to confirm full neutralization. The Emergency Response Plan outlines the procedure for preparing Ferrous sulphate to the required concentration and defines the remediation end point for cyanide-contaminated soil. Composite sampling is employed to collect representative soil samples across affected areas. The plan specifies that, after neutralization, acceptable residual concentrations should be ≤ 1 mg/kg of free cyanide and between 10–50 mg/kg of total cyanide. Method used for the analysis are Alkaline extraction and Colorimetric analysis.
Cleanup debris will be treated at the waste treatment plant using 5% hypochlorite to reduce cyanide levels to below 0.2 ppm before transfer to the effluent treatment plant.

Community drinking water in Bharuch is supplied via pipelines by Gujarat Industrial Development Corporation, ensuring safe treated water. This supply is not expected to be impacted by cyanide releases, so alternative water sources will not be required.

As per Indian regulations (CCA No. AWH-145227) treated effluent is discharged only through the GIDC Dahej–Vilayat pipeline to the sea. The facility **is** not permitted to discharge effluent into surface water, and Superform Chemistries Ltd is committed to this requirement.

SOP for the Effluent Treatment Plant (Clause 5.3) strictly prohibits the use of neutralizing chemicals (Ferrous Sulphate, Hydrogen Peroxide, Sodium Hypochlorite) to treat cyanide that has been released into surface water.

Monitoring is conducted in line with Gujarat Pollution Control Board regulations. Ambient air monitoring is performed monthly by Bharuch Environ Infrastructure Limited (BEIL), with verified reports (December 2024, December 2025 and February 2026). Methods used for the analysis of sampled solution around the facility is International Standard (IS 5182 Part 24 & 26). Additional monitoring includes drinking water quality and noise levels (IS 9978:2001).

Production Practice 5.6

Periodically evaluate response procedures and capabilities and revise them as needed.

The operation is ✓ **in full compliance** / o **in substantial compliance** / o **not in compliance** **with Production Practice 5.6**

Summarize the basis for this Finding

The Emergency Response Plan (ERP) is reviewed annually and whenever there are changes in systems or procedures. The latest review was conducted on 1st January 2026. The plan is also updated after mock drills or incident investigations, especially when gaps or significant operational changes are identified.
Although regulations (Gujarat Factory Requirement 68J) require drills every 6 months, the company conducts quarterly mock drills due to the high risk of cyanide. Auditor verified and reviewed sampled mock drill reports.
Mock drills simulate realistic scenarios such as cyanide release, HCN gas leaks, and poisoning cases, where affected persons are given oxygen and transported by ambulance to the clinic. Emergency equipment is fully deployed, and reports include lessons learned and corrective actions.
The ERP is continuously improved based on drill outcomes and operational changes. No cyanide incidents have been recorded since the plant began operations in 2020, indicating effective preparedness and implementation.

END OF REPORT