
**Lagsom Química S.A. de C.V.
International Cyanide Management Code
Summary Audit Report**

**Lagsom Química S.A. de C.V. Certification Audit of Cyanide Supply
Chain including cyanide transportation to the Lagsom warehouse,
storage, and transport to the mine sites**

**Submitted to:
The International Cyanide Management Institute
1400 I Street, NW – Suite 550
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2016 Audit Cycle



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Lagsom Supply Chain Summary

Company Summary

Company Names & Contact Information

Name and location of Operation:	Presa del Fuerte N°8 Col. Recursos Hidráulicos, C.P. 54913 Tultitlán México City México
Responsible Manager for Operation:	Ana Irma Lopez Arguelles Managing Director
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Supply Chain Overview

Lagsom Química S.A de C.V. (Lagsom) with headquarters located in Mexico City, Mexico, maintains a sodium cyanide supply chain that is compliant with the International Cyanide Management Code (ICMC). The supply chain includes the following:

- Transport of cyanide from the Port of Guaymas to the Lagsom warehouse in Tultitlán Mexico using Lagsom trucks.
- Storage and distribution of sodium cyanide at the Lagsom warehouse.
- Transportation from the Lagsom warehouse to mining clients using Lagsom trucks.

Lagsom is a company specializing in the distribution of chemicals with more than 30 years of experience. Sodium cyanide is purchased in 1 ton wooden boxes and 50 kg drums and is transported in 40-foot sea containers that are mounted on truck trailers (chassis).

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Lagsom maintains procedures to monitor all aspects of ICMC compliance of its supply chain. Lagsom maintains a formally documented policy that only ICMC-certified transportation will be used for cyanide shipments. Lagsom employees are in attendance during all deliveries to the warehouse and to mine sites. Lagsom managers confirm that drivers are fit for duty. Lagsom personnel confirm that transport equipment is fit for service prior to each delivery and that shipments are tracked continuously. Lagsom personnel perform all functions related to product unloading and emergency response in the event of an unplanned event.

Lagsom performs route risk assessments. Unloading and loading activities are performed by Lagsom employees at the warehouse and by the mine personnel at the mine. Lagsom maintains all necessary emergency response equipment in case there is an on-site emergency at the warehouse. In the event that there is a transport emergency, it will be managed by Lagsom with the assistance of HESCA (which specializes in emergency response for chemicals companies) with whom Lagsom has a contract.

Audit Implementation and Conclusions

The audit was conducted through a review of procedures and records, and interviews with the Lagsom Operations Manager, Senior Management, EHS Coordinator, and Security Guards. The auditor used the ICMI Cyanide Production Protocol to evaluate International Cyanide Management Code (ICMC) compliance for the warehouse and the ICMI Cyanide Transportation Protocol to evaluate Lagsom's cyanide transportation compliance to the warehouse and to mining clients. The Lagsom warehouse, Lagsom offices and trucks were audited.

The audit was based on a sampling of information and therefore deficiencies may exist which have not been identified. The audit was performed by an independent third-party auditor who was pre-approved by the ICMI as a Lead Auditor for all types of International Cyanide Management Code (ICMC) audits and as a technical expert for ICMC audits of cyanide transportation, production plants and mining operations. All supply chain components noted above were included in this ICMC Certification Audit. Each organization noted in this report was found to be in FULL COMPLIANCE with ICMC requirements.

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Lagsom Supply Chain Certification Audit

Auditor's finding and attestation

All Lagsom Sodium Cyanide Supply Chain management practices, Lagsom warehouse operations, and truck delivery operations were found to be in FULL COMPLIANCE with the requirements of the International Cyanide Management Code according to the *ICMI Cyanide Production and Transportation Verification Protocols*.

All personnel were prepared for the audit. The auditor found that the overall level of preparedness and understanding of ICMC requirements was good.

Lagsom internal Standards, Policies, Practices, and Procedures regarding the management of the cyanide operations and overall Supply Chain management were reviewed and were found to be compliant. The results of this certification audit demonstrate that Lagsom and all portions of its Supply Chain (transport to and from its Mexico City warehouse and storage activities) are in FULL COMPLIANCE with the ICMI International Cyanide Management Code.

Audit Company:	MSS Code Certification Service www.mss-team.com
Lead / Technical Auditor:	Bruno Pizzorni E-mail: CodeAudits@mss-team.com
Date(s) of Audit:	August 3 to 5, 2016

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Certification Audit Team Leader, 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 Code Verification Auditors.

I attest that the Audit Reports accurately describe 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 Verification Protocol for Cyanide Production Operations and using standard and accepted practices for health, safety and environmental audits.

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Lagsom Consignor / Supply Chain Certification Audit Results

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 with Production Practice 1.1**

Summarize the basis for this Finding:

The Lagsom cyanide warehouse was constructed in 1994 and subsequently renovated for cyanide storage purposes using accepted engineering practices. The building is about 720 m² in area and has a 9 m high ceiling. The auditor reviewed the project drawings duly signed by the relevant professionals in architecture and structural engineering.

Although QA/QC records were not available from the original construction or from the building renovation, the overall suitability of the facility as a cyanide warehouse was evaluated by a professional engineer who confirmed that the building is appropriate for storage of solid cyanide.

The professional report states the building is in good condition, the warehouse ceilings correspond closely to the design and technical characteristics included within the drawings and authorized by the local management of urban development plans. The foundation construction is attached to the design and dimensions as well as the characteristic resistance of reinforced concrete materials as dictated by the drawings. The floor slabs are 15 cm thick, according to the dimensioning of the project and has a resistance of 5 t/m². The report states all materials used in the construction are of good quality.

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 with Production Practice 1.2**

Summarize the basis for this Finding:

Extensive operational and emergency response procedures are maintained by Lagsom specifically for this operation. Procedures that address normal operations, upset conditions, and emergency events including conveyor failure are addressed in the Emergency Response Plan (ERP). All procedures reviewed were found to be comprehensive and appropriate for the operation.

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Operating procedures are formally maintained, reviewed at regular frequencies, and approved prior to use. The appropriate control of operating procedures and the management of change (MOC) procedure was fully implemented in 2016.

Preventive maintenance in the Lagsom supply chain is managed by Lagsom for the warehouse and transport vehicles. Preventive maintenance for transportation equipment was evaluated during this audit. Lagsom has formal procedures and checklists to inspect and maintain all concrete for cracks, clean out trenches and check sumps and sump pumps. Maintenance records were reviewed and found to be acceptable.

The only equipment requiring calibration is the personal HCN monitors used during warehouse, unloading, and loading operations. These are calibrated at manufacturer recommended frequencies. Records were available for review and were found to be acceptable.

The procedure for the management of contaminated solids and water is in place to prevent unauthorized/unregulated discharge to the environment of any cyanide-containing water. The procedure calls for the testing of the wash water tanks prior to discharge of the water into the environment. If there is any level of cyanide detected, then hypochlorite is added to neutralize the cyanide to acceptable levels.

The facility has a procedure for the management of contaminated solids and water. The procedure details the decontamination and disposal procedures for all solids such as cleaning utensils, Tyvek suits, etc. The material is stored in a covered storage area and is sent off with a certified hazardous waste service provider. Several waste shipments had been made at the time of the audit. Records were available and were found to be acceptable.

Solid cyanide in wooden boxes and drums is stored in the warehouse with adequate ventilation provided by industrial fans on the ceiling. Additional vents, windows, and large roll-up doors are also available for increased air flow.

The cyanide storage warehouse has a corrugated metal roof that provides waterproof cover. The surfaces adjacent to the warehouse are graded away from the warehouse to prevent ponding of water near the walls.

The facility is within a locked and fenced area with restricted access. Security guards are present 24 hours a day, 7 days a week. Gates are kept locked. Visitors must sign in upon entry.

All boxes in storage at the time of the audit had labels in Spanish. A checklist is used to make sure that boxes are appropriately labeled when they are received into the warehouse. Records were complete.

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Production Practice 1.3: *Inspect cyanide production facilities to ensure their integrity and prevent accidental releases.*

The operation is **in full compliance with Production Practice 1.3**

Summarize the basis for this Finding:

Periodic inspections of the warehouse are performed and records are maintained. Lagsom performs and documents inspections on an established frequency to assure that they are functioning within desired parameters. These include weekly inspections of emergency response equipment and materials, monthly reviews of extinguishers, pre-operational inspections before anything involving cyanide handling, and inspections of the documentation, boxes and transportation equipment. Sufficient inspection records and examples of completed forms and spreadsheets from 2016 were available for review to confirm that Lagsom conducts the inspections on a regular basis.

Inspections are documented and contain both the name of the inspector and the date of the inspection. The forms call for deficiencies observed during the inspection to be documented. No deficiencies had been noted on the inspection forms that were available for review. Interviews with the staff demonstrated awareness that corrective actions need to be documented. Records are retained in hard copy and were found to be acceptable.

2. WORKER SAFETY: Protect workers' health and safety from exposure to cyanide.

Production Practice 2.1: *Develop and implement procedures to protect plant personnel from exposure to cyanide.*

The operation is **in full compliance with Production Practice 2.1**

Summarize the basis for this Finding:

For normal operations, the facility has procedures for inventory control, forklift operating, contamination administration, cyanide detector calibration, change management, and hazardous waste management, among others.

Worker exposure to cyanide is minimized during unloading and loading operations through the use of Tyvek and Tychem chemical suits, gloves, boots, goggles, and hard hats. Portable HCN monitors are used at all times.

Procedures exist for normal and abnormal operations. Emergency scenarios are addressed in the ERP. All procedures reviewed were found to be comprehensive and appropriate for the operation. The ERP describes the procedures to follow in case of upset conditions during cyanide transport or storage of

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sodium cyanide for the following emergency scenarios: sodium cyanide spills, power and equipment failure, spills with fire or explosion and HCN generation.

The preventive maintenance program at the facility is primarily comprised of inspections of the facility and equipment.

The facility has the procedure Management of Change to review proposed operational changes. The procedure was fully implemented in May 2016. Documentation changes, physical changes, and operational changes are intended to be processed using this procedure.

Operators participate in the development and roll-out of procedures. Interviews were held and indicated that the operational and safety procedures were developed together with operators and supervisors. Employee participation in the development and maintenance of safety practices was found to be acceptable.

The facility uses new personal monitoring devices when working in unloading and loading activities to confirm that safe working conditions exist and that cyanide levels are below 4.7 ppm. Operators demonstrated good awareness of the control set points and indicated that they would leave the area if HCN monitors alerted them to unsafe work conditions.

Lagsom maintains a procedure for the calibration of HCN personal monitors. Monitors are scheduled to be calibrated every 6 months according to the manufacturer's specification. The HCN monitors are new, the Safety Supervisor is responsible for ensuring that calibrations will be done properly by the monitors' supplier and according to schedule. Monitor quality certificates were available for review and were acceptable.

No activities have been identified as having elevated HCN or cyanide dust levels. Lagsom does, however, require that operators wear personal protective equipment such as HCN monitors, chemical suits, boots, gloves, and goggles at all times. Operator interviews indicated that there are no activities where the HCN monitors show re-occurring unsafe working conditions.

Procedures require that at least two people work in the operation at all times. In practice, operators reported that three people work at the facility together at all times. Additionally, security guards are present at all times to manage any urgent or emergency situations.

Operators have a medical exam when they are hired and then at least annually thereafter. The exam includes checks of: blood pressure, heart function, vision and a general fitness for duty. Medical exam records for all operators and supervisors were current for 2016.

Operators have full chemical suits, boots, hard hat, goggles, and gloves that are removed prior to leaving the warehouse area. They remove any clothing that has potentially been in contact with cyanide after cargo handling operations. Visitors are escorted at all times. Visitors are not allowed to go into areas where they could be in contact with cyanide.

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Appropriate cyanide signs and PPE signs are present in all operational areas. Warning signs and PPE requirement signs were observed in several locations. Signage was considered to be acceptable by the audit team. Eating, drinking, smoking, and open flames are prohibited where there is a potential for cyanide contamination. Employees showed very good awareness of the restrictions and of the potential dangers of not following the rules. Signs that explain these prohibited activities are at the entrance to the cyanide warehouse and the unloading areas.

Production Practice 2.2: Develop and implement plans and procedures for rapid and effective response to cyanide exposure.

The operation is in full compliance with Production Practice 2.2

Summarize the basis for this Finding:

Lagsom maintains a comprehensive ERP and procedures for rapid and effective response to cyanide exposure. The ERP covers the process that is to be followed in the event that cyanide is ingested, skin or eye contact made, and/or inhaled. The cyanide antidote procedure is also detailed. The medical response procedure is available for a medical emergency responder and the antidote response kit was properly stored.

There is an adequate water supply, if required, for cyanide decontamination. A shower and eyewash station is located inside the warehouse. Water is supplied by the city network. The eye wash and emergency shower is tested daily. Inspection and testing records were reviewed and were found to be complete.

The facility has water, a cyanide emergency kit, an oxygen tank, antidote and a means of communication readily available at the facility. Emergency equipment is inspected on a weekly basis. The emergency equipment was available for review during the audit.

The cyanide emergency kit has the necessary equipment to respond in the event of a worker's exposure to cyanide. Lagsom appropriately maintains the emergency response equipment and the antidote to ensure their availability during an emergency. Antidote is stored in a temperature controlled location. The medicine is stored in a manner that protects it from moisture and from light, as recommended by the manufacturer. Emergency response equipment is stored and tested according to manufacturer's recommendations.

Safety Data Sheets and first aid procedures are available to workers in operational areas in the local language, Spanish.

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This supply chain does not include cyanide solution. No solutions or process tanks are in the operation. Wash water that is potentially contaminated with cyanide is appropriately labelled, tested, and treated to ensure destruction of the cyanide.

Cyanide safety training is given annually and employees and supervisors demonstrated a good understanding of the decontamination policy and the need for safety precautions. The safety training and procedures of the facility were found to be acceptable.

The facility has provided its emergency response team with training in first aid. Medical treatment beyond first aid would be done by a licensed physician in the local clinic, the Hospital Elipse, which is a five minute drive from the warehouse. The site maintains a medical response kit with instructions for use. Cyanide training and a cyanide emergency kit with antidote was delivered to the local clinic in April 2016.

The ERP covers transfer of exposed victims to a medical center. Trained medical emergency response personnel are readily available to transport an exposure victim to a qualified medical facility. There is no need for additional procedures to be developed by the facility.

The records from the training with medical staff from the local clinic were on file and available for review.

Emergency response drills are conducted annually by Lagsom. Spill and exposure scenarios tested were deemed to be appropriate for the operation. The most recent emergency response drill was held in August 2016. Records were available for review and were found to be complete.

Lagsom has implemented the procedure *Reporting and Incident Investigation*. This procedure is used if there is a safety or environmental incident. According to interviews, procedures and practices would be extensively reviewed in the event of an incident to determine the need for revision.

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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 with Production Practice 3.1

Summarize the basis for this Finding:

The facility does not discharge directly or indirectly to surface water. There have been no known spills or releases of cyanide since the beginning of operations at this site or in this supply chain. This facility only stores and distributes solid cyanide. There are no known emissions of hydrogen cyanide gas from this site or in this supply chain. There is no cyanide processing at this site. It is only used to store and distribute solid cyanide.

No spills have occurred at this site or in this supply chain and there have been no discharges to air, water, or groundwater. The 3.1 ICMC protocol sections were found to be “Not Applicable” to this facility or supply chain.

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 plant in a manner that minimizes the potential for cyanide exposures and releases.

The operation is in full compliance with Production Practice 4.1

Summarize the basis for this Finding:

Lagsom has formal training programs that include cyanide awareness training, and periodic refresher training on all procedures. The training procedure includes a checklist of topics, and defines the training requirements for administrative, operations and security personal. Interviews with site personnel confirmed they had completed hazard awareness training.

The auditors found that all the warehouse workers have been trained on cyanide safe management practices. The records include the names of the employee and the trainer, the date, topics covered, and

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tests demonstrating understanding. Records are retained throughout an individual's employment documenting the training they receive.

The facility training program includes training courses in operational procedures, in the use of personal protective equipment (PPE), and the meaning of warning signs posted in the work areas. Each operational procedure includes the PPE required to perform the job. Auditors found all personnel were trained on the operational procedures, including the use of PPE.

Employees are trained to perform operational tasks to minimize risks to personal safety and the environment. Through interviews, employees showed good awareness of procedural requirements for both normal and upset operating conditions.

The facility uses the work procedures as training materials. All necessary job requirements are included in the procedures, and therefore the training. A Training Plan was available for review. The Training Plan identifies all job-specific training needs.

The training is provided externally by GR H&S Services, the trainer is an experienced consultant who worked several years managing cyanide distribution and as cyanide product stewardship. He has mining experience, experience working with cyanide, and was deemed to be qualified to provide the safety and operational training. Interviews and assistance records indicated that the cyanide-specific training at Lagsom has been provided by the consultant.

All personnel are trained internally on cyanide awareness prior to working in the facility. Procedural training is also completed prior to working with cyanide.

Training effectiveness is evaluated through testing and through observation of on-the-job performance by the Operations Supervisor. Test records were reviewed and were found to be complete.

Production Practice 4.2: Train employees to respond to cyanide exposures and releases.

The operation is in full compliance with Production Practice 4.2

Summarize the basis for this Finding:

Lagsom trains all personnel on the emergency response procedures stated in the ERP, as part of the regular safety training and emergency response training. Interviews with personnel showed acceptable awareness of the ERP procedures.

Drills are conducted annually to test general response capability for chemical emergencies, including cyanide exposure. Records were available to show that an emergency response drill was held in August 2016. The drill included a human exposure scenario and a spill scenario. Employees from Lagsom

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participated in the drill. The drill was evaluated and improvement opportunities were processed. The ERP is revised annually, after an emergency, and/or when necessary following a mock drill.

The training records include the names of the employee and the trainer, the date, topics covered, and tests demonstrating understanding. Records are retained throughout an individual's employment documenting the training they receive.

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 with Production Practice 5.1

Summarize the basis for this Finding:

Lagsom maintains a comprehensive ERP that was last revised in 2016. The ERP includes procedures for rapid and effective response to cyanide exposure and/or cyanide spills. The ERP covers the process to be followed in the event of cyanide exposure and/or spills. The Plan also includes information on the coordination of emergency response for different scenarios. Information includes communication flowcharts, responsibilities, response team structures, and training requirements.

The emergency response procedures addressed plausible scenarios of cyanide release and were found to be appropriate for managing the foreseeable emergency situations due to cyanide release during loading and unloading operations, and releases during fires and explosions. The ERP includes emergency procedures due to power outages and equipment failures. There is no cyanide solution in this supply chain.

The Plan describes specific response actions such as risk evaluation and evacuating site personnel. The ERP also considers cases of emergencies for natural disasters, transportation and warehouse emergencies. The transportation scenarios in the ERP do address the possible need to block the area and evacuate people who are close to the accident.

The ERP describes the procedures for using cyanide antidote and for first aid measures for cyanide exposures. The Plan considers control of releases at their source for transport, unloading/loading and warehouse, and states that if possible to contain the spill without risk of harm, the release must be controlled at its source. For each of the scenarios described above, the ERP describes the necessary actions to take for spill prevention, assessment, containment, and mitigation.

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Production Practice 5.2: Involve site personnel and stakeholders in the planning process.

The operation is in full compliance with Production Practice 5.2

Summarize the basis for this Finding:

Lagsom has involved its workforce and stakeholders, including potentially affected communities, in the emergency response planning process. Lagsom's workforce makes up the emergency response team. Civil Defense authorities and the local clinic Hospital Elipse are informed on Lagsom's operations and their emergency response planning. Lagsom neighbors were involved in the emergency response planning during the Environmental Risk Study for SERMANAT (2015).

Lagsom was able to demonstrate through interviews and through communication records that they are in regular contact with local authorities and external emergency responders. The Lagsom warehouse has current authorizations from COFOPRIS and SERMANAT (Mexican government agencies) to manage cyanide.

The facility has engaged the local clinic and firefighters in the emergency planning and response process. It has communicated the ERP and response procedures to the local firefighters and outside responder HESCA Ingeniería Ambiental (which has an agreement with Lagsom to provide emergency response). Lagsom has also involved local response agencies including Civil Defense, ANIQ (National Association of Chemical Industries) and SETIC (Chemical Industries Emergency System).

Lagsom reviews its ERP and emergency response procedures at least annually. At the time of the audit, the ERP had just recently been released and local stakeholders were engaged. Lagsom plans to maintain communications with stakeholders on a regular basis.

Production Practice 5.3: Designate appropriate personnel and commit necessary equipment and resources for emergency response.

The operation is in full compliance with Production Practice 5.3

Summarize the basis for this Finding:

The ERP designates that the General Manager is the primary response coordinator and the General Director is the alternate emergency response coordinator. Responsibility, authority, and duties for managing an emergency situation are clearly described. The emergency response team is identified in the Civil Defense Specific Program and in the ERP. The ERP also indicates responsibilities and training needs for emergency responders and describes call-out procedures including 24-hour contact information for the emergency response team including outside responder telephone numbers.

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The ERP lists the emergency response equipment that should be available at all times. The emergency response kit includes PPE, containment and neutralization materials, and collection equipment for waste generated during the emergency. The ERP includes the requirement for weekly inspections of emergency materials and equipment to ensure its availability and suitability. Completed checklists were reviewed. Interviews during the audit also confirmed this practice.

The roles of firefighters, mine emergency response brigades, hospitals, police and civil protection are detailed for emergencies that may occur in the warehouse (including loading area) or during transportation. Coordination was done with local fire fighters and they are aware of the ERP. The fire fighters are invited to participate in the drills. The local clinic Hospital Elipse is also aware of the ERP.

Production Practice 5.4: *Develop procedures for internal and external emergency notification and reporting.*

The operation is in full compliance with Production Practice 5.4

Summarize the basis for this Finding:

The ERP, has emergency contact phone numbers for notifying the company management, regulatory agencies and outside responders. The ERP details the treatment procedures for cases of cyanide exposure, and addresses the procedure for a patient`s transfer to the local clinic. The ERP describes the procedures for responding to different emergency scenarios in the warehouse, transportation and unloading: cyanide releases, fire and explosions, power outages, cyanide theft, HCN generation and rollovers. The ERP includes the emergency procedures to be used in case of natural disasters such as intense rain and/or flooding.

The ERP includes procedures and contact information to notify local Civil Protection authorities and federal police and addresses that only the designated “authorized person” by Lagsom would communicate with the media.

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Production Practice 5.5: Incorporate into response plans and remediation measures monitoring elements that account for the additional hazards of using cyanide treatment chemicals.

The operation is in full compliance with Production Practice 5.5

Summarize the basis for this Finding:

The ERP describes the specific response actions to recover cyanide spills during unloading and transfer operations at the warehouse and cyanide releases to soil and water bodies during transportation. The procedures in the ERP describe how to decontaminate soils and manage the final disposal of the clean-up debris.

All drinking water at the facility is brought in to the site and there are no water bodies nearby. No cyanide solution is used or transported in this supply chain. The auditor concluded that impact to a water supply at the warehouse is highly unlikely.

The ERP prohibits the use of sodium hypochlorite, ferrous sulfate or hydrogen peroxide to neutralize sodium cyanide that has been spilled to a body of water. Interviews with Lagsom personnel showed a high level of awareness of this prohibition.

The ERP calls for environmental monitoring in the event that there is a cyanide release into a body of water during transportation. The procedure calls for measurements to be taken until the sodium cyanide is degraded and the readings show less than 0.5 ppm CN WAD. According to the procedure, the measurements are to be made by certified laboratories.

Production Practice 5.6: Periodically evaluate response procedures and capabilities and revise them as needed.

The operation is in full compliance with Production Practice 5.6

Summarize the basis for this Finding:

The ERP states it will be reviewed at least once a year, and as necessary, after a drill or emergency event to keep it updated and to confirm that the plan continues to be appropriate for the facility and transportation operations.

Lagsom performed an emergency mock drill in August 2016 as part of the annual drill program. The ERP states that an annual drill that includes both sodium cyanide exposure and spill scenarios is to be

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performed. In addition, Lagsom performs evacuation and/or fire drills to improve their response capabilities and as a tool to improve the ERP.

The auditors reviewed the 2016 mock drill critique, where the response times, the emergency response equipment suitability, and the personnel performance were evaluated. Improvement opportunities were identified and addressed. At the time of the audit, no incidents had occurred.

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Lagsom has advised local external responders, medical facilities and communities of their roles and/or mutual aid during an emergency response. Lagsom is an active member of ANIQ, (translation - National Association of Chemical Industry). ANIQ supports its partner companies' compliance by providing regulations related to the transport of hazardous materials and in the development and implementation of targeted programs to improve transport activities and product distribution.

Lagsom does not subcontract cyanide transportation.

Transport Practice 1.2: Ensure that personnel operating cyanide handling and transport equipment can perform their jobs with minimum risk to communities and the environment.

The operation is in full compliance with
in substantial compliance with Transport Practice 1.2
not in compliance with

Summarize the basis for this Finding:

Lagsom only uses trained, qualified and licensed operators to transport its products. Lagsom drivers have federal driving licenses, training in defensive driving, cyanide management, pass random drug tests, and have annual tests of psychophysics aptitude. Renewal records for drivers' federal licenses are maintained.

Lagsom maintains a formal training program for all of its employees that ensures that all relevant procedures on cyanide safety, cyanide loading, cyanide unloading, and emergency response is completed prior to working with cyanide.

Confirmation was made that drivers have driver's licenses that permit the transport of hazardous materials. Drivers are trained on cyanide safety and all procedures prior to being dispatched for the first time. Training is refreshed annually and testing is performed to confirm competency.

Records were reviewed and interviews were held to confirm that all personnel operating cyanide transport equipment are qualified and have been trained sufficiently to enable them to perform their jobs safely and appropriately.

Transport Practice 1.3: Ensure that transport equipment is suitable for the cyanide shipment.

The operation is in full compliance with
in substantial compliance with Transport Practice 1.3
not in compliance with

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Summarize the basis for this Finding:

Lagsom only uses equipment designed and maintained to operate within the loads they are handling. Lagsom uses a brand new 5-ton capacity forklift to manage the loading and unloading of 1 ton boxes with cyanide. Allowed loads for the forklift are indicated on the equipment. Lagsom trucks were audited and found to be compliant with this requirement. Containers are marked according to international conventions and weights are within the capacity of the trucks.

Lagsom personnel perform inspections before every shipment to ensure the adequacy of the equipment for load bearing (per recognized EHS standards) and are experienced in the handling of hazardous goods.

Lagsom's cargo is sealed when it is in the truck and is not opened until they arrive at the mine site. Personnel use formal procedures and checklists to ensure that trucks are loaded evenly and that the truck is not overloaded. Shipping paperwork and Lagsom policies and procedures were reviewed and trucking personnel were interviewed to confirm that appropriate practices are used. Shipping records showed that cargo amounts and weights were within the normal weight capacity of the equipment in use.

Transport Practice 1.4: Develop and implement a safety program for transport of cyanide.

The operation is in full compliance with
 in substantial compliance with Transport Practice 1.4
 not in compliance with

Summarize the basis for this Finding:

As a Consignor, Lagsom maintains a formal safety program for the receipt, loading, transport, and unloading of solid cyanide. Lagsom blocks and braces the load prior to closing and sealing the door. In this way Lagsom ensures that the packaging is as secure as possible during transport. Trucks observed during the audit had placards on all four sides of the vehicle. Correct placarding was available for all shipments.

Procedures and formal checklists were available that demonstrate that Lagsom manages all Transport Practice requirements appropriately. Formal procedures and contracts are in place to ensure that all 1.4 Transport Practice requirements are fulfilled. Roles and responsibilities in Lagsom are clearly defined contractually.

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Confirmation was made during the audit that Lagsom performs pre-trip inspections to ensure that trailers are secured and that placards are on all four sides of the trailers. Lagsom maintains a drug and alcohol abuse prevention policy that was reviewed during the audit.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea and air.

The operation is in full compliance with
in substantial compliance with Transport Practice 1.5
not in compliance with

Summarize the basis for this Finding:

The Lagsom Supply Chain does not include the receipt of ocean shipments. Lagsom does not ship cyanide out via ocean. There are no air shipments in this supply chain.

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport.

The operation is in full compliance with
in substantial compliance with Transport Practice 1.6
not in compliance with

Summarize the basis for this Finding:

All trucks involved in this supply chain have the means to communicate with Lagsom, the mining operation and emergency responders. Drivers have Lagsom's Nextel radio and personal cellphones. Communication equipment of the supply chain is periodically tested. Lagsom's IT department, in coordination with LoJack, performs maintenance to GPS vehicle tracking systems.

During route evaluations, Lagsom identifies areas where there is no, or poor, communication. In 2015 Lagsom engaged the services of LoJack for satellite tracking of its fleet using the software Sky Track. The system allows them to visualize the path of its fleet through this software online.

Shipping paperwork was found to be conformant to Code requirements, including chain of custody requirements. All necessary information is included on the Lagsom shipping paperwork. Lagsom ensures that the billing paperwork is correct as part of its administrative processes. Safety Data Sheets are available in the trucks at all times.

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2. INTERIM STORAGE: Design, construct and operate cyanide trans-shipping depots and interim storage sites to prevent releases and exposures.

Transport Practice 2.1: Store cyanide in a manner that minimizes the potential for accidental releases.

The operation is in full compliance with
 in substantial compliance with Transport Practice 2.1
 not in compliance with

Summarize the basis for this Finding:

Interim Storage, as defined by ICMI, do not occurs in Lagsom supply chain.

3. EMERGENCY RESPONSE: Protect communities and the environment through the development of emergency response strategies and capabilities

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases.

The operation is in full compliance with
 in substantial compliance with Transport Practice 3.1
 not in compliance with

Summarize the basis for this Finding:

Lagsom maintains an emergency response plan to respond to potential releases of cyanide at the warehouse facility and during transport. The Lagsom emergency response plan is appropriate for the Lagsom transportation supply chain and considers truck transport, the design of the equipment, and the solid form of cyanide (the only form transported in this supply chain). The Lagsom emergency response plan considers all parts of the transportation infrastructure including the condition of the roads (mine road versus highway), and port areas.

The emergency response procedures address plausible scenarios and were found to be appropriate for the supply chain operations. The emergency response plan and detailed support procedures for managing emergency situations fulfill all ICMC Emergency Response Plan requirements.

The emergency response procedures were reviewed with Lagsom personnel. The warehouse facility is located in an industrial area. Specific response actions such as risk evaluation, careful containment and remediation steps are detailed in the emergency plan. Part of the evaluation procedure is to identify the source of the spill, and control the release of material at the source. Evaluations are done following the deployment of the emergency procedures to determine what may have caused the spill. Information

learned from the event is used to facilitate the implementation of corrective measures to prevent future releases.

The Lagsom emergency response plan details the roles of outside responders, medical facilities and communities. The ERP details the role of the outside responders for warehouse and transportation emergencies. The roles of firefighters, mines emergency response brigades, hospitals, police and civil protection are included.

Lagsom maintains records that show that the local clinic has been appropriately informed and involved in emergency planning for the supply chain.

Transport Practice 3.2: Designate appropriate response personnel and commit necessary resources for emergency response.

The operation is in full compliance with
 in substantial compliance with Transport Practice 3.2
 not in compliance with

Summarize the basis for this Finding:

Emergency Response Teams are identified in the emergency procedures for Lagsom. The emergency response plan clearly designates full responsibility, authority, and duties for managing an emergency situation to coordinators and team members. Call-out procedures including 24-hour contact information for coordinators and response team members are included in the emergency planning documentation. Training for emergency responders was found to be appropriate. Lagsom performs emergency response drills to ensure that drivers are appropriately trained in emergency response procedures at least annually. Awareness of roles and responsibilities was very good.

Lists of necessary emergency response equipment are included in the emergency planning documentation. Lagsom maintains a supply of emergency response equipment for the warehouse and trucks. In the case of an accident during transportation, a specialized contractor, Hesca, will support Lagsom with equipment that can be deployed to a customer site or to the scene of a transport accident. The equipment is regularly maintained and inspected. Frequency of equipment inspections are defined. Records showed that all equipment identified as necessary for cyanide spill response was available and had been inspected at regular intervals. Checklists show each piece of emergency response equipment to be used to perform the inspections.

The processes for maintaining emergency equipment is also addressed in the Lagsom emergency response plan. Emergency equipment is checked at least monthly. Records and interviews during the Lagsom certification audit confirmed this practice. Lagsom ensures that its transporter maintains compliance with ICMC requirements, including having all necessary equipment available during transport.

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Transport Practice 3.3: *Develop procedures for internal and external emergency notification and reporting.*

The operation is in full compliance with
 in substantial compliance with Transport Practice 3.3
 not in compliance with

Summarize the basis for this Finding:

The notification procedures, including internal and external telephone numbers, are described in the emergency response procedures for Lagsom. Notification numbers are checked at least annually.

For on-site emergencies at Lagsom, notifications are made to the managers and the H&S Supervisor within Lagsom. The Lagsom ERP was last updated in 2016. Additionally, Lagsom maintains emergency planning documentation that details steps to be taken for any incident.

Transport Practice 3.4: *Develop procedures for remediation of releases that recognize the additional hazards of cyanide treatment chemicals.*

The operation is in full compliance with
 in substantial compliance with Transport Practice 3.4
 not in compliance with

Summarize the basis for this Finding:

Lagsom maintains procedures for the testing of potentially contaminated solids, the decontamination of solids, and the disposal of any waste following the remediation of a spill.

Additionally, Lagsom maintains procedures for the neutralization and decontamination of solids and contaminated debris. Additional details regarding the remediation, neutralization, decontamination, and disposal of clean-up debris are contained within the Lagsom emergency response procedures. Descriptions of necessary action steps depending on the incident scenario are clearly outlined in the plan.

Interviews with Lagsom personnel showed a high level of awareness that the use of treatment chemicals is prohibited if cyanide spills into surface waters. Lagsom personnel noted that the use of any chemical treatment methods for spills into the waterways is strictly prohibited.

