

***INTERNATIONAL CYANIDE  
MANAGEMENT INSTITUTE***

**Cyanide Transportation Recertification  
Summary Audit Report**

*For*

**Haukes N.V.**

*To The*

***International Cyanide Management Code***

**December 2016 Verification Protocol**

*By*

**Environmental Technology & Management**

## SUMMARY AUDIT REPORT

Name of Cyanide Transportation Facility: **Haukes N.V.**

Name of Facility Owner: **Haukes N.V.**

Name of Facility Operator: **Haukes N.V.**

Name of Responsible Manager: **Jeroen Haukes, Chief Operating Officer**

Address: **Martin Luther Kingweg 701**

City: **Wanica** State/Province: **District Wanica** Country: **Suriname**

Telephone: (+597) 531986 E-Mail: [jhaukes@haukesnv.com](mailto:jhaukes@haukesnv.com)

Location detail and description of operations:


On January 13-16, 2020 Environmental Technology & Management conducted the on-site portion of a recertification audit of Haukes N.V.'s cyanide transportation activities against the Transport Practices of the International Cyanide Management Code. Since 2007, Haukes N.V. has been transporting sodium cyanide from the Surinamese Port of Paramaribo to the Iamgold Rosebel Mine in Central Suriname. In 2016, Haukes N.V. began transportation of sodium cyanide briquettes from the Surinamese Port of Moengo to the Newmont Surgold Mine at Merian. These are the last transportation segments in the shipper's Global Ocean Supply Chain to Suriname.

Haukes, N.V., founded in 1991, provides construction and transportation services throughout Suriname. Being in the construction and "heavy-haul" transportation business, Haukes uses only heavy duty diesel tractors and trailers for cyanide transport. All of its tractors are satellite equipped to provide real time tracking of shipments from pick up at the port to delivery at the mine. Haukes N.V.'s cyanide transportation activities are based at its Wanica Facility, hereafter referred to as "Highway", and include transporting sodium cyanide (NaCN) briquettes in Sea Containers and ISO Tanks from the Ports of Moengo and Paramaribo to gold mines in the Eastern and Central areas of the country.

Haukes N.V. has selected and evaluated a primary route to each consignee. Details of the evaluation process are provided in this report. Because of the presently served mines' remote locations, with little exception, there is only one route. The route to the Newmont Surgold Merian mine is two-lane dirt, while the road to the Iamgold Rosebel Mine is mostly asphalt. During the initial certification audit, Haukes assembled a convoy from Moengo to the Merian Mine to demonstrate to this auditor measures taken for transportation safety and security. The auditor accompanied the convoy on this route in its entirety. During this recertification audit, the auditor witnessed a convoy departing from Moengo, and later traveled the route to the Rosebel Mine. In this manner, the auditor confirmed that Haukes N.V. continues to apply its documented procedures to the Merian route and applies the same risk assessment and transportation procedures to the Rosebel route, as well.

Haukes N.V. has a very competent Health, Safety and Environmental Department, which along with its Learning and Development affiliate and Newmont Surgold Merian Mine staff have provided cyanide handling and emergency preparedness and response training to Haukes N.V. drivers on all cyanide routes. Haukes N.V. conducted Hazmat training in January and again in April 2016 for medical personnel and police from Paramaribo and Moengo (ports). Since that time, Newmont Surgold and Iamgold have

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assumed responsibility to inform medical personnel, and ensure facilities are aware of cyanide hazards and medical response. Haukes N.V. and the mines maintain their own well trained teams and equipment to respond to chemical release emergencies.

This report provides the detailed findings regarding Haukes N.V.'s conformance to the requirements of the Cyanide Transportation Verification Protocol over the first three-year cycle. The recertification audit and this report reviewed the transporter's cyanide incident free performance over the 349 truckloads (most carrying two containers) transported during the period 2017 – 2019. Findings are based on interviews, observations and review of records and management system documents developed, implemented and maintained over Haukes N.V.'s years of cyanide transportation service in Suriname

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**SUMMARY AUDIT REPORT***Auditor's Finding*

This operation is

- in full compliance  
 in substantial compliance with the International Cyanide Management Code.  
 not in compliance

**Audit Company: Environmental Technology & Management**

**Audit Team Leader: John B. (Jack) McVaugh, PE, RCMS/EMS-LA**

**E-mail: jbk.m.etm@att.net**

**Names and Signatures of Other Auditors: NA**

Date(s) of Audit: **January 13-16, 2020**

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.

I further attest that Haukes N.V. has not experienced any significant accidents or incidents involving the transportation of cyanide during this three year cycle or prior to it. In fact, Haukes recently celebrated the 4,000<sup>th</sup> container transported to the mines without incident over the past 12 years.

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May 14, 2020  
Date

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## SUMMARY AUDIT REPORT

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

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

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


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

Haukes N.V. has developed and maintains a Cyanide Route Assessment and a Transportation Procedure to manage risks of cyanide transportation along each of its routes. Because of the remote locations of mines presently served by Haukes NV, there are no alternative routes to be assessed. However, the assessments and procedures consider risk associated with population density, infrastructure, road construction and condition, pitch and grade, proximity of water bodies and prevalence of fog and other visibility issues. Results of the assessment for each route are recorded on the respective Cyanide Route Assessment, using Google Maps and photographs. All of these are subject to frequent review and revision as necessary, and the assessments and procedures are used for driver training and pre-trip safety meetings.

Haukes N.V. has developed and maintains Cyanide Route Assessments and Transportation Procedures to manage risks along each entire route. Input from convoys and other employees, including any improvement needs, are entered into the Occurrence Data Information database, and could result in amendments to the route assessments, as well as road repairs or changes to convoy check points along the route. Identified hazards along each route are summarized on the Cyanide Route Assessments, and Transportation Procedures for each route document measures taken to address the risks identified. Haukes N.V. has met with every District Commissioner through which transportation routes pass. Furthermore, Haukes N.V. has received input from the National Institute for Environmental Development (NIMOS). Hazardous Material Training has involved port stevedoring crews and other employees, fire departments, medical clinics and police departments, during which time opportunity was presented to comment on cyanide transportation arrangements.

Haukes N.V. always transports sodium cyanide in convoys. Each convoy is mandated to have a front escort vehicle to warn its other drivers about approaching hazards, including on-coming traffic, no more than three cyanide transports, an emergency vehicle equipped with a crane, an emergency kit and spare tires for tractors and trailers, a Spill Kit Wagon with Personal Protective Equipment, a maintenance vehicle with two mechanics and a rear escort vehicle with a policeman. For cyanide shipments, a policeman will also ride in the lead vehicle. The front and rear escort vehicles were also observed to block cross traffic, to allow the convoy to proceed uninterrupted through intersections. Haukes N.V. conducted Hazmat training in January and again in April 2016 for medical personnel and police from Paramaribo and Moengo (ports). Since that time, Newmont and Iamgold have assumed responsibility to inform medical personnel, and ensure facilities are aware of cyanide hazards and medical response. Haukes N.V.

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and the mines maintain their own well trained teams and equipment to respond to chemical release emergencies.

Haukes N.V. transports cyanide but does not otherwise handle it. Haukes N.V. does not broker or subcontract loads to any other transport company.

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

The operation is  in full compliance with  
 in substantial compliance with Transport Practice 1.2  
 not in compliance with

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


Haukes N.V. uses only licensed, trained and qualified drivers to operate its vehicles. All Haukes N.V. drivers maintain a valid Truck Drivers' License (for trucks greater than 3,500 kg capacity) and have received a certificate for Good Behavior from their local District Commissioner verifying that they have violated no law. All drivers are subject to Haukes N.V.'s Drug and Alcohol Program and background investigations, including the Good Behavior Statement. Mandatory Cyanide Awareness Training is presently conducted by Newmont Surold for all Haukes N.V. cyanide drivers, no matter to which consignee they are transporting. All drivers receive training during their initial orientation, and refresher and on-going training provided by a Haukes Group training affiliate. The auditor verified training course content by reviewing Newmont Cyanide Awareness Power Point slides, a Cyanco Cyanide Safety Training Video for Drivers and other course materials including a test to demonstrate competency.

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

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

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

Haukes NV. uses "Heavy Off-Road" tractors in cyanide service. Haukes N.V. employs a specification process and maintenance program that ensures that all transport equipment retains a load-bearing capacity adequate for the anticipated load. Maintenance includes monthly inspections and Preventative Maintenance (PM) checks based on kilometers travelled as well as appropriate specifications for replacement equipment and parts. Trailers are inspected twice per month, or when they have just completed a cyanide run and follow a heavy equipment PM schedule calculated based on kilometers travelled. The preventive maintenance schedule requires greater frequency than factory recommendations

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because of the harsher conditions of the routes travelled and the tropical environment. Inspection schedule compliance is maintained through frequent communication between Maintenance and Operations. The transporter's policy is not to dispatch tractors significantly beyond their maintenance due dates. Drivers must complete a Pre-Trip and a Post-Trip inspection (required by company policy rather than government mandate), and all issues identified during these inspections are communicated to the Maintenance Foremen by the Transportation Foremen. The shipper performs all cyanide loading according to its own procedures. Product weights are specified on shipping papers, and the shipper uses its own scales to weigh empty and loaded ISO Tanks and Sea Containers. Haukes N.V. transportation foremen check the weights and verify conformance with government axle-weight requirements.


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

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

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

The shipper has procedures in place to ensure packaging integrity during transport of Sea Containers, including blocking and bracing techniques. Haukes N.V. drivers inspect the exteriors of ISO tanks and Sea Containers for any sign of damage or leaking product before leaving the ports. A convoy mechanic also checks the serviceability and integrity of transport trucks and trailers, including the twist locks securing containers to trailers, according to the Check Sheet. These twist locks are the same proven devices used to secure Sea Containers and ISO Tanks to transport chassis throughout the industry. Route specific Load Check Lists ensure these items are inspected at every checkpoint along each route. Transportation procedures then minimize the potential for damage to packaging due to load shifting. Mine personnel perform all container unloading tasks. Placards are installed by the shipper's personnel and are checked by Haukes N.V. drivers. Sea Containers and ISO Tanks are marked on all four sides with proper placards and other signage. Mining company personnel store extra placards at the ports in case the originals have become dislodged or unreadable. Haukes N.V. maintains a Cyanide Transportation Safety and Security Program which includes drivers completing a Pre-Start inspection of each load for any evidence of powder, unsealed valves, hatches and seals; a systematic preventive maintenance program (See Transport Practice 1.3); Hours of Service limitations on driver schedules; procedures to prevent loads from shifting; conditions under which cyanide transportation may be modified or suspended; a drug and alcohol abuse prevention program and records management related to all activities in the plan. All records reviewed by this auditor were found to be complete, and were managed such that they were protected against damage, deterioration and loss, and were readily retrievable.

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

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

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

Since Haukes N.V. does not transport cyanide by sea and air, Haukes N.V. is in full compliance with Transport Practice 1.5.


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

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

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

Haukes N.V.'s cyanide transport vehicles have at least two means of communication. Each tractor is equipped with satellite (GPS) for positioning and a radio for communication between convoy vehicles and with base camps, the mines and Headquarters. The Convoy Leader also carries a satellite telephone. Haukes N.V. uses GPS and radio for communications on a daily basis. Convoy vehicle drivers test their radios before leaving the ports and keep them in nearly constant use during the trip to the mines. If any equipment malfunctions, Operations notifies Information Technology, who immediately arranges for a repair. Each convoy carries a spare radio, which can be used in the interim. The Convoy Leader tests the satellite telephone at each check point. Blackout areas for radio communications have been identified for each route. Haukes N.V. has a contingency plan if radio communication is necessary in the blackout area. The Convoy Leader possesses a satellite phone which can be used to communicate convoy position and emergency situations to the Moengo Base Camp, which in turn communicates with the Mine and the Highway (Headquarters) facility. The auditor verified that a GPS system tracks shipments in real time, as well as location, direction, speed and position history of transport vehicles. Haukes N.V. picks up Sea Containers and ISO Tanks, fully loaded and sealed, at the port locations and delivers them to the mines directly. Seal Numbers are recorded on shipping papers and drivers verify that the seals are intact and match those listed on the shipping papers, at the load pick-up point. The Shipping Document or Manifest serves as a chain of custody document. The Shipper indicates the amount of cyanide in transit on the Straight Bill of Lading, and that the shipping papers include a Safety Data Sheet. The Convoy Leader carries this documentation to the mine.

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**2. INTERIM STORAGE:** *Design, construct and operate cyanide trans-shipping depots and interim storage sites to prevent releases and exposures.*


**Transport Practice 2.1:** *Store cyanide in a manner that minimizes the potential for accidental releases.*

The operation is  in full compliance with  
 in substantial compliance with Transport Practice 2.1  
 not in compliance with

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

Because Haukes N.V. does not operate any port facilities, cyanide trans-shipping depots or interim storage sites, Haukes N.V. is in full compliance with Transport Practice 2.1. However, during a visit to the Port of Moengo, the auditor verified that cyanide stored in ISO Tanks and Sea Containers, under the control of Newmont Surgold, from the time it is off-loaded from ships to the time it is picked up by Haukes N.V. transport vehicles, meets all requirements in this protocol. Furthermore, because Haukes N.V. personnel are trained and equipped to respond to any releases of cyanide at the ports, they would be called upon to voluntarily respond to any such releases.

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**3. EMERGENCY RESPONSE: *Protect communities and the environment through the development of emergency response strategies and capabilities.***

***Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases.***

The operation is  in full compliance with  
 in substantial compliance with Transport Practice 3.1  
 not in compliance with

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


Haukes N.V. has developed and maintains an Emergency Response Plan for each of its cyanide transportation routes, with procedures directing Haukes' Emergency Response Team in using its capabilities, training, equipment, and resources to manage a release of sodium cyanide briquettes onto land and into wet fields. The Plans include contact information to notify local authorities, outside emergency response providers, and company operations and safety management, and also direct the Haukes Emergency Response Team with personnel and equipment in convoy vehicles, and based at the "Highway" Facility. In the case of larger releases, the Emergency Response Team at "Highway" would be dispatched to the scene with a specially equipped Spill Response Trailer. The Plans specify that the product is sodium cyanide and the physical form is solid briquettes, and that the method of transportation is by truck, using flat bed trailers carrying one or two ISO Tanks or Sea Containers. The Plans consider transportation over the approved routes, on paved and unpaved roads, in flat and hilly terrain.

The Haukes N.V. Emergency Response Plans specify response actions to be taken by Haukes Emergency Response personnel in the event of an accident, with or without a release of sodium cyanide and/or medical emergency. The Plans include responsibilities of outside emergency response organizations including local police and fire departments, as well as emergency medical services, such as ground and air ambulances. The Plans also stipulate that policemen in the convoy will provide traffic control and restrict access to the area, Fire and Emergency Medical Personnel provide triage and transport for injured individuals (if necessary), and Emergency Response and Clean-Up Services defer to Haukes Environmental, Health & Safety Team for instructions.

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

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

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

Haukes N.V. has provided emergency response training to the drivers and other convoy support personnel selected for transportation of sodium cyanide, particularly with regard to implementation of its Emergency Response Plans. Haukes N.V. has trained its own Emergency Response Team to respond to any release of larger quantities of this product while in the possession of Haukes N.V. The Emergency Response Plans clearly delineate the specific emergency response duties of drivers, other convoy personnel and emergency response personnel. The auditor reviewed the Response Equipment Listings provided in the Emergency Response Plans. These lists include equipment accompanying each convoy as well as that in an emergency response trailer stationed at “Highway” or at the Moengo Base Camp to respond to larger spills. Equipment lists indicate that the necessary emergency response and health and safety equipment, including PPE is available in the Spill Response and Emergency Vehicles attached to each convoy. Haukes N.V. has provided initial emergency response training and requires mandatory annual refresher training. (See Transport Practice 1.2) Furthermore, Haukes N.V. is committed to re-evaluate its Emergency Response Plans no less than annually. After evaluation, any necessary changes will be made. After the plans are either deemed adequate or amended, all personnel in Cyanide Service, including the Emergency Response Team, drivers and other convoy personnel, will receive updated refresher training. According to the Haukes N.V. Emergency Response Plans the Chemical Spill Kit Equipment will be inspected prior to each convoy leaving the port. The Convoy Leader will test the Satellite phone carried by each convoy at each check point along the transportation route.


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

The operation is  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 Haukes N.V. Emergency Response Plans include procedures and current contact information for notifying the mines, regulatory agencies and outside response providers of an emergency. Medical facilities and potentially affected communities would be contacted by Newmont Surgold and Iamgold personnel. Haukes N.V. is committed to up-date and re-evaluate its Emergency Response Plans no less than annually. This includes internal and external emergency notification and reporting procedures. After evaluation, any necessary changes are made. After the plans are either deemed adequate or amended, all personnel in Cyanide Service, including the Emergency Response Team, drivers and other convoy personnel, receive refresher training, updated as necessary.

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

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

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

The Haukes N.V. Emergency Response Plans include procedures for recovery of any spilled or released solids, decontamination of any soil or clean-up debris and neutralization of any non-recoverable sodium cyanide. Plans discuss the use of sodium hypochlorite, with the caveat described below, for neutralization. Sodium hypochlorite solution, obtained locally, is carried by the spill clean-up vehicle in each convoy. Furthermore, the plans call for any recoverable cyanide, cyanide contaminated material and spill cleanup debris to be placed in appropriate containers and transported to the destination mine for recovery. The auditor confirmed that the Emergency Response Team, drivers and other convoy personnel have been trained and drilled on these procedures. The Haukes N.V. Emergency Response Plans clearly state that the use of chemicals such as sodium hypochlorite, ferrous sulfate and hydrogen peroxide to treat cyanide that has been released into surface water, or could potentially reach surface water, is strictly forbidden.


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

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

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

Haukes N.V. is in full compliance with Transport Practice 3.5. Haukes N.V. is committed to review and re-evaluate its Emergency Response Plans no less than annually. After re-evaluation, any necessary changes are made. After the plans are either deemed adequate or amended, all personnel in Cyanide Service, including the Emergency Response Team, drivers and other convoy personnel, will receive updated refresher training. The auditor verified that Haukes N.V. has conducted Mock Emergency Drills and is committed to conducting such drills periodically. The Auditor verified that all drills included Emergency Response Team members fully suiting up with Personal Protective Equipment (PPE), practicing decontamination and spill clean-up procedures, and being evaluated by a medical officer three times during the drill. The drill evaluations have resulted in changes to the Emergency Response Plans and updated refresher training. Haukes N.V. has not experienced any cyanide related incidents in the last three years. In fact, Haukes recently celebrated the 4,000<sup>th</sup> container transported to the mines without incident over the past 12 years. However, the plans state that the Emergency Response Plans will be reviewed, and revised if necessary, whenever they are used to respond to an incident.

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