



## European Chemical Transport Association

European Chemical Transport Association AISBL - [www.ecta.be](http://www.ecta.be)

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newsletter january 2009



ECTA INTERACTIVE FORUM 2008

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### Introduction

Antonio Montero, President of ECTA



Some years ago, ECTA set up the database of SQAS reports of the European tank cleaning stations with the support of Cefic and the ECD (European Cleaning Document) was implemented in the tank cleaning sector.. Cefic has now taken over the management of the SQAS database of tank cleaning.

These are all huge steps forward: all cleaning documents follow the same structure and codes and the safety management of tank cleaning stations can be checked in the SQAS database by the transport companies using their services. As an industry body we need to investigate how to further stimulate improvements on the cleaning process itself and the total product stewardship efforts in the supply chain. In a spirit of partnership and direct communication, ECTA set up an ECTA Interactive Forum in close co-operation with EFTCO.

To ensure the continuous improvement in tank cleaning it is vital that a permanent dialogue between all the different players involved is initiated: the company who ships their product out- the transport company who transports the product in equipment which will be used thereafter also for other products- the tank cleaning station who cleans the equipment – and, finally, the company shipping the next product in this equipment.

We also welcome parties specializing in new innovative cleaning techniques because innovation is also a very strong part of the improvement potential. ECTA member companies are very strongly involved in tank cleaning, certainly as customers of the cleaning stations but also as tank cleaning operators themselves since many operate tank cleaning stations

where other transport companies can come to clean their equipment as well. When talking about tank cleaning, it seems clear that communicating the improvements in the quality of the tank cleaning realized over the last years to the representatives of procurement, production and quality departments of the chemical production companies is very important.

Cleaning problems of the past are eliminated, with new cleaning products and techniques but the cleaning problems are kept too long in the mind of the producers who are without information on the current progress in tank cleaning. Communicating on the cleaning technologies' progress will no doubt raise confidence levels for tank cleaning service with the responsible managers of the shippers; they can get a better insight in tank cleaning operations and evaluate and understand the costs induced by some of the cleaning requirements.

### **Previous Load Declarations should be part of written orders to tank cleaning stations**



*Hugo Kerkhofs, President EFTCO*

Handing over correct information on the previous load to the tank cleaning station is important for legal, HSE (health safety environment) and quality reasons. Experience shows, however, that the information on the previous load indicated on the ECD (European Cleaning Document) is not always correct and complete and that it is not always traceable.

This is due to various reasons: bad communication, human errors or opportunistic reasons. The use of long 'black lists' by the "next" loading site is also a contributing factor.

After discussions with the chemical industry and the tank cleaning industry, the following process for product acceptance at cleaning stations was recommended as best practice:

**1. Before starting a tank cleaning operation**, it is good practice to inform the cleaning station on the identity of the previous load. This can be done by either

- handing over a copy of the CMR (if available from the driver) of the previous transport;
- or
- a written declaration by the tank operator in the form of an email or a fax sent to the tank cleaning station with the order to clean, if the CMR is not available or contains commercially sensitive information.

**2. The following information should be obtained:**

- identity of the person/company giving the cleaning order
- unique reference number for the previous load: CMR number or the order number of the previous load
- identification of the equipment to be cleaned: number of tank-containers or tank-trailers
- product name:
- for dangerous goods: proper shipping name + UN number
- for non-dangerous products: the CAS number of the product (or in case of preparations, the CAS numbers of the relevant components)

**3. This information should be indicated on the EDC** (filling in box 8: previous load).

## Prohibitive lists – useful or counterproductive?



*Erwig Selvaerts, COTAC, Hoyer Group*

Transport and tank cleaning companies are often confronted with previous load lists, handed out with regard to their incompatibility with the next load. Those previous load lists have a considerable impact on the different steps in the supply chain (environmental costs, empty repositioning, shortage of suitable tanks etc.), but on top of all, they have to be reliable with regard to safety and quality issues.

Most companies provide us with so called “prohibitive lists” of incompatible products to prevent contamination between sensitive products.

But are these extensive lists really needed and necessary? As the industry sets out many different lists of products, their interpretation is not always clear.

Some products are due to their smell or consistency hard to eliminate from equipment and not suited to general transport in equipment used by others and should be transported in dedicated equipment only used for these products.

To avoid further confusion, a consensus should be found amongst all parties involved to reduce the lists to an absolute minimum.

### Questions to be raised in an open dialogue with the chemical industry

- Which products from this list (example: formaldehyde) can be deleted from the list provided we agree on a standard cleaning procedure for cleaning these?
- Which products (example: synthetic resins) need extra cleaning and perhaps even extra inspection before reaching an acceptable standard for the next load? Are these products and their higher cleaning needs sufficiently identified to all players in the supply chain at the procurement process? Additional efforts can be made to reach proper cleaning of these products, but clarity must be made on who will pay for the cost? The previous user?
- Which are the products (example: polyol whose foaming properties can be affected by a undetectable small amount of oil) for which quality standards of cleaning cannot be achieved by any means?
- Are the prohibitive lists always well understood by the transport and cleaning industry, and how do they actually deal with these lists?
- In how many cases did a “prohibited” previous load really cause contamination?

Although the rumour has it that 30 % of the declarations did or does not hold correct information on the previous product, there seems to be a huge gap with the resulting real contamination which is actually almost exceptional.

- Most of the cleaning stations are perfectly able to clean most of the products listed on the “prohibitive lists”. However, the heads of production continue to maintain severe and historic refusals of previous loads in their organisations.
- Finally, what can be done to convince the chemical industry to reduce or even abolish their incompatibility lists?

### DEBATE:

### **1 Are there extra costs induced by the prohibitive lists?**

Prohibitive lists cause costs for extra safety and environmental protection, costs for additional work force time, and costs linked to (un)availability of trucks and tanks. Costs can go through the ceiling in case of rejection of a tank at the loading site, causing empty legs and stressful research of a suitable available tank.

Dependent on the location, on the product, on congestions at the cleaning station as well as on the market pressure overall, extra costs are variable and affect all parties - the cleaning station, the transport company and, finally, the chemical industry.

### **2 Can a transport company guarantee that their tanks are always suitable for the next cargo?**

Transport companies want to fulfil the requirements on the highest possible level for their shippers and they wish to be able to guarantee suitable clean tanks for each transport. Cleaning stations are competent in choosing the appropriate cleaning procedures, when correct information on the previous load is provided. When bringing these two elements together, one would expect the equipment to be clean and suitable for next cargo.

Further reflection is needed regarding the result offered to the tank operator by the cleaning stations when a contamination still occurs. A sort of quality assurance can be discussed to cover the risk. But one has to stay realistic about the limits of inspections done by the drivers

In the (predictable) case of products that can be contaminated by a micro-amount of previous loads, the chemical industry should also take their responsibility and request dedicated transport equipment.

### **3 How to remedy false cargo declarations?**

The issue has to be addressed on the level of industry associations like ECTA. It would be helpful to consider the full loop of a product transport order, including the subsequent cleaning of transport equipment. All parties should be involved in developing a common "responsible care" approach.

The concrete action to be taken in case of wrong declarations depends of the stage of the process. No one should close his eyes: the chemical industry should think about actions with regard to contract breaches, cleaning stations are concerned regarding ECD.

With equipment and man-force shortage on the market, false declarations occur to get around the prohibitive list. The chemical industry could help avoid this by getting informed on current cleaning techniques and removing unnecessary substances from the list. Providing better and more accurate information on really sensitive products would also be beneficial to a responsible supply chain. The multiplicity of prohibitive lists which differ from site to site is confusing and lacks scientific evidence. Sensitivity for resulting inefficiencies in the supply chain demonstrates good product stewardship.

### **4 Are there expectations in cleaning performance which cannot be met or are unrealistic?**

Usually, the problem is not with the cleaning station, but remains with the transport company. On some issues such as silicone, expectations are wrong, but if the customer is ready to pay the price, (almost) everything is possible. For new or extremely sensitive products, only dedicated transport equipment should be used and paid for by the chemical industry. Besides that, is there

any demand?

### Previous Load Declarations



*Evert de Jong, De Rijke Group*

Correct previous load declarations are all about safety and prevention of environmental and financial risks. Nowadays, managers are legally liable for risks taken at every stage of the complete cycle of operations.

If something goes wrong, including during the cleaning process, they have to stand for it. Although they probably did not make any mistake themselves, they are the ones responsible for determining the circumstances and getting things right, evaluating the risks and identify unsafe shortcuts. Every manager should therefore make sure he knows what exactly is going on on the field. He should talk to drivers and cleaning personal and learn how to ask the right questions.

The tank operating company, the driver and the cleaning station should be working together closely to ensure, that correct and detailed information on the previous load is provided to the cleaning operator. This enables the cleaning operator to assess the risk and choose the appropriate operation.

The minimum information on ADR or IMDG classified substances should be: the correct chemical name, hazard class and UN number. With Non-hazardous goods, the correct product name and CAS numbers should be provided.

Managers have to make sure that their driver hands over the CMR or at least the right information, as mentioned it on his work sheet. If necessary for confidentiality reasons, the transport company can copy the relevant information on previous cargo from the CMR on a separate declaration to be e-mailed, faxed or handed out to the cleaning station. The information has to be in written and traceable form.

The EFTCO cleaning document and procedure has been the only way to make companies aware of the requirements to fulfil.

#### **DEBATE:**

#### **1 Why do some transport companies ignore Best Practice advice regarding declaration of the previous load?**

The main reasons for not declaring correct previous load following Best Practice in tank cleaning operations were listed in break-out session groups as follows: optimising of transport equipment by reduction of empty legs of transportation, avoiding higher cleaning costs and preventing getting in conflict with any 'prohibitive list'.

Many companies are not aware of consequences and the risks they are taking, and managers know little about their legal liability. Some are simply not caring, do not calculate their prices with regard to correct cleaning costs in the transport cost charged for the product which is more difficult to clean and finally act with negligence.

In other cases, commercial confidentiality may play a significant role. When cleaning takes place at a competing transport company's cleaning station, confidentiality on transport orders and their origins is required. Congestion and differing opening hours at cleaning stations might be an additional factor for improper communication. Road, tank or deep sea containers are not

treated the same way, differences in cleaning practice have to be addressed.

## **2 How can our industries help implement such best practice?**

Permanent dialogue might be the key to success. This ECTA Interactive Forum on Tank Cleaning organised with ITCO is the first time representatives of the different industries address the issue together and solutions will emerge from this open communication where arguments back and forth are shared. A concrete industry standard for tank cleaning and professional training and educational requirements for the involved personnel are key and need to be implemented.

On the other hand, the use for transport of general transport equipment instead of dedicated equipment for those products generating contamination on the next loads, without ensuring proper cleaning instructions have been provided, needs to be addressed as well.

The most important issue is getting clear, correct information on the previous products across the supply chain. MSDS (material safety data sheet) are easy to supply to the cleaning station, but there is no common source yet. Not only dangerous components should be declared, but all products. Big problems arise to correctly identify products shipped under a trade name without clear cleaning indications. Shippers should be aware, too, that they are responsible for the complete lifecycle of their product, including correct cleaning instruction fit for the product they want transported and instructions on waste and leftovers at cleaning stations.

The circle producer – transport – tank cleaning must be closed by all taking part in improving the tank cleaning process.

The different parties involved in tank cleaning (shipper-transport company-tank cleaning operation) need to clarify whose responsibility is engaged once the correct product is declared, and whether the chemical industry is ready to pay the price in case of extra-costs. Transport companies request clear commitment that with correct declaration their equipment will be recognized as “clean” as well!

By formalizing the process (in written) of declaration of previous load, the transport companies are on the safe side and do not have to fear the eventuality of mistakes committed by their drivers. The tank cleaning station on their turn will deliver professional cleaning adapted to the correct product. Overall cleaning performance should then be better appreciated by the next shippers who need to reduce their incompatibility lists as much as possible.

## **3 Which additional tools can be brought forward by EFTCO, Cefic and/or ECTA to make cleaning operation even safer?**

Associations should advocate more joined involvement and set up forums to discuss these matters in detail. All participants to the ECTA Interactive Forum agreed that on the long run, common standards could help not only reduce risks, but save money as well by reducing empty legs and increase efficiency and better usage of equipment.

Furthermore, suggestion was made to include in the transport performance reports details on cleaning stations and procedures applied. There will be a stronger incentive for transport operators to check SQAS on cleaning stations more closely.

In Germany, transport companies use electronic orders to cleaning stations for about two years already, including correct information about the previously loaded product. The cleaning stations respond by confirming the order, telling the company how they will proceed and how much the cleaning will cost. Transport companies immediately hold information on expected cleaning extra-

costs and can act accordingly towards their shippers of these products. These e-orders also take the burden off the shoulders of the driver. He can't make any mistake in the process and will not be confronted with language problems at the tank cleaning station.

To get a better overview and control on products, a central data base could be set up with proper, uniformed definitions on chemicals (maybe building on identification in accordance with REACH).

Last but not least, a widely shared database for tank cleaning industry including the best cleaning practices for known products and used all over Europe would certainly raise quality of cleaning widely and provide the confidence required to reduce the list of incompatible products a lot.

## Tank Cleaning, a Critical Link in the Polymer Demand Chain

*Huub Vergoossen, SABIC Europe*



### A case study

Sabic is a Saudi Arabian Chemical company with an annual production of 55 mio. Tons worldwide and employs 31 000 people. Polymer granulates stand for about 1/6 of Sabic's production and make Sabic Europe to one of the top three players on the Polyolefins market. An important part of Sabic's production cover food grade polymers where no risk of contamination may occur at any stage of the production and transport process.

Contamination can result in personal suffering, reputation claims and costs, no matter where it comes from. Problems may occur during the converting process and cause machine damage and production downtime, causing big losses. A video was shown which clearly demonstrated that some production processes in innovative polymers were very critical in respect to contamination by even a small quantity of other polymers.

In the worst case, consumers are affected by contamination/pollution or poisoning by products not fit for use. Some examples of product withdrawals in the market clearly show that these events have a huge impact.

Some examples of product pollutions occurred at Sabic's in the past were caused by rubber parts from gaskets, PET parts in a rotary valve carrier, epoxy and cellulose found in a "clean" tank, etc. It occurred also that a wrong – uncleaned – truck was sent and loaded. According to Mr Vergoossen, this is only the top of the ice-berg, as these cases of contamination were subject to complaints.

It is often very difficult to determine where contamination comes from and who is responsible.

Mr Vergoossen insisted that tank cleaning is a critical link in the whole demand chain.

Sabic pushes their transport partners to identify and use at least one reliable and SQAS assessed cleaning station per area. Truck and silo cleaning instructions are very visible; tank cleaning necessarily includes also the cleaning of the hoses and appendages. This should be part of a proper cleaning procedure, not a subject of a separate cleaning request! Although Polymers do not need particular chemical cleaning, the list of previous loads is always provided to avoid contamination of products that look alike.

Currently, Sabic is preparing an Awareness Campaign on "Good Manufacturing Practice" such as promoted by the European regulations on food and pharmaceutical products' quality and packaging materials. A video will be

shown to all employees and sent out to all partner companies of Sabic to raise awareness for Sabic's "Responsible Care" philosophy. Besides, SQAS has become one of Sabic's major tools and requirements when selecting partner companies and helping them reach the next level of performance.