

**ICMI CYANIDE CODE
SUMMARY AUDIT REPORT
CERTIFICATION AUDIT**

**CYANIDE TRANSPORTATION
SUPPLY CHAIN #7 - TURKEY SUPPLY CHAIN**

**CYPLUS GMBH
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GERMANY**

**Submitted to:
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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 in different packaging variations using different supply chains. The customers / the mines can be found on different sites across the world. Accordingly different supply chains are utilized. In this report, the supply chain no. 7 is covered, starting from cyanide manufacturing site in Wesseling, Germany resp. from the utilized dangerous finished goods storage and handling center in Huerth, Germany across the Pendik (Istanbul, Turkey) port to the final destination at a gold mine in Uşak, Turkey. The supply chain consists of different transportation modes, i.e. truck, rail and overseas vessel transportation.

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 to mines all over the world. The CyPlus company also acts as a consignor for cyanide transportations. This report is focussing on the Supply Chain #7: Wesseling manufacturing site to mine site/s in Turkey.

Description of and involved parties in supply chain #7

Party No.	Name, Address	Function within Supply Chain No. 7
1	Alfred Talke GmbH & Co. KG Max-Planck-Str. 20 50354 Huerth Germany	Operation the dangerous finished goods storage and handling center in Huerth, Germany as the starting point of the supply chain. Organization of whole Supply Chain. Main contract partner to CyPlus. Alfred Talke subcontracts different transport companies along the supply chain from Wesseling to mine site/s in Turkey.

Short description of location detail and description of operation:

CyPlus' main contractor Alfred Talke GmbH subcontracts different transport companies along the supply Chain from Wesseling/Germany to mine site/s in Turkey. Zafer Tank transportation company (ZT) is sub-contracted as a qualified dangerous goods (here: sodium cyanide) transporter to transport cyanide by road from Pendik port (region Istanbul, Turkey) to mine site in Turkey.

The material containers are offloaded at the Turkish port. ZT clears the consignment and ZT's vehicles collect the containers with the documentation and manage them under a transport management plan . Then the containers of cyanide are transported in escorted convoy to the mine.

Auditor's Finding

This operation is

- in full compliance
- in substantial compliance *(see below)
- not in compliance

with the International Cyanide Management Code.

* For cyanide production 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 audit	June 24, 2016

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.

PRINCIPLE 1 – OPERATIONS:

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 as the transport company has contracted the transport operation activities to the German Alfred Talke GmbH company. On the other hand, under authorization of CyPlus, Alfred Talke GmbH subcontracts the local activities to their partner company Zafer Tank. Additionally the ERP consultant Meke is also contracted by CyPlus to support with emergency assessment, planning and assistance services along the supply chain. All of the parties are required to fulfill CyPlus' quality and HSE requirements, controlled by service level agreements. This contracting scheme is clearly defined in CyPlus' ERP. Within this ERP a process to select transport routes to reduce potential risks with respect to accidents and releases is included. This process takes into account the population density along the potential route, infrastructure installations (e.g. bridges, road foundations etc.), rivers, creeks, ponds, in general proximity to water. The total transportation route starting from the dangerous goods depot in Germany (CyPlus' contracted partner as operator of the depot: Alfred Talke GmbH) and ending at the Turkish Usak mine site is clearly defined. Potential scenarios have to be taken in consideration; advice is given on how to react with respect to detected risks. The "Selection of Routes" process is clearly defined and carried out. During the road risk assessment and selection process input from communities, police, public agencies and further interested parties is required to have the full set of information for performing a risk assessment. This is also to cooperate with the authorities. CyPlus' ERP deals in detail with the involvement of external interested parties (mutual aid scheme). Further regulations are defined focusing on communication during routine operation and during emergency cases (alerting).



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:

CyPlus is not active in transport operating activities on site. This activity is subcontracted, as described in Transport Practice 1.1, to different parties, e.g. the road truck transporter in Turkey: Zafer Tank transportation company. The involved transport / handling companies (e.g. Zafer Tank) use only trained, qualified and licensed drivers / operators to operate the respective equipment (e.g. Zafer's trucks). This is basically required in CyPlus' ERP and in the service level agreement between the parties CyPlus, Alfred Talke GmbH, Zafer Tank and Meke. The qualification requirements are focused on both, routine activities during normal operation and actions / behavior during emergency cases / situations. Special training is planned, scheduled and executed, too.

Operating personnel does not have to do handling activities 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 e.g. by specific Turkish re-qualification documentation for truck drivers that is mandatory.


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 Transport Practice 1.3
 not in compliance with

Summarize the basis for this Finding:

CyPlus as an organization does not transport loads. Transports are carried out by Zafer Tank (ZT) as subcontractor of Alfred Talke. Various maintenance scenarios are in place: (1) Checks in advance and after each transport, defined in each individual transport folder / documentation. (2) Planned routine technical checks and small standard maintenance items and (3) Routine expert maintenance activities, done by external garages, dedicated to truck-brand, mostly certified by the respective truck OEMs. The trucks and the respective tools, technical equipment and trailers are maintained to operate within the loads they are handling.

ZT uses trucks for the cyanide transportation on transport route No. 7. No ferry, barge or other means of transportation is in use. When using a TEU (20 foot equivalent unit) the maximum load is defined. No unloading / re-loading etc. activities are done by Zafer Tank. So the container – once loaded and primary / secondary packed by CyPlus in Germany – will not be opened and thus the load amount will not be changed. The use of heavy load trucks safeguards, that no overload will occur.



(Signature Lead Auditor Dr. Steinweg)

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 Transport Practice 1.4
 not in compliance with

Summarize the basis for this Finding:

The container is sealed by CyPlus in Germany and only opened at the mine, thus internal damage cannot be identified in route #7. A Container Interchange Report is completed 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. Turkish transport regulations with respect to marking and placarding is followed. A pre-trip checklist is completed for the truck and trailer before the vehicle is loaded with the cyanide containers. The Fleet Preventative Maintenance (PM) policy states that preventative maintenance is performed on each vehicle. PM tasks are clearly identified, scheduled and followed. These tasks are identified in the scheduled maintenance system of truck OEM's manual.

The Management System of Zafer Tank specifies –in accordance to local regulations- the maximum hours of duty for the drivers. This 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 policy and the company 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 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 general doc's control standard operating procedure.

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:

The shipments of cyanide by sea are transported in compliance with the IMDG Code. According to the due diligence investigations the contracted ocean carrier 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. Due diligence investigations were performed by CyPlus and Alfred Talke GmbH on-site at the ocean carrier's Pendik site:

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:

The communication along the full supply chain –focussing the location of the material- is established by each contributor of the supply chain. This information is often –where necessary- made available by using internet based applications. Also communication with and among Zafer Tank vehicles during road transportation in Turkey in the cyanide convoy is undertaken by using mobile phones and short-wave radio– as well as internet-based monitoring of location and selected truck conditions. All communication equipment is tested prior to convoy departure. The drivers at the time driving do not use the communications equipment. Zafer Tank’s responsible safety officer communicates with the convoy leader and support vehicles. Convoy managers have all the appropriate telephone numbers to communicate with Zafer Tank head office and appropriate emergency responders and emergency services on the convoy route. A current telephone list is part of the ERP resp. equipment documentation on each vehicle being part of the convoy. The Zafer Tank head office in cooperation with emergency service provider Meke manages all associated communications e.g. with the mine and the cyanide producer. Zafer Tank transports and delivers sealed containers. A full and defined standard package of documents is part of the convoy management, also on the road.

The Road Assessment SOP requires to find out potentially blackout area with respect to functionality of communication equipment. The availability of technical equipment and spare parts are objects to be checked routinely in advance of each convoy order to the mine. GPS tracking is implemented for all convoys. Cell phone coverage is assured on the entire route.

Zafer Tank receives, transports and delivers sealed containers, originally packed by CyPlus in Germany. A waybill accompanies the convoy 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.

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:

For purposes of the audit, “trans-shipping depots and interim storage sites” refer to facilities where cyanide is held temporarily when changing carriers or transport modes.. Activities such as parking a cyanide transport vehicle for the night while en route do not involve interim storage. However, parking a truck carrying a cyanide load at a truck or rail terminal or a port for transfer to another truck, train or ship would constitute interim storage unless such a transfer took place within a short period of time (hours as opposed to a day or more). Storage in a warehouse (planned or not planned) does not occur during the whole transportation chain no. 7.

In advance of the ICMC Transportation audit CyPlus organized a series of due diligence audits, referring to all supply chain no. 7 partners, starting at Talke’s organization in Germany. The result of the due diligence audits was laid down in respective reports. The reports were made available for the ICMC Transportation Auditor before the on-site audit at Zafer Tank transportation company was performed. The reports show, that the due diligence audits were performed fully (with respect to the relevant ICMC requirements).

Finally, also at the port sites, **no need for interim storage facilities and warehousing** in terms of Cyanide Code definitions do occur.

National and international labeling provisions are maintained. Smoking, open flames, eating and drinking at the ports is regulated by the quality / safety management system of the port site. Derived from that system, dedicated areas are defined where those special activities are allowed and also special areas, where those are restricted. Requirements covering personal protective equipment is clearly defined and regulated in both port’s advising systems.

At the ports following principles are established: the areas are protected by a fence and additionally supported by a technical and organizational based access control system. Access to the site is controlled at different control points / entry points. Only authorized persons / equipment are allowed to entry. Gate guard service is part of the port organization. Sufficient security and access measures are in place.

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:

CyPlus is not active in transport operating activities on site. This activity along the full supply chain No. 7 is contracted to the company Alfred Talke GmbH, which is a special expertise company in dangerous goods handling, packaging, storage and transportation, active especially in and all over Europe. Together with Alfred Talke GmbH the planning for emergency responding with all partners along the supply chain no. 7 was defined, checked during due diligence audits according to CyPlus' emergency responding requirements. The local Turkish transport company Zafer Tank has –in conjunction with Meke company (ER service provider)- implemented an Emergency Response Plan, following CyPlus' Emergency Response Plan. This is a detailed document and includes, among other information, the emergency response team organization chart, emergency phone directory, communication channels guidelines, emergency scenarios, and instructions to attend specific and general emergency scenarios. The Emergency Response Plan includes an attachment describing the routes in detail, with the assessment matrices which were used to develop emergency scenarios, the respective preventive and mitigation measures, and emergency response actions. The plan has a detailed explanation of the sodium cyanide characteristics and toxicity based on the MSDS. The emergency scenarios, the general emergency response instruction, and the scenario-specific instructions consider the solid state of the cyanide and its incompatibility with water and other substances. The Emergency Response Plan provides information regarding the packaging and transportation characteristics of the product, the containers, and the transportation units. All emergency scenarios developed are related to ground transportation and include: crash with another vehicle, vehicle rollover in steep slope or curve, rollover with spill, rollover with hurt persons, and rollover with the product reaching a water body, among others. The plan includes the emergency scenarios developed from the route assessment. It also identifies the areas where the different scenarios are most likely to take place. All the scenarios are in relation with accidents of trucks hauling a platform trailer carrying a 20 ft container or a CyPlus transport unit, which is the only transportation mode used by Zafer Tank on CyPlus' route No. 7. The description of the routes are available in detail in the ERP.

The ERP considers all aspects of the transport infrastructure. Special attention is given to the road assessments, where the specific conditions of the routes and the respective installations are focused (e.g. bridges over water etc.). The plan considers the design of the transport vehicle. Container trailers are specified with minimum load requirements and special adaption points to fix the different container bottom designs.

The ERP includes descriptions of response actions, as appropriate for the anticipated emergency situation. Trainings are done, covering the given scenarios. The plan also shows the respective emergency procedure, phone numbers and persons / functions to be involved in case of emergency / spill etc. as well as addresses of different functions (police, hospital, mayors of different communities along the route etc.). During the road portion of the supply chain no. 7 all of the above referenced response actions are actively accompanied by the emergency response service company Meke (contracted by CyPlus).

The plan identifies the roles of outside responders, medical facilities and communities in emergency response processes / cases. The alerting system in case of emergency is described and defined.

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:

All involved parties provide emergency response training for the appropriate personnel. The training matrices require different kinds of trainings. Driver's training requirements on how to act and react as well as information on the product Cyanide etc. is available. The scheduling is following training concepts, which are based also on CyPlus' ERP.

Descriptions of the supply chain no. 7 specific emergency response duties and responsibilities of personnel are defined in detail in CyPlus' documentation. This documentation is under control of CyPlus' quality and HSE system. Under this regulation the control of the above mentioned docs is executed and thus it is safeguarded that each involved party always holds the current version of the documentation.

There is a list of all emergency response equipment that has to be available during road transport and along the transportation route. Meke, the emergency response service company (contracted by CyPlus) is made responsible to have the right and full list and to take care, that the defined equipment and materials are available in full and in full function. The emergency response kit includes all items, as required by the Code and the referenced regulation as well as Turkish legal requirements.

The transport vehicle operators receive initial and periodic refresher training in emergency response procedures including implementation of the Emergency Response Plan – as far as this is relevant. Zafer Tank –together with Meke- has set up a system of initial and refresher trainings, taking into account the individual persons training and experience history.

All of the parties are required to fulfill CyPlus' quality and HSE requirements, controlled by service level agreements. This contracting scheme is clearly defined in CyPlus' ERP.

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' ERP as well as Alfred Talke's safety management system and Zafer Tank / Meke's ERP (derived from CyPlus' ERP) include 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, Meke, mine site and Zafer Tank), and those of external emergency responders (police, firefighters, hospitals, authorities, etc.) along the supply chain. The emergency notification and reporting procedures are also included within the Emergency Response Plan.

The respective documentation is under control of CyPlus' quality and HSE system. Under this regulation the control of the above mentioned docs is executed and thus it is safeguarded that each involved party always holds the actual version of the documentation. This is routinely checked with / during 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 measurements and actions by and during spill 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.

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:

There are the necessary provisions for periodically (min. once per year or driven by events) reviewing and evaluating CyPlus' ERP. In conjunction with a potential adjustment or change all other corresponding response procedures and requirements must be adjusted (e.g. Zafer Tank / Meke's ERP, Meke's procedures coming out of CyPlus' ERP or Zafer Tank's instructions within their quality and HSE system). Examples of change requests coming from events were inspected. In case of any event, the entry in the order folder would –if necessary- drive an update in the ER-plans of the different parties.

Provisions for periodically conducting emergency mock-drills are made. The respective drills are defined in CyPlus' ERP. The training concept intends to involve all relevant parties, especially the mine site, that organizes and performs trainings by it's own with a high grade of quality and practical orientation. It's intended and scheduled to have mock drills minimum once per year, also in close cooperation with the respective mine site.

The revision system of the CyPlus' ERP and Zafer Tank / Meke's ERP is defined. It's required to do revision annually or event driven. Revisions or recommendations are to be implemented as appropriate. It is also scheduled to have a routine management review respectively a performance evaluation of the plan itself.