



**Chemours™**

**ICMI Cyanide Code Consigner Supply Chain  
Summary Audit Report**

**Chemours Global Ocean Supply Chain  
Re-Certification Audit**

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

***2013 Audit Cycle  
2016 Report Revision:  
Expansion of Supply Chain Scope:  
Addition of Manzanillo and Veracruz Ports - Mexico***





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## Global Ocean Supply Chain Summary

### *Consignor Name & Contact Information*

**Name of Operation:** The Chemours Company – Ocean Supply Chain  
Wilmington, Delaware  
USA

**Name and contact information for Chemours Contact:** Brian Morris  
Cyanide Business Global Product Stewardship Manager  
Email: [Brian.R.Morris@chemours.com](mailto:Brian.R.Morris@chemours.com)

### *Operational and Audit Information – Global Ocean Supply Chain*

The Chemours Company (formerly DuPont) is a science-based company operating in more than 70 countries. Chemours offers a wide range of products and services for markets including agriculture, nutrition, electronics, communications, safety and protection, home and construction, transportation and apparel. Solid sodium cyanide for use in the gold mining sector is manufactured at the Memphis, Tennessee plant. The plant is located just outside of Memphis in Woodstock, Tennessee.

Chemours (under the former name DuPont) was one of the original 14 Cyanide Code signatory companies announced on November 3, 2005. As such, Chemours made the commitment to obtain Cyanide Code certification for its Memphis Solid Cyanide Plant and its packaging operations. Chemours was the first Cyanide Producer to achieve certification in June 2006. The operation was re-certified in 2009 and again in 2012. This ocean supply chain was originally certified to the ICMI Cyanide Code in 2010. This report includes the results from the three-year re-certification audit and Due Diligence evaluations.

Chemours contracts with Ocean Carriers to transport their products from the Memphis Plant to international ports. The Ocean Carriers determine the U.S. ports of departure, and manage and control all aspects of the rail movements from Memphis to the U.S. ports. Pursuant to their agreements with Chemours, the Ocean Carriers identified in this report select rail carriers that comply with applicable environmental, health, safety, and security regulations which were determined through Due Diligence evaluation to be equivalent to ICMI Cyanide Code requirements. The rail segments between Memphis and U.S. ports were included in the scope of this re-certification audit. U.S./Canada rail segments used by Chemours for routes other than

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those from its Memphis plant to U.S. ports are contracted and controlled directly by Chemours and are included in a separate supply chain and certification audit report.

The re-certification audit of Chemours (DuPont) ocean supply chain management was held on July 8 and 12, 2013. The due diligence reviews of all entities within the supply chain were conducted after the on-site portion of the evaluation.

### *Description of the Global Ocean Supply Chain:*

Chemours has been producing and shipping sodium cyanide since 1953. In the United States, the solid sodium cyanide briquettes are packaged at the Memphis Plant, at the LSI Terminal directly adjacent to the plant and at the Chemours packaging terminal in Carlin, Nevada, USA. The Global Ocean Supply Chain is used for shipments from the Memphis Plant that go by rail and then by ocean carrier. The results of the rail and barge audit and due diligence evaluations are contained in a separate report. This re-certification audit included the following components:

Global Ocean Supply Chain – All global ocean moves of sodium cyanide that originate in the United States and those that originate at the Port of Antwerp as part of the Chemours Europe Supply Chain are within the scope of this re-certification audit. Chemours’ processes used to manage the ocean transport of its products were evaluated through interview, a review of process descriptions, company standards, policies, shipping records, and due diligence records. The results of the due diligence evaluations of six (6) ocean carriers are also contained within this report. The six ocean carriers for which due diligence investigations were performed are:

1. American President Lines (APL)
2. Hamburg Sued
3. Maersk Line Agency
4. Mediterranean Shipping Co. (MSC)
5. Seaboard Marine
6. Hapag Lloyd

The Due Diligence Investigations were also conducted for U.S. and international ports in use at the time of the audit. Records were sampled to confirm that Chemours had either evaluated the ports specifically for cyanide safety handling practices, or that the port had been previously approved and used by Chemours for hazardous material shipments. The ports listed on the following page are used by Chemours for sodium cyanide shipments to gold mine customers and were included in this re-certification audit.

2014 Report Revision: Chemours completed the Due Diligence evaluation of the Port of Everglades in Ft. Lauderdale, Florida (USA) in July 2014. Rail shipments started being delivered directly to the port in 2014. A Chemours Cyanides Product Steward performed an on-site

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assessment of the Port of Everglades in July 2014 and concluded that port operations and rail head operations are in alignment with ICMI Cyanide Code requirements. Security, handling practices, emergency response, and hazardous material handling capabilities were deemed to be appropriate and acceptable. The Chemours Due Diligence assessment report was used as a basis for the addition of the Port of Everglades to this certified Global Ocean Supply Chain.

*2016 Report Revision: A Chemours Cyanides Product Steward completed the on-site Due Diligence assessments of the Port of Manzanillo (Mexico) in September 2015. The Port of Veracruz was assessed by the Product Steward in October 2015. Both ports were found to have safe and acceptable operations that are in alignment with ICMI Cyanide Code requirements. Security, handling practices, emergency response, and hazardous material handling capabilities were deemed to be appropriate and acceptable. Cyanide safety training was provided to both ports. The Chemours Due Diligence assessment reports were used as a basis for the addition of these ports to the certified Global Ocean Supply Chain.*

The following ports are used by Chemours for sodium cyanide shipments to gold mine customers:

Name of Port	Country
Angamos (Mejillones)	Chile
Antofagasta	Chile
Antwerp	Belgium
Arica	Chile
Balboa	Panama
Becancour, Quebec	Canada
Belem (Vila do Conde)	Brazil
Buenos Aires	Argentina
Callao	Peru
Caucedo	Dom Republic
Chacabuco	Chile
Colon	Panama
Corinto	Nicaragua
Cortes	Honduras
Deseado	Argentina
Everglades – Ft. Lauderdale	USA
Iquique	Chile
Kingston	Jamaica
Long Beach, CA	United States
Los Angeles, CA	United States
<i>Manzanillo</i>	<i>Mexico</i>



<b>Name of Port</b>	<b>Country</b>
Miami, FL	United States
Montreal	Canada
New Orleans, LA	United States
Quetzal	Guatemala
Rio De Janeiro	Brazil
Rio Haina	Dominican Republic
Salvador	Brazil
San Antonio	Chile
Santos	Brazil
Santo Tomas	Guatemala
Seattle, WA	United States
San Pedro, CA	United States
Savannah, GA	United States
Valparaiso	Chile
<i>Veracruz</i>	<i>Mexico</i>
Vitoria	Brazil

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Name of Operation

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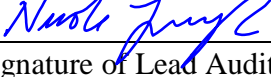
## *Global Ocean Supply Chain - Auditor's finding and attestation*

The on-site portion of the audit was performed at the Chemours Sourcing and Logistics building in Wilmington, Delaware – USA. 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 Code audits and as a technical expert for Code audits of cyanide transportation and production operations.

The re-certification audit of Chemours Global Ocean supply chain management operations was conducted on-site with additional reviews of due diligence information following the on-site audit activity. The supply chain management processes and the due diligence reviews of ocean carriers, ports, and rail partners utilized by the ocean carriers were conducted in accordance with the agreed audit plan and due diligence documentation requirements.

Cyanide transportation management practices for the Chemours ocean carrier and rail management organizations were evaluated against the Cyanide Code requirements documented in the *ICMI Cyanide Code*, *ICMI Cyanide Code Transportation Protocol*, and the *ICMI Auditor Guidance for Use of the Cyanide Transportation Verification Protocol*. Chemours internal Standards, Policies, Practices, and Procedures regarding the management of the Cyanide Transportation Supply Chain were reviewed. The audit was conducted through discussions and interviews with multiple individuals in cross-functional roles at Chemours. Additionally, records regarding carrier selection, ongoing carrier performance evaluations, incident tracking, equipment maintenance, security measures, port evaluations, shipment tracking, cargo labeling practices, shipping documentation, community involvement, and emergency response records were randomly sampled and found to be acceptable. Confirmation was made that each port included in this report underwent an on-site due diligence evaluation.

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## Global Ocean Supply Chain - Auditor's Finding

The Chemours Global Ocean Supply Chain is in **FULL COMPLIANCE** with the International Cyanide Management Code.

This supply chain has not experienced any significant cyanide incidents, releases, exposures since the previous ICMI Cyanide Code audit in 2010. The supply chain was found to have been in compliance with the Cyanide Code since the previous certification audit.

Audit Company:	MSS Code Certification Service, a Division of Management System Solutions, Inc. <a href="http://www.mss-team.com">www.mss-team.com</a>
Lead / Technical Auditor:	Nicole Jurczyk E-mail: <a href="mailto:CodeAudits@mss-team.com">CodeAudits@mss-team.com</a>
Date(s) of Audit:	July 8, 12, and August 19, 2013

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 the Audit Reports accurately describe 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.

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## Consignor Summary

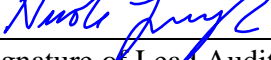
### *Operational & Audit Information for Consignor*

The Chemours Corporate Sourcing & Logistics group located in Wilmington, Delaware manages the domestic and international transportation of sodium cyanide. The Ocean Transport Procurement Group has overall responsibility and authority for coordinating ocean carrier selection, safety, security, and quality performance tracking, ocean carrier contracts, route selection, booking of shipments, shipment tracking, and incident investigation.

Cyanide Product Stewards within the Chemours Cyanides Business coordinate activities associated with route risk evaluation when customers are originally established and again at established frequencies. The Product Stewards also coordinate community communications, training sessions, port evaluations, customer evaluations, and package & label reviews. Corporate Emergency Response Specialists work together with the Chemours Cyanides Business to coordinate emergency response planning procedures, preparation and maintenance of emergency equipment, training of Chemours emergency response personnel, and evaluation of plans and procedures through periodic emergency response drills.

Chemours maintains formal standards, policies, guidelines, and procedures for ensuring Distribution Safety. Chemours Corporate standards exist for Incident Prevention, Emergency Response, Transportation Risk Assessment, Distribution Regulatory Compliance, and Training, and Distribution Handling & Storage. In addition, the Sourcing & Logistics Groups maintain desk manuals with specific procedures for the procurement of transportation services and the management of carriers.

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Personnel interviewed during the 2013 on-site audit and Global Ocean Transport Due Diligence Investigations:

<b>Transport Practice Discussed →</b>	<b>1.1 Route selection Risk Assessment</b>	<b>1.2 Driver / Operator Training &amp; Qualifications</b>	<b>1.3 Equipment Suitability</b>	<b>1.4 Safety Program &amp; Preventive Maintenance</b>	<b>1.5 Ocean Transport</b>	<b>1.6 Tracking of shipments</b>	<b>2.1 Interim Storage</b>	<b>3.1-3.5 Emergency Response</b>	<b>Supply Chain Management - General Discussions</b>
<b>Audit Participants</b>									
International Transportation Procurement Manager (Ocean Transport)	X				X	X		X	X
Marine Procurement (Ocean Transport)	X				X	X		X	X
Product Stewardship Manager, North America Cyanides	X						X	X	
Cyanide Business Global Product Stewardship Manager	X	X	X	X		X	X	X	X
Logistics Leader, Cyanides Business			X	X		X		X	X
Emergency Response Specialist								X	
Safety, Health & Environmental Manager – Sourcing & Logistics								X	X
Internal Chemours Hazmat Consultant		X			X				

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Description of Consignor’s role in ensuring compliance of its carriers

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 [X] in full compliance with in substantial compliance with Transport Practice 1.1 not in compliance with

Summarize the basis for this Finding:

Chemours maintains formal standards, policies, guidelines, and procedures for ensuring Distribution Safety. Chemours Corporate standards exist for Incident Prevention, Emergency Response, Transportation Risk Assessment, Distribution Regulatory Compliance, and Training, and Distribution Handling & Storage.

Interviews were conducted to confirm that before Chemours initially qualifies a new customer for sodium cyanide, they follow a standard practice which is called the “First Order Process”. Regional Cyanide Product Stewards evaluate the new customer for their ability to safely use and store material. They also evaluate the possible routes that can be used to transport the cyanide from Chemours to the customer site. This evaluation of the route includes consideration of population densities, infrastructure issues, pitch and grade of roads, and prevalence and proximity of water bodies. The route evaluation includes an evaluation of all portions of the route including rail transport, origination and destination rail yards, ocean carrier transport, ports, and barges, when applicable. The risks associated with the route used to bring cyanide from Chemours to a customer are evaluated as part of the First Order Process when the initial contract with the customer is established. The route assessment is performed by the Product Stewardship function within the Chemours Cyanides Business. Any necessary risk-mitigation measures are identified and defined during this First Order Process. Examples of risk mitigation measures were evaluated and found to be acceptable during the audit.

Routes are re-evaluated periodically, usually during customer visits. A review of records and the results of interviews show that routes are re-evaluated at least every three years, or more frequently if necessary. Additionally, Chemours has a very formal Product Stewardship Review process in which all aspects of cyanide product stewardship (labeling, product trail, use or transportation incidents, MSDS, etc.) are reviewed at least every three years.

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Chemours trains community responders and hospitals in Memphis, Tennessee, at international ports, and at customer sites. Records of community interactions / training sessions were reviewed and found to be acceptable. Each port and each ocean carrier within the scope of this report underwent a due diligence evaluation to confirm compliance with ICMI Cyanide Code requirements. Site evaluation reports were available for each of the ports used by Chemours for the global ocean transport of cyanide. Mainline and short-line railroads used by the ocean carriers were also included in the Due Diligence evaluations.

The primary risks with the ocean transportation supply chain relate to the possibility of losing track of a shipment due to a trans-shipment or other factors, or the risk of having a container opened en-route by a person who has not been trained in cyanide safety. Chemours' overall selection of the routing for shipments gives very strong preference to routing that does not involve a trans-shipment step (transferring the shipment from one carrier to another en-route). In addition to the care taken to avoid trans-shipment situations in the routing process, Chemours contracts with a freight forwarding company to arrange and then track shipments closely. Information regarding Chemours' ability to track ocean shipments was reviewed during the audit and was found to be suitable for mitigating the risk of losing track of a specific shipment. In order to reduce the chance that an unauthorized or untrained person may open an inter-modal container, the containers are sealed. Records that included the information on container seals were reviewed for each of the ocean carriers for the time period 2011 through 2013. Information on the shipping records was appropriate and no problems were evident.

Chemours uses its formal standards, policies, guidelines, formal contracts with safety, health, environmental, and security terms and conditions to ensure that cyanide is appropriately handled and transported by its transportation partners.

*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:*

This requirement does not apply to Chemours for this supply chain.

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All railroads used in this supply chain by the ocean carriers were also evaluated through a Due Diligence evaluation and confirmation was made that operations are in alignment with ICMI Cyanide Code requirements. Details regarding the individual railroads are contained within the Chemours US/Canada Rail & Barge Supply Chain report.

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:*

Chemours ships its sodium cyanide on main line ocean carriers that have demonstrated safety programs and safe performance. The ocean carriers sign standard contractual agreements that require that the carrier adhere to applicable regulations and have “organized safety programs.” Contracts were reviewed during the audit and this standard clause appears in the ocean carrier contract. Each carrier was asked for information regarding fulfillment of ICMI Cyanide Code requirements using a customized ICMI transportation protocol. Responses and information provided by all ocean carriers was deemed to be appropriate by the 3<sup>rd</sup>-party auditor.

The Chemours Ocean Carrier contracts require that all transportation is conducted in accordance with all regulatory requirements. This includes U.S. Department of Transportation and IMDG requirements.

The ocean routes are chosen by the ocean carriers. Destination ports are evaluated by the Chemours Regional Product Steward for Cyanides as part of the First Order Process. This is done prior to the first shipment of product to a new location. The Chemours Cyanides Business Regional and Global Product Stewards were interviewed as part of this evaluation. Records were available to show that port evaluations had been conducted at each of the U.S. and international ports used in this Supply Chain. Short-line railroads used to service the ports in some locations were also included in the port evaluation process. Chemours has also concluded that the Homeland Security and U.S. Coast Guard infrastructure that is available to assist ports with regard to security and emergency response is sufficient to conclude that ICMI Cyanide Code requirements are fulfilled.

The auditor concluded that Chemours has effective processes for ensuring that U.S. and international ports have demonstrated appropriate safety, security, and road infrastructure prior to being approved for hazardous material shipments.

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As recommended by the ICMI Auditor Guidance for the Use of the Cyanide Transportation Verification Protocol, specific information regarding this practice is addressed below:

- a) The Chemours packaging specifications were reviewed as part of the verification audit and were found to be conformant to the packaging requirements of the IMDG Code.
- b) Packaging for drums and IBCs reviewed as part of the due diligence evaluation were appropriately marked and were found to be compliant with Chapter 5.2 of the IMDG Code requirements.
- c) Packaging for drums and IBCs reviewed as part of the due diligence evaluation were appropriately labeled and were found to be compliant with Chapter 5.2 of the IMDG Code requirements.
- d) Loaded inter-modal containers were evaluated and were found to be marked and placarded in accordance with the IMDG Code.
- e) Shipping documents were reviewed for a sample of cyanide shipments from 2011 through 2013 for each ocean carrier used in this supply chain. All information required by the IMDG Code is required as standard practice on Chemours shipping paperwork.
- f) The container packing certificates from 2011, 2012, and 2013 shipments were reviewed during the audit as part of the overall evaluation of shipping papers. All information was found to be conformant to IMDG Code requirements.
- g) Chemours maintains records which show that the ocean transport is conducted in compliance with all international and U.S. Department of Transportation (DOT) requirements (records including valid SOLAS certificates). The ocean carriers confirmed to Chemours that they have cyanide emergency response information available on board each vessel.
- h) Chemours maintains records which show that the ocean transport is conducted in compliance with all international and U.S. Department of Transportation (DOT) requirements.

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**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:*

Chemours works together with its freight forwarder to track shipments using a secure web-based shipment tracking system. Appropriate action is taken to ensure that cyanide shipments keep moving, stay on pre-designated routes, and that location can always be confirmed. Email communications containing database tracking information was reviewed during the audit and confirmation was made that shipments are being tracked continuously and that Chemours normally has access to “real-time” information regarding the location and status of its shipments of cyanide. Shipping paperwork from 2011 through 2013 was reviewed and was found to be conformant to ICMI Cyanide Code requirements, including chain of custody requirements. The following documentation is used to track inventory and movement of cyanide: bills of lading and shipping papers indicating the number of packages and amount of material. The abovementioned documents were reviewed during the audit. Ocean carriers reported that they maintain databases with MSDS information for the products they carry.

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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:*

This requirement does not apply to the Chemours supply chain management activities.

Ocean carriers reported that during transport, the storage of cyanide both on land and on vessels is in accordance with the applicable stowage and segregation requirements in the IMDG and the Coast Guard 33 CFR regulations. The terminal must segregate containers similar to the segregation onboard vessels.

The packaging used for solid cyanide conforms to IMO and US DOT requirements.

Certifications and packaging approvals were reviewed during the audit. As part of the ocean carrier due diligence audit, documentation was reviewed that confirmed that ocean carriers must contractually adhere to regulatory requirements and maintain formal safety programs.

Additionally, safety checklists and seals are used by the Chemours packaging facility after the containers are packed. The seal enables verification that the container was not opened during transit.

Ports are evaluated by the Chemours Global and Regional Product Stewards for Cyanides. Part of the evaluation prior to the first shipment of product is an evaluation of the port. Product Stewards visit the port and observe that personnel are handling materials safely, that the port is secure and the roadway infrastructure into the ports is suitable. Completed checklists showing port evaluations were sampled during the audit and were found to be acceptable. Interviews confirmed that all ports in use at the time of the audit had been evaluated.

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**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:*

Chemours has several key documents that were reviewed as part of this verification audit: 1) Cyanides Global Response Plan for Off-Site Incidents; 2) U.S. Integrated Emergency Response Team Standard Operating Guidelines; and 3) Sodium Cyanide Emergency Response Procedures; 4) Transportation Emergency Information fact sheet for Chemours Solid (Sodium or Potassium) Cyanide. Together, the documents provide extensively detailed plans, procedures and information to address all ICMI Cyanide Code emergency response requirements. Chemours' emergency response plans are appropriate for all modes of transportation used by Chemours and for interim facilities. The most detailed scenarios with specific action steps to be taken were found in the Emergency Response Procedures. The scenarios and emergency plans address actions to be taken for spills inside buildings, outside, and in inter-modal containers. Plans also include steps to be taken in case of fire or human exposure. The Transportation Emergency Information sheet has quick, but complete information that has been seen in use during transportation activities observed during previous Chemours Cyanide Code audits. The emergency response procedures consider steps to be taken for wet, dry and gaseous cyanide. The Transportation Emergency Information sheet is designed to address solid briquettes. There is another fact sheet also available (for solution), but at the time of the audit only solid sodium cyanide was being transported by ocean carrier.

The Chemours emergency plans are general and universally applicable to all types of emergencies. The Transportation Emergency Information sheet has details of action steps for transporters. This was deemed appropriate by the auditor. Professional emergency responders together with technical guidance from Chemours would be responsible for addressing issues involving the way in which the structure of a transportation container or vessel should be managed after an emergency. The three response plans describe the different levels of response actions for anticipated emergency situations. The emergency procedures offer descriptions of the tactical steps that need to be taken to contain and clean up a spill or manage an exposure incident. The Integrated Emergency Response Team Guidelines define the action steps to be taken by the responding team and the notifications that need to be made in case of an emergency. The Cyanides Global Response Plan for Off-Site Incidents describes the steps that are to be taken by Cyanide Hot Line and other

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

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

*Summarize the basis for this Finding:*

According to Section 4 of the Cyanides Global Response Plan for Off-Site Incidents, emergency plans including notification numbers are checked at least annually. The Cyanides plan had last been updated in 2013 and the U.S. Integrated Emergency Response plan was last updated in 2012.

Many emergency drills are conducted at Chemours on an on-going basis. Emergency response drills at the Memphis Plant, for example are conducted quarterly. This was evaluated during the re-certification audit. According to the Cyanides Global Response Plan for Off-Site Incidents, the plan is to be tested by conducting drills at least annually.

Records were available to show that the Global Cyanides Business has conducted emergency response drills since the last certification audit. Drills typically involve at least one transportation partner and often one or more customers. Drill critiques were sampled and were found to be appropriate.

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## Ocean Carriers and Ports – Summary of Due Diligence Investigations

### *Operational and Audit Information for Ocean Carriers and Ports*

All global ocean moves of sodium cyanide that originate in the United States are within the scope of this verification audit of Chemours' processes used to manage the ocean transport of its products. The results of the due diligence evaluations of six (6) ocean carriers are also contained within this report. The six ocean carriers for which due diligence investigations were performed are:

1. American President Lines (APL)
2. Hamburg Sued
3. Maersk Line Agency
4. Mediterranean Shipping Co. (MSC)
5. Seaboard Marine
6. Hapag Lloyd

The Due Diligence Investigations were also conducted for U.S. and international ports in use at the time of the audit. Records were sampled to confirm that Chemours had evaluated the ports for hazardous materials safety handling practices. The ports included in this evaluation are noted in the first section of the report.

2014 Report Revision: Chemours completed the Due Diligence evaluation of the Port of Everglades in Ft. Lauderdale, Florida (USA) in July 2014. Rail shipments started being delivered directly to the port in 2014. A Chemours Cyanides Product Steward performed an on-site assessment of the Port of Everglades in July 2014 and concluded that port operations and rail head operations are in alignment with ICMI Cyanide Code requirements. Security, handling practices, emergency response, and hazardous material handling capabilities were deemed to be appropriate and acceptable. The Chemours Due Diligence assessment report was used as a basis for the addition of the Port of Everglades to this certified Global Ocean Supply Chain.

*2016 Report Revision: A Chemours Cyanides Product Steward completed the on-site Due Diligence assessments of the Port of Manzanillo (Mexico) in September 2015. The Port of Veracruz was assessed by the Product Steward in October 2015. Both ports were found to have safe and acceptable operations that are in alignment with ICMI Cyanide Code requirements. Security, handling practices, emergency response, and hazardous material handling capabilities were deemed to be appropriate and acceptable. Cyanide safety training was provided to both ports. The Chemours Due Diligence assessment reports were used as a basis for the addition of these ports to the certified Global Ocean Supply Chain.*

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Name of Operation	Signature of Lead Auditor	Dates

The following ports are used by Chemours for sodium cyanide shipments to gold mine customers:

Name of Port	Country
Angamos (Mejillones)	Chile
Antofagasta	Chile
Antwerp	Belgium
Arica	Chile
Balboa	Panama
Becancour, Quebec	Canada
Belem (Vila do Conde)	Brazil
Buenos Aires	Argentina
Callao	Peru
Caucedo	Dom Republic
Chacabuco	Chile
Colon	Panama
Corinto	Nicaragua
Cortes	Honduras
Deseado	Argentina
Everglades – Ft. Lauderdale	USA
Iquique	Chile
Kingston	Jamaica
Long Beach, CA	United States
Los Angeles, CA	United States
<i>Manzanillo</i>	<i>Mexico</i>
Miami, FL	United States
Montreal	Canada
New Orleans, LA	United States
Quetzal	Guatemala
Rio De Janeiro	Brazil
Rio Haina	Dominican Republic
Salvador	Brazil
San Antonio	Chile
Santos	Brazil
Santo Tomas	Guatemala
Seattle, WA	United States
San Pedro, CA	United States



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<b>Name of Port</b>	<b>Country</b>
Savannah, GA	United States
Valparaiso	Chile
<i>Veracruz</i>	<i>Mexico</i>
Vitoria	Brazil

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## *Ocean Carriers and Ports - Auditor's finding and attestation*

Chemours ships its sodium cyanide on main line ocean carriers that have demonstrated safety programs and safe performance.

Chemours contracts with Ocean Carriers to transport their products from the Memphis Plant to international ports. The Ocean Carriers determine the U.S. ports of departure, and manage and control all aspects of the rail movements from Memphis to the U.S. ports. Pursuant to their agreements with Chemours, the Ocean Carriers identified in this report select rail carriers that comply with applicable environmental, health, safety, and security regulations which were determined through Due Diligence evaluation to be equivalent to ICMI Cyanide Code requirements. The rail segments between Memphis and U.S. ports are therefore also included in the scope of this audit. U.S./Canada rail segments used by Chemours for routes other than those from its Memphis plant to U.S. ports are contracted and controlled directly by Chemours and are included in a separate supply chain and certification audit report.

The ocean carriers sign standard contractual agreements that require that the carrier adhere to applicable regulations and have "organized safety programs." Contracts were reviewed during the audit and this standard clause appears in Article 21 of the ocean carrier contract.

As part of Chemours' due diligence effort, each of the six ocean carriers was asked to perform a self-evaluation against the ICMI Cyanide Code Transportation Protocol requirements using a customized ICMI transportation protocol. The results from these evaluations were reviewed by the auditor and were found to be acceptable. Additionally, the auditor reviewed records on file that showed that each carrier is authorized for hazardous materials and that the United States Department of Transportation Hazmat Certificate Registration is valid.

In addition to Chemours' efforts to ensure that ICMI Cyanide Code requirements are fulfilled, there are many agencies chartered with the task of confirming that shipping is conducted in a safe and secure manner. One such organization is the International Maritime Organization (IMO). The IMO was established in Geneva in 1948 and it currently headquartered in London, United Kingdom. The IMO is a specialized agency of the United Nations. The IMO's primary purpose is to develop and maintain a comprehensive regulatory framework for shipping. The IMO regulates practices associated with safety, environmental concerns, legal matters, technical co-operation, maritime security and the efficiency of shipping.

One initiative of the IMO is the International Convention for the Safety of Life at Sea (SOLAS), which was enacted in 1974. Records were available for each of the six ocean carriers noted in this report to show that they had successfully passed a SOLAS audit and that they each maintained valid SOLAS certificates. According to information reviewed during the due diligence investigation, the provisions of SOLAS include: fire protection, life-saving equipment, radio communications, safety of navigation, transportation of dangerous goods, management of safe operations of ships, and maritime security.

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Additionally, Maersk participates in the voluntary Chemical Distribution Institute – Marine Packed Cargo program (CDI-mpc). Carriers in this program undergo a management systems safety audit using the CDI-mpc protocols that were created in cooperation with the United States American Chemical Council under its Responsible Care® initiatives. The CDI-mpc certificates are issued to individual ships. Maersk provided a number of these certificates as examples. All certificates showed that ships had been reviewed for safe operations and adherence to best chemical management practices.

With regard to port safety and security, new amendments to the SOLAS Convention were enacted in 2002. These amendments gave rise to the International Ship and Port Facility Security (ISPS) Code, which went into effect on 1 July 2004. The concept of the code is to provide layered and redundant defenses against smuggling, terrorism, piracy, stowaways, etc. The ISPS Code required most ships and port facilities engaged in international trade to establish and maintain strict security procedures as specified in ship and port specific Ship Security Plans and Port Facility Security Plans. In the United States the Port Facility Security Plans are filed with, and monitored by, the United States Coast Guard (the U.S. authority with jurisdiction over U.S. Ports).

The ocean routes are chosen by the ocean carriers. The destination ports are evaluated by the Chemours Regional Product Steward for Cyanides. Part of the evaluation prior to the first shipment of product is an evaluation of the port. The Chemours Cyanides Business Global and Regional Product Stewards were interviewed as part of this evaluation. Each U.S. and international port and each ocean carrier within the scope of this report underwent a due diligence evaluation to confirm compliance with ICMI Cyanide Code requirements. Site evaluation reports were available for each of the ports used by Chemours for the global ocean transport of cyanide. Mainline and short-line railroads used by the ocean carriers were also included in the Due Diligence evaluations.

Reviews and investigations included a review of emergency response capabilities, environmental policies, security practices, and adherence to Maritime Transportation Security Act requirements. Chemours has also concluded that the Homeland Security and U.S. Coast Guard infrastructure that is available to assist U.S. ports with regard to security and emergency response is sufficient to conclude that Cyanide Code requirements are fulfilled.

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or gate move. Chemours' freight forwarder has access to this information via the internet web sites. Chemours can request this information at any time.

The sodium cyanide shipments for this segment are containerized loads of IBCs and drums. All shipping containers are sealed. Shipping papers were reviewed. Auditors confirmed that seal numbers are recorded on the bills of lading. This enables personnel along any portion of the segment to confirm that the containers have not been opened.

**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 management of Global Ocean Transport is:  consistent with Transport Practice 2.1  
substantially consistent  
not consistent

***Summary of the basis for this finding:***

**All Ocean Carriers**

Ocean carriers reported that during transport, the storage of cyanide both on land and on vessels is in accordance with the applicable stowage and segregation requirements in the IMDG and the Coast Guard 33 CFR regulations. The terminal must segregate containers similar to the segregation onboard vessels.

The packaging used for solid cyanide conforms to IMO and US DOT requirements.

Certifications and approvals were reviewed during the audit and confirmation was made through interviews that no packaging changes have occurred since then. As part of the ocean carrier due diligence audit, documentation was reviewed that confirmed that ocean carriers must contractually adhere to regulatory requirements and maintain formal safety programs. Additionally, safety checklists and seals are used by the Chemours packaging facility after the containers are packed. The seal enables verification that the container was not opened during transit.

Each U.S. and international port within the scope of this re-certification audit has been evaluated for its ability handle materials safely. The ports are confirmed to be secure with appropriate roadway or rail infrastructure into the port. Completed checklists showing port evaluations were reviewed during the audit and were found to be acceptable.

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**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 management of Global Ocean Transport is:  consistent with Transport Practice 3.1  
substantially consistent  
not consistent

***Summary of the basis for this finding:***

**All Ocean Carriers**

Ocean carriers reported that they and their affiliates have emergency response plans in place which include the prompt notification of all involved parties. Chemours provides shipping papers showing the emergency contact information which is then transferred to the hazardous cargo declaration.

The due diligence questionnaire responses from the ocean carriers confirmed their understanding of emergency response requirements. Emergency response planning and the performance of frequent emergency drills are required by international laws. All of the ocean carriers provided information demonstrating that they are certified by third-party auditing organizations for environmental, health, and/or safety programs. Ocean carrier responses confirmed that emergency response planning is an integral part of these programs.





