

**ICMI Cyanide Code  
Summary Audit Report  
ADDENDUM REPORT**

**Cyanide Transportation  
Supply Chain #1  
from Production Site to Int'l Ports of entry**

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ICMC Summary Audit Report - CyPlus Transportation Chain No. 1, From Production to Ports of Entry

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**Location detail and description of operation:**

The German company CyPlus GmbH is part of the Evonik Industries Group. CyPlus produces cyanide as a manufacturer in the German Wesseling plant. From Wesseling, Germany the cyanide is distributed using different supply chains. In this report, the **supply chain no. 1** is covered, starting from the Wesseling (Germany) NaCN production site to the different ports (ports are excluded) of entry on different continents.

**Supply from the production site to the customers / mines**

CyPlus's production site in Wesseling, Germany is ICMC-certified and registered since July 24, 2006 with no suspension since then. From Wesseling site the cyanide is shipped all over the world. The CyPlus company acts also as a consignor for cyanide transportation. The scope of the CyPlus consignment is covering different supply chains. Table 1 shows the different supply chains, as they are currently listed at the <http://www.cyanidecode.org> – webpage.

Supply Chain No. 1 covers the portion from the the production site, across the German and Belgian oversea ports (Hamburg, Bremerhaven and Antwerp) to the respective ports of entry (ports are excluded from supply chain no. 1, but included in respective local supply chains). New: this supply chain no. 1 was expanded with an additional route portion and new partners acting at that route. That's why the addendum audit was performed, which is documented in the present report.

Based on this situation the transportation process is structured into the following elements:

A) Generic Part 1: transportation between the CyPlus production site at Wesseling/Germany and the Container Terminal at Cologne-Niehl/Germany by road. Interim storage site at Talke between production site and CTS terminal site may be used. New: additional route as part of supply chain no. 1. Transportation between CTS terminal site to **Rotterdam APM Terminal** by **Rhein Cargo** rail transportation (details see below mentioned list).

B) Generic Part 2: transportation between the Container Terminal at Cologne-Niehl/Germany and the Container Terminals at Bremerhaven/Germany, Hamburg/Germany or Antwerp/Belgium by rail. New: additional route as part of supply chain no. 1. Transportation between the Container Terminal Cologne/Niehl site and the APM Terminal at the Rotterdam/The Netherlands port site.



C) Specific Parts 1-x: shipment between the Container Terminals in Bremerhaven/Germany, Hamburg/Germany, Antwerp/Belgium and APM Terminal in Rotterdam/The Netherlands and the various ports of entry (ports are excluded) by sea.

The most important organizations which are involved in this Supply Chain No. 1 and their roles or functions are described in detail in the Summary Audit Report of CyPlus's Supply Chain No. 1 (listed at the webpage since March 2019). In the present report those existing organizations 1) – 16) are just listed with their name. The new added organizations are described more detailed.

- 1) CyPlus GmbH, Hanau, Germany
- 2) CyPlus GmbH, Wesseling, Germany
- 3) Evonik Industries AG, Wesseling, Germany
- 4) Evonik Services GmbH, Hanau-Wolfgang
- 5) Lexzau, Scharbau GmbH & Co. KG (part of the Leschaco organization), Hamburg
- 6) TFG Transfracht Internationale Gesellschaft für kombinierten Güterverkehr mbH & Co. KG, Frankfurt
- 7) Frisch Spedition und Transport GmbH & Co. KG, Cologne
- 8) Alfred Talke GmbH & Co. KG, Hürth
- 9) DB Schenker Rail Deutschland AG, Mainz, Germany
- 10) CTS Container-Terminal GmbH, Cologne
- 11) Eurogate Container Terminal Hamburg GmbH
- 12) Eurogate Container Terminal Bremerhaven GmbH
- 13) MSC Mediterranean Shipping Company S.A. Geneva
- 14) NTB North Sea Terminal Bremerhaven GmbH & Co.
- 15) HHLA Container Terminal Burchardtkai GmbH
- 16) Hapag Lloyd AG
- 17) Hamburg Süd GmbH
- 18) duiport agency GmbH, Duisburg (DPA)
- 19) MCL Mallach Container Logistics GmbH, Duisburg, Germany
- 20) Duisburg Intermodal Terminal GmbH, Duisburg (DIT)
- 21) Duisburg Trimodal Terminal GmbH, Duisburg (D3T)
- 22) Duisport Rail GmbH, Duisburg
- 23) Railtraxx N.V., Van Geertstraat 21, B-2140 Antwerpen, Belgium
- 24) MPET N.V., Quay 1742, Antwerp, Belgium

New: the extension of Supply Chain consists of the following organizations:


**25) Rhein Cargo GmbH & Co. KG, Cologne, Germany (Railroad Carrier)**

Founded in 2012, Headquarter located in Cologne / Germany, appr. 500 employees, core business = train operation, logistic operation at diff. port sites, performance in 2017: 1,3 Mio. TEU, 90 locomotives (70 of them owned by RC), 450 owned carrying wagons

**26) APM Terminal Rotterdam (APMTR), Rotterdam, The Netherlands (Terminal Operations)**

APM Terminal Rotterdam (APMTR) is one of the largest container terminals in Europe, was opened in October 2000. Rotterdam is a major transshipment center mainly for the British, Irish, Scandinavian and Baltic Markets, with multi-modal access to the 320 million-strong consumer, commercial and industrial centers of Continental Europe. The current modal split at the Rotterdam terminal is approx. 40% barge, 40% truck and 20% rail. Throughput at the Rotterdam Terminals was 2.46 million TEUs in 2015. The total operation includes 13 Post Panamax Cranes of which 5 have an outreach of 23 rows, 1 Barge Crane, is straddle carrier-operated and has 2,250 reefer connections on 100 hectares of land and 1,600 meters of quay wall with an annual capacity of 3.25 million TEUs. Approx. 550 dedicated team-members conduct a 24-hour shift operation.

All relevant players and involved organizations had been inspected during the audits (by CyPlus's due diligence auditors – where feasible according to ICMC-regulation). Those assessments were covering visits at the locations (operation site, interim storage area, inland terminal, port terminals and administration offices as well), interviews with the involved partners and employees, inspections of IT systems and checks of documents.

  
Signature Lead Auditor  
Dr. Steinweg



### **Auditor's Finding**

This operation is

- ☒ in full compliance
- ☐ in substantial compliance \*(see below)
- ☐ not in compliance

with the International Cyanide Management Code.


This operation has maintained full compliance with the International Cyanide Management Code throughout the previous three-year audit cycle.

\* 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 .....	LULU Intelligent Organization
Audit Team Leader .....	Dr. Benno Steinweg
Email .....	Benno.Steinweg@gmail.com
Names / Signatures of other auditors	n/a
Date of report.....	March 18, 2019

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 Production Operations and using standard and accepted practices for health, safety and environmental audits.

  
Signature Lead Auditor  
Dr. Steinweg

## A) ROAD TRANSPORTATION:

The present evaluation is an Addendum evaluation, based on the current Supply Chain No. 1 Summary Audit Report, dated June 04, 2018 and posted at ICMI webpage July 06, 2018. Below mentioned explanations refer to the above mentioned expansion of Supply Chain No. 1 mainly.

### PRINCIPLE 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.**

This operation is ☒ in full compliance with  
☐ in substantial compliance with Transport Practice 1.1  
☐ not in compliance with

##### *Summarize the basis for this Finding:*

CyPlus is not active in transport operating activities on site. This activity is subcontracted to different partners in the supply chain. The CyPlus organization (by means of the technical procurement of Evonik Services GmbH) is purchasing transportation and logistic services from dedicated suppliers. Especially the department "Category Transportation Safety" is following strict defined processes to evaluate appropriate suppliers who are able to perform cyanide shipment under controlled conditions. In this certain case of Supply Chain #1 the carriers such as MSC, Hamburg Süd and Hapag Lloyd are contracted by CyPlus as main suppliers. These ocean carriers are contracting the respective subcontractors (e.g. TFG) to transform the shipment to the European ports (Bremerhaven, Hamburg, Antwerp) as a carrier's haulage in compliance with the code. Finally, in each and every case Cyplus verifies the subcontractor's system installation and performance to fulfill all the requirements, coming from ICMI requirements and CyPlus's system requirements. This is routinely done by audits and due diligence inspections, focusing the respective partner's quality and safety system.

A clear system is in place to periodically evaluate and reevaluate routes including a feedback process for route conditions. The distance between CyPlus's Wesseling production plant and the Duisburg terminals (DIT, D3T) is approx. 60 miles. The trucks are equipped with GPS system and digital control system. The routes are selected under the focus to avoid population density; they consider infrastructure, pitch and grade and the prevalence and proximity of water bodies and fog as well. In case of construction and road maintenance activities alternative routes will be considered to manage the corresponding risks. If there is any indication of special concerns in advance of an individual transportation the transport will not be started until the safe situation to start the transportation will be maintained again. Thus no escorts or any other / further actions are necessary, because the transport will only start, when a clear and safe transportation situation is given. As part of DPAs quality system an extensive respective documentation has been established. In addition, appropriate procedures, working instructions are in place. The local routes between the production site and the terminals are approved for hazardous materials transportation. The drivers are mandatory trained for the transport of packaged dangerous goods, long-time experienced and they know the specific road conditions as well. Each transportation is supervised by satellite tracking system. DPA as responsible SC partner for the inland transport (precarriage) between Wesseling production plant and the container terminals in Duisburg by truck and the following rail transportation to the port terminal In Antwerp as well is cooperating with the ICE (International Chemistry Environment) in Europe, which is supported by the CEFIC organization (European Chemical Industry Council). The German (national) ICE Scheme is called TUIS. 40 companies are participating. They are listed in a manual and may be contacted directly by the Competent Emergency Authorities (Police, Fire Brigade etc.) in case of





transport accidents. TUIS is an association of 130 chemical plant fire-brigades and specialists, 365 days/yr. continuous preparedness. TUIS offers help and support for local fire brigades and police when events with chemicals occur during handling, transportation and storage. ICE aims to set up, in each European country, a framework for providing this competent assistance in an effective way, e.g. by making use of the emergency response schemes from individual chemical companies, by building upon existing local, regional and product related (e.g. cyanide) emergency response schemes.

The alternative route from CTS terminal site to the oversea port in Rotterdam is done on rail track, operated by Rhein Cargo. The track incl. the potential alternatives are continuously monitored by Rhein Cargo. Rhein Cargo's management system is based on safety regulations on rail transportation.

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

This operation is ☒ in full compliance with  
☐ in substantial compliance with Transport Practice 1.2  
☐ not in compliance with

*Summarize the basis for this Finding:*

Each and every active transportation company within the supply chain only employs operators who have a commercial driver license to operate it's transport vehicles according to German regulations. The personnel is qualified and trained in an appropriate manner to fulfil the internal MCL's, DPA's and CyPlus's safety requirements. To transport cyanide the drivers need to have a valid mandatory training certificate for the transport of packaged dangerous goods according to ADR (Accord européen relatif au transport international des marchandises Dangereuses par Route = European agreement upon road transportation of dangerous goods). All drivers performing the corresponding Cyanide transportations between CyPlus manufacturing facility and the DPA terminals are listed at DPA and MCL company. Their status of qualification and training scope is documented. For training reasons, charts or explanations of the Material Safety Data Sheets have been used. These statements are valid for all contractors which are involved (if so) in the transportation process.

Operating personnel of the whole supply chain does not have to do any handling activities at all with cyanide, but only transport activities and handling activities with originally closed containers. The trainings do focus on scenarios and potential incidents and accidents. Exercises are performed routinely, e.g. simulation of spills and the respective reaction on that. Basic trainings are required according to training matrix (knowledge about procedures, forms, processes etc.). These basics are replenished by further trainings with respect to spill handling, emergency reaction etc. The documentation shows the training history and the respective effectiveness checks of the trainings. This is completed by specific re-qualification documentation for truck drivers, which is mandatory. Records of special trainings were available, too.

If emergency actions needs to be taken by drivers when leaks, spills or fire occur during transport, the instruction given in the "Transport Emergency Card" or "Fahrerhandbuch" (ADR "Instructions in writing") must be followed immediately. In this special case, the external responders such as the plant's fire brigade at Wesseling, the medical organization of Evonik at Wesseling site, local fire-brigades (municipal fire-brigade of Wesseling) or the local hospitals are well informed about the handling and transportation of cyanide and the potential risks of cyanide. CyPlus in cooperation with DPA is then coordinating and contracting the trucking company. In this specific case, the road transportation from Wesseling to Duisburg is operated by MCL company.

In addition, the consignor CyPlus has implemented a Standard Operating Procedure (SOP) "Supervision –





Internal Audits" to ensure that the procedures of the established system to manage cyanide shipments (as mentioned above) are reviewed at regular intervals.

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

This operation is ☒ in full compliance with ☐ in substantial compliance with ☐ not in compliance with ☐ not applicable

*Summarize the basis for this Finding:*

For packaging and transportation of cyanide standardized equipment is in use. All the freight containers are specified especially for the use to transport packaged or non-packaged dangerous goods, such as sodium cyanide.

Containers, chassis and trucks are well designed and constructed to fulfil the requirements of the European legislation for handling and transporting dangerous goods. The containers – once loaded by CyPlus in Wesseling – will not be opened and thus the load amount will not be changed. The use of heavy load trucks in each and every transportation safeguards that no overload will occur. To control the subcontractors like MCL company CyPlus or their subcontracted partners performs checks and audits in a regular manner.

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

This operation is ☒ in full compliance with ☐ in substantial compliance with ☐ not in compliance with ☐ Transport Practice 1.4

*Summarize the basis for this Finding:*

Each and every container is sealed by CyPlus in Germany and not opened before reaching the mine, thus internal damage cannot be identified en route. Container Interchange Reports are maintained and jointly signed by the shipper's representatives and the cyanide transporter's representatives to agree on any damage that may be sighted on the container at the port. The Vehicle Trip Checklist is completed at the mine, on delivery of the container and a section reports on container seals, labelling and general container condition. This checklist is counter signed by the mine representative. German / European transport regulations with respect to marking and placarding are consistently followed. A pre-trip checklist is completed for the truck and trailer before the vehicle is loaded with the cyanide container. The Fleet Preventative Maintenance (PM) policy states that preventative maintenance is performed for each vehicle. PM tasks are clearly identified and followed. These tasks are –among others- identified in the scheduled maintenance system of truck OEM's manual.



The freight containers which are used for the transportation of solid cyanide in wooden boxes are usually in property of the ocean carrier. The wooden boxes which are used to pack the solid cyanide (together with PE inlining bags) are specified. Technical data and dimensions are well defined. They are classified and licensed for hazardous goods transportation according to UN registration. The drivers are to follow the established delivery procedures described in the requirements for transportation of dangerous goods to ensure the integrity of producer's packaging. The freight containers are sealed after loading; the seals are registered on the transportation documents. Due to this fact the drivers will neither come into contact with the wooden boxes / ISO container's inner space nor with the product inside. Vehicle inspections prior to each departure are performed according to the Evonik, TFG and/or DPA procedures for dangerous goods transportation. The trucks are checked first when entering the Wesseling site and again before and after the loading process. The preventive maintenance program is well established and documented. The technical equipment (trucks etc.) undergoes different types of inspection (annual inspection) according to European, German, Belgian and Dutch legislation. The consumption of drugs or alcohol is strictly forbidden in accordance to the law and to the contracts with TFG and DPA. Records retention is ensured by software tools, electronic files or by paperwork in defined binders. These statements are valid for all contractors which are involved in the transportation process, including the new added organizations.

The Vehicle Operators Handbook (german: "Fahrerhandbuch") specifies the maximum hours of duty for the drivers. The Vehicle Operators Manual includes a section on drug and alcohol policy. The policy includes specific statements on drug and alcohol usage, testing, alcohol and drug dependence, use of drugs and alcohol on the company premises or whilst driving and the consequences of positive test results. The policy also covers random testing and searches. The involved companies recognize alcohol and drug dependence as a treatable condition and will provide appropriate support and assistance within the bounds of the policy.

Standard operating procedures (SOP) are available, covering the topics modifying the transport, caused by unexpected incidents, preventing load from shifting during all handling activities etc. Records of evidences demonstrating the operation of the safety program are archived according to respective SOP, that are part of the company's quality system.

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

This operation is ☒ in full compliance with  
☐ in substantial compliance with Transport Practice 1.5  
☐ not in compliance with

*Summarize the basis for this Finding:*

This section is not applicable with respect to air transport mode, as no air transport is used.

The shipments of cyanide by sea are transported in compliance with the IMDG Code. According to the due diligence investigations, the contracted ocean carriers could demonstrate that the current valid amendment of the IMDG Code is available (printed and online) and in use and that all employees concerned are made aware by delta trainings about new and/or changed legal requirements in comparison to the previous edition. Further the ocean carrier could prove, that all vessels are certified according to the ISM- and the ISPS Code.

Current due diligence investigations were / are performed by CyPlus and Evonik Services on-site at the ocean carrier's administration sites. Compliance with ICMC requirements could be demonstrated in each an every case. Expanding Supply Chain No. 1 didn't have any impact to the list of contracted ocean carriers, as they still are:





- Mediterranean Shipping Company (MSC) Germany GmbH, Bremen, Germany
- Hamburg Süd KG, Hamburg, Germany (a Maersk corporate company)
- Hapag Lloyd AG, Hamburg, Germany

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

This operation is ☒ in full compliance with  
☐ in substantial compliance with Transport Practice 1.6  
☐ not in compliance with

*Summarize the basis for this Finding:*

Truck transport from producer's site to Duisport agency (DPA) terminals DIT and D3T in Duisburg (by "MCL"):

Communication with „MCL“ vehicles in the cyanide transport is undertaken using mobile phones. All drivers have cell phones and the relevant phone numbers are all available in different documents. In cases of an incident drivers use their cell phones. CyPlus's Road Assessment SOP requires to find out potentially blackout area with respect to functionality of communication equipment. There are different tools in place to control the inventory and the amount of cyanide during transportation. After finishing the loading process, the containers are to be sealed; the seal no. is documented on the transportation documents. The bill of lading indicates the amount of cyanide in transit with respect to the controlled weight of each box which are checked at the production facility. Material Safety Data Sheets are available and in place. These statements are valid for all contractors which are involved in the transportation process.

„MCL“ receives, transports and delivers sealed containers, originally packed by CyPlus in Germany. A waybill accompanies the transport which includes chain of custody data such as container numbers, waybill numbers, shipping documentation, MSDS, packing list, bill of lading, customs declarations, and producer invoice. Drivers have shipping documentation including the Bill of Lading with them at all times during a shipment. 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 MSDS and Emergency Response Guides with them during deliveries.

Rail transport from DPA's terminals in Duisburg to the Belgian seaport in Antwerp (by Railtraxx):

The containers are rail-transported starting at the Duisburg terminal site with no stoppage to the Belgian seaport in Antwerp. Alternatively the containers are rail-transported starting at the Cologne-Niehl terminal site with no stoppage to the Dutch seaport in Rotterdam. Each and every container can be traced and tracked by using an electronic system, that's made available by internet ("status report").

In each and every route step "Communication possible yes / no" has to be verified. Result: full availability of cell phone communication, as it is quite normal in central Europe. No blackout areas have been identified. Thus no additional activities are necessary, e.g. satellite phone or calling before entering blackout areas.

  
Signature Lead Auditor  
Dr. Steinweg



## PRINCIPLE 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.**

This operation is ☒ in full compliance with  
☐ in substantial compliance with Transport Practice 2.1  
☐ not in compliance with

*Summarize the basis for this Finding:*

In terms of Cyanide Code definitions, CyPlus' subcontracted supply chain partners do partially operate interim storage facilities. Those interim storage facilities are used by and under control of:

- 8) Alfred Talke GmbH & Co. KG, Hürth
- 11) Eurogate Container Terminal Hamburg GmbH
- 12) Eurogate Container Terminal Bremerhaven GmbH
- 14) HHLA Container Terminal Burchardtkai GmbH
- 24) MPET N.V., Quay 1742, Antwerp, Belgium
- 26) APM Terminal Rotterdam, Rotterdam, The Netherlands

### ***Interim storage Operations at 8) – 24)***

See current Supply Chain No. 1 Summary Audit Report, dated April 25-26, 2017 and posted at ICMI webpage Aug 28, 2017.

### ***Interim storage Operations at 26) APM Terminal Rotterdam, Rotterdam, The Netherlands***

APM Terminals APM#1 and APM#2 at Rotterdam seaport area is providing separate dedicated area for storing dangerous goods containers. During the respective due diligence audit on site, performed by experts from CyPlus and Evonik Services (Nov 02, 2018), the auditors found, that ICMC transportation protocol definition of "trans-shipping depots and interim storage sites" is relevant at this site and thus audited Transport Practice 2.1 intensively and in full. The result of this inspection is available in the due diligence report (report date Nov 02, 2018). The auditors stated –following the detailed evaluations- in their final conclusion "...it is considered that the terminal is well designed, mature constructed and operates cyanides transshipments in a safe manner and with minimum risk to communities and the environment and therefore being in full compliance with transport practice 2.1...". The attachments of the due diligence report support this statement. The due diligence report is available for ICMC auditor's evaluation.

## PRINCIPLE 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.**

This operation is ☒ in full compliance with  
☐ in substantial compliance with Transport Practice 3.1  
☐ not in compliance with

#### *Summarize the basis for this Finding:*

In general the supply chain partners are obliged to follow ADR regulation.

Reflecting the total supply chain from Wesseling plant to the respective European ports of departure there are several emergency response plans in place for potential cyanide releases. These instructions declare that the drivers have immediately to contact local authorities and advising the nature of the emergency and the material involved. The most important supporting organizations are CEFIC (European Chemical Industry Council) and the German Chemical Industry Association (VCI). The VCI has initiated all over Germany a system called TUIS (Transportation-Emergency-Information-and-Response-System; see also answer on TP 1.1 questions). This emergency response system is available 24 hours on 365 days per year. Police, authorities, physical doctors or municipal fire-brigades are on duty as well. The drivers have information sheets and safety instructions onboard (with telephone numbers, name of contact persons etc.). All these documents support the driver to react in an appropriate manner in case of emergency. Due to the fact that the road distances between production plant, terminal and (in some cases) the external warehouse, passing a very highly industrialized area in mid-Germany, are very short the emergency response plan needs no specific regulations for different transportation routes. The design of the equipment is considered in the ERPs. The TUIS organization is well informed about this. The Talke interim storage facility has its own emergency response planning. Response actions are defined considering the different anticipated emergency situations. The roles of outside responders, medical facilities or communities are covered with respect to the TUIS organization. The emergency hotline is published in different instructions and procedures. TUIS is essential for the success of the emergency response activities. TUIS has multilingual communication capabilities, is operational 24 hours at seven days per week and could record all communication related to an emergency event. The Evonik Industries professional fire brigade is member of the TUIS organization and therefore will be contacted directly in case of any emergencies involving cyanides in Germany.

#### **ERP activities at sites of parties 8), 10) - 15), 18) - 21), 23), 24)**

See current Supply Chain No. 1 Summary Audit Report, dated April 25-26, 2017; posted at ICMI webpage Aug 28, 2017.

#### **ERP activities at 25) Rhein Cargo GmbH & Co. KG, Cologne, Germany**

Rhein Cargo's ERP is integrated in its safe management system "Notfallmanagement Rhein Cargo (Sicherheitsmanagement Handbuch Stand 01/2017)". Communication, trainings, drills etc. are clearly defined. 24/7 emergency phone numbers are in place. Alarm- and event-chain is defined in a process description. The functionality of the system and its reliability was verified during a due diligence audit (Oct 19, 2018). It was evaluated as compliant with the relevant ICMC-requirements.



**ERP activities at 26) APM Terminal Rotterdam (APMTR), Rotterdam, The Netherlands**

Both APM terminals (APM#1, APM#2) have a comprehensive 24 hours/7 days emergency response plan in place (called "Betrijfsnoodplan, Version 4.8"), being mandatory according to Dutch legislation. This plan is updated -if needed- at least every 12 months. This plan includes, among other information, preventive and corrective measures in case of emergency and post emergency response guidelines, and states responsibilities in relation to the specific emergency response. According to the summary emergency response procedures provided, these cover Fire, Explosion, Dangerous goods spill, toxic vapours, fogs and gases, flooding and any other emergency situations. Due to the fact, that the terminal handles a broad variety of dangerous goods, the plan cannot focus on individual substances, such as sodium cyanide. Thus the plan has no explanation of the characteristics of sodium cyanide, toxicity and antidotes. But this is not needed, however, due to the very well trained company fire brigade, being responsible for any kind of emergencies in all terminals of the ports of Rotterdam. Their station is within the terminal area. If an emergency would occur, the lead time for the fire brigade to arrive at any point of the terminal is 5 minutes on the average. The plan includes emergency scenarios applicable to the transshipment situations, fire and natural disasters (such as storm flood, heavy storm); it also includes prevention and mitigation instructions, as well as scenario-specific instructions. Mock drills are performed routinely. The functionality of the system and its reliability was verified during a due diligence audit (Nov 02, 2018). It was evaluated as compliant with the relevant ICMC-requirements.

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

This 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 new added organizations Rhein Cargo and APM provide emergency response training for the appropriate personnel – as all the other relevant partners within supply chain no. 1 do it (see current posted report). The training matrices require different kinds of trainings – focusing the different kinds of operations. Driver's training on how to act and react as well as information on the product Cyanide etc. is performed. Those trainings are held by different qualified / experienced parties. The scheduling is following the training concept, defined in the local legislation. CyPlus is always strongly supporting the training efforts.

APM provides emergency response training on different levels. Knowledge and capability of the management is assured by training courses and practical exercises. In fact, all operators handling dangerous goods have to pass the mandatory training for the transport of packaged dangerous goods and have to maintain the certificate, which has to be renewed routinely. This training covers emergency response activities.

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

This operation is ☒ in full compliance with  
☐ in substantial compliance with Transport Practice 3.3  
☐ not in compliance with



*Summarize the basis for this Finding:*

The CyPlus emergency notification system includes a communication process description that safeguards the full information of all interested and acting parties in case of emergency. This includes –among other aspects- listings of the members of the internal response team members (including the manufacturer CyPlus as well as the included supply chain partners), and those of external emergency responders (police, fire brigades, hospitals, authorities, TUIS). The emergency notification and reporting procedures are also included within the Evonik internal emergency notification structure. The resp. documentation is under control of CyPlus' HSE system. Under this regulation the control of the above mentioned documentation is executed and thus it is safeguarded that each involved party holds the current version of the documentation. This is checked during internal audits.

The internal procedures of Rhein Cargon, APM Terminals and CyPlus define the emergency response activities. These procedures refer -among others- to TUIS and CEFIC best practices. Internal and external emergency notification as well as reporting procedures are included in the TUIS process. Internal emergency response plans are kept current by periodical checks and internal audits.

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

This operation is ☒ in full compliance with  
☐ in substantial compliance with Transport Practice 3.4  
☐ not in compliance with

*Summarize the basis for this Finding:*

Descriptions of the specific emergency response duties and responsibilities of personnel are defined in detail. The master definition on how to react is given in CyPlus' ERP. The measurements and actions during a spill event are defined and advised in detail. The methods to be used to decontaminate the environment/spillage are described, e.g. prevention of spill entry into waterways, sewers, basements, or confined areas – even when those measurements and actions are never relevant for most of the parties along the supply chain.

It is also established that chemicals should not be added to water bodies to control the pH or to neutralize cyanide. Additionally, it includes instructions for assessing the impact on surface water bodies and to prevent the population to be poisoned by contaminated water. These instructions are part of the emergency response instructions to cyanide spills with contact to water and water bodies. The ERP prohibits the use of sodium hypochlorite and hydrogen peroxide to treat cyanide that has been released into surface water.

All remediation activities are done by external contractors but initiated and controlled by the local authorities. The remediation procedures for cyanide release are communicated to the external contractors that undertake the remediation activity. TUIS, Evonik and the contracted companies make sure that the right and correct steps and activities are done and that the authorities are involved. This includes that the response companies do not use any sodium hypochlorite, ferrous sulphate and hydrogen peroxide.

Finally it's not intended to do any remediation activity by transporters / their truck drivers. In developed countries, e.g. Western Europe, it is usual that the national professional emergency response parties (police, TUIS-organized professional fire brigades, THW "Technisches Hilfswerk" (technical assistance organisation), Emergency doctor in ambulance cars, Federal Office of Civil Protection and Disaster Assistance etc.) are taking over the responsibility as soon as possible. The driver's task (if not injured in the incident) is to be available for information (e.g. handing over MSDS or other transport-related information). The transporter's task is the same. Remediation activities or clean-up of releases will be the professional emergency response party's task (often / mostly professional fire brigade).





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

This operation is ☒ in full compliance with  
☐ in substantial compliance with Transport Practice 3.5  
☐ not in compliance with

*Summarize the basis for this Finding:*

The necessary provisions for periodically reviewing and evaluating CyPlus' ERP are available. In conjunction with a potential adjustment or change all other corresponding response procedures and requirements must be adjusted. In case of any event, the entry / change in the folder of documents would –if necessary- drive a change in the ER-plans of the different parties within the supply chain.

Provisions for periodically conducting mock emergency drills are made. The respective drills are defined in CyPlus' ERP. The training concept intends to involve all relevant parties, as far as it is possible. It's intended / scheduled to have mock drills minimum once a year.

The revision system of the CyPlus' ERP is defined. Revisions or recommendations are to be implemented as appropriate. It is also planned to have a routine management review respectively a performance evaluation of the plan itself.

As described in summary of Transport Practice 3.1 it was found, that each partner along the supply chain has maintained his own ERP, either established because of legal / authority requirements and/or established because of CyPlus's ICMC requirements. Due diligence audits or the ICMC audit found frequencies of review / updating of 12 – 24 months – or driven by event.

Finally: the emergency response plans and the corresponding procedures are reviewed and evaluated periodically. Mock emergency drills are conducted all over the involved companies. Outdoor field tests are performed to train emergency response in specific cases (e.g. damage assessment etc.). Even the TUIS processes are trained and drilled periodically.

  
Signature Lead Auditor  
Dr. Steinweg

## B) RAIL TRANSPORTATION:

After delivering the container by truck to the Duisburg terminals and checking the corresponding documents the container/s is/are lifted from the truck chassis onto the railroad car. Even though there's a dedicated area for dangerous goods, it is not allowed to keep cyanide containers overnight. To handle leakages or spills in a safe manner a specific containment to rescue damaged containers is provided. The terminal's ERP including CyPlus's ERP requirements emergency response plan is available to the terminal operators. The same requirements have to be followed at the CTS site, the starting point for Rhein Cargo trains going to Rotterdam.


The railway shipment to Antwerp terminal is provided by Railtraxx. The railway shipment to Rotterdam terminal is provided by Rhein Cargo. These routes of the trains follow an elaborated schedule with dedicated passages and defined times. It is possible to monitor the exact route of the train when passing specific checkpoints. In cases of emergency the train conductor has to inform the next control room in charge; they will release the emergency response plan. In cooperation with police, fire-brigade and TUIS organization the emergency response plan should run according to schedule.

The information and response scheme in case of rail accidents with dangerous goods is determined per flowchart and is running through TUIS before informing the Evonik headquarter. All involved parties are trained well in a regular manner. The final destination of the rail transport (without any stopover) is the MPET 1742 container terminal in Antwerp port area, or the APM terminals in Rotterdam / The Netherlands, respectively. The container terminal at the port of Antwerp is operating a full implemented management system. The same is valid for the APM terminals in Rotterdam.

Both container terminal sites (Antwerp, Rotterdam) are operating in compliance with the ISPS-Code security regulations (International Ships and Port Security Code) – both respectively certified. Among others, the following security measures and proceedings are obligatory:

- Access control of terminal personnel (ID card, turnstiles)
- Control of the access points that are secured with fences, cameras, motion sensors
- Permanent monitoring of the terminal
- Monitoring staff has to check persons and inspect luggage and vehicles
- Staff members always wear personal protection equipment (safety helmet, safety jacket and safety shoes)
- All movements to and on the terminal without announcement are generally forbidden
- No access to the terminal, including the buildings
- Checking ship's personnel for identity and corresponding vessel.

During due diligence audits at the Duisburg Railtraxx affiliate site, at the MPET site in Antwerp, at Rhein Cargo's affiliate and at the APM terminals in Rotterdam, performed by experts from CyPlus and Evonik Services (March and November 2018), the auditors audited the relevant Transport Practices of the ICMC Code. The results were laid down in due diligence reports "Bericht zum ICMC due diligence Überwachungsaudit" for all organisations mentioned. The auditors stated full compliance with respective requirements.



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Dr. Steinweg



## **C) SEA TRANSPORTATION**

### **ADDITIONAL COMMENTS ON SEA TRANSPORTATION**

Not relevant in the present addendum, because the scope of the addendum audit within CyPlus's Supply Chain No. 1 ends in the Rotterdam port. The subsequently utilized ocean carriers going out of the Rotterdam port are the same as described in the current Supply Chain No. 1 Summary Audit Report, dated June 04, 2018. Thus no ocean vessel operating company audit / due diligence audit was necessary at that time.



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