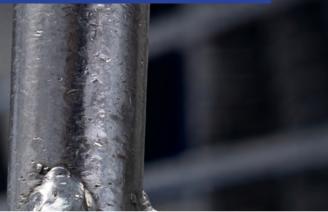


EUROPEAN FEDERATION OF TANK CLEANING ORGANISATIONS

Tank Cleaning is an essential part of the supply chain.

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EFTCO European Federation of Tank Cleaning Organizations

EFTCO was founded in 1999 with the aim to organize tank cleaning processes in a safe and environmentally responsible way all over Europe.

Today EFTCO represents 21 national associations covering 30 European countries and is able to achieve a network of 630 cleaning stations. As a non-profit association committed to reliable, trustworthy and environmental friendly services of its members, EFTCO works together with interested parties on matters of safety, education and technical innovation and improvement. We always strive to develop even better processes to and work towards a sustainable future. EFTCO cooperates with European Federations like the European Chemicals Council (Cefic), the European Chemical Transport Association (ECTA), the International Tank Container Organization (ITCO) and Operation Clean Sweep (OCS).

The activity is underpinned by the EFTCO Cleaning Document (ECD), owned by EFTCO and used by the cleaning companies to record in a multilingual format the services completed. The ECD has a unique numbering to provide traceable provenance by EFTCO's Members of any legitimate ECD.

// WE DEVELOP STANDARDS.

It is important that the service of tank cleaning is carried out by professional and reliable partners. Ensuring this is one of the main objectives of EFTCO. The EFTCO Cleaning Document (ECD) is the best way to reach this goal, since it's commonly accepted as proof that the tank cleaning was carried out as the customer requested, at a high quality level and in respect of all legal, safety and environmental requirements. The ECD contains important information for all partners in the supply chain and needs to be understood in different countries. This was achieved by introducing the EFTCO cleaning codes translated in several languages. Because a tank cleaning station does not know the next load, a tank is always cleaned according to the "EFTCO definition of clean". Other services are possible, but must be additionally ordered by the customer.

// A VISION FOR EUROPE – EFTCO'S PAST, PRESENT AND FUTURE

With a clear vision for Europe in mind the EFTCO's Founding Members – CTC Belgium, APLICA France, NRT-CA UK, ATCN Netherlands, ALCI Italy and ALIC of Spain – started to discuss the idea of an international organization for tank cleaning processes that exceeds borders in 1993. They started to formulate aims, conditions for membership, voting and cost sharing principles; the groundwork was set and EFTCO started functioning but was not officially registered until March, 1999.

Since then EFTCO is continuously growing and expanding its network and expertise, working towards a sustainable future. With the idea of unity across countries and borders in mind EFTCO decided to relocate after Brexit. The new headquarter resides in Brussels, Belgium – the heart of the European Union.

ALCI

Associazione Lavaggi Cisterne Industriali

Viale Evaristo Stefini 8 IT-20145 Milano +39 0192160062 board@alci.it www.alci.it

ANLIC

Asociación Nacional De Lavaderos De Interiores De Cisternas Pol. Ind. Riu Clar, p. 169-179 Apdo. 89

E-43080 Tarragona +34 977547276 anlic@anlic.com www.anlic.com

APLICA

Association Professionnelle des Laveurs Intérieurs de Citernes Agréés BP 60108 FR-59874 Wambrechies Cedex +33 320131955 info@aplica.asso.fr www.aplica-asso.fr

ATCN

Association of Tank Cleaning Companies Netherlands PO Box 3008, 2700 KS Zoetermeer, NL & BE +31 884567235 info@atcn.nl

стс

www.atcn.nl

Commissie Tank Cleaning vzw

Stapelhuisstraat 5a BE-1020 Brussel +32 24256800 +32 24250568 erwig.seliaerts@telenet.be www.ctc-belgium.be

NRTCA

National Road Tanker Cleaners Association

Common Lane GB-Knottingley West Yorkshire WF 11 8BN +44 1977607607 enquiries@nrtca.co.uk www.nrtca.co.uk

DVTI

Deutscher Verband für Tankinnenreinigung e.V.

Schnellermaarstr. 37 DE-50354 Hürth +49 2233 374206 +49 2233 374207 dvti@dvti.de www.dvti.de

SNTCA

Swedish & Nordic Tank Cleaning Association Synnerödsvägen11 418 78 Gothenburg +46 31 3000158 info@sntca.se www.sntca.se

VÖTS

Verband Österreichischer Tank und Siloreinigungsanlagen Obere Hauptstraße 1 AT-3150 Wilhelmsburg +43 67683028820 info@voets.at www.voets.at

FINTCA

Finnish Tank Cleaning Association ry c/o Moonway Oy, Ruissalontie 11 FI-20200 Turku +358 22754300 tom.mohn@moonway.fi

PSMC

Polskie Stowarzyszenie Myjni Cystern

ul. Drogowców 2 B PL-39-200 Dębica +48 601545166 psmc@psmc.pl www.psmc.pl

KTTD

Kimyasal Taşıma Araçları Temizleyicileri Derneği

Değirmenyolu Street No:28, Asia Ofis Park A2 Block 1.Floor TR-34752 İçerenköy-Ataşehir/İSTANBUL +90 2164691487 sinem.ozgen@kttd.org www.kttd.org





MTSZ

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Magyar Tartálytisztítók Szövetsége

Bázis Office Center, Horvat utca 14-24 HU-1027 Budapest +36 13165410 gyorgy.varnai@gmail.com www.tartalytisztitas.hu

ASCR

Asociatia Spalatorilorde Cisterne din România

Calea lui Traian nr. 153, bl. Filipin, sc. 2, ap. 16 RO-240096 Râmnicu Vâlcea +40 374058477 ascr@ascr.org.ro www.ascr.org.ro

EETCA

Eastern-European Tank Cleaning Association

No 11-13, Floor.4. Tsaritsa Joanna sq. Burgas 8000, BG & RU +359 5684544 Latchezar.Anguelov@eetca.com www.eetca.com

SLOTCA

Slovenian Tank Cleaning Association Dimičeva 13, SI-1504 Ljubljana +386 15898360 igor.sep@gzs.si

UNTCA

Ukrainian National Tank Cleaning Association Orlovskaya str 21 UA-49052 Dnipro +38 676573340

office@untca.com.ua www.untca.com.ua

CROTCA

Croation Tank Cleaning Association Rimski ou 33 HR-10360 Sesvete +385 992793 selidin@net.hr



(ables

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OUR ASSOCIATED AND GLOBAL MEMBERS

FLORATOS EASY CARGO LTD Patras - Greece

DEPOTRANS SANTOS LTDA Santos / SP – Brasil

THE GOLD BOND GROUP LTD Ashdod / Israel





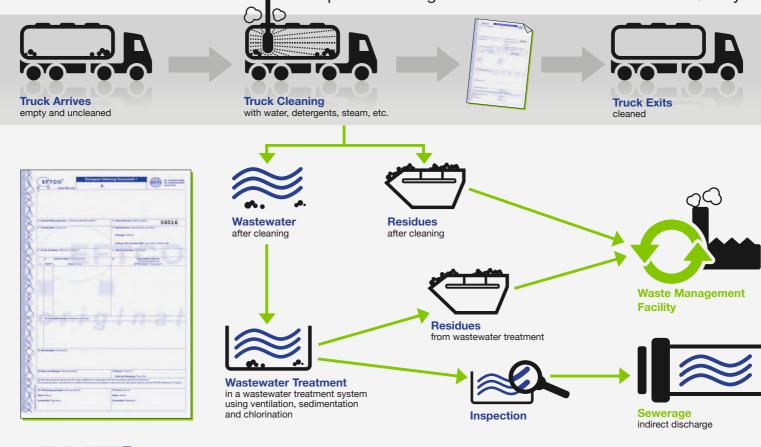


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Tank Cleaning Process

European Cleaning Document: A Documentation Of Quality





Deutscher Verband für Tankinnenreinigung e.V.



The Tank Cleaning Process

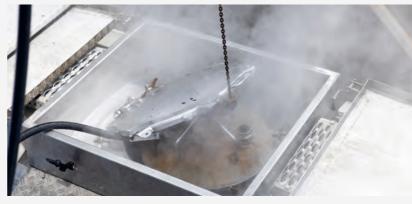
Tank Cleaning is an essential part of the supply chain of chemicals, foodstuff and other products. The tank to be cleaned may be a tank vehicle, tank container or any other receptacle previously used for holding products that need to be washed after it is emptied.

In case of food, tanks should be more frequently cleaned even if they are used for the same product to avoid biological degradation of the product remaining in the tank after discharging its load. Cleaning is performed by cold or hot water, steam, and using addition of acidic or alkaline cleaning agents, and, in some cases, effective cleaning can be achieved only by using surfactants. The most important thing is – especially in regards of food safety – that nothing is contaminated.

// AQUEOUS AND GASEOUS EFFLUENTS

The treatment of aqueous and gaseous effluents is another important part of the cleaning processes. The amount of the aqueous stream from one cleaning step can be from as little as a few hundred liters to the full total of the wash process when cleaning a 25m³ tank, but its nature changes from one tank to another depending on the original content of the tank. The changing and wide range of products cleaned means the resulting wash water is a variable mixture that cannot be foreseen; as a result, tank cleaning companies have to be professionally adept at the environmental treatment of effluent streams in a responsible way through specially developed and adaptable systems. The cleaning stations affiliated to EFTCO are active in developing green treatment solutions.







Adress: Alfred Nobelstraat 5 Zip code: 5491 DB City: Sint Oedenrode Tel: 0413-477948 Mobil: +31620303245 info@tankcleaningservice.nl www.tankcleaningservice.nl



Cleaning Stations

"A tank shall be described as clean when there are no visible traces or odor of the last product or cleaning agent following an inspection from the man-lids."

About 680 European cleaning stations are part of EFT-CO's network. They can be easily located and compared on our website with the aid of a detail-oriented filter system. We distribute a variety of information about each cleaning station, such as the address and contact information and different specifications like the SQAS-status and whether the station works with ECD and eECD. We also help to differentiate between the cleaning processes each station offers concerning products like food and chemicals. We give the best unbiased overview possible and want to make it as easy as possible to find the exact station the customer is looking for.





CLEANING STATIONS



// THE VARIETY OF ACCESSIBLE SPECIFICATIONS INCLUDES:

- SQAS period
- ECD integration
- Chemicals
- Food
- IBC
- Cleaning Facilities: Railtank cleaning, Steam-heating, Hot water heating, Electrical heating, Closed loop cleaning, Bulk Silo Cleaning, Liquid Tank Cleaning
- Repair-shop
- Testing possibilities, like Periodic testing, Vacuum-tests, pH-tests and ATP-tests

- Nitrogen purging
- Empty storage
- Loaded storage
- Trucking possible
- Railway connection
- Waterway connection
- CO₂ Emission Intensity (kg) and the Deviation from last year (%)
- eECD
- Number of bays
- Number of dedicated food bays
- Facilities for drivers, like restrooms with showers, coffee-machines and so on

EUROPEAN TANK CLEANING STATIONS





Carclin develops, produces and distributes high-quality, innovative industrial cleaning products for tank cleaning throughout Europe.

In addition to a high level of knowledge and experience, we also have fully in-house development and production of our industrial cleaning agents. Carclin stands for service, quality, safety, sustainability and a personal touch.



Discover the possibilities as a Carclin partner or ask about private label solutions. www.carclin.com

The EFTCO Cleaning Document (ECD) European best practice for tank cleaning documentation

The uniform EFTCO Cleaning Document (formerly European Cleaning Document) (ECD) has been developed by EFTCO in cooperation with ECTA and CEFIC, in order to satisfy the needs of cleaning stations, transport companies and manufacturing companies. Ownership and exclusive reproduction of EDC is owned by EFTCO, being registered in the European Register of Trademarks and Patents no. 202130-0001. Only the cleaning stations that certified SQAS and members of EFTCO through the National Tank Cleaning Associations, have the right to issue ECD. The minimum requirement for access to the ECD is supervised by EFTCO's national associations. The ECD is European wide accepted and is using cross-linguistic EFTCO Codes, which provides a documentation of progressed tank cleaning and equipment accessories. Those EFTCO Codes can easily be assimilated to new needs of documentation and additional codes can be added. All cleaning stations, which are members of EFTCO related national associations use the standardized EFTCO Cleaning Document (ECD) for the documentation of cleaning. The ECD is a document commonly accepted as proof that the tank cleaning was carried out as the customer requested, at a high-quality level and in respect of all legal, safety and environmental requirements. The ECD contains important information for all partners in the supply chain and is understandable in different countries. This was achieved by introducing the EFTCO cleaning codes translated in 21 languages.

// ADVANTAGES

- The document has the same form which can easily be distinguished from falsifications.
- The use of a unique numbering system provides security and authentication traceable against fraudulent misuse of the cleaning documents.
- The fact that the same information is always in the same place on the cleaning document will facilitate its use by operators at loading points, by drivers etc.
- The use of the EFTCO Tank Cleaning Codes will make it easy for everybody to identify and understand which cleaning operations have been carried out to clean the tank.
- The EFTCO Tank Cleaning Codes are currently available in many European languages.
- This provides a clear understanding of the cleaning document information for all users throughout Europe.



// ECD AND EECD – GENERAL STATEMENTS: COPYRIGHT AND PERMIT FOR USE

EFTCO owns the exclusive copyright of the EFTCO Cleaning Document recorded under the European model registration nr. 202130-0001. The National Cleaning Association (Associations) which are Members of EFTCO, identified on www.eftco.org, are authorised by EFTCO to permit the use of ECD to the registered Cleaning Station, on condition that all rules and terms laid down by EFTCO are met. These terms may change from time to time at EFTCO's sole discretion. The Cleaning Station is responsible for following the rules stated here. In case of any misuse, the National Cleaning Association may suspend or withdraw the right for a Cleaning Station to use the ECD.

// DEFINITIONS AND FOUNDATIONS

A standard tank cleaning is the cleaning of the last product transported in the tank, as declared to the cleaning station and recorded on the ECD. By mutual agreement parties may agree to clean a tank from its last carried product and to prepare a tank for loading of the next cargo. In that case parties will agree specific complementary cleaning work to be carried out in order to achieve the required cleanliness. This may also require additional and special inspection services. When cleaning services are carried out to the specifications of the customer, with an inspection that is different from the EFTCO definition of 'clean', this should be recorded in box 11 'Comments'.

The ECD 'definition of clean' is set by inspection at the end of the cleaning process. The operator of the tank is invited to confirm this state and request further actions. No length of validity is given for an ECD.

An ECD cannot be issued for a visual | odor inspection (EFTCO Code T01) if the tank was not cleaned by the same cleaning site. ECDs with code T01 only are not allowed and seen as `INVALID`.

A tank can be re-inspected at the moment of pick up by a driver when there is a doubt if this tank still meets the EFTCO definition of clean at that moment.

When this inspection indicates this tank is still meeting this definition, the code T01 combined with the date and time of this inspection is put in box 10 or 11 of the ECD.

When the ECD was already printed and cannot be modified, a stamp of the cleaning station with code T01, date, time and the signature of the cleaning station can be put on the printed ECD. The stamp needs to have the following information:



A sample of the stamp format and content needs to be approved and achived by the national association on behalf of EFTCO before they are allowed to be used.

When the visual inspection shows that additional actions are needed to meet the EFTCO definition of clean, these additional actions and the date and time when they were done, must be added in box 10 of the original ECD. When the ECD was already printed, a new ECD must be issued adding all cleaning details of the first cleaning together with the additional actions carried out afterwards. The initial first ECD must be declared as invalid and not being handed out to customer. The time for the end of cleaning is the initial end of cleaning time of the first ECD and the time/date for additional actions must be added in box 10.



Specific ECD Information Description of the ECD boxes

The cleaning station completes the ECD as follows:

BOX 1	Name, website address and telephone number of the tank cleaning station	
BOX 2	Customer reference number	
BOX 3	Serial number or order number of the cleaning station	
BOX 4	Name and address of the customer (contracting party). The customer code can be added if available. In case the company is not known, the name of the driver should be indicated	
BOX 5	Identification numbers of the vehicle and of the tank, container or IBC	
BOX 6	Indication of the nature of the product: liquid / solid / chemical / food	
BOX 7	Identification of the next load to be carried	
BOX 8	 Identification of the previous load (per compartment): mandatory information in order to meet the legal requirements concerning the provision of appropriate product safety information at the work floor. For dangerous goods: UN number and proper shipping name, trade name or chemical name; for non-dangerous goods: trade name or chemical name. 	
BOX 9	 Description of the cleaning work that has been carried out (per compartment), using only the EFTCO Tank Cleaning Codes and the corresponding descriptions: identification of what has been cleaned with success: tanks (compartments) cleaning agents that have been used cleaning procedures that have been used tests that have been carried out handling of waste extras 	
BOX 10	Additional services that were carried out, per compartment as well as cleaning of accessories (hoses, pumps, outlets,) if carried out. For hoses the identification numbers of the cleaned hoses should be indicated if available.	





- Lavage de citernes et conteneurs de produits alimentaires et non-dangereux
- Lavage et reconditionnement de GRV (IBC)
- Certificats ECD Adhérent APLICA

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THE EFTCO CLEANING DOCUMENT (ECD)

BOX 11	Comments from the cleaning station. If the client wants to have a tank cleaned in function of the next load, this should be mentioned in this box (in this case box 7 must be completed). If the client wants to have additional service which cannot be described by the cleaning codes this service shall be added here. It is also agreed in EFTCO that it will be mentioned in Box 11 that a tank has been cleaned under the special demand of the customer as the indication that the tank under this conditions is not able to be loaded without any restrictions.
BOX 12	Name of person who carried out the cleaning (cleaner)
BOX 13	Date and time of registration upon arrival (Time in) Date and time of the end of the cleaning operation (Time out) The cleaning station is obliged to put the end date and time of cleaning immediately after the tank left the cleaning bay. Conditions using the following wording "The cleaning station and the driver confirm that the above service(s) to clean the tank have been carried out (see EFTCO definition of 'clean')."
BOX 14	Name and signature of person in the cleaning station who has controlled the cleaning
BOX 15	Name and signature of driver

- The document shall be completed by the cleaning station by using a printer connected to a computer system. Either matrix or laser printers can be used.
- In case handwritten changes have been made on a printed cleaning document, the document shall be considered as invalid with following exceptions:
 - in case a stamp is used for a visual inspection as stated under chapter 3 of theses rules, the requested information may be completed by hand.
 - in case of failure of the computer system or the printer, it is allowed to complete the cleaning documents manually. In this case all boxes need to be completed, providing the same information as if it would be printed. The handwriting shall be easily legible. Under comments (Box 11) the reason for the manual completion shall be clearly explained. A stamp identifying the cleaning station shall be put on the document that has been manually completed, in order to certify its authenticity.



// LAST PRODUCT DECLARATION

The cleaning station shall require from its customer to correctly declare the last product for each tank compartment that has to be cleaned. This product declaration is an important part of the contract and the basis for the cleaning station to undertake a safe and legal operation. The product as declared by the customer must be shown on the ECD, for each compartment of the tank. Any alterations to these products are considered falsification.

(It is recommended the cleaning station uses methods such as the CMR to check the correct product declaration. If no CMR is available this can be mentioned in Box 11.)



// ECD LAYOUT

The cleaning station shall use the form and the layout that EFTCO defined and made available for usage. EFT-CO reserves the right to modify the standards and to introduce changes as it finds necessary for additional security or other purposes.

// CLEANING PERFORMER

An ECD cannot be issued unless substantial work by the trained and educated employee of the cleaning station has been done. The work done has to be declared correctly on the ECD, using the correct EFTCO codes.

On clear agreement, by exception, when part of the work is carried out by the tank operator's agent (driver), this is to be undertaken without any liability on part of the cleaning station. Instruction may be required and provided in the use of the cleaning station equipment. If part of the work is carried out by persons other than cleaning stations staff, this should be declared accordingly in box 11 of the ECD.

// ECD COLOURS

The cleaning stations distribute the copies of the ECD as follows:

- white copy (original): for the next loading point (via driver);
- yellow copy: for the driver;
- blue copy: for the cleaning station (to be kept);
- green copy (optional): to be sent with the invoice to the customer/transport company.



// NON-TRANSFERABLE

ECDs are not transferable between cleaning companies. ECDs must remain traceable to the cleaning station. Any unused and excess ECD has to be returned to the National Cleaning Association.

// ECD ARCHIVING

The cleaning station shall retain the original blue copy of the ECD issued for at least three years. The same three years are the retaining period for the incomplete or void ECDs. EFTCO requires all Members and affiliated stations to retain details of ECDs issued for traceability and to manage the details as confidential.

// ECD GOVERNANCE

The cleaning station shall accept that at all times the permission to issue ECDs is governed on behalf of EFTCO by the National Cleaning Association relevant to the site. This also governs the transfer of electronic data relating to otherwise printed ECDs.

// IMPROPER USE

If the cleaning station gets to know any improper uses or actions that distort the ECD this shall be reported to the National Association with all proofs and documents available. Such fraud could be, but is not limited to:

- unauthorized use of the EFTCO identity;
- breaches of ECD copyright;
- altering ECD documents;
- incorrect product declaration;
- issuing blank or incomplete ECD.

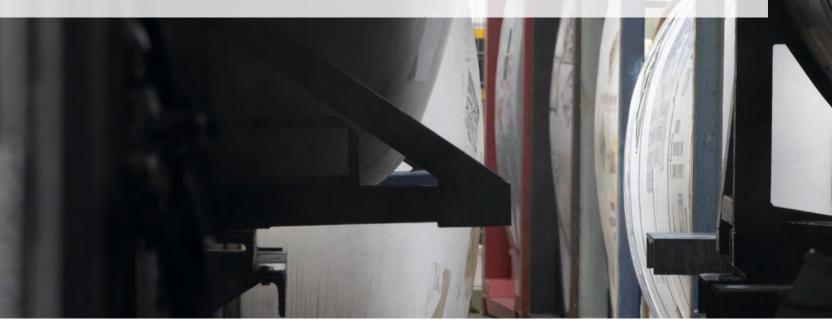
Fraudulent activities are taken seriously. This can result in sanctions across all EFTCO affiliated cleaning stations, legal action, and financial penalty. Information about such incidents will be published and shared with other partners in the supply chain including Trade Associations such as ECTA and CEFIC.



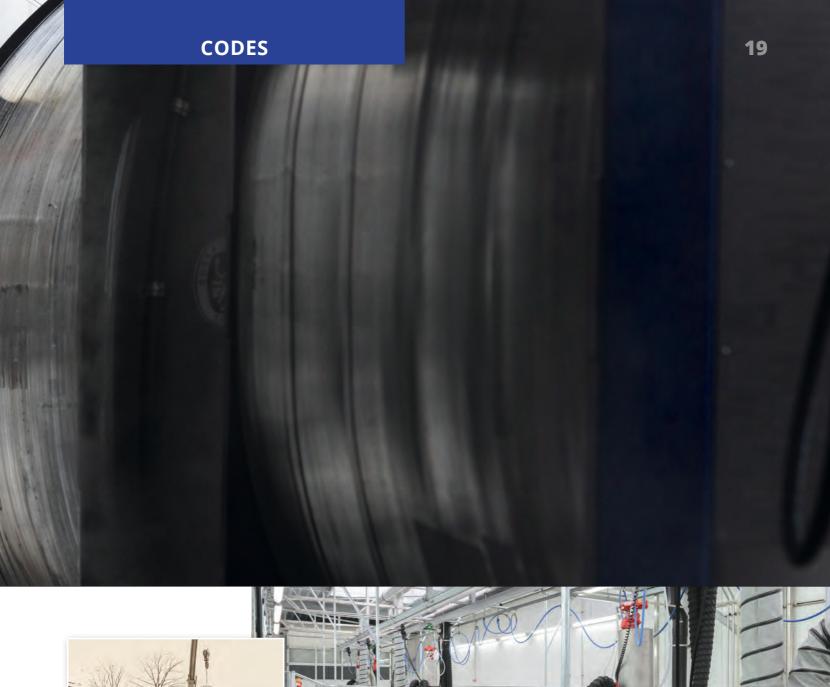


Multilingual Tank Cleaning Codes used for eECD and ECD Accessible, understandable, standardized.

All cleaning stations, which are members of EFTCO related national associations, use the standardized EFTCO Cleaning Document (ECD) for the documentation of cleaning. The ECD is European wide accepted and is using cross-linguistic EFTCO Codes which provides a documentation of progressed tank cleaning and equipment accessories. The ECD contains important information of tank cleaning for all partners in the supply chain and is understandable in different countries. This was achieved by introducing the EFTCO cleaning codes translated in 21 languages. Those EFTCO Codes can easily be assimilated to new needs of documentation and additional codes can be added. Actually we use more than 100 general EFTCO codes.









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Founded in 1947, Gröninger Cleaning Systems has become the leading International manufacturer of specialised cleaning systems for ISO tank containers, rail tank cars, road tankers and IBC's.

Gröninger's reputation for reliability and the application of leading edge technology,

combined with its wealth of industry experience, enables its global customer base to improve cleaning standards and efficiency.



Code	English	Guideline
С	CLEANING AGENTS	
C01	Alkaline detergent	Detergent with pH > 7 used during the cleaning procedure. The detergent can be used via the spinners or in a concentrated way. This is always followed by a water rinse without detergent to remove all residues of the detergent.
C10	Neutral detergent	Detergent with pH = 7 used during the cleaning procedure. The detergent can be used via the spinners or in a concentrated way. This is always followed by a water rinse without detergent to remove all residues of the detergent.
C20	Acid detergent	Detergent with pH < 7 used during the cleaning procedure. The detergent can be used via the spinners or in a concentrated way. This is always followed by a water rinse without detergent to remove all residues of the detergent.
C30	Caustic soda	Caustic soda used during the cleaning procedure. The product can be used via the spinners or in a concentrated way. This is always followed by a water rinse without caustic soda to remove all residues.
C40	Hydrocarbon mixture	Hydrocarbon mixture (e.g. petroleum) used during the cleaning procedure. The product can be used via the spinners or in a concentrated way. This is al- ways followed by a water and detergent rinse without hydrocarbon mixture to remove all residues.
C41	Kerosene	Kerosene used during the cleaning procedure. The product can be used via the spinners or in a concentrated way. This is always followed by a water and detergent rinse without kerosene to remove all residues.
C42	Fuel	Fuel used during the cleaning procedure. The product can be used via the spinners or in a concentrated way. This is always followed by a water and detergent rinse without fuel to remove all residues.
C50	Organic acid	Organic acid (e.g. formic acid) used during the cleaning procedure. This is always followed by a water rinse without organic acid to remove all residues.
C60	Solvents	Organic solvent (not explicitly listed in the codes) used during the cleaning procedure. The product can be used via the spinners or in a concentrated way. This is always followed by a water rinse without organic solvent to remove all residues.



Code	English	Guideline
C61	Acetone	Acetone used during the cleaning procedure. In a lot of cases the procedure is interrupted to let the product doing its work. This solvent can be used at the end of the cleaning followed by a blow dry to remove all acetone vapours from the tank atmosphere.
C62	МЕК	Methylethylketone (MEK) used during the cleaning procedure. In a lot of cases the procedure is interrupted to let the product doing its work. This solvent can be used at the end of the cleaning followed by a blow dry to remove all MEK vapours from the tank atmosphere.
C63	Butyl acetate	Butyl acetate is used during the cleaning procedure. In a lot of cases the procedure is interrupted to let the product doing its work. This is always followed by a water rinse without this product to remove all residues.
C64	Latex remover	Latex remover is used during the cleaning procedure. In most cases this product is used in a closed circuit and at a higher temperature. This is always followed by a water rinse without this product to remove all residues.
C80	Sanitising agent	Sanitising agent is used during the cleaning procedure. This is always fol- lowed with a water rinse without this product to remove all residues.
C81	Hydrogen peroxide	Hydrogen peroxide is used during the cleaning procedure. This is always fol- lowed by a water rinse without this product to remove all residues.
C82	Peracetic acid	Peracetic acid is used during the cleaning procedure. It may be followed by a water rinse without this product to remove all residues or it may be left in aqueous solution inside the tank.
C90	Antifoam	Antifoam is used during the cleaning procedure. This is always followed by a water rinse without this product to remove all residues.
C95	Deodorizer	Deodorizer is used during the cleaning procedure. This is always followed by a water rinse without this product to remove all residues.
C99	Miscellaneous	Products not mentioned before are used during the cleaning procedure. This is always followed by a water rinse without this product to remove all residues. The nature of the product used should be mentioned in box 10 or 11 of the ECD.





asry

tank cleaning

Code	English	Guideline
E	EXTRAS	
E01	Tank entry	Entry in the tank is done after making a tank entry permit and measurement of at least Oxygen and the Lower Explosion Limit (LEL).
E03	Passivation	Chemical passivation is done in stainless steel tanks. This is always followed by a water rinse, in some cases even with demineralized water. Passivation is rebuilding the chromiumoxide layer on stainless steel which is removed during a pickling process.
E04	Repair	Small repairs are done (e.g. replacement of gaskets, blind cap, etc). Descrip- tion of the work done in box 11 mandatory.
E05	Degas	The atmosphere of a tank is removed and replaced by air or an inert gas. This does not mean that a tank is safe for entry!
E10	Scouring	Manual work is carried out in a tank after tank entry. This must be done with material adapted to the material of the tank. Iron steel wool should not be used in stainless steel tanks.
E15	Cleaning with handgun	Manual cleaning with a high pressure handgun to remove product residues from the tank shell.
E16	High pressure cleaning	Pressure higher than 40 Bar up to 2000 bar or more are used to shoot prod- uct residues from the tank shell. Often used as alternative for grinding which damages the tank surface.
E17	Low pressure cleaning	Pressures lower than 40 Bar are used to gently clean lined tanks.
E20	Brushing	Manual cleaning with a brush and a cleaning agent. Often used in silo tank.

Located directly on the E40 motorway between Cologne and Liège, our experienced team awaits you and ensures that your tanks are cleaned professionally, quickly and reliably.

- » State-of-the-art cleaning technology
- » Automated cleaning programs
- » Standardized cleaning procedures
- » High hygiene awareness
- » Secured parking for a carefree night's sleep!

Our trucker service ensures your well-being with coffee, washing and shower room. And business is not neglected either: With our copy service and free Wi-Fi, you can conduct your business during the waiting period.

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Code	English	Guideline
E25	Recirculation cleaning	Cleaning in a closed circuit with a cleaning agent (e.g. latex remover).
E30	Steam drying	Heating the tank shell with free steam to get a temperature high enough to get a tank dry. Steam should be removed from the tank when this tempera- ture is reached.
E31	Drying with air at ambient temperature	The tank is dried by blowing air of ambient temperature in the tank.
E35	Hot air drying	Drying a tank with hot air which is mostly filtered. In most cases a tempera- ture up to 60 °C is used. Specific code to meet the requirements of the Best Practice Guidelines for the Cleaning of dry bulk polymer transport tanks. (PICS)
E36	Hot air drying: drying with air with T > 60 °C	Drying a tank with hot air with a temperature of >60°C which is filtered in most cases.
E40	Dip tube	Separate cleaning of a dip tube present in the tank. This can be done with or without dismantling.



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Code	English	Guideline
E41	Collectors	Separate cleaning of collectors present on a tank. This can be done with or without dismantling. Most collectors are found on silo tanks.
E50	Hose cleaning	Separate internal cleaning of discharge hoses present on a tank or delivered by the driver. Cleaning is done with a mole in most cases.
E51	Cleaning of hose box	Cleaning of the hose boxes present on a tank or delivered by the driver. Cleaning is done with a mole and a high pressure gun in most cases.
E52	Cleaning of spill box	Cleaning of the spill boxes around the manholes of the compartment to be cleaned. Cleaning is done with a degreaser and high pressure gun in most cases.
E55	Cleaning of ancillaries	Cleaning of the ancillaries delivered by the driver. Cleaning is done with a degreaser and high pressure gun in most cases.
E56	In- & external hose cleaning over the full length with HP mole and draining the water out of the hose	Specific code to meet the requirements of the Best Practice Guidelines for the Cleaning of dry bulk polymer transport tanks. (PICS)
E57	Internal hose box cleaning over the full length with a HP mole	Separate in- and external cleaning of discharge hoses present on a tank or delivered by the driver. Cleaning is done with a mole in most cases. Specific code to meet the requirements of the Best Practice Guidelines for the Clean- ing of dry bulk polymer transport tanks. (PICS)
E58	In- & external cleaning of ancillaries and components having contact with the product (discharge curve, reduction parts, lock- and anti-return valves)	Specific code to meet the requirements of the Best Practice Guidelines for the Cleaning of dry bulk polymer transport tanks. (PICS)
E60	Cleaning of airlines	Cleaning of the airlines of a tank. This can be done with a hand gun or by connecting the airlines to a water supply. The airlines are blown dry with compressed air in most cases.
E61	Cleaning of air connections	Cleaning of the air connections of a tank. This is done with a hand gun in most cases. Specific code to meet the requirements of the Best Practice Guidelines for the Cleaning of dry bulk polymer transport tanks. (PICS)
E62	Cleaning of air manifold	Cleaning of the air manifold of a tank. This can be done with a hand gun or by connecting the air manifold to a water supply. The manifold is blown with compressed air in most cases. Specific code to meet the requirements of the Best Practice Guidelines for the Cleaning of dry bulk polymer transport tanks. (PICS)
E63	Internal cleaning of the lower airline with cold water and blowing the residual water out of the line	Specific code to meet the requirements of the Best Practice Guidelines for the Cleaning of dry bulk polymer transport tanks. (PICS)



ASOCIACIÓN NACIONAL DE LAVADEROS DE INTERIOR DE CISTERNAS

NATIONAL ASSOCIATION OF INTERIOR TRUCK TANK CLEANING

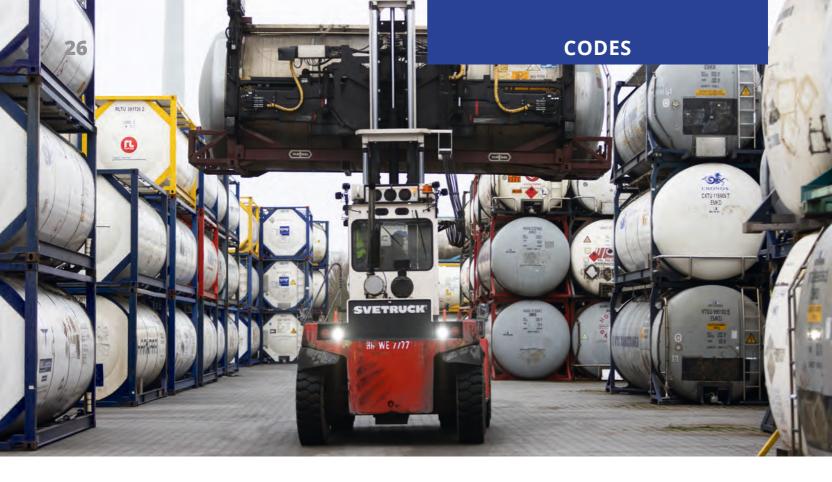
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Code	English	Guideline
E64	Internal cleaning of the upper airline with cold water and blowing the residual water out of the line	Specific code to meet the requirements of the Best Practice Guidelines for the Cleaning of dry bulk polymer transport tanks. (PICS)
E65	Pump cleaning	Separate cleaning of a pump present on a tank. In some cases the pump needs to be operated by the driver during cleaning.
E66	Cleaning of filter	Separate cleaning of filters present on a tank.
E67	Cleaning of vibration mat	Separate cleaning of the vibration mat present on a silo tank.
E68	Cleaning of rotary valve	Separate cleaning of the rotary valve present on a silo tank.
E69	Cleaning of manlids	Separate cleaning of the manlids of the compartments to be cleaned. In most cases this is included in the cleaning procedure and is done with a hand gun. Special attention must be taken not to damage the manlid gasket or to replace it when in a bad condition.
E70	Removal of manlid gasket	The manlid gasket is removed because it is damaged or is odorous.
E71	Cleaning of manlid gasket	Separate cleaning of the manlid gaskets. This is in most cases only done for expensive gaskets. Cheap ones are replaced.
E72	External cleaning of the micro-filter in the airline and internal cleaning of the filter body	Specific code to meet the requirements of the Best Practice Guidelines for the Cleaning of dry bulk polymer transport tanks. (PICS)

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Öffnungszeiten: Mo. - Fr. 6 - 22 Uhr und zusätzlich nach vorheriger Absprache!



Code	English	Guideline
E75	Renewal of manlid gasket	New gasket is placed in the manlids according to the customer instructions. Attention must be paid that the right gasket material is used.
E76	In- & external cleaning of the air manifold with cold water and blowing the residual water out of the manifold	Specific code developed to meet the requirements of the Best Practice Guidelines for the Cleaning of dry bulk polymer transport tanks
E77	Internal cleaning of the degassing valve with high pressure	Separate cleaning of the degassing valve also called the air valve. Specific code to meet the requirements of the Best Practice Guidelines for the Cleaning of dry bulk polymer transport tanks. (PICS)
E78	Cleaning with high pressure of fill and discharge opening lids, rims included, lids and all joined parts	Specific code to meet the requirements of the Best Practice Guidelines for the Cleaning of dry bulk polymer transport tanks. (PICS)
E79	Cleaning of all gaskets of all fill and discharge openings	Separate cleaning of the gasket and all loading and unloading openings. Spe- cific code to meet the requirements of the Best Practice Guidelines for the Cleaning of dry bulk polymer transport tanks. (PICS)
E80	Dismantling of ancillaries	All ancillaries are dismantled for cleaning. Reassembly is in most cases not included because this needs to be done by trained people.
E85	Removal of labels	All dangerous goods labels and labels with the product name of the last car- go are removed. This does not included the removal of the glue rests. For OCS it is necessary that all label residues are collected to avoid that they pollute the environment.
E90	Sealing	The manlids and the outlets are sealed by the driver after the cleaning ac- cording to the customer instructions. The sealing is checked by the cleaning station and the seal numbers are put on the ECD Box 11. Specific code to meet the requirements of the Best Practice Guidelines for the Cleaning of dry bulk polymer transport tanks. (PICS)
E91	Cleaning station checked that the seals, with the numbers mentioned on the ECD, are applied properly on the tank. This does not imply any liability whatsoever on the part of the cleaning station.	The manlids and the outlets are sealed by the driver after the cleaning ac- cording to the customer instructions. The sealing is checked by the cleaning station and the seal numbers are put on the ECD.
E92	Steam heating	A tank is heated with steam to reduce the viscosity or melt the product. At- tention must be paid to check if the product resists the high contact temper- ature. (quality of reaction)



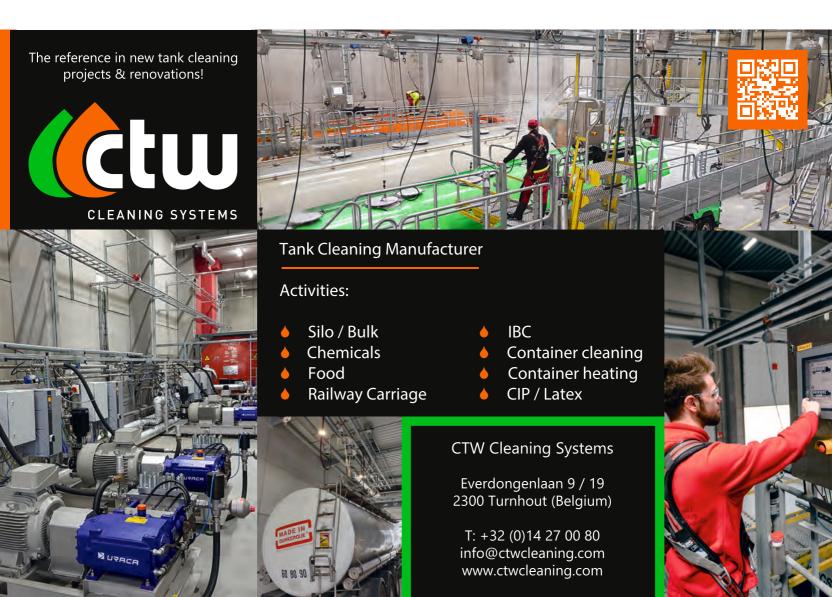
Code	English	Guideline
E93	Hot water heating	A tank is heated with hot water to reduce the viscosity or melt the product. Hot water is used when the contact temperature must be low for the quality of the product or for safety reasons (e.g. polymerization).
E94	Electrical heating	A tank is heated with electricity to reduce the viscosity or melt the product. Electrical heating can be used for high and low contact temperatures be- cause this temperature can be regulated.
E95	Livery/External Wash	Outside cleaning of a tank during the internal cleaning or on a separate bay.
E99	Miscellaneous	Extra handlings not mentioned before. The nature of the activity should be mentioned in box 10 or 11 of the ECD.



Code	English	Guideline
F	FOODSTUFFS	
F01	Cleaning with potable water only	The complete cleaning is done with water meeting the local potable water requirements. No industrial or recuperated water is used when this does not meet the potable water requirements.
F50	Food approved detergent	The detergent used for the cleaning is approved for the use in vessels com- ing in contact with foodstuffs.
F51	Food approved sanitizing agent	The sanitizing agent is approved for the use in vessels coming in contact with foodstuffs.
F85	Sanitizing with hydrogen peroxide	Sanitizing is done with hydrogen peroxide.
F86	Sanitizing with peracetic acid	Sanitizing is done with peracetic acid.
F98	Food approved Cleaning station	The cleaning station is approved by the authorities or by a specific loading place. The code should be put in box 11 of the ECD followed by the name of the approving authority or loading place.
F99	Miscellaneous	Extra food items not mentioned before. The nature of these food items should be mentioned in box 10 or 11 of the ECD.



Code	English	Guideline
н	HANDLINGS	
H01	Handling in	Tank is craned from chassis and taken in depot.
H50	Handling out	The tank is craned on a chassis for leaving the depot.
H60	Movement on chassis	The tank is taken in depot, but stays on the chassis. The driver dropped the tank on the place according to the instructions of the depot.
H99	Miscellaneous	Extra handling items not mentioned before. The nature of these handling items should be mentioned in box 10 or 11 of the ECD.



Code	English	Guideline
Р	PROCEDURES	
P01	Cold water spin	Cold water (room temperature) is used during the cleaning. This code can be used alone or in combination with other codes to make a complete clean- ing procedure. Specific code to meet the requirements of the Best Practice Guidelines for the Cleaning of dry bulk polymer transport tanks. (PICS)
P09	Hot water spin (T > 80 °C)	Water with a temperature > 80 °C is used during the cleaning. This code can be used alone or in combination with other codes to make a complete cleaning procedure.
P10	Hot water spin (T > 60 °C)	Water with a temperature > 60 $^{\circ}$ C is used during the cleaning. This code can be used alone or in combination with other codes to make a complete cleaning procedure.
P11	Hot water spin (T > 40 °C)	Water with a temperature > 40 °C is used during the cleaning. This code can be used alone or in combination with other codes to make a complete cleaning procedure.
P15	CIP Cleaning	CIP = Cleaning in place. Special installation is necessary for this action.
P20	Recleaning	Tanks are cleaned once more after the previous cleaning (e.g. to remove condensation).
P21	Rinsing	To rinse a tank container with specific chemicals in order to prep the tank for the next load, for example – rinse with AdBlue, acetone or others. Explana- tion in Box 11 is mandatory.
P25	Toxic clean	Special cleaning procedure for toxic substances.
P26	Kosher procedure	A cleaning procedure is performed according to the Kosher instruction of a Rabbi.
P27	Halal procedure	A cleaning procedure is performed according to the Halal requirements or instruction of an Imam.
P30	Drying	The tank is dried. Can be manual, with ambient air or with hot air. Specific code to meet the requirements of the Best Practice Guidelines for the Cleaning of dry bulk polymer transport tanks. (PICS)
P40	Steaming	Steam is used during the cleaning procedure.
P50	Sanitisation with chemicals	The sanitizing of the tank is done with chemicals. The nature of the chemical needs to be noted in box 11 of the ECD.
P51	Sanitisation with steam	Steam is used for sanitizing. Special bacteria filter or overpressure must be available to avoid vacuum damage when cooling down and the tank needs to be completely closed.
P52	Neutralisation	The tank is flushed with water with a neutral pH to make the tank neutral.

Code	English	Guideline
P60	Nitrogen purging	The tank is flushed with nitrogen after cleaning. This is mostly done to re- duce the oxygen content of the tank atmosphere or to reduce the dewpoint.
P61	CO ₂ purging	The tank is flushed with carbon dioxide (CO ₂) after cleaning. This is mostly done with beer tanks for quality reasons.
P70	Tipper or trailer cleaning	Internal hot water cleaning with handgun. Only valid for the usage by exist- ing and approved members tank cleaning stations.
P71	Refrigerated truck cleaning	Internal hot water cleaning with handgun. Only valid for the usage by exist- ing and approved members tank cleaning stations.
P72	IBC cleaning	Internal cleaning. Only valid for the usage by existing and approved mem- bers tank cleaning stations.
P80	Vapor recovery	A scrubber system is used during the cleaning to wash out toxic or odorous vapors to avoid emissions in the environment.
P99	Miscellaneous	Extra procedures not mentioned before. The nature of these procedures should be mentioned in box 10 or 11 of the ECD.





Code	English	Guideline
т	TESTS	
T01	Visual Odor inspection	An inspection is done from the manhole according to the EFTCO definition of clean. Specific code to meet the requirements of the Best Practice Guidelines for the Cleaning of dry bulk polymer transport tanks. (PICS)
T02	Visual inspection: definition of clean (allowed from silo discharge opening)	This is an inspection specific for silo tanks because the inspection is possible from the backside of the silo tank because the discharge opening is very big.
T10	Inspection with tank entry	An inspection of the inside is done after entry of the tank. The tank entry procedure must be respected at all times!
T20	pH neutral	A wall test is done. The liquid is collected and the pH is measured and must be 7.
Т30	Outlet temperature measured (T > 93 °C)	The temperature of the last water at the end of the cleaning is measured and needs to be > 93 °C. In most cases steam will be necessary to reach this outlet temperature.
T40	Turbidity measurement	A turbidity measurement is done on the last water leaving the tank at the end of the cleaning. The result of the measurement in Nephelometric Tur- bidity Units (NTU) must be indicated on the ECD in box 11.
T41	Conductivity measurement	A conductivity measurement is done on the last water leaving the tank at the end of the cleaning. the measurement in micro Siemens (μ S) must be indicated on the ECD in box 11.
T42	ATP measurement	A Adenosine triphosphate (ATP) measurement is done on the last water leav- ing the tank at the end of the cleaning. The measurement in Relative Light Units (RLU) must be indicated on the ECD in box 11.

Code	English	Guideline
T43	pH-value measurement	A pH measurement is done on the last water leaving the tank at the end of the cleaning. the pH after measurement must be indicated on the ECD in box 11.
T44	Membrane filter test	The last water leaving at the end of the cleaning is collected and filtered over a membrane (e.g. Millipore). The filter is visually inspected on spots of product rests or dirt. In most cases the used filter is covered with plastic for traceability reasons later on.
T45	Allergen test	The tank inside and the outlets are swabbed with a specific allergen test according to the customer requirements. The result is noted in box 11 of the ECD.
T50	Air test	A leak test with air is carried out after the tank is closed. The pressure of the air should be limited according to the instructions of the depot. Indication of the result in box 11 mandatory.
Т60	LEL measurement	A lower explosion measurement is carried out. The results of the measure- ment in percentage (%) should be mentioned in box 11 of the ECD.
T61	Oxygen test	The oxygen concentration is measured and the result in percentage (%) should be mentioned in box 11 of the ECD.
T90	Vacuum test	A vacuum test on the bottom outlet of a tank is carried out to see if this outlet is liquid tight. The result is mentioned in box 11 of the ECD. Please note that this test gives only an idea of the condition of the outlet and this measure- ment does not mean that the tank is leak free.
Т99	Miscellaneous	Extra tests not mentioned before. The nature of these tests should be men- tioned in box 10 or 11 of the ECD.

Code	English	Guideline
W	WASTE	
W01	Residue	Rest product is found in the tank which should be separately collected and disposed.
W50	Waste water treatment	All waste collected is treated in the own wastewater facility together with all the wastewater of the cleaning. In some cases this code is used to indicate that all the waste water is purified.
W90	Prewash	The most contaminated wastewater of a cleaning is collected separately for separate treatment or disposal in an external waste disposal company. The amount of waste water collected is depending on the properties of the prod- uct cleaning.
W99	Miscellaneous	Other waste items not mentioned before. The nature of these waste items should be mentioned in box 10 or 11 of the ECD.

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Digitalisation EFTCO Cleaning Document becomes digital

The eECD or electronic EFTCO Cleaning Document is the new digital variant of the paper EFTCO Cleaning Document or paper ECD.

Tank cleaning is a cornerstone in the logistics process for which safety, quality and operational efficiency must be safeguarded. To achieve this goal, EFTCO, ECTA and CEFIC developed in 2005 a uniform EFTCO Cleaning Document or ECD of which in 2022, more than 4.000.000 paper ECD's are issued annually in 4-fold!

To improve the efficiency, sustainability and compliancy, the paper ECD copies are now fully digitalized and turned into a collaborative eECD process.

The eECD benefits at industry level exceed 16M€ per year and can be summarized as follows:

- Less truck rejections and real time notifications
- Increased asset utilization
- Fast Lane efficiency increase at loading gates
- Reduced administration costs
- Reduced IT complexity thanks to an industry process harmonization
- Reduced cross-contamination risks

As of Q2 2023, ECLIC launches the enhanced eECD 2.0 solution. With the new eECD 2.0 process, the problem of coexistence between paper and digital is solved by creating a "hybrid" eECD document. All actors will be able to scan the unique QR code and check the eECD on validity even if they do not have an eECD licence. With eECD 2.0 each actor can digitalize at their own speed and decide to use the paper ECD's, the digital eECD 2.0 paper copy with QR code or the full enabled digital solution without any paper.

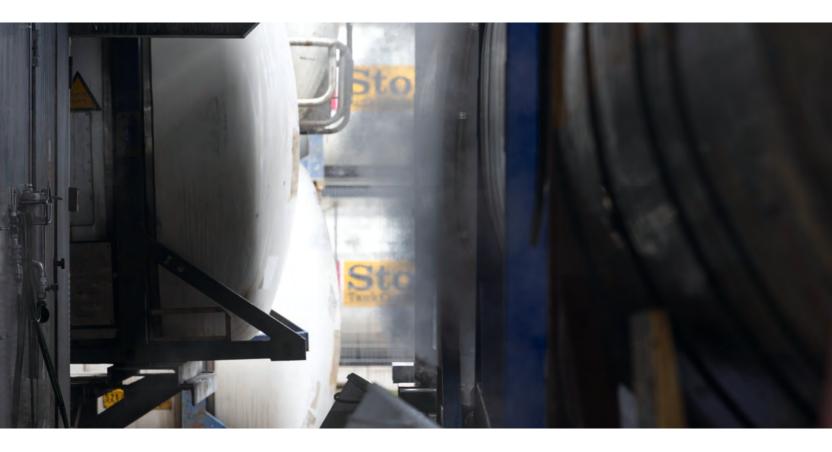
While paper ECD's are still the norm today, this upgrade towards the new eECD 2.0 "hybrid" solution will allow a faster digital adoption and transition while keeping one uniform industry way of working across all actors in Europe.

For more information head to www.eclic.eu.

// SAFETY

EFTCO aims to protect the people involved in tank cleaning as best as possible. The tank cleaning process should not affect or harm the people involved in the processes and is therefore prone to be held to high standards of occupational safety. The same goes for the drivers – they need to have a safe spot to get out and into their respective vehicles. All of our members agree on these matters and work together to ensure a safe working space, also in regards of working hours and probable health issues.

ANGL



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All Stations scored min. 92% in the 2022 SQAS audit. Hamburg is HACCP certified since 2022

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The experienced staff of MTC realizes like no other that tank containers need to be serviced quickly and efficiently. All our processes are designed to increase the throughput of repaired and cleaned tank containers. In everything we do, we try to keep the idle time as short as possible.

In addition to cleaning & repair of tank containers, MTC offers an ADR-storage for loaded tanks. This facility is ideal for production companies that wish to receive tank containers in batches. Tanks are heated according to your wishes with steam and hot water. This working method ensures that you always have your tank containers at the right time and at the right temperature.



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JSIUH



EFTCO FOOD ASSESSMENT



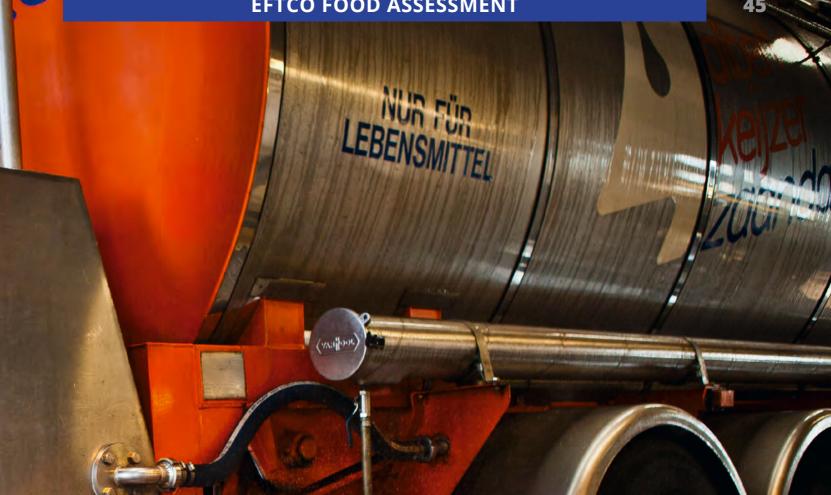
EFTCO Food Assessment

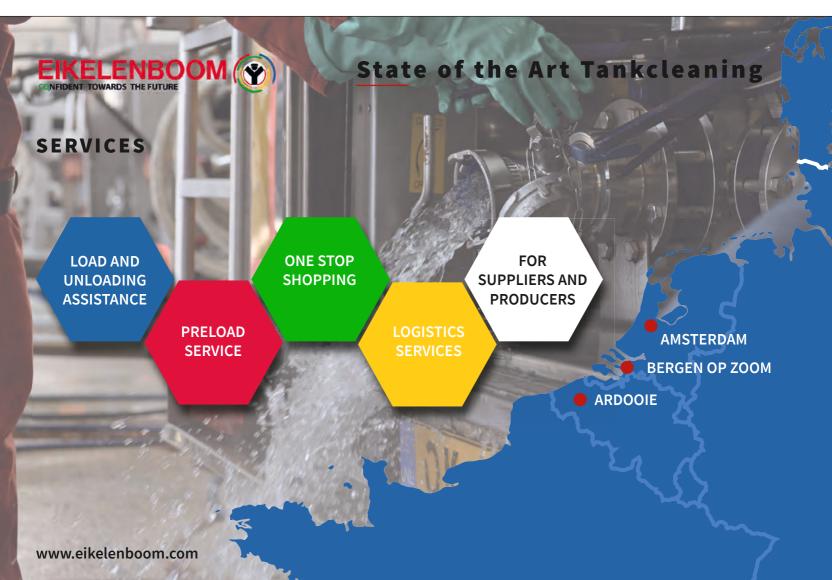
Food safety is one of the most important matters for EFTCO's Members.

As part of the Food logistics chain, EFTCO and their associated cleaning stations know about their responsibility for food safety and food defense. The tank cleanings involved in food and food related transports have to fulfil the high quality standards of the industry. With 21 national associations covering 27 European countries in addition to 2 global members in Israel and Brazil EFTCO spans a huge network of 680 cleaning stations that oblige to carry out this service as professional and reliable partners. We hold our members to high standard and to establish the best quality for customers more than 120 questions need to be constantly answered in our quality audit assessments related to cleaning food tanks only.

During the compilation of this questionnaire the fact had to be taken into consideration that there are no special legal requirements for foodstuff cleaning. So the aim was to achieve a practical solution, in which the interests of all parties i.e. the loading industry, the transport companies and the tank cleaning stations are taken into consideration.

EFTCO FOOD ASSESSMENT





A complete EFTCO Food Assessment consists of 3 parts:

1. SQAS core with general management, quality and safety questions

2. SQAS tank cleaning with general tank cleaning questions

3. EFTCO Food Assessment questionnaire with food specific questions

As the requirements of food cleaning may have local and industrial differences, the assessment results are published to the industry. The quality evaluation can be done individually under observation of the individual industry's demand. We offer as many information for this as possible and are proud that more than 300 cleaning stations participated in the EFTCO Food Assessment by the end of 2022.

The results can be accessed on our Cleaning Stations Website: http://www.eftco.org/depots.

Independent and approved assessors guarantee a high-quality information, as only qualified and approved assessors are nominated to execute those assessments. Cleaning Stations that have taken the questionnaire and were assessed by these professionals are allowed by EFTCO to use the EFTCO Food Assessed Logo. By now the questionnaire is available in 6 languages and can be found in the download section on our website. It is foreseen to release and update a 2023 version of the EFTCO FOOD ASSESSMENT Questionnaire to implement the received feedback from the industry to improve the assessment data and to adapt industry demands even more. It will hold a variety of questions in the fields of: food safety and quality systems, general organization for the cleaning stations, work processes, validation and personnel.

The EFTCO Food Assessment is closely linked to existing HACCP concepts, the FSSC22000 standard and all known standards and quality requirements of the food industry.

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SAFE CLEANING – SUSTAINABLE FUTURE



Safe Cleaning – Sustainable Future

To ensure a safe and environmental responsible tank cleaning process, companies must know:

- The correct product information (composition, properties, dangers, ...).
- The precautions taken during transport and/or unloading (e.g. nitrogen blanket).
- How safety and health standards can be met.
- How the waste water must be treated.
- How waste must be handled.
- How air emissions can be reduced.
- The available technologies to meet all legal & quality requirements.

Therefore tank cleaning must be executed by skilled and properly educated people who have access to the proper technical installations. EFTCO is very committed to work towards a sustainable future with a healthy environment and therefore strongly encourages partners to take part in different programs like Operation Clean Sweep.

Energy efficiency in Tank Cleaning.

Energy-efficient cleaners for cold disinfection with

Lerasept[®] Forte

Listed in the farm input list for organic production in Germany.

Use biocides safely. Alwa<mark>ys read</mark> the label and product information before use.



STOCKMEIER Chemie recommends sera pumps

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www.sera-web.com

EFTCO report



Energy-efficient system solutions for internal tank truck cleaning From chemical consulting to the commissioning of the system technology

Efficient and reliable tank interior and exterior cleaning with the lowest required energy consumption.

STOCKMEIER Chemie, in cooperation with our partner company sera, offers tailor made high-pressure, dosing and control technology from a single source.

The industrial dosing and high-pressure pump technologies are thereby adapted together with sera as per specific requirements and individually to a customer solution.

Allow modified cleaning agents, such as energy-efficient cold disinfection with **Lerasept® Forte**, are also matched to each other. By means of a pressure-regulated control of the high-pressure aggregates, consumption-optimised dosing of the STOCKMEIER cleaning chemicals via a superordinate control technology of the dosing pump is used in a highly energy-efficient manner.

All solutions can, of course, be designed to be ATEXcompliant and FDA-approved.

The portfolio is completed by the extensive service departments of Stockmeier and sera. The service team provides comprehensive support for all customers and systems, including waste water treatment, from commissioning to decommissioning on site.

By using sustainable raw materials and energy-efficient systems, you make your contribution to decarbonisation as well as to the environment when cleaning the inside of the tank.

What is it all about? Many years of experience, each in their own way!

FOR MORE INFORMATION:

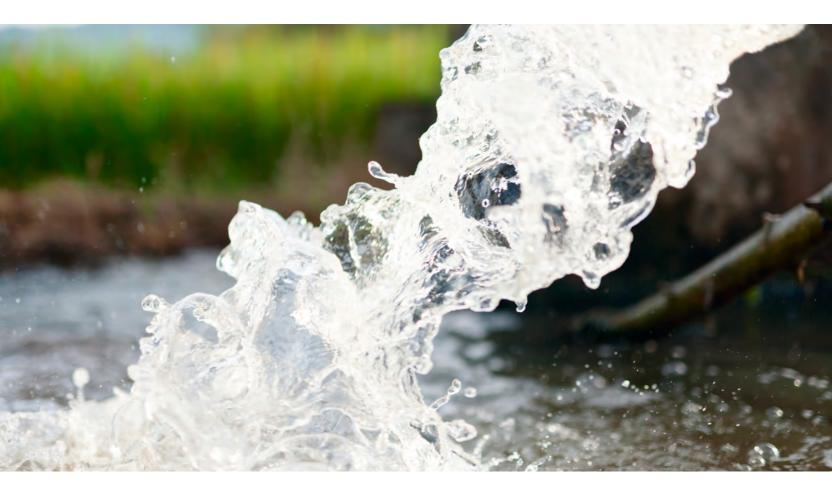
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// NO PLASTIC WASTE - INVOLVING OPERATION CLEAN SWEEP

As a registered partner of Operation Clean Sweep EFTCO recognizes the importance of preventing spillages into the environment and commits to OCS by implementing the following 6 actions:

- 1. Improve our worksite(s) set-up to prevent and address spills;
- 2. Create and publish internal procedures to achieve "zero pellet loss" goals;
- 3. Provide employee training and accountability for spill prevention; containment, clean-up and disposal;
- 4. Audit our performance regularly;
- 5. Comply with all applicable local and national regulations governing containment;
- 6. Encourage our partners (contractors, transporters, etc.) to pursue the same objectives.



// CO₂ REDUCTION

The European authorities asked the chemical industry to calculate the CO₂ emissions of the logistic services they use. The transport service is important in these emissions, but also tank cleaning is a part of the logistic service. For this reason an emission section is integrated in the SQAS 2022 Tank cleaning questionnaire.

EFTCO prepared this guideline to help the tank cleaning stations with the calculation of these emissions to make sure this is done in a correct way. The purpose of these calculations is to make the sector aware of their CO_2 emissions, to motivate them, to reduce them and to show the result to the (interested) customers and / or the public.

A full guideline is available at https://www.eftco.org/safe-cleaning/emission-guideline



// GENERAL DATA

Efficiency heating	90%
Calorific value gas oil	85%
Energy gas oil (kWh/l)	10 kWh/l
Efficiency HP pump	80%
Average waterconsumption / tank cleaning	2 m³
kW pump (100 ltr/min, 100 bar)	19.4
Electricity consumption WWT / m ³	4.81 kWh
Delta T water	75 °C

CO₂e production Well To Wheel (WTW) source CO₂e parameters: GLEC framework

Electricity	
(kg CO ₂ e/kWh)	
0.420	

Gas Oil kg CO₂e/kWh) 0.325



Per tank cleaning	Consumption	Production CO ₂ e (kg)
Energy consumption for heating tank cleaning water (kWh)	228.04	74.11
Electricity consumption HP Pump (kWh)	8.08	3.40
Elektricity consumption WWT (kWh)	9.62	4.04
Water consumption (m ³)	2.00	0
TOTAL / TANK CLEANING		81.55
Dedicated transport (1 trip) Dieselconsumption truck (liter / 100 km)	25	
Average amount of empty kilometers	285	231.56
EXTRA CO ₂ EMISSION DEDICATED TRANSPORT		150.01

The CO₂ emissions are calculated with the CO₂ parameters (WTW) of the GLEC Framework. It can be estimated that the total CO₂ emission saved per year for all tank cleanings done in Europe is about 637,561,008 CO₂e (kg).



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