

# ***INTERNATIONAL CYANIDE MANAGEMENT INSTITUTE***

## ***Cyanide Transportation Summary Audit Report***

***For the  
International Cyanide Management Code***

### **Ghana Supply Chain**

**7 September, 2010**

**Name of Cyanide Supply Chain:** Ghana Supply Chain

**Name of Supply Chain Owner:** Samsung C & T Corporation

**Name of Supply Chain Operator:** Samsung Deutschland GmbH., Samsung C & T Corporation

**Name of Responsible Manager:** Mr. S K Song, / General Manager, Fine & Specialty Chemicals Team, Trading & Investment Group, Samsung C & T Corporation

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**Location detail and description of operation:**

The head office of Samsung C & T Corporation is located in Seoul, Korea. They have two groups named as Trading & Investment Group and Engineering & Construction Group. The Samsung C & T Corporation Trading and Investment Group have many branch offices over the world. They have operated branch office is in Deutschland named as Samsung Deutschland GmbH. One of the business of Samsung Deutschland GmbH is supplying the sodium cyanide from Korea to mining in Ghana. They are named as Ghana Supply Chain for the overall routes from Korea to Ghana. Related to supplying the sodium cyanide, the main job of Samsung Deutschland GmbH is making agreement with mining company. Another operations such as receiving customer order, review of customer order and arrangement of shipping were conducted by Fine & Specialty Chemicals Team in Seoul, Korea. The Ghana Supply Chain includes several segments as roadway transportation from cyanide manufacturing Ulsan plant to Pusan port in Korea, marine transportation from Pusan port in Korea to Takoradi port or Tema port in Ghana, roadway transportation from Takoradi port or Tema port to Tarkwa or Damang mining sites in Ghana, roadway transportation of waste from Tarkwa or Damang to Tema in Ghana and waste disposal by incineration in Tema plant in Ghana. And also re-packaging plant is in construction stage in Tema Ghana and will start operation during next year.

To operate the Ghana Supply Chain safely, Samsung C & T Corporation have conducted overall route investigation, risk assessment and supplier evaluation. And according to the results of route investigation and risk assessment, they did their due diligence to prevent accident and emergency in Ghana Supply Chain

**Auditor's Findings**

**This operation is**

**X in full compliance**

in substantial compliance \*(see below) with the International Cyanide Management Code.  
not in compliance

\* For cyanide transportation operations seeking Code certification, the Corrective Action Plan to bring an operation in substantial compliance into full compliance must be enclosed with this Summary Audit Report. The plan must be fully implemented within one year of the date of this audit.

Audit Company : DS` GMP

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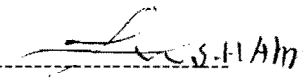
Date(s) of Audit : 2, 5, 18 & 19 June, 2010

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.

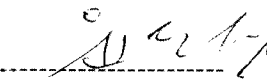
I attest that this Summary Audit Report accurately describes the findings of the verification audit. I further attest that the verification audit was conducted in a professional manner in accordance with the International Cyanide Management Code Verification Protocol for Cyanide Transportation Operations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

Signed

Samsung C & T Corporation  
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Name of Supply Chain Operator

  
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Lead Auditor Signature

Date 19 June 2010

  
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Auditor Signature

Date: 19 June 2010

Samsung Deutschland GmbH,  
Samsung C & T Corporation  
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Name of Supply Chain Operator

  
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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  in full compliance with **with Transport Practice 1.1**  
 in substantial compliance  
 not in compliance with

#### Summarize the basis for this Finding/Deficiencies Identified:

The Samsung C & T Corporation considered overall transportation routes from sodium cyanide manufacture (TaeKwang Industrial Co., Ltd in South Korea) to customer (Gold Fields Limited) gold mining site Tarkwa and Damang in Ghana according to their hazardous chemical transportation manual in which route evaluation processes were defined. They identified several possible routes from sodium cyanide manufacture in Korea to gold mining in Ghana. They evaluated the routes for such items as availability, security, transportation quantity and cost. Finally, they could decide the transportation and waste disposal routes as below.

- From cyanide manufacturing Ulsan plant to Pusan port in Korea : Roadway transportation by truck
- Pusan port in Korea to Takoradi port or Tema port in Ghana : Marine transportation by ship
- Takoradi port or Tema port to Tarkwa or Damang mining sites in Ghana : Roadway transportation by truck

They have sub-contractor evaluation procedure in which detail evaluation items for sodium cyanide manufacturer, road transporter, shipping company & re-packaging plant operation. Main evaluation items are ICMC signatory and codes, compliance with IMDG Code and legal requirements, etc..

According to the procedure, they evaluated and chose sodium cyanide manufacturer, road transportation companies and shipping companies as below.

- Sodium cyanide manufacturer : TaeKwang Industrial Co., Ltd. Ulsan Plant in South Korea
- From cyanide manufacturing Ulsan plant to Pusan port in Korea (Roadway transportation by truck) : Seyang Logistics Co., Ltd. Actually the Seyang Logistics Co., Ltd. is sub-contractor of TaeKwang Industrial Co., Ltd not directly chosen by Samsung C & T Corporation
- Pusan port in Korea to Takoradi port or Tema port in Ghana (Marine transportation by ship) : MSC, Maersk, Safmarine
- Takoradi port or Tema port to Tarkwa or Damang mining sites in Ghana (Roadway transportation by truck) : Allship Logistics Limited

The work scope of Ghana Supply Chain includes re-packaging plant in Tema Ghana. But the re-packaging plant is in construction stage now that will start the operation next year, 2011.

They also evaluated and chose sub-contractor as below.

- Re-packaging from woven bag to tank container in Tema Ghana : Operated by Vehard Transport and Haulage Limited

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Vehard Transport and Haulage Limited is ICMC signatory and certified for sodium cyanide transportation already. Vehard Transport and Haulage Limited need to extend the ICMC certification scope to re-packaging.

The port facilities in Pusan Korea and Takoradi and Tema in Ghana were operated by national port control agency. And also the Pusan port is nearest port from sodium cyanide manufacturer. Takoradi and Tema ports are also nearest from mining sites in Tarkwa and Damang. Samsung C & T Corporation does not have any other choice for ports used in Ghana Supply Chain.

So Samsung C & T Corporation chose ports in Pusan Korea, Takoradi and Tema Ghana and completed the due diligence investigations to evaluate their safety & potential need to ensure safe cyanide management.

Considering the above overall situations, Samsung C & T Corporation decided the control methods for each segment in Ghana supply chain as below.

- 1) Cyanide manufacture (TaeKwang Industrial Co., Ltd. Ulsan plant)
  - Periodic supplier evaluation by Samsung C & T Corporation
  - Implementation & certification of ICMC by TaeKwang Industrial Co., Ltd
- 2) Road transportation companies in Korea
  - Periodic supplier evaluation by TaeKwang Industrial Co., Ltd and Samsung C & T Corporation
  - Implementation & certification of ICMC by Seyang Logistics Co., Ltd.
- 3) Pusan port in Korea

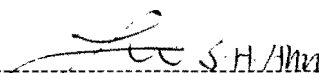
The shipping company rent the storage area in port from national port agency. And the shipping company actually control the sodium cyanide storage yard in port.

  - Periodic route evaluation by Samsung C & T Corporation
  - Periodic due diligence investigation by Samsung C & T Corporation
  - \* Due to inability of consigner for shipping company to lead ICMC implementation and certification.
- 4) Shipping company
  - Periodic route evaluation by Samsung C & T Corporation
  - Periodic due diligence investigation by Samsung C & T Corporation
  - \* Due to inability of consigner for shipping company lead to ICMC implementation and certification
- 5) Takoradi port and Tema port in Ghana

The shipping company rent the storage area in port from national port agency. And the shipping company actually control the sodium cyanide storage yard in port.

  - Periodic route evaluation by Samsung C & T Corporation
  - Periodic due diligence investigation by Samsung C & T Corporation
  - \* Due to inability of consigner for shipping company lead to ICMC implementation and Certification.
- 6) Road transportation companies in Ghana
  - Periodic supplier evaluation by Samsung C & T Corporation
  - Implementation & certification of ICMC by Allship Logistics Limited
- 7) Re-packaging company
  - Periodic supplier evaluation by Samsung C & T Corporation
  - Implementation & certification of ICMC by Vehard Transport and Haulage Limited
  - \* For re-packaging plant operation, after the start of operation they will apply the ICMC certification planned during next year 2011.

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S.H. Ahn

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The Samsung C & T Corporation have identified and evaluated the over all risks for the Ghana supply chain. Below risks were identified.

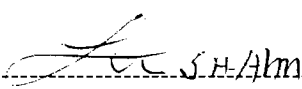
- Release to land & water, toxic gas leakage to air in sodium cyanide manufacturing process (TaeKwang Industrial Co., Ltd)
- Release to road, land and surface water during road transportation by transporter (Seyang Logistics Co., Ltd. & Allship Logistics Limited)
- Damage to sodium cyanide container in Pusan port in Korea , Takoradi port and Tema port in Ghana
- Release to sea water during transportation by shipping company (MSC, Maersk, Safmarine)
- Robbery during road transportation, storage in port and sea transportation.
- Taken away by criminal suspect during road and sea transportation

Current control results for each segment in Ghana Supply Chain were as below.

- 1) Cyanide manufacture (TaeKwang Industrial Co., Ltd. Ulsan plant)
  - Completed supplier evaluation by Samsung C & T Corporation
  - Completed ICMC certification
- 2) Road transportation companies in Korea
  - Complete supplier evaluation by TaeKwang Industrial Co., Ltd and Samsung C & T Corporation
  - Registered as ICMC signatory and will complete certification audit during September 6, 2010.
- 3) Pusan port in Korea and Pelepas port in Malaysia
  - Complete route evaluation by Samsung C & T Corporation
  - Due diligence investigations were completed during 14~15 June 2010 by Samsung C & T Corporation.  
The due diligence investigations were conducted by Fine & Specialty Chemicals Team member and Malaysia office member.  
The Fine & Specialty Chemicals Team member conducted investigation for Pusan port in Korea, Takoradi and Tema port in Ghana.  
Samsung C & T Corporation Malaysia office member conducted investigation for Pelepas Port in Malaysia.  
\* Pelepas Port in Malaysia is used as interim storage for the exchange of transportation ships.
- 4) Shipping company
  - Complete route evaluation by Samsung C & T Corporation
  - Due diligence investigations were completed by Samsung C & T Corporation during 14~15 June 2010.
- 5) Takoradi port and Tema port in Ghana
  - Completed route evaluation by Samsung C & T Corporation
  - Due diligence investigation were completed by Samsung C & T Corporation during 14~15 June 2010.
- 6) Road transportation companies in Ghana
  - Completed supplier evaluation by Samsung C & T Corporation
  - Completed ICMC certification
- 7) Re-packaging company
  - Completed supplier evaluation by Samsung C & T Corporation
  - Will extend the ICMC certification scope to re-packaging process.

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\* Scope of due diligence investigation

- The shipping company rent the storage area in port and actually controlled the sodium cyanide storage yard. So due diligence investigations were implemented for shipping company including such activities as control of storage yard in port, loading to ship and ship transportation.

\*\* Review of due diligence investigation results

- The due diligence investigations were implemented by Samsung C & T Corporation and the results were reviewed by Sang-Ho Ahn and Do-Sik Yoon during this ICMC audit.

The details were described as in due diligence report.

The Samsung C & T Corporation reviewed the overall route for Ghana Supply Chain. According to the review results, they decide that convoys and escorts are necessary for road transportation from Takoradi port or Tema port to mining in Tarkwa or Damang in Ghana. And decide that convoys, escorts or additional measures are unnecessary for other segments as justified below.

- 1) From sodium cyanide manufacture (TaeKwang Industrial Co., Ltd. in Ulsan Korea) to Pusan port in Korea
  - Road transportation by ICMC signatory (Seyang Logistics Co., Ltd.)
  - As main road is expressway, the road condition is good
  - Some segments are curved, near the high population density and surface water areas  
But those risks can be controlled by transporter.
- 2) Storage in Pusan port
  - The Pusan port is controlled by government agency, so yard condition and security are in safe and good condition.
- 3) Transport from Pusan port in Korea to Takoradi port or Tema port in Ghana
  - Controlled by big international shipping companies as MSC, Maersk, Safmarine which comply with IMDG Code.
  - Transportation routes are as below
    - \* Pusan port -> Interim anchorage harbor in Hong Kong or Malaysia -> Move south area of India Ocean -> Move around the Cape of Good Hope -> Takoradi port or Tema port in Ghana
  - The sea transportation routes are far from dangerous area as Somalia. No need for special escort.

For road transportation from Takoradi port or Tema port to mining in Tarkwa or Damang in Ghana, the transportation company (Allship Logistics Limited) use escort and convoy for their transportation by trucks. And also bellows were checked.

- Road transportation by ICMC certified transporter (Allship Logistics Limited)
- Some segments are curved, near the high population density and surface water areas.  
But those risks can be controlled by transporter.

They identified and evaluated such risks as release to road, land & surface water, damage to sodium cyanide container in ports, robbery during road transportation & storage in ports and taken away by criminal suspect during road and sea transportation.

To control the risks, they decided, documented and implemented the control measures such as sub-contractor evaluation, lead to ICMC certification for operators in supply chain and due diligence investigation. According to hazardous chemical transportation manual, they will reevaluate



They checked and evaluated sodium cyanide transporters whether the transporters have procedure to prevent overloading or not. According to the results of subcontractor evaluation, the transporters have procedure and container itself designated to prevent overloading

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

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

*Summarize the basis for this Finding/Deficiencies Identified:*

The Samsung C & T Corporation (afterwards, "they") is a trading company. So they do not actually need the detail safety program for transport of sodium cyanide. During the subcontractor evaluation and due diligence investigation, they checked and evaluated sodium cyanide transporters, ports and shipping companies whether the safety program was developed and implemented. According to evaluation and investigation results, the transporters, ports and shipping companies developed and implemented the safety program. As a consigner, they requested to transporters the compliance of local regulation, international standards and safety program. If the transporters violate the local regulation and international standards, they are not able to be registered as an approved sub-contractor to Samsung C & T Corporation.

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

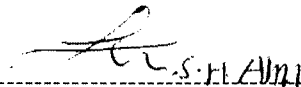
**The operation is**  **X in full compliance with** **with Transport Practice 1.5**  
 in substantial compliance  
 not in compliance with

*Summarize the basis for this Finding/Deficiencies Identified:*

The Samsung C & T Corporation is trading company. So they do not actually perform the transportation of cyanide by sea. They evaluated shipping companies according to subcontractor evaluation procedure and hazardous chemical transportation manual. They applied three evaluation items as 1) compliance with IMDG Code 2) compliance of legal requirements 3) possibility of actual evaluation & investigation by Samsung C & T Corporation. After the evaluation, they selected MSC, Maersk and Safmarine as shipping companies for sodium cyanide transportation. And also Samsung C & T Corporation completed the due diligence investigation during 14~15 June 2010 for the three shipping companied.

The due diligence investigation results were reviewed during this ICMC audit and described as in section of due diligence report.

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

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

*Summarize the basis for this Finding/Deficiencies Identified:*

The Samsung C & T Corporation is trading company. So they do not actually perform the transportation of cyanide. During the subcontractor evaluation, they checked and evaluated sodium cyanide transporters whether the transport vehicles have means to communication with relevant bodies. The evaluation by Samsung C & T Corporation was in addition to the internal requirements and programs of road transporters. According to the evaluation results, the vehicles have pager, mobile phone and communication channel sheet in which telephone numbers of transport company, the producer, mining and emergency responders defined.

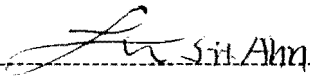
The Samsung C & T Corporation have procedure to track the progress of cyanide shipments. And if needed, they tracked the progress of cyanide shipments by contact with sodium cyanide producer(Twkwang Industrial Co., Ltd) and transporters(Seyang Logistics Co., Ltd. & Allship Logistics Limited ) and website check of shipping companies.(MSC, Maersk & Safmarine) And also during the subcontractor evaluation, they checked and evaluated the tracking of cyanide shipments by transporters. The evaluation by Samsung C & T Corporation was in addition to the internal requirements and programs of road transporters.

As the Samsung C & T Corporation receive purchasing orders from customers as gold mining company, they review the delivery & quantity and input the orders in SAP ERP system. They requested to sodium cyanide producer as Taekwang Industrial Co., Ltd to dispatch the amount of sodium cyanide and nominate the shipping company. The individual customer order (order number, target delivery and amount), dispatched date and quantity of sodium cyanide from producer to shipping company were registered in SAP ERP system of Samsung C & T Corporation. And also the progress of marine transportation by shipping company can be checked for individual customer order in web-site of MSC, Maersk & Safmarine. During the subcontractor evaluation, they checked and evaluated whether the transports control the inventory properly or not. The evaluation by Samsung C & T Corporation was in addition to the internal requirements and programs of road transporters. According to the evaluation results, Taekwang Industrial Co., Ltd input the dispatch amount and date for individual order in their SAP ERP system. They record the same items in dispatch sheet and issued to road transporter. And as the road transporter convey the sodium cyanide from Tankwang Industrial Co., Ltd to Pusan port, the dispatch sheet and sodium cyanide delivered to shipping company. The shipping company checked the dispatch sheet & sodium cyanide containers and input the shipping results in their SAP ERP computer network system. So the inventory control and custody documentation were properly implemented to prevent loss of sodium cyanide during shipment.

The individual customer order (order number, target delivery and amount), dispatched date and quantity of sodium cyanide from producer to shipping company were registered in SAP ERP system of Samsung C & T Corporation. And also the progress of marine transportation by shipping company can be checked for individual customer order in web-site of MSC, Maersk & Safmarine. So the amount of cyanide in transit can be checked in SAP ERP system of Samsung C & T Corporation and web-site of MSC, Maersk & Safmarine. According to the evaluation results, Taekwang Industrial Co., Ltd input the dispatch amount and date for individual order in their SAP ERP system. They record the same items in dispatch sheet and issued to road transporter. So the amount of cyanide in transit also

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can be checked in SAP ERP system of Taekwang Industrial Co., Ltd and dispatch sheet maintained by road transporter. According to the evaluation results, the Taekwang Industrial Co., Ltd. road transporter and shipping company controlled the Material Safety Data Sheet properly.

**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**  **X in full compliance with**  
 in substantial compliance **with Transport Practice 2.1**  
 not in compliance with

*Summarize the basis for this Finding/Deficiencies Identified:*

The Samsung C & T Corporation do not actually control the interim storage areas. However they checked over all routes of Ghana Supply Chain and identified interim storage areas as below.

- 1) Pusan port in Korea
- 2) Trans shipping depots in Malaysia
- 3) Takoradi port and Tema port in Ghana

Those ports are controlled by national port agency and interim storage areas are rent and controlled by shipping company. So it is difficult for Samsung C & T Corporation to site audit and due diligence investigation for those ports and interim storage areas. However, they do their best the due diligence investigation for those ports and interim storage areas during 14-15 June, 2010. The due diligence investigation activities are site visit and web site check for those ports, national port agency, interim storage areas and shipping company. They found the interim storage areas were controlled properly in compliance with legal requirements and ICMC code requirements. But some minor nonconformity items issued during due diligence investigation, they requested corrective actions and confirmed the corrective action results from shipping company and national port agency. And also they delivered the sodium cyanide handling manual as pocket book and CD.

The results for due diligence investigation were detailed in reports.

The Samsung C & T Corporation prepared the emergency response plan appropriate to over all emergency situations possibly expected Ghana Supply Chain. The emergency plan considered the transportation route and interim storage area. And also they confirmed that shipping companies (MSC, Maersk, Safmarine) maintained emergency response plan appropriate for release accident during sea transportation to comply with IMDG Code.

**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**  **X in full compliance with** **with Transport Practice 3.1**  
 in substantial compliance  
 not in compliance with

*Summarize the basis for this Finding/Deficiencies Identified:*

The Samsung C & T Corporation identified possible emergency situations as sodium cyanide release to road, land, surface water and sea water, robbery during transportation and interim storage and taken away by criminal suspect during transportation. And define the emergency response plan in hazardous chemical transportation manual. They defined what they should do, communication channel and relevant external responders such as sodium cyanide manufacture, transporters, shipping companies, mining, safety agency, police hospitals located mainly in Korea. Detail emergency response plans considering road transport were already prepared by road transporter (Seyang Logistics Co., Ltd. & Allship Logistics Limited) and checked by Samsung C & T Corporation. And also they checked that shipping companies (MSC, Maersk, Safmarine) issued commitment to comply with IMDG Code in which the emergency response plan required. For interim storage ports areas, they delivered the sodium cyanide handling manual as pocket book and CD in which handling and treatment for released sodium cyanide defined.

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

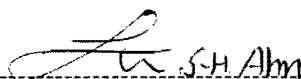
**The operation is**  **X in full compliance with** **with Transport Practice 3.2**  
 in substantial compliance  
 not in compliance with

*Summarize the basis for this Finding/Deficiencies Identified:*

The Fine & Specialty Chemicals Team in Samsung C & T Corporation is in charge of trading for sodium cyanide. They implemented the training for team members for the over all emergency response plan and cyanide handling manual during May 2010. The communication channel, duties of relevant external agency and main activities of Fine & Special Chemical Team were trained and records were maintained. The use of personnel protective equipment, first aid and control method of released sodium cyanide were trained with sodium cyanide handling manual as pocket book and CD. The road transporter (Seyang Logistics Co., Ltd. & Allship Logistics Limited) have trained their employee as yearly training program. And also shipping companies (MSC, Maersk, Safmarine) have implemented training for their employee to comply with IMDG Code. For interim storage ports areas, they delivered the sodium cyanide handling manual as pocket book and CD in which handling and treatment for released sodium cyanide defined. For interim storage ports, the training or introduction with that manual is enough for emergency situations in ports.

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

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

*Summarize the basis for this Finding/Deficiencies Identified:*

The Samsung C & T Corporation prepared the emergency response plan appropriate to cover all emergency situations possibly expected Ghana Supply Chain. In the emergency plan, contact information as telephone number, relevant person name and address of sodium cyanide manufacture, road transporter, shipping company, safety agency, fire fighting agency and hospital were defined. According to their hazardous chemical transportation manual, the emergency response plan be prepared including contact information, notification method, detail process what Samsung C & T Corporation should do.

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

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

*Summarize the basis for this Finding/Deficiencies Identified:*

The Samsung C & T Corporation prepared the emergency response plan appropriate to cover all emergency situations possibly expected Ghana Supply Chain. And in the sodium cyanide handling manual as pocket book and CD, the remediation as recovery and protect for released sodium cyanide, decontamination of soil and water, control & disposal of wastes etc. were defined. The sodium cyanide handling manual as pocket book and CD were delivered to road transporter (Seyang Logistics Co., Ltd. & Allship Logistics Limited), shipping companies (MSC, Maersk, Safmarine) and ports.

According to sodium cyanide handling, the prohibit of the use of sodium hypochlorite, ferrous sulfate and hydrogen peroxide to treat sodium cyanide that has been released into surface water was defined. The sodium cyanide handling manual as pocket book and CD were delivered to road transporter (Seyang Logistics Co., Ltd. & Allship Logistics Limited), shipping companies (MSC, Maersk, Safmarine) and ports.

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

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

*Summarize the basis for this Finding/Deficiencies Identified:*

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The Samsung C & T Corporation (afterwards, "they") prepared hazardous chemical transportation manual in which they are checking the emergency response plan twice per year and revise the contact information and detail process with the reflection of changes in Ghana Supply Chain as necessary. As the emergency response plan was prepared during this year, no need the review & evaluation.

According to Samsung C & T Corporation hazardous chemical transportation manual, they should check the emergency response plan twice per year and revise the contact information and detail process with the reflection of changes in Ghana Supply Chain. As the emergency response plan was prepared during this year, no need the review & evaluation.

Additionally, they should do the mock emergency drill once per year. The mock emergency drill was implemented in their office during May 2010. They checked the over all process and adequacy of emergency response plan and recorded the results. During October 2010, they have plan the mock drill with sodium cyanide manufacture (TaeKwang Industrial Co., Ltd.) and road transporter. (Seyang Logistics Co., Ltd.)

According to Samsung C & T Corporation hazardous chemical transportation manual, they should check the emergency response plan twice per year and do the mock emergency drill once per year. And after the check and mock drill they should revised the plan as needed.

After the mock drill during May 2010, they changed communication route slightly in emergency plan.

## Ocean Carriers and Ports- Summary Report of Due Diligence Investigations

### Sea Transporter Summary

#### *Audit and Operational Information for Shipping Companies and Ports*

##### *1. Background of due diligence investigation*

###### 1) Inability of consigner for ports shipping companies lead to ICMC implementation and certification

The Ghana Supply Chain includes sodium cyanide manufacture, road transporter, ports and shipping companies as below.

- Sodium cyanide manufacture : TaeKwang Industrial Co., Ltd. Ulsan Plant in South Korea
- From cyanide manufacture Ulsan plant to Pusan port in Korea (Roadway transportation by truck) : Seyang Logistics Co., Ltd.
- Control of sodium cyanide storage yard in Pusan port of Korea : MSC, Maersk, Safmarine  
The Pusan port is managed by national port agency. But the shipping companies rent and actually controlled the sodium cyanide storage yard.
- From Pusan port in Korea to Takoradi or Tema port in Ghana (Marine transportation by ship) : MSC, Maersk, Safmarine
- Takoradi or Tema port to Tarkwa or Damang mining sites in Ghana (Roadway transportation by truck) : Allship Logistic Limited

As consigner the Samsung C & T Corporation control overall Ghana Supply Chain and will lead the ICMC implementation and certification to sodium cyanide manufacture, road transporters, ports and shipping companies. So they successfully lead the TaeKwang Industrial Co., Ltd. Seyang Logistics Co., Ltd and Allship Logistic Limited to ICMC implementation and certification. However they can not lead the ports and shipping companies to ICMC implementation and certification due to their inability to affect change in the operating practices of those transportation facilities and companies. So the Samsung C & T Corporation planned and implemented due diligence investigation for ports and shipping companies as required by ICMC.

###### 2) Scope of due diligence investigation

The shipping companies rent the storage area in port and actually controlled the sodium cyanide storage yard. So due diligence investigations were implemented for shipping company including such activities as control of storage yard in port, loading to ship and ship transportation.

##### *2. Progress of due diligence investigation*


###### 1) Development of checklist

The Fine & Specialty Chemical Team member of Samsung C & T corporation reviewed the ICMC requirements, Ghana Supply Chain, property of sodium cyanide and information from TaeKwang Industrial Co., Ltd. And then developed checklist for due diligence investigation applicable to the control of sodium cyanide storage yard, loading to ship and ship transportation.

###### 2) Nomination of investigation team leader and member

Considering the work experience and knowledge of ICMC, Mr. S. K Sohn Deputy General Manager of Fine & Specialty Chemicals Team nominated team leader and member for due

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diligence investigation as below.

- Team Leader : Mr. S. K. Sohn (Deputy General Manager / Fine & Specialty Chemicals Team)  
Mr. S. J. Chung (Assistant Manager / Fine & Specialty Chemicals Team)
- Team Member : Mr. T. H. Ahn (Team Member / Fine & Specialty Chemicals Team)  
Mr. H. W. Kim (Team Member / Fine & Specialty Chemicals Team – Malaysia Office)

3) Scheduling of due diligence investigation

They plan the due diligence investigation during 14~15 June 2010 for three shipping companies including the control of sodium cyanide storage yard and marine transportation, and inform the plan to shipping companies with checklist.

4) Implementation of due diligence investigation

The team implemented due diligence investigation as planned during 14~15 June 2010. They use the checklist and record the investigation results in checklist and log sheet. After the investigation, they issued the completed checklist to shipping companies and requested corrective actions for some nonconformities. Investigation team checked the action results from shipping and confirmed that corrective actions were completed for nonconformities.

3. Results of due diligence investigation

The Samsung C & T Corporation use the checklist and record the investigation results in checklist as below.

1) MSC

(1) Due diligence investigation results

- Section 1. Control of storage yard in Port  
Investigation Area : Storage yard in Pusan Port in Korea  
Investigation Date : 14~15 June 2010  
Investigation Team : S. K. Sohn (Team Leader), T. H. Ahn (Team Member)
- Section 2. Control of marine transportation  
Investigation Area : Ship operation in Pusan Port  
Investigation Date : 14~15 June 2010  
Investigation Team : S. K. Sohn (Team Leader), T. H. Ahn (Team Member)
- Section 3. Control of interim storage in Port  
Investigation Area : Storage yard in Pelepas Port in Malaysia  
Investigation Date : 14~15 June 2010  
Investigation Team : H. W. Kim (Team Member), S. J. Chung (Reviewer)
- Section 4. Control of storage yard in Port  
Investigation Area : Storage yard in Tema Port in Ghana  
Investigation Date : 15 June 2010  
Investigation Team : S. J. Chung (Team Leader)
- Section 5. Control of storage yard in Port  
Investigation Area : Storage yard in Takoradi Port in Ghana  
Investigation Date : 14 June 2010  
Investigation Team : S. J. Chung (Team Leader)

(2) Corrective action request

The investigation team issued the checklist to each office in ports and requested corrective actions for some minor nonconformities identified during due diligence investigation. And also the investigation team confirmed the corrective action plans and results taken by port office of MSC.

(3) Conclusion

According to the due diligence investigation results, the Samsung C & T Corporation concluded that the MSC control the sodium cyanide storage yard and marine transportation properly comply with ICMC, IMDG code and national legal requirements.

**2) Maersk**

(1) Due diligence investigation results

- Section 1. Control of storage yard in Port  
Investigation Area : Storage yard in Pusan Port in Korea  
Investigation Date : 14~15 June 2010  
Investigation Team : S. K. Sohn (Team Leader), T. H. Ahn (Team Member)
- Section 2. Control of marine transportation  
Investigation Area : Ship operation in Pusan Port  
Investigation Date : 14~15 June 2010  
Investigation Team : S. K. Sohn (Team Leader), T. H. Ahn (Team Member)
- Section 3. Control of interim storage in Port  
Investigation Area : Storage yard in Pelepas Port in Malaysia  
Investigation Date : 14 June 2010  
Investigation Team : H. W. Kim (Team Member), S. J. Chung (Reviewer),
- Section 4. Control of storage yard in Port  
Investigation Area : Storage yard in Tema Port in Ghana  
Investigation Date : 15 June 2010  
Investigation Team : S. J. Chung (Team Leader)
- Section 5. Control of storage yard in Port  
Investigation Area : Storage yard in Takoradi Port in Ghana  
Investigation Date : 14 June 2010  
Investigation Team : S. J. Chung (Team Leader)

(2) Corrective action request

The investigation team issued the checklist to each office in ports and requested corrective actions for some minor nonconformities identified during due diligence investigation. And also the investigation team confirmed the corrective action plans and results taken by port office of Maersk.

(3) Conclusion

According to the due diligence investigation results, the Samsung C & T Corporation concluded that the Maersk control the sodium cyanide storage yard and marine

transportation properly comply with ICMC, IMDG code and national legal requirements.

### 3) Safmarine

#### (1) Due diligence investigation results

- Section 1. Control of storage yard in Port  
Investigation Area : Storage yard in Pusan Port in Korea  
Investigation Date : 14~15 June 2010  
Investigation Team : S. K. Sohn (Team Leader), T. H. Ahn (Team Member)
- Section 2. Control of marine transportation  
Investigation Area : Ship operation in Pusan Port  
Investigation Date : 14~15 June 2010  
Investigation Team : S. K. Sohn (Team Leader), T. H. Ahn (Team Member)
- Section 3. Control of interim storage in Port  
Investigation Area : Storage yard in Pelepas Port in Malaysia  
Investigation Date : 14~15 June 2010  
Investigation Team : H. W. Kim (Team Member)  
S. J. Chung (Reviewer)
- Section 4. Control of storage yard in Port  
Investigation Area : Storage yard in Tema Port in Ghana  
Investigation Date : 15 June 2010  
Investigation Team : S. J. Chung (Team Leader)
- Section 5. Control of storage yard in Port  
Investigation Area : Storage yard in Takoradi Port in Ghana  
Investigation Date : 14 June 2010  
Investigation Team : S. J. Chung (Team Leader)

#### (2) Corrective action request

The investigation team issued the checklist to each office in ports and requested corrective actions for some minor nonconformities identified during due diligence investigation. And also the investigation team confirmed the corrective action plans and results taken by port office of Safmarine.

#### (3) Conclusion

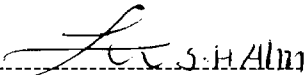
According to the due diligence investigation results, the Samsung C & T Corporation concluded that the Safmarine control the sodium cyanide storage yard and marine transportation properly comply with ICMC, IMDG code and national legal requirements.

#### 4. Review of the due diligence investigation results by ICMC audit team

During the ICMC certification audit, the auditors Mr. Sang-Ho Ahn and Mr. Do-Sik Yoon reviewed the overall due diligence investigation process and results implemented by Samsung C & T Corporation.

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The due diligence investigations included the control of storage yard in ports and marine transportation. The Samsung C & T Corporation implemented the due diligence investigations comprehensively for shipping companies as MSC, Maersk and Safmarine as below.

- Study and develop checklist applicable to sodium cyanide storage and transportation
- Nominated competent personnel as investigation team leader and member
- Implement due diligence investigation with checklist for shipping companies responsible for the control of sodium cyanide storage and marine transportation
- Issue corrective actions for nonconformities identified during site visit
- Checked corrective action results from shipping companies

Therefore, the audit team finally concluded that the due diligence investigations implemented by Samsung C & T Corporation were comply with ICMC requirements.