

---

# **ICMI Cyanide Code Transportation Re-Certification Audit Summary Audit Report**

*2017 Audit Cycle*

**Intermodal Cartage Co., Inc.  
Memphis, Tennessee - USA**

Submitted to:  
The International Cyanide Management Institute  
1400 I Street, NW – Suite 550  
Washington, DC 20005  
USA



[www.cnauditing.com](http://www.cnauditing.com)

---

## Table of Contents

Company Information.....	2
Location detail and description of operation .....	2
Auditor’s Finding.....	3
1. TRANSPORT .....	4
Transport Practice 1.1 .....	4
Transport Practice 1.2 .....	5
Transport Practice 1.3 .....	6
Transport Practice 1.4 .....	7
Transport Practice 1.5 .....	9
Transport Practice 1.6 .....	9
2. INTERIM STORAGE .....	11
Transport Practice 2.1 .....	11
3. EMERGENCY RESPONSE.....	12
Transport Practice 3.1 .....	12
Transport Practice 3.2 .....	13
Transport Practice 3.3 .....	14
Transport Practice 3.4 .....	15
Transport Practice 3.5 .....	15

## Company Information

<b>Name of Operation:</b>	Intermodal Cartage Co., Inc. 5707 East Holmes Road Memphis, TN 38141-8206
<b>Name and contact information for IMCG Contact:</b>	Randall K. Wright Executive Vice President of Operations rwright@imcg.com Phone: (901) 363-0050

## Location detail and description of operation

Intermodal Cartage Company, Inc. (IMCG) has been an established trucking operation in Memphis, TN since 1982. The company has thirteen locations in the Midwest and Southern part of the USA. The company has been transporting solid sodium cyanide for The Chemours Company (previously DuPont) from the Memphis Plant and the associated Lemm Services, Inc. (LSI) packaging facility to nearby rail heads in Memphis, Tennessee and Marion, Arkansas since October 2006. Processes for local shipments to railheads and ocean ports were evaluated as part of this audit.

The operation was originally audited and was found to be in full compliance of the ICMI Cyanide Code in 2010, was re-certified in 2013, and audited again during this cycle in 2017. Solid sodium cyanide is packed into intermodal containers or ISO tanks by Chemours personnel at the Chemours Memphis Plant and LSI personnel at the adjacent packaging terminal. Cyanide shipments are dispatched from the LSI packaging facility.

IMCG is affiliated with a number of companies operating from the same industrial complex including Inland Intermodal Logistics Services (ILS) and River City Capital Leasing, LLC. ILS provides safety and risk management services to IMCG and preventive maintenance is performed by River City Capital Leasing, LLC. Personnel from IMCG, ILS, and River City Capital Leasing were audited during this re-certification audit.

IMCG and its sister companies are responsible for route determination, shipment tracking, truck inspections, preventive maintenance, training, safety program management, and emergency response planning. All of these operations were reviewed during this 2017 re-certification audit. The ICMI-Approved Transportation Auditor verified that IMCG operations are in Full Compliance with Cyanide Code requirements for transporters.



# SUMMARY AUDIT REPORT

## Auditor's Finding

This operation is in FULL COMPLIANCE with the International Cyanide Management Code.

This operation did not experience any significant cyanide incidents, releases, or exposures during the re-certification period. The operation was found to have been in compliance with the ICMI Cyanide Code since the previous re-certification audit.

Audit Company:	CN Auditing Group, Inc. <a href="http://www.cnauditing.com">www.cnauditing.com</a>
Auditor:	Marie K. Dunkle <a href="mailto:mdunkle@mindspring.com">mdunkle@mindspring.com</a>
Date(s) of Audit:	<u>March 9-10, 2017</u>

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Verification 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 this Audit Report accurately describes the findings of the verification audit. I further attest that the verification audit was conducted in a professional manner in accordance with the International Cyanide Management Code Verification Protocol for Cyanide Transportation Operations and using standard and accepted practices for health, safety and environmental audits.

<u>IMCG Cyanide Transportation</u>		<u>August 2, 2017</u>
Name of Operation	Signature of Lead Auditor	Date

<u>Intermodal Cartage</u>		<u>August 2, 2017</u>
Name of Operation <a href="http://www.cnauditing.com">www.cnauditing.com</a>	Marie Dunkle	Date

## 1. TRANSPORT

*Transport cyanide in a manner that minimizes the potential for accidents and releases.*

**Transport Practice 1.1** *Select cyanide transport routes to minimize the potential for accidents and releases.*

The operation is  in full compliance with  
 in substantial compliance with Transport Practice 1.1  
 not in compliance with

*Summarize the basis for this Finding:*

IMCG has implemented a written procedure to evaluate the risks associated with its cyanide transport routes and takes measures necessary to manage these risks. Intermodal Cartage (IMCG) uses a documented route selection method that takes into account population density, infrastructure, pitch & grade, proximity to water bodies, and prevalence and likelihood of poor weather and resulting poor driving conditions. The “Local Cyanide Route Selection” and “Over the Road Cyanide Route Selection” procedures were reviewed. During the on-site audit, Intermodal Cartage employees were aware of the need to contact the Consignor for any situation in which a route change is required.

Shipments made by IMCG are local deliveries to railheads in the Memphis area. The Driver Safety Book includes information regarding the risk assessment procedure, approved routes, and emergency response information for over-the-road shipments to ports. Risks such as traffic congestion, dangerous turns, and poor road conditions were considered during the development of the routes. Routes with poor road or bridge infrastructure have been excluded from the route selection process in order to mitigate avoidable risks.

Routes are formally evaluated at least annually. Drivers provide feedback on the route by submitting a signed form to management. Drivers were interviewed during the audit and records show that this feedback process has been implemented and is being maintained.

IMCG documents the measures taken to address risks identified with the selected routes. The measures are written into the risk assessment documentation for each route. Drivers follow the established procedure and do not stop once they have a loaded, locked and sealed load. The Operations Manager shuts down operations during inclement weather. If a delivery cannot be made safely drivers know to contact the dispatcher. The policy is to delay delivery until safe conditions return. This was confirmed during interviews with dispatchers and drivers.

The routing software utilized in Cyanide route management takes into account input from local government authorities along each transportation route. In April 2016 Chemours provided

Cyanide Awareness training including discussion of transportation routes and risks with local emergency response organizations.

There are no escort requirements on the defined routes used by Intermodal Cartage. The company uses an automated dispatch/communication system, hands-free cell phones and GPS to keep in contact with drivers and keep updated on the location of the trucks. There are no black out areas on the public routes, given the variety of technologies available to maintain contact.

IMCG is a registered hazardous materials transporter through the U.S. DOT Pipelines and Hazardous Material Safety Administration (PHMSA). As such, fees paid by the company are partially allocated to the training of a national emergency response network. According to review of the PHMSA website, IMCG continues to be registered.

IMCG uses both employee drivers and owner-operator drivers to transport cyanide loads. The ICC Owner-Operator Agreements were reviewed. The agreement was signed by each of the owner-operators authorized for Cyanide transport. The agreement requires these drivers to follow IMCG procedures regarding route selection, route evaluation and re-evaluation, risk identification, risk management and communication. The day-to-day operations are managed and controlled the same, regardless of whether the driver is an employee or Owner-Operator. The ICMI Cyanide Code requirements regarding the use of subcontractors were determined to be met for this transportation operation.

**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     Transport Practice 1.2  
                                  in substantial compliance with  
                                  not in compliance with

*Summarize the basis for this Finding:*

IMCG uses only trained, qualified and licensed drivers. All drivers have a U.S. DOT Class A Commercial Driver’s License (CDL) with a Hazardous Materials endorsement. Record reviews and interviews were used to confirm that all personnel operating cyanide transport equipment are appropriately qualified and have been trained sufficiently to enable them to perform their jobs safely and appropriately. Yard handling of containers is done by trained and certified operators who have received cyanide safety training.

Training records were very well organized and available for each of the drivers who are authorized for transporting cyanide. Complete training, qualification, and medical records are maintained for Drivers. Training records showed that drivers had been trained on the hazards of cyanide, established routes, pre-trip inspection procedures, and emergency notification procedures. Cyanide Safety training is given to drivers annually. Records were available to show that each driver had received this training in 2014, 2015 and 2016.

A sample of drivers' licenses were reviewed and showed that cyanide drivers have the necessary licenses with hazardous materials endorsements. Records were also available to show that operations personnel were trained on emergency procedures and cyanide safety. Interviews were used to confirm that they understand their roles during normal operations and in the event of an emergency.

Intermodal Cartage uses both employee drivers and owner-operator drivers to transport cyanide loads. Owner-operator agreements require these drivers to follow IMCG procedures and require drivers to maintain their training and qualifications. Records and interviews with owner-operator drivers verified that all requirements under this Transportation Practice are being met.

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

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

*Summarize the basis for this Finding:*

IMCG transports cyanide in intermodal containers or ISO tanks that are loaded onto triple or slide chasses. Equipment, inspection record, and maintenance records for tractors and chasses used to transport cyanide were evaluated during the audit. The tractors and chasses were found to be mechanically sound and capable of carrying the loads for which they were being used. Weight tolerances were confirmed through the review of equipment files and by reviewing the information on the manufacturer's data plates that are stamped on the bodies of the equipment.

IMCG performs pre-trip inspections to confirm that equipment is adequate for the loads it must bear. A chassis/container and tractor inspection report is completed prior to any load being received and this also provides verification of equipment adequacy for the load it must bear. Regular inspections include checks to ensure that the equipment does not show signs of stress or overloading. Furthermore, interviews with drivers confirmed that a "sixth wheel" system is used (and understood) to ensure effective distribution of load weight and reduce risk of an unbalanced load.

All loads are standard weights that do not have much variation. The shipper loads the intermodal containers and the ISO tanks with known and repeatable quantities. This was confirmed via a review of shipping records. Weight tolerances were confirmed through the review of equipment files and by reviewing the information on the manufacturer's data plates stamped on the bodies of the equipment. IMCG performs pre-trip inspections to confirm that equipment is adequate for the loads it must bear and that it is not overloaded.

IMCG uses both employee drivers and owner-operator drivers to transport cyanide loads. The ICC Owner-Operator Agreements were reviewed. The agreement was signed by each of the owner-operators authorized for Cyanide transport. The agreement requires these drivers to follow IMCG procedures regarding vehicle load. Training and qualifications of these drivers also addresses load weight and balance. Records and interviews were conducted with owner-operator drivers. The ICMI Cyanide Code requirements regarding the use of subcontractors were determined to be met for this transportation operation.

**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:*

Intermodal containers are loaded, blocked and braced by LSI employees (Chemours packaging operation in Memphis, TN). An IMCG material handler assigned to this location observes the packaging process and confirmed during interview that blocking and bracing practices are consistently used by LSI employees. Additionally, the Chemours Technical Services Senior Consultant present during this audit confirmed that photographs of each blocked and braced load are taken before each trailer is closed and sealed. The IMCG drivers are only responsible for ensuring that the container is secure and that the transportation equipment is in good working condition, they do not have any direct responsibilities regarding the actual blocking and bracing of the load.

The integrity of the ISO containers, including the testing and inspection of the containers is the responsibility of the shipper, the owner of the containers. All containers observed during the audit showed current inspection dates.

Pre-trip inspection checklists are used by drivers to confirm that the equipment is safe and in proper operating condition. The pre-trip inspection is also used to confirm that the intermodal containers are properly secured to the chassis and that the chassis is properly secured to the tractor.

Appropriate placards are displayed on all four sides of the equipment. This is also confirmed during the pre-trip inspection. Equipment markings were found to be adequate and conformant during the audit.

IMCG maintains documented procedures that address pre-trip inspections, preventive maintenance, limitations on driver hours, procedures to prevent loads from shifting, procedures for suspending transportation in the event of severe weather, a drug and alcohol abuse prevention program. Records were sampled and were found to be complete.

A preventive maintenance policy is in place that states the frequency at which specific maintenance tasks are to be performed. Pre-defined checklists showing the required maintenance tasks are used to record actions. The incoming and outgoing condition of the equipment is recorded on the checklists and associated repair orders. Truck and chassis inspections are conducted monthly for both company owned equipment and owner-operator equipment used to transport solid cyanide. Records from equipment servicing and inspections were readily available and reviewed during the audit and were found to be acceptable. The maintenance shop is located at the same facility as IMCG. A complete preventive maintenance service is performed per manufacturer recommendations. Annual inspections are also conducted per United States Department of Transportation requirements. Computer system controls are in place to prevent the dispatch of equipment for which critical inspection and/or preventive maintenance tasks have not been done.

IMCG uses both employee drivers and owner-operator drivers to transport cyanide loads. The ICC Owner-Operator Agreements were reviewed. The agreement was signed by each of the owner-operators authorized for Cyanide transport. The agreement stipulates requirements for cyanide drivers regarding vehicle safety, inspections, preventive maintenance, driver training and qualification, and company procedures to be followed by owner-operators. These drivers (owner-operators) must participate in the IMCG drug and alcohol program. Records of owner-operator equipment maintenance and driver training and qualification were reviewed during this audit and found to be acceptable. The ICMI Cyanide Code requirements regarding the use of subcontractors were determined to be met for this transportation operation.

**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  not in compliance with Transport Practice 1.5

*Summarize the basis for this Finding:*

A qualified IMCG material handler located at the LSI packaging facility applies placards and appropriate marine pollutant markings to containers that will eventually be shipped by ocean carrier. The placards are supplied by the shipper, and additional confirmation is made by IMCG driver that containers are compliant before transport. The IMCG material handler and drivers responsible for placarding the sea containers were interviewed and audited to verify practices are compliant with the Dangerous Goods Code of the International Maritime Organization.

Management of IMCG and the Chemours Technical Services Senior Consultant interviewed during this audit confirmed that transportation of cyanide by air was not a service or approved practice and therefore not relevant for this audit.

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

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

*Summarize the basis for this Finding:*

Truck shipments are tracked by the dispatcher. The dispatcher is in contact with drivers throughout a shift. A dedicated dispatcher has been assigned for Cyanide shipments. Drivers have radios and cell phones. Additionally, IMCG has instituted several technology upgrades. These include live 24 hour vehicle tracking with accessibility to the fleet manager and senior staff of IMCG; on-board event recorders. Interviews with drivers, dispatchers, and management personnel and a review of records from shipments made in 2014 thru 2017 were used to confirm that cyanide shipments are being tracked carefully.

GPS equipment, an onboard fleet management computer and SRX system for tracking are used. The equipment is used daily and any problems with the equipment would be identified as part of the pre-trip inspection process. Pre-trip inspections are required and interviews with drivers confirmed that are being performed.

## SUMMARY AUDIT REPORT

---

Black out areas are not deemed to be a problem on the routes. All routes are on public roadways and the drivers have multiple tracking and communication systems available to them. Interviews with cyanide drivers confirmed the absence of blackout areas on the approved routes.

GPS is used to track the location of trucks. Truck shipments are tracked by the dispatcher who is in contact with drivers throughout each shift. Each truck is also equipped with an onboard fleet management system that tracks the trucks location. This information was confirmed during the audit.

Intermodal containers are sealed and seal numbers are recorded and checked at the time of pick-up and discharge. The in-gate information from the rail heads was reviewed and confirmation was made that chain of custody documentation and processes are appropriate for maintaining control over inventory and preventing the loss of cyanide during shipment.

Drivers have shipping documentation including the Bill of Lading with them at all times during a shipment. Bills of Lading were reviewed. Information regarding the type of material transported, the type of container, the number of packages, and the weight of the shipment is consistently entered onto the Bill of Lading by the shipper. Drivers also have the sodium cyanide Safety Data Sheet (SDS) and Emergency Response Guides with them during deliveries. This practice was confirmed through interview and a review of information kept in trucks.

IMCG uses both employee drivers and owner-operator drivers to transport cyanide loads. The ICC Owner-Operator Agreement stipulates requirements for Cyanide drivers regarding owner-operator responsibilities, equipment and inspection/maintenance of equipment related to tracking of shipments. These drivers were interviewed and the cabs of their tractors were inspected during this audit.



## 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:*

IMCG has documented emergency response plans (ERPs) for transportation accidents for local deliveries and/or interim storage incidents. There are no long distance routes. The ERP document last updated in January 2017, is the “Cyanide Transportation Emergency Response Plan”. The Chemours “Sodium Cyanide Transportation Emergency Information” sheet. This document is considered to be part of the emergency response plan and procedures and is kept in the office and in each truck during shipments. Records were available to show that all cyanide drivers and dispatcher were trained on the ERPs and that they understand their roles in case of an emergency.

The ERP was found to be appropriate for the selected transportation route and interim storage activities, if these are undertaken in the future. Detailed information regarding the chemical and physical forms is on a fact sheet (“Sodium Cyanide Transportation Emergency Information”). This document is considered to be part of the emergency response plan and procedures and is kept in the office and in each truck during shipments.

IMCG only transports cyanide via truck. All scenarios considered in the emergency planning documents were related to truck accidents, small cyanide spills from packaging, or emergencies at the interim storage location. Solid sodium cyanide (the only physical form transported), roadway infrastructure differences, the type of transport containers, the interim storage yard details, and the roles of the different emergency responders are discussed in the planning information.

The plans were appropriate for the vehicles and equipment being used. Only tractors pulling tri-axle trailers or slide chassis with intermodal containers loaded with solid cyanide briquettes are involved in this operation. There are not multiple modes of transportation. Only different road types, such as highway and secondary, were considered.

The plans are appropriate for the vehicles and equipment being used. Only tractors pulling tri-axle trailers or slide chassis with intermodal containers loaded with solid cyanide briquettes are involved in this operation.

IMCG drivers are to secure the scene and make notifications. Route assignments for IMCG drivers are only local and their responsibilities are limited. All necessary information is noted on the Chemours Sodium Cyanide Transportation Emergency Information sheet, which is given to the drivers each time a shipment is made. A review of records and interviews with drivers confirmed this practice. The information was reviewed and was found to be acceptable.

The document entitled “Vehicle Accident Procedures and Reporting for Drivers” lists out the notification telephone numbers and was last updated in 2017. Confirmation was made during this audit that the emergency response / remediation company is still under current contract and that they affirmed their ability to respond to a cyanide spill. The emergency planning documents identify the roles of local responders (Fire and Police). As a registered U.S. Department of transportation (DOT) Pipelines and Hazardous Material Safety Administration (PHMSA) hazardous materials transporter, IMCG also relies on the national network of trained emergency responders from the communities through which they travel.

**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:*

The roles and responsibilities of relevant internal personnel are clearly described in IMCG procedures. Training records were reviewed for all cyanide drivers and dispatchers. Records were complete and well organized. The online cyanide training includes emergency response procedures. This training is done annually and review of records for the re-certification period showed that training was completed as required.

IMCG drivers are to secure the scene and make notifications. Route assignments for IMCG drivers are only local (no long distance routes) and their responsibilities are limited. All necessary information is noted on the Chemours Sodium Cyanide Transportation Emergency Information sheet, which is given to the drivers each time a shipment is made. A review of records and interviews with drivers confirmed this practice. The dispatcher training included instructions on what to do in case a driver calls in with an emergency situation.

IMCG maintains emergency equipment in trucks used for Cyanide shipments. There is a list of emergency equipment that includes, among other things, fire extinguisher, warning triangles, a tarp, shovel, and personal protective equipment.

Local deliveries have basic equipment such as road hazard triangles for warning, fire extinguishers, tarp, shovel and personal protective equipment on the trucks. This was found to be acceptable

because all shipments are within close proximity of the shipper and professionally qualified emergency responders would be dispatched in the event of an emergency. Equipment was available for review. It is checked during the pre-trip inspection process.

Drivers and the yard truck driver/material handler at the packaging facility receive training prior being authorized to move cyanide. Training records were complete. The refresher training on cyanide awareness, including the emergency plan, is taken annually through an on-line course. Records were reviewed and were found to be complete.

Emergency equipment is checked during the pre-trip inspection process.

IMCG uses both employee drivers and owner-operator drivers to transport cyanide loads. The ICC Owner-Operator Agreement was in place and signed for each of the owner-operators authorized for cyanide transport. The agreement stipulates requirements for cyanide drivers regarding owner-operator responsibilities, equipment and inspection/maintenance of equipment related to emergency preparedness and response. These drivers were interviewed and the emergency equipment on their tractors was inspected during this audit and found to be compliant.

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

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

*Summarize the basis for this Finding:*

Notification procedures are listed in the emergency plan and include contact information for notifying shipper, receiver/consignee, regulatory agencies, outside response providers (fire and police), medical facilities and potentially affected communities through approved channels.

The IMCG emergency numbers are managed directly by the Vice President of Safety, who would update the plan as needed and communicate the changes. The written plan calls for an annual review that includes the review of notification information. Phone numbers were checked for accuracy during this audit.

**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      Transport Practice 3.4  
                                  in substantial compliance with  
                                  not in compliance with

*Summarize the basis for this Finding:*

IMCG would employ the services of a professional emergency response team to address an emergency and provide remediation as necessary. The contract with the emergency response / remediation company was reviewed and was valid at the time of the audit.

In the event of an emergency involving cyanide release or potential for release, technical support would be provided by IMCG customer, Chemours. Drivers are instructed by procedure and training to call the Chemours Cyanide Hotline immediately should an emergency occur. The Chemours Global Emergency Response Plan as well as the Chemours Sodium Cyanide Properties, Uses, Storage and Handling bulletin address prohibition on use of the referenced chemicals to treat cyanide that has been released into surface water. Chemours representatives would interact directly with the firm contracted to provide response and recovery services and ensure understanding of these restrictions. This was deemed to serve as adequate procedural controls to meet this section of the Code.

**Transport Practice 3.5**      *Periodically evaluate response procedures and capabilities and revise them as needed.*

The operation is       in full compliance with      Transport Practice 3.5  
                                  in substantial compliance with  
                                  not in compliance with

*Summarize the basis for this Finding:*

IMCG evaluated the mock emergency drills conducted over this audit cycle to determine if response procedures are adequate, equipment is appropriate and personnel are properly trained.

The emergency plan was updated in January 2017. The emergency plan is reviewed annually and tested periodically. Records were available to show that drills were conducted during the re-certification period. Results were found to be acceptable.

The emergency response plan includes a commitment to review response procedures following any incident that triggers implementation of the emergency response plan.

## SUMMARY AUDIT REPORT

---

Drills conducted involved rollover with exposed product, container damage and highway stop (security). No actual emergencies have occurred. Interviews with IMCG senior management and Safety confirmed that emergency procedures would also be reviewed after any deployment of the plan. Any changes would be made, as necessary.